



Volume 2 Issue 1 Year 2026 Pages 66-87
e-ISSN 3090-9406 | DOI: 10.70152
<https://journal.akademimerdeka.com/ojs/index.php/duites>

University Students' Use of AI Chatbot Companions for Academic Help Seeking: Benefits and Challenges

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DOI: <https://doi.org/10.70152/duties.v2i2.432>

Abstract: The increasing adoption of generative artificial intelligence (AI) has transformed the ways university students seek academic support, yet little is known about how AI chatbot companions are integrated into students' academic help-seeking behaviours. This qualitative study explored how university students use AI chatbot companions as part of their academic help-seeking processes and examined their perceptions of the benefits and challenges associated with their use. Guided by Karabenick and Dembo's (2011) academic help-seeking process model, the study employed a qualitative descriptive design. Data were collected through semi-structured interviews with university students who had experience using AI chatbot companions for academic purposes. The interview data were analysed using reflexive thematic analysis through a hybrid deductive-inductive approach. The findings revealed that students incorporated AI chatbot companions into a dynamic help-seeking process by recognizing learning difficulties, strategically selecting AI as an academic help source, engaging in iterative dialogue, and critically evaluating AI-generated assistance before applying it to their learning. Participants perceived AI chatbot companions as accessible, personalized, and psychologically safe learning partners that supported self-regulated learning. However, they also expressed concerns regarding the reliability of AI-generated information, the need for information verification, and the potential risk of overreliance. The study extends Karabenick and Dembo's academic help-seeking process model by positioning AI chatbot companions as an emerging academic help source within higher education. The findings further highlight the importance of fostering AI literacy, critical evaluation skills, and responsible AI use to maximize the educational value of AI chatbot companions.

Keywords: academic help-seeking, AI chatbot companions, self-regulated learning, university students

INTRODUCTION

AI has rapidly emerged as a transformative force in higher education, changing the ways students acquire, interpret, and develop knowledge. Among recent AI innovations, AI chatbot companions, such as ChatGPT, Gemini, Claude, and Microsoft Copilot, have

become increasingly integrated into students' academic lives (Al Mashagbeh et al., 2025). Unlike traditional educational technologies that primarily deliver static information or structured learning materials, AI chatbot companions engage learners through natural language conversations, providing immediate responses, personalized explanations, brainstorming assistance, feedback, and academic guidance (Kim et al., 2025). Their conversational nature allows students to seek assistance anytime and anywhere, making them an accessible and convenient source of academic support (Blahopoulou & Ortiz-Bonnin, 2025). As a result, university students are increasingly incorporating AI chatbot companions into various learning activities, including understanding course concepts, generating ideas for assignments, improving academic writing, solving complex problems, and preparing for examinations.

The widespread adoption of AI chatbot companions has generated growing interest among educators and researchers regarding their educational implications. Existing studies have highlighted numerous potential benefits of these technologies, including enhanced learning efficiency, increased accessibility to information, personalized learning experiences, and improved academic confidence (Crawford et al., 2024; Schei et al., 2024). AI chatbots can reduce students' dependence on fixed consultation hours by providing instant responses that accommodate diverse learning needs and schedules (Usher & Amzalag, 2025). Moreover, the interactive nature of AI chatbot companions encourages students to engage actively with learning materials through iterative questioning, clarification, and reflection (Fan et al., 2025). Such affordances position AI chatbot companions as emerging learning partners rather than merely information retrieval tools.

Despite these advantages, the increasing reliance on AI chatbot companions has also raised important educational concerns. Researchers have questioned the accuracy and reliability of AI-generated responses (Ozdemir & Yapici, 2025), the potential development of overdependence on AI assistance (Dogru & Krämer, 2025), ethical issues surrounding academic integrity (Kofinas et al., 2025), and the possibility that students may replace meaningful interactions with lecturers, peers, or academic support services (Haroud & Saqri, 2025). AI-generated information may occasionally contain inaccuracies, outdated knowledge, or fabricated references, requiring students to critically evaluate the responses they receive. Furthermore, excessive reliance on AI-generated solutions may reduce opportunities for independent problem solving, critical thinking, and collaborative learning. These concerns suggest that the educational value of AI chatbot companions depends not only on the technology itself but also on how students integrate it into their learning practices.

One important perspective for understanding students' interactions with AI chatbot companions is academic help seeking. Academic help seeking refers to students' intentional efforts to obtain assistance when they encounter learning difficulties or knowledge gaps (Ewell et al., 2025; McCutcheon et al., 2025). Rather than representing dependency or academic weakness, contemporary educational research recognizes adaptive academic help seeking as an essential component of self-regulated learning (Guan et al., 2025; Sharma et al., 2024). Students who seek appropriate assistance

demonstrate awareness of their learning needs, monitor their understanding, and actively employ available resources to overcome challenges (Ruihua et al., 2026). Traditionally, students have sought academic support from lecturers, tutors, classmates, textbooks, libraries, and institutional learning support services. However, the emergence of AI chatbot companions has introduced a new form of help source that differs fundamentally from conventional human and non-human resources.

Unlike traditional sources of academic assistance, AI chatbot companions combine several distinctive characteristics. They provide immediate responses without requiring appointments, offer personalized explanations tailored to students' questions, maintain a non-judgmental interaction environment, and remain continuously available regardless of time or location (Williams, 2024). These characteristics may influence students' preferences for seeking academic help, particularly when they experience anxiety about asking questions in class, fear negative evaluation from peers or instructors, or require immediate clarification while studying independently (Akiba, 2025; Schei et al., 2024). Consequently, AI chatbot companions may not simply supplement existing help-seeking resources but may also reshape students' patterns of academic help seeking by becoming one of the first resources consulted during learning.

Although the educational applications of AI chatbot companions have been widely investigated, much of the existing literature has focused on evaluating their effectiveness in improving learning outcomes, academic performance, writing quality, or student satisfaction (Deng & Yu, 2023; Wiboolyasarini et al., 2025). Other studies have examined students' acceptance of AI technologies through theoretical frameworks such as the Technology Acceptance Model or the Unified Theory of Acceptance and Use of Technology (Ali et al., 2025; Shahzad et al., 2024). While these studies provide valuable insights into technology adoption and educational outcomes, they often pay limited attention to the complex ways students actually use AI chatbot companions as part of their academic help-seeking practices. Knowing that students use AI does not necessarily explain when they choose AI over lecturers or peers, what types of academic problems they present to AI, how they evaluate AI-generated responses, or how AI fits within their broader learning strategies.

Similarly, previous research has frequently emphasized either the benefits or the risks associated with AI chatbot use (Akpan et al., 2025; Neumann et al., 2025), often treating students as passive users of educational technology. However, students actively make decisions regarding whether, when, and how to seek help from different sources depending on the nature of their academic tasks, confidence levels, urgency, and learning goals. Their help-seeking behaviors involve continuous judgments about the credibility, accessibility, usefulness, and limitations of available resources (Hadad, 2026). Therefore, understanding students' experiences with AI chatbot companions requires exploring not only the functions these technologies perform but also how students perceive their advantages and challenges within authentic learning contexts.

A qualitative approach is particularly suitable for investigating these issues because academic help-seeking behaviors are socially situated and context-dependent. Students'

decisions to consult AI chatbot companions are influenced by multiple interconnected factors, including previous learning experiences, perceptions of AI capabilities, course requirements, relationships with instructors and peers, and personal learning preferences (Liu et al., 2024; Tian et al., 2024). Rich qualitative data can reveal the reasoning, motivations, and experiences underlying students' interactions with AI chatbot companions, offering insights that may not be captured through quantitative surveys or usage statistics alone. Exploring students' narratives enables researchers to understand AI chatbot companions not merely as technological tools but as emerging participants within students' learning ecosystems.

Understanding how university students use AI chatbot companions for academic help seeking has important implications for higher education (Lund et al., 2026). As universities continue to integrate AI into teaching and learning, educators need evidence-based insights into how students naturally incorporate these technologies into their academic practices. Such understanding can inform the development of AI literacy initiatives, institutional policies, classroom practices, and assessment strategies that encourage responsible, ethical, and effective AI use. Furthermore, recognizing both the benefits and challenges perceived by students can help educators design learning environments that leverage AI chatbot companions as supportive educational resources while minimizing potential risks associated with overreliance, misinformation, and reduced human interaction.

Against this background, this study explores university students' use of AI chatbot companions as part of their academic help-seeking behaviors and investigates their perceptions of the benefits and challenges associated with these technologies. Rather than examining whether AI chatbot companions improve learning outcomes, this study seeks to understand how students integrate AI into their academic help-seeking practices and how they interpret its role within their learning experiences. By adopting a qualitative approach, the study contributes to the growing body of research on AI in higher education by providing a deeper understanding of students' experiences and perspectives regarding AI chatbot companions as emerging academic support resources. Accordingly, this study is guided by the following research questions (RQ):

RQ1. How do students use AI chatbot companions as part of their academic help-seeking behaviors?

RQ2. What are students' perceptions of the benefits and challenges of using AI chatbot companions for academic help seeking?

This study is expected to contribute theoretically by extending the understanding of academic help-seeking behaviors within the context of AI-mediated learning. Practically, the findings may provide valuable insights for university educators, curriculum designers, and institutional policymakers in developing pedagogical strategies and guidelines that promote the responsible, effective, and learner-centered use of AI chatbot companions in higher education.

LITERATURE REVIEW

Karabenick and Dembo's Help-Seeking Process Model

Academic help seeking is widely recognized as an important self-regulated learning strategy through which students actively seek assistance to overcome learning difficulties and achieve academic goals. Building on earlier models of help seeking, Karabenick and Dembo (2011) conceptualized academic help seeking as a dynamic process consisting of eight interconnected stages: (1) determining whether there is a problem, (2) determining whether help is needed or wanted, (3) deciding whether to seek help, (4) deciding on the type of help needed, (5) deciding on whom to ask, (6) soliciting help, (7) obtaining help, and (8) processing the help received. Although these stages are presented sequentially, the authors emphasize that help seeking is not necessarily linear, as learners may move back and forth between stages depending on the learning context and their evolving needs.

The emergence of AI chatbot companions has expanded the range of academic help sources available to university students. While Karabenick and Dembo's (2011) model originally focused on traditional sources such as lecturers, peers, tutors, and learning materials, AI chatbot companions now represent an additional source of immediate, personalized, and conversational academic support (Neumann et al., 2025). Accordingly, this study extends the fifth stage of the model, *deciding on whom to ask*, by conceptualizing AI chatbot companions as an emerging academic help source. This framework provides a useful theoretical lens for understanding how university students navigate the help-seeking process while using AI chatbot companions and how these technologies influence their academic help-seeking practices.

Previous Studies and Gap Identification

The rapid adoption of AI chatbot companions in higher education has attracted considerable scholarly attention, particularly regarding their educational applications and implications. Existing studies have consistently reported that AI chatbot companions support various aspects of students' learning, including improving academic writing, facilitating problem solving, enhancing conceptual understanding, generating learning materials, and providing personalized feedback (Bravo & Cruz-Bohorquez, 2024; Labadze et al., 2023). Other studies have examined students' acceptance and adoption of AI chatbot companions using technology-oriented frameworks, such as the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT), highlighting factors that influence students' willingness to integrate AI into their learning (Al-Abdullatif, 2023; Strzelecki, 2024; Yildiz Durak & Onan, 2024). Collectively, these studies suggest that AI chatbot companions have become valuable learning tools that can increase learning efficiency, accessibility, and flexibility in higher education.

Despite these contributions, three important gaps remain. First, previous studies have predominantly examined AI chatbot companions as educational technologies, emphasizing learning outcomes, technology acceptance, academic performance, or students' general perceptions. Consequently, limited attention has been paid to understanding AI chatbot companions as academic help sources within students' help-

seeking processes. Second, although several studies have reported the perceived benefits and risks of AI chatbot companions, they often treat AI use as a single behavior rather than examining how students navigate the sequence of decisions involved in academic help seeking, such as recognizing learning difficulties, deciding to seek assistance, selecting AI over other available resources, and evaluating the support received. Third, much of the existing literature relies on quantitative survey designs, providing broad patterns of AI use but offering limited insights into the experiences, motivations, and decision-making processes underlying students' academic help-seeking behaviors.

Addressing these gaps requires a qualitative investigation that situates AI chatbot companions within the broader context of academic help seeking. Drawing on Karabenick and Dembo's (2011) help-seeking process model, the present study conceptualizes AI chatbot companions as an emerging academic help source alongside traditional sources such as lecturers, peers, and learning materials. By exploring how university students use AI chatbot companions throughout their academic help-seeking processes and how they perceive the associated benefits and challenges, this study extends existing research beyond technology adoption and educational effectiveness. In doing so, it contributes to a deeper understanding of how generative AI is reshaping academic help-seeking behaviors in contemporary higher education.

METHODS

Research Design

This study employed a qualitative descriptive research design to explore how university students use AI chatbot companions as part of their academic help-seeking behaviors and how they perceive the benefits and challenges associated with their use. A qualitative descriptive approach is appropriate when the aim is to obtain a rich and straightforward account of participants' experiences, practices, and perspectives within their natural contexts (Villamin et al., 2025). Rather than seeking to develop a new theory or explain the essence of a lived experience, this design enables researchers to provide a comprehensive description of a contemporary phenomenon from the participants' viewpoints.

The study was guided by Karabenick and Dembo's (2011) help-seeking process model as a sensitizing analytical framework. This framework informed the exploration of students' academic help-seeking experiences while allowing themes to emerge inductively from the data. Through in-depth qualitative inquiry, the study sought to understand how students recognize academic challenges, decide to seek assistance, select AI chatbot companions as a source of help, interact with these technologies, and evaluate the assistance they receive. This research design was therefore well suited to addressing the study's research questions by capturing the complexity of university students' academic help-seeking behaviors in the context of generative AI.

Participants

The participants in this study were university students who had experience using AI chatbot companions for academic help seeking. Purposive sampling was employed to

recruit information-rich participants who could provide meaningful insights into the phenomenon under investigation (Stratton, 2024). To be eligible for participation, students had to meet three criteria: (1) be enrolled as undergraduate students at the university during the period of data collection, (2) have used at least one AI chatbot companion (e.g., ChatGPT, Gemini, Claude, or Microsoft Copilot) to seek academic assistance, and (3) be willing to share their experiences through semi-structured interviews.

A total of 20 undergraduate students from different academic years and study programs participated in the study. Recruiting participants with diverse academic backgrounds enabled the study to capture a range of academic help-seeking experiences and AI usage practices. Participant recruitment continued until data saturation was achieved, that is, when no substantial new themes or insights emerged from subsequent interviews. Prior to data collection, all participants provided informed consent and were assured that their identities would remain confidential. To protect participants' privacy, pseudonyms were used throughout the study, and all identifying information was removed during data analysis and reporting..

Data Collection

Data were collected through semi-structured interviews to gain an in-depth understanding of university students' experiences of using AI chatbot companions for academic help seeking. Semi-structured interviews were chosen because they provide sufficient flexibility to explore participants' experiences while ensuring that all topics relevant to the research questions were consistently addressed (Denny & Weckesser, 2022; Wakelin et al., 2024). An interview protocol was developed based on the study's research questions and informed by Karabenick and Dembo's (2011) help-seeking process model. The protocol included open-ended questions that explored participants' academic challenges, decisions to seek help, reasons for choosing AI chatbot companions, interactions with AI, evaluation of AI-generated assistance, and perceptions of the benefits and challenges of using AI for academic help seeking.

Individual interviews were conducted face-to-face or online, depending on participants' availability and preferences, with each interview lasting approximately 40 to 60 minutes. With participants' consent, all interviews were audio-recorded to ensure the accuracy and completeness of the data. Field notes were also taken during and immediately after each interview to document contextual information, participants' non-verbal expressions, and the researcher's preliminary observations. Following data collection, the audio recordings were transcribed verbatim, and the transcripts were reviewed against the recordings to ensure accuracy before the analysis commenced.

Data Analysis

The data were analyzed using Braun and Clarke's (2024) reflexive thematic analysis, employing a hybrid deductive-inductive approach. This approach enabled the analysis to be guided by an established theoretical framework while remaining open to unexpected patterns emerging from participants' accounts. Interview recordings were transcribed

verbatim, and the transcripts were read repeatedly to achieve familiarity with the data before the coding process began.

The analysis was conducted in two phases. In the first phase, the data were deductively organized using Karabenick and Dembo's (2011) help-seeking process model as a sensitizing analytical framework. Participants' narratives were initially coded according to the eight stages of the help-seeking process: (1) determining whether there is a problem, (2) determining whether help is needed or wanted, (3) deciding whether to seek help, (4) deciding on the type of help needed, (5) deciding on the academic help source, (6) soliciting help, (7) obtaining help, and (8) processing the help received. In this study, the fifth stage was extended to include AI chatbot companions as an emerging academic help source alongside traditional sources such as lecturers, peers, and learning materials.

In the second phase, inductive coding was conducted within and across the eight stages to identify recurring patterns, meanings, and experiences that were not explicitly captured by the original framework. Related codes were iteratively grouped into potential themes and refined through constant comparison across participants' accounts. The themes were subsequently reviewed, defined, and named to ensure that they accurately represented the data and addressed the research questions. This hybrid analytical approach enabled the study to retain theoretical coherence while uncovering novel insights into how university students integrate AI chatbot companions into their academic help-seeking practices and how they perceive the associated benefits and challenges.

Trustworthiness and Ethical Considerations

To ensure the trustworthiness of the findings, this study followed the qualitative criteria of credibility, transferability, dependability, and confirmability (Bingham, 2023). Credibility was enhanced through prolonged engagement with the interview data, iterative coding, and member checking, whereby participants were invited to review the accuracy of their interview transcripts and clarify their responses when necessary. Transferability was supported by providing rich descriptions of the research context, participants, and data collection procedures, enabling readers to determine the applicability of the findings to similar contexts. Dependability was established by maintaining a clear audit trail documenting the research procedures, coding decisions, and theme development throughout the study. Confirmability was strengthened through reflexive memo writing during the analytical process to acknowledge and minimize the influence of the researcher's assumptions and interpretations on the findings.

Ethical approval for the study was obtained from the relevant institutional research ethics committee prior to data collection. All participants received information about the purpose of the study, the voluntary nature of their participation, and their right to withdraw from the study at any stage without penalty. Written informed consent was obtained before the interviews were conducted. Participants' identities were protected through the use of pseudonyms, and all identifying information was removed from the interview transcripts. Audio recordings, transcripts, and other research data were stored securely and were accessible only to the research team to ensure participants' confidentiality and data security throughout the research process.

FINDINGS

Students' Use of AI Chatbot Companions for Academic Help-Seeking Behaviours

Analysis of the interview data revealed that university students integrated AI chatbot companions into their academic help-seeking through four interconnected themes that reflected the stages of Karabenick and Dembo's (2011) help-seeking process. Rather than using AI impulsively, participants described a deliberate process that began with recognizing learning difficulties, followed by selecting AI as an appropriate source of support, engaging in iterative interactions with the chatbot, and critically evaluating the assistance received before incorporating it into their learning.

Theme 1. Recognizing Learning Difficulties and Evaluating the Need for Help

The first stage of participants' help-seeking process involved recognizing a gap in their understanding and deciding whether external assistance was necessary. Most participants explained that they initially attempted to solve academic problems independently by reviewing lecture notes, reading textbooks, or searching course materials. AI chatbot companions were generally consulted only after these individual efforts proved insufficient. One participant explained:

"Usually, I try reading the slides first. If I still don't understand the concept, then I ask ChatGPT to explain it in simpler language." (P7)

Similarly, another participant commented:

"Sometimes I know exactly what I don't understand, but I need another explanation. That's when I use Gemini because I want a different perspective from what the lecturer explained." (P12)

Interestingly, participants did not perceive asking AI for assistance as a sign of academic weakness. Instead, they regarded it as a strategic learning decision intended to overcome temporary learning obstacles. Many participants emphasized that AI became relevant only after they had identified a specific learning problem, indicating that help seeking was initiated by an awareness of cognitive difficulty rather than by convenience alone. These findings suggest that students actively monitored their own learning before engaging AI chatbot companions, reflecting self-regulated help-seeking behaviors rather than passive dependence on technology.

Theme 2. Choosing AI Chatbot Companions as the Preferred Academic Help Source

After deciding that assistance was needed, participants described evaluating various sources of academic support before selecting AI chatbot companions. Although lecturers, classmates, textbooks, and online resources remained available, AI was frequently chosen because it provided immediate, personalized, and judgment-free assistance. Many participants highlighted the convenience of obtaining explanations at any time without waiting for lecturers' office hours or classmates' responses. As one participant stated:

"Sometimes I study late at night, and obviously I can't ask my lecturer. ChatGPT is always available, so it's usually my first option." (P3)

Another participant explained:

"I don't feel embarrassed asking AI the same question many times. With people, sometimes I worry they'll think my question is too simple." (P15)

Participants also differentiated the kinds of help they sought from AI. Rather than requesting complete answers, most reported asking for explanations, examples, summaries, brainstorming ideas, or feedback on their work. One participant noted:

"I rarely ask AI to do my assignment. I usually ask it to explain difficult concepts or check whether my understanding is correct." (P9)

These accounts indicate that participants deliberately selected AI chatbot companions based on their accessibility, responsiveness, and perceived psychological safety. The findings also demonstrate that AI did not completely replace traditional help sources; instead, students strategically selected AI depending on the urgency, complexity, and nature of the academic task.

Theme 3. Engaging in Iterative Dialogue with AI Chatbot Companions

Once participants selected AI as their help source, academic help seeking became an interactive and iterative process rather than a single question-and-answer exchange. Participants frequently described refining prompts, requesting additional explanations, asking follow-up questions, and modifying AI-generated responses until they achieved satisfactory understanding. One participant explained:

"The first answer isn't always enough. I usually ask follow-up questions like 'Can you explain this with an example?' or 'Can you make it simpler?' until I really understand." (P18)

Another participant commented:

"It's like having a conversation. Every time I ask another question, the explanation becomes closer to what I actually need." (P4)

Participants therefore viewed AI chatbot companions not merely as information providers but as conversational learning partners that supported continuous clarification. Several participants also reported adapting their prompting strategies over time, learning how to formulate clearer and more specific questions to obtain more useful responses. These findings illustrate that academic help seeking with AI is inherently dialogic. Rather than passively receiving information, students actively negotiated meaning through multiple rounds of interaction, demonstrating an ongoing process of self-regulated learning.

Theme 4. Critically Evaluating and Applying AI-Generated Assistance

The final stage of participants' help-seeking process involved evaluating the credibility and usefulness of AI-generated responses before applying them to their academic work. Nearly all participants acknowledged that AI could occasionally provide inaccurate information, fabricated references, or overly general explanations. Consequently, they emphasized the importance of verifying AI-generated content through textbooks, lecture materials, journal articles, or discussions with lecturers. One participant explained:

"I never copy the answer directly because AI can be wrong. I usually compare it with journal articles or what my lecturer has taught." (P11)

Another participant remarked:

"AI gives me a starting point, but I still have to think critically. If something doesn't sound right, I check other sources." (P2)

Participants also described using AI-generated explanations to deepen their understanding rather than simply completing academic tasks. Many reported revising AI responses, integrating multiple information sources, and reflecting on whether the explanations aligned with course expectations. These findings indicate that participants generally adopted a critical and reflective approach toward AI-assisted help seeking. Rather than accepting AI-generated information uncritically, they actively evaluated, verified, and adapted the assistance before incorporating it into their own learning. This final stage demonstrates that effective academic help seeking with AI extends beyond obtaining information to include learners' active judgment and knowledge construction.

Summary of RQ1 Findings

Taken together, the findings reveal that university students' use of AI chatbot companions follows a dynamic academic help-seeking process. Students first recognize learning difficulties and evaluate the need for assistance before intentionally selecting AI as an academic help source based on its accessibility, responsiveness, and non-judgmental nature. They then engage in iterative dialogue with the chatbot through continuous questioning and prompt refinement, ultimately evaluating and verifying AI-generated assistance before integrating it into their learning. These findings extend Karabenick and Dembo's (2011) help-seeking process model by demonstrating how AI chatbot companions have become an emerging academic help source that complements, rather than replaces, traditional forms of academic support.

Students' Perceptions of the Benefits and Challenges of Using AI Chatbot Companions for Academic Help-Seeking

Analysis of the interview data revealed that participants perceived AI chatbot companions as both valuable academic partners and technologies that require careful and responsible use. While students consistently acknowledged the advantages of AI in supporting their learning, they also recognized several limitations that necessitated critical judgment. Four

themes emerged from the analysis: (1) immediate and personalized academic support, (2) a psychologically safe learning companion, (3) concerns regarding the reliability of AI-generated information, and (4) balancing AI assistance with independent learning.

Theme 1. Immediate and Personalized Academic Support

The most frequently reported benefit was the ability of AI chatbot companions to provide immediate and personalized academic assistance. Participants appreciated that AI was accessible at any time, enabling them to obtain explanations whenever they encountered learning difficulties. Unlike traditional help sources, AI chatbot companions were perceived as constantly available and capable of adapting explanations according to students' levels of understanding. One participant explained:

"The biggest advantage is that I don't have to wait. Whenever I don't understand something, I can ask immediately and get an explanation within seconds." (P6)

Another participant shared:

"If I don't understand the first explanation, I just ask AI to explain it differently. It can simplify difficult concepts until I finally understand." (P14)

Participants also emphasized that AI chatbot companions provided more than direct answers. They frequently requested examples, analogies, summaries, feedback on writing, and alternative explanations that complemented classroom instruction. Consequently, AI was perceived as a flexible academic resource capable of supporting diverse learning needs. These findings indicate that students valued AI chatbot companions primarily for their accessibility, responsiveness, and ability to personalize academic support, making them a practical complement to conventional learning resources.

Theme 2. A Psychologically Safe Learning Companion

Beyond their academic functions, participants perceived AI chatbot companions as providing a psychologically comfortable environment for learning. Many described feeling more confident asking questions to AI than to lecturers or classmates because AI did not judge their knowledge, criticize repeated questions, or display impatience. One participant remarked:

"Sometimes I'm embarrassed to ask basic questions in class because everyone else seems to understand. With AI, I don't feel judged at all." (P1)

Similarly, another participant stated:

"I can ask the same question five times if I still don't understand. AI never gets annoyed, so I feel more comfortable learning at my own pace." (P17)

Several participants believed that this non-judgmental environment encouraged them to ask more questions than they otherwise would in traditional academic settings. As a result, AI chatbot companions reduced anxiety associated with help seeking and increased students' willingness to engage in independent learning. These findings suggest that the perceived emotional safety of AI chatbot companions represents an important advantage, particularly for students who are reluctant to seek help from human sources due to fear of embarrassment or negative evaluation.

Theme 3. Concerns About the Reliability of AI-Generated Information

Despite recognizing numerous benefits, participants consistently expressed concerns regarding the accuracy and reliability of AI-generated responses. Most participants acknowledged having encountered incorrect explanations, fabricated references, outdated information, or responses that appeared convincing but were ultimately inaccurate. One participant explained:

"Sometimes AI gives references that don't actually exist. After experiencing that, I always double-check everything before using it." (P10)

Another participant commented:

"The explanation sounds very convincing, but it's not always correct. That's why I compare it with journal articles or lecture materials." (P8)

Participants therefore regarded AI chatbot companions as useful starting points rather than authoritative sources of academic knowledge. Several participants noted that the quality of AI responses also depended on the clarity of the prompts they provided, making effective communication with AI an important skill. These findings demonstrate that students maintained a cautious attitude toward AI-generated information and recognized the necessity of critically evaluating its credibility before incorporating it into academic work.

Theme 4. Balancing AI Assistance with Independent Learning

The final theme concerned students' awareness of the need to balance AI assistance with their own learning efforts. Although participants appreciated the efficiency of AI chatbot companions, many expressed concerns that excessive reliance on AI could reduce independent thinking, problem-solving abilities, and critical analysis. One participant reflected:

"If I depend on AI too much, I think I won't learn how to solve problems by myself. That's something I always try to avoid." (P5)

Another participant added:

"AI should support learning, not replace it. I still need to read books, attend lectures, and think for myself." (P19)

Several participants described intentionally limiting their use of AI during certain learning activities. For example, they attempted assignments independently before consulting AI or used AI primarily to verify their understanding rather than generate complete solutions. Such strategies reflected students' efforts to maintain ownership of their learning while benefiting from AI-assisted support. These findings indicate that students generally viewed responsible AI use as a balance between leveraging technological assistance and preserving opportunities for independent learning. Rather than advocating unrestricted AI use, participants emphasized the importance of critical engagement, self-regulation, and academic integrity.

Summary of RQ2 Findings

Overall, participants perceived AI chatbot companions as valuable academic support tools that enhanced accessibility, personalized learning, and confidence in seeking academic help. At the same time, they recognized important challenges related to the reliability of AI-generated information and the potential risks of overreliance. Rather than viewing AI chatbot companions as replacements for lecturers or other traditional learning resources, students generally perceived them as complementary learning partners whose educational value depended on responsible, critical, and self-regulated use. These findings suggest that effective academic help seeking in the era of generative AI requires not only technological competence but also the ability to evaluate information critically and maintain an appropriate balance between AI assistance and independent learning.

DISCUSSION

This study explored how university students use AI chatbot companions as part of their academic help-seeking behaviors and how they perceive the benefits and challenges associated with these technologies. Guided by Karabenick and Dembo's (2011) help-seeking process model, the findings demonstrate that AI chatbot companions have become an integral component of students' academic help-seeking processes. Rather than replacing traditional sources of academic support, AI chatbot companions function as complementary learning partners that facilitate self-regulated learning by providing immediate, personalized, and interactive assistance. These findings align with recent reviews suggesting that AI chatbots have evolved from simple information retrieval tools into intelligent learning companions capable of supporting personalized learning experiences and self-regulated learning (Akpan et al., 2025; Guan et al., 2025; Labadze et al., 2023). At the same time, students recognized that effective use of AI requires critical evaluation, responsible decision making, and a balance between technological assistance and independent learning, reflecting the growing emphasis on responsible AI use in higher education (Haroud & Saqri, 2025; Williams, 2024).

The first major finding reveals that students' use of AI chatbot companions follows a structured help-seeking process that closely aligns with Karabenick and Dembo's (2011) model. Participants first identified learning difficulties, evaluated whether external assistance was necessary, deliberately selected AI as a help source, engaged in iterative conversations to refine their understanding, and finally evaluated and integrated the received information into their learning. These findings reinforce Karabenick and

Dembo's (2011) argument that academic help seeking is not a single action but a dynamic self-regulated learning process involving multiple cognitive, motivational, and contextual decisions. Similar help-seeking processes have also been reported in recent studies of higher education, which emphasize that students actively evaluate available resources before deciding where and how to seek academic assistance (Hadad, 2026; McCutcheon et al., 2025; Ruihua et al., 2026). More importantly, the present study extends Karabenick and Dembo's framework by demonstrating that AI chatbot companions have become legitimate academic help sources within contemporary higher education. While the original model primarily considered lecturers, peers, tutors, and learning materials, the findings suggest that AI chatbot companions now occupy an important position alongside these traditional sources, reflecting the changing ecology of academic help seeking in the era of generative AI.

Another important finding concerns students' reasons for choosing AI chatbot companions over traditional help sources. Participants consistently valued AI because it provided immediate, personalized, and continuously accessible academic support. These characteristics distinguish AI chatbot companions from conventional academic resources that are often constrained by time, availability, or social interaction. This finding corroborates previous research showing that students appreciate AI chatbots for their efficiency, accessibility, and capacity to provide individualized explanations tailored to learners' needs (Bravo & Cruz-Bohorquez, 2024; Deng & Yu, 2023; Neumann et al., 2025; Wiboolyasarin et al., 2025). Likewise, studies on students' acceptance of generative AI have found that perceived usefulness, convenience, and responsiveness are among the strongest predictors of AI adoption in higher education (Al-Abdullatif, 2023; Shahzad et al., 2024; Strzelecki, 2024; Tian et al., 2024).

However, the present study extends this body of research by demonstrating that these technological affordances influence students' decisions within a broader academic help-seeking process rather than simply encouraging technology adoption. Existing acceptance studies have primarily focused on why students intend to use AI systems, often drawing upon the Technology Acceptance Model (TAM) or the Unified Theory of Acceptance and Use of Technology (UTAUT) (Ali et al., 2025; Strzelecki, 2024; Yildiz Durak & Onan, 2024). In contrast, the present findings reveal that students consciously evaluate AI chatbot companions against other available academic resources before selecting them as the most appropriate source of support for specific learning situations. This perspective shifts attention from technology adoption to the strategic role of AI within students' self-regulated academic help-seeking behaviors.

The findings also highlight the importance of the conversational nature of AI chatbot companions in supporting learning. Rather than treating AI as a search engine that provides static information, participants described engaging in iterative dialogue by refining prompts, requesting additional explanations, seeking examples, and clarifying misunderstandings until satisfactory understanding was achieved. This interactive process illustrates that academic help seeking with AI is fundamentally dialogic and adaptive. Similar patterns have been reported by Liu et al. (2024), who found that learners continuously negotiated meaning through AI-mediated informal digital learning, and by Usher and Amzalag (2025), who observed that students used successive prompts to

improve the quality of AI-assisted academic writing. Guan et al.'s (2025) systematic review likewise concluded that educational chatbots support self-regulated learning by enabling continuous feedback, adaptive scaffolding, and iterative interaction rather than merely delivering information.

From a theoretical perspective, these findings suggest that the "soliciting help" and "obtaining help" stages proposed by Karabenick and Dembo (2011) are no longer one-directional interactions in which students simply request assistance and receive information. Instead, interactions with AI chatbot companions are characterized by multiple conversational cycles in which students refine prompts, evaluate responses, request clarification, and progressively construct understanding. This dialogic nature represents an important extension of the help-seeking process in AI-supported learning environments, where obtaining help becomes an iterative negotiation rather than a single exchange of information.

Despite these benefits, participants consistently demonstrated critical awareness of the limitations of AI-generated information. Concerns regarding inaccurate explanations, fabricated references, and outdated information encouraged students to verify AI-generated responses through textbooks, scholarly literature, and consultation with lecturers. Rather than accepting AI outputs uncritically, most participants adopted verification strategies before incorporating AI-generated information into their academic work. This finding is consistent with studies reporting that although students generally trust AI chatbot companions, they remain cautious about the accuracy and credibility of AI-generated content (Blahopoulou & Ortiz-Bonnin, 2025; Kim et al., 2025; Schei et al., 2024). Their concerns are also well founded, as previous evaluations have demonstrated that large language models may generate inaccurate information, fabricated references, or misleading yet convincing responses, particularly in specialized academic domains (Dogru & Krämer, 2025; Ozdemir & Yapici, 2025). Consequently, the findings reinforce the view that AI should function as a supportive learning resource rather than an unquestioned authority.

Participants also acknowledged that excessive dependence on AI could reduce independent problem solving, metacognitive engagement, and critical reflection if the technology were used without thoughtful consideration. This perception resonates with Fan et al. (2025), who introduced the concept of *metacognitive laziness* to describe learners' tendency to outsource cognitive effort to generative AI. Similarly, Sharma et al. (2024) argued that self-regulated learning requires learners to continuously monitor, evaluate, and regulate their own thinking rather than relying exclusively on digital support systems. The present findings are encouraging because participants generally demonstrated awareness of these potential risks and intentionally adopted strategies to maintain their own cognitive engagement, such as attempting tasks independently before consulting AI, comparing AI-generated explanations with scholarly sources, and reflecting on the appropriateness of AI suggestions. Such behaviors indicate that students viewed AI chatbot companions as tools to enhance, rather than replace, their own learning processes.

The findings indicate that AI chatbot companions are transforming the ways university students engage in academic help seeking while complementing, rather than displacing, traditional sources of academic support. Students continue to value lecturers, peers, textbooks, and scholarly resources, but AI has become an additional layer of academic support that complements these existing sources. This observation aligns with Lund et al. (2026), who found that university students increasingly integrate AI chatbots alongside search engines and library resources when seeking academic information. Likewise, Crawford et al. (2024) cautioned that although AI can substitute certain informational functions traditionally performed by humans, it should not replace the broader educational relationships that foster students' sense of belonging, engagement, and academic persistence. The present findings therefore challenge polarized perspectives that portray AI either as a threat to higher education or as a complete replacement for traditional learning support. Instead, they suggest that students adopt a hybrid academic help-seeking approach in which AI chatbot companions are strategically combined with human expertise and conventional learning resources according to the demands of specific academic tasks.

The findings offer several important pedagogical implications for higher education. First, universities should recognize AI chatbot companions as legitimate components of students' academic help-seeking ecosystems rather than attempting to prohibit or ignore their use. As AI becomes increasingly embedded in students' everyday learning practices (Akpan et al., 2025; Haroud & Saqri, 2025), educators should shift from restrictive approaches toward pedagogical strategies that help students use AI responsibly and purposefully. Rather than asking whether students should use AI, universities should focus on helping them understand when, why, and how AI can most effectively support learning.

Second, the findings highlight the urgent need to integrate AI literacy into university curricula. Existing research has shown that students' acceptance of AI does not necessarily translate into effective or responsible use (Ali et al., 2025; Shahzad et al., 2024). Therefore, AI literacy should extend beyond operational skills to include prompt engineering, critical evaluation of AI-generated information, verification of sources, ethical decision making, and responsible citation practices. Such competencies are essential for enabling students to become reflective users of AI rather than passive consumers of AI-generated content. As Williams (2024) argues, responsible AI integration in higher education depends not only on technological innovation but also on developing students' ethical awareness and critical digital literacy.

Third, lecturers should intentionally design learning activities that promote critical engagement with AI-generated content. Rather than discouraging AI use, instructors can require students to evaluate AI responses against scholarly literature, identify factual inaccuracies or biases, compare multiple AI-generated explanations, and reflect on how AI influenced their own understanding of a topic. Such learning activities encourage higher-order thinking while minimizing the risks of cognitive dependency identified by Fan et al. (2025). They also align with recommendations from Wiboolyasarin et al. (2025), who emphasized that AI chatbots are most educationally valuable when integrated

into pedagogical practices that promote reflection, interaction, and learner autonomy instead of simple answer generation.

Finally, higher education institutions should establish clear institutional policies that support responsible AI-assisted learning while preserving academic integrity. Rather than relying exclusively on restrictive regulations, universities should provide transparent guidance regarding acceptable AI use across different academic tasks and redesign assessment practices to emphasize critical thinking, authentic problem solving, and reflective learning. Such recommendations are consistent with recent scholarship highlighting the need for balanced institutional responses that simultaneously encourage innovation and uphold academic integrity (Kofinas et al., 2025; Williams, 2024). By creating supportive policy environments and equipping both students and lecturers with AI literacy competencies, universities can maximize the educational benefits of AI chatbot companions while minimizing their potential risks.

Overall, this study demonstrates that AI chatbot companions have become an important component of university students' academic help-seeking behaviors. Extending Karabenick and Dembo's (2011) help-seeking process model, the findings position AI chatbot companions as an emerging academic help source that complements lecturers, peers, and traditional learning materials within students' broader help-seeking ecosystems. Their educational value, however, depends not simply on technological capabilities but on students' ability to engage with AI critically, ethically, and strategically as part of a self-regulated learning process. As generative AI continues to evolve, higher education institutions should move beyond viewing AI as either a threat or a solution and instead cultivate learning environments that empower students to become discerning, reflective, and responsible users of AI in their academic journeys.

CONCLUSION

This study explored how university students use AI chatbot companions as part of their academic help-seeking behaviors and how they perceive the benefits and challenges associated with their use. The findings revealed that students integrate AI chatbot companions into a dynamic help-seeking process by recognizing learning difficulties, strategically selecting AI as an academic help source, engaging in iterative interactions, and critically evaluating AI-generated assistance before applying it to their learning. Although participants valued AI for its accessibility, personalized support, and non-judgmental nature, they also recognized the importance of verifying AI-generated information and maintaining independent thinking to avoid overreliance. By extending Karabenick and Dembo's (2011) help-seeking process model to incorporate AI chatbot companions as an emerging academic help source, this study contributes a contemporary perspective on academic help seeking in the era of generative AI. The findings further underscore the need for higher education institutions to foster AI literacy, critical evaluation skills, and responsible AI use so that AI chatbot companions can effectively complement, rather than replace, traditional sources of academic support. Future research may examine AI-assisted academic help-seeking across different disciplines, educational levels, and cultural contexts, as well as investigate how these behaviors evolve alongside the rapid advancement of generative AI technologies.

REFERENCES

- Akiba, D. (2025). ChatGPT told me to say it: AI chatbots and class participation apprehension in university students. *Education Sciences*, 15(7), 897. <https://doi.org/10.3390/educsci15070897>
- Akpan, I. J., Kobara, Y. M., Owolabi, J., Akpan, A. A., & Offodile, O. F. (2025). Conversational and generative artificial intelligence and human–chatbot interaction in education and research. *International Transactions in Operational Research*, 32(3), 1251–1281. <https://doi.org/10.1111/itor.13522>
- Al-Abdullatif, A. M. (2023). Modeling students' perceptions of chatbots in learning: Integrating technology acceptance with the value-based adoption model. *Education Sciences*, 13(11), 1151. <https://doi.org/10.3390/educsci13111151>
- Al Mashagbeh, M., Alsharqawi, M., Tudevtagva, U., & Khasawneh, H. J. (2025). Student engagement with artificial intelligence tools in academia: A survey of Jordanian universities. *Frontiers in Education*, 10. <https://doi.org/10.3389/feduc.2025.1550147>
- Ali, I., Warraich, N. F., & Butt, K. (2025). Acceptance and use of artificial intelligence and AI-based applications in education: A meta-analysis and future direction. *Information Development*, 41(3), 859–874. <https://doi.org/10.1177/02666669241257206>
- Bingham, A. J. (2023). From data management to actionable findings: A five-phase process of qualitative data analysis. *International Journal of Qualitative Methods*, 22. <https://doi.org/10.1177/16094069231183620>
- Blahopoulou, J., & Ortiz-Bonnin, S. (2025). Student perceptions of ChatGPT: benefits, costs, and attitudinal differences between users and non-users toward AI integration in higher education. *Education and Information Technologies*, 30(14), 19741–19764. <https://doi.org/10.1007/s10639-025-13575-9>
- Braun, V., & Clarke, V. (2024). Supporting best practice in reflexive thematic analysis reporting in Palliative Medicine : A review of published research and introduction to the Reflexive Thematic Analysis Reporting Guidelines (RTARG). *Palliative Medicine*, 38(6), 608–616. <https://doi.org/10.1177/02692163241234800>
- Bravo, F. A., & Cruz-Bohorquez, J. M. (2024). Engineering education in the age of AI: Analysis of the impact of chatbots on learning in engineering. *Education Sciences*, 14(5), 484. <https://doi.org/10.3390/educsci14050484>
- Crawford, J., Allen, K. A., Pani, B., & Cowling, M. (2024). When artificial intelligence substitutes humans in higher education: the cost of loneliness, student success, and retention. *Studies in Higher Education*. <https://doi.org/10.1080/03075079.2024.2326956>
- Deng, X., & Yu, Z. (2023). A meta-analysis and systematic review of the effect of chatbot technology use in sustainable education. *Sustainability*, 15(4), 2940.

<https://doi.org/10.3390/su15042940>

- Denny, E., & Weckesser, A. (2022). How to do qualitative research? *BJOG: An International Journal of Obstetrics & Gynaecology*, 129(7), 1166–1167. <https://doi.org/10.1111/1471-0528.17150>
- Dogru, E. Ö., & Krämer, N. C. (2025). Investigating appropriate reliance on AI-Based decision support systems: the role of expertise, trust, and self-confidence. *Journal of Decision Systems*, 34(1). <https://doi.org/10.1080/12460125.2025.2593251>
- Ewell, S. N., Harvey, A., Clark, A., Maloney, M. E., Stevison, L. S., & Ballen, C. J. (2025). Instructor recommendations for student learning strategies and metacognition: An analysis of undergraduate biology syllabi. *Journal of Research in Science Teaching*, 62(4), 1132–1158. <https://doi.org/10.1002/tea.21996>
- Fan, Y., Tang, L., Le, H., Shen, K., Tan, S., Zhao, Y., Shen, Y., Li, X., & Gašević, D. (2025). Beware of metacognitive laziness: Effects of generative artificial intelligence on learning motivation, processes, and performance. *British Journal of Educational Technology*, 56(2), 489–530. <https://doi.org/10.1111/bjet.13544>
- Guan, R., Raković, M., Chen, G., & Gašević, D. (2025). How educational chatbots support self-regulated learning? A systematic review of the literature. *Education and Information Technologies*, 30(4), 4493–4518. <https://doi.org/10.1007/s10639-024-12881-y>
- Hadad, S. (2026). Factors influencing student help-seeking behavior during crisis: a mixed-method analysis in higher education. *Studies in Higher Education*, 51(2), 371–389. <https://doi.org/10.1080/03075079.2025.2468842>
- Haroud, S., & Saqri, N. (2025). Generative AI in higher education: Teachers' and students' perspectives on support, replacement, and digital literacy. *Education Sciences*, 15(4), 396. <https://doi.org/10.3390/educsci15040396>
- Karabenick, S. A., & Dembo, M. H. (2011). Understanding and facilitating self-regulated help seeking. *New Directions for Teaching and Learning*, 2011(126), 33–43. <https://doi.org/10.1002/tl.442>
- Kim, J., Yu, S., Detrick, R., & Li, N. (2025). Exploring students' perspectives on Generative AI-assisted academic writing. *Education and Information Technologies*, 30(1), 1265–1300. <https://doi.org/10.1007/s10639-024-12878-7>
- Kofinas, A. K., Tsay, C. H., & Pike, D. (2025). The impact of generative AI on academic integrity of authentic assessments within a higher education context. *British Journal of Educational Technology*, 56(6), 2522–2549. <https://doi.org/10.1111/bjet.13585>
- Labadze, L., Grigolia, M., & Machaidze, L. (2023). Role of AI chatbots in education: systematic literature review. *International Journal of Educational Technology in Higher Education*, 20(1), 56. <https://doi.org/10.1186/s41239-023-00426-1>
- 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>
- Lund, B. D., Teel, Z. A., Mohammed, Y., Jagathpally, A., & Wang, T. (2026). Artificial intelligence (AI) and information seeking: A comparative exploration of AI chatbots, search engines, and library resources as information sources among university students. *Journal of Librarianship and Information Science*. <https://doi.org/10.1177/09610006261438484>
- McCutcheon, S., Wood, A., Bright, M., Jilina, P., & Walker, A. (2025). Student academic help seeking in higher education: Navigating Bronfenbrenner's systems. *Journal of University Teaching and Learning Practice*, 22(2). <https://doi.org/10.53761/jfn9df65>
- Neumann, A. T., Yin, Y., Sowe, S., Decker, S., & Jarke, M. (2025). An LLM-driven chatbot in higher education for databases and information systems. *IEEE Transactions on Education*, 68(1), 103–116. <https://doi.org/10.1109/TE.2024.3467912>
- Ozdemir, Z. M., & Yapici, E. (2025). Evaluating the accuracy, reliability, consistency, and readability of different large language models in restorative dentistry. *Journal of Esthetic and Restorative Dentistry*, 37(7), 1740–1752. <https://doi.org/10.1111/jerd.13447>
- Ruihua, L., Hassan, N. C., & Wong, B. Y. (2026). How do first-generation rural college students navigate academic help-seeking? A qualitative investigation of influencing factors, processes and strategies. *British Educational Research Journal*, 52(3), 2068–2090. <https://doi.org/10.1002/berj.70106>
- Schei, O. M., Møgelvang, A., & Ludvigsen, K. (2024). Perceptions and use of AI chatbots among students in higher education: A scoping review of empirical studies. *Education Sciences*, 14(8), 922. <https://doi.org/10.3390/educsci14080922>
- Shahzad, M. F., Xu, S., & Javed, I. (2024). ChatGPT awareness, acceptance, and adoption in higher education: the role of trust as a cornerstone. *International Journal of Educational Technology in Higher Education*, 21(1), 46. <https://doi.org/10.1186/s41239-024-00478-x>
- Sharma, K., Nguyen, A., & Hong, Y. (2024). Self-regulation and shared regulation in collaborative learning in adaptive digital learning environments: A systematic review of empirical studies. *British Journal of Educational Technology*, 55(4), 1398–1436. <https://doi.org/10.1111/bjet.13459>
- Stratton, S. J. (2024). Purposeful sampling: Advantages and pitfalls. *Prehospital and Disaster Medicine*, 39(2), 121–122. <https://doi.org/10.1017/S1049023X24000281>
- Strzelecki, A. (2024). Students' acceptance of ChatGPT in higher education: An extended unified theory of acceptance and use of technology. *Innovative Higher Education*,

- 49(2), 223–245. <https://doi.org/10.1007/s10755-023-09686-1>
- Tian, W., Ge, J., Zhao, Y., & Zheng, X. (2024). AI Chatbots in Chinese higher education: adoption, perception, and influence among graduate students—an integrated analysis utilizing UTAUT and ECM models. *Frontiers in Psychology*, 15. <https://doi.org/10.3389/fpsyg.2024.1268549>
- Usher, M., & Amzalag, M. (2025). From prompt to polished: Exploring student–chatbot interactions for academic writing assistance. *Education Sciences*, 15(3), 329. <https://doi.org/10.3390/educsci15030329>
- Villamin, P., Lopez, V., Thapa, D. K., & Cleary, M. (2025). A worked example of qualitative descriptive design: A step-by-step guide for novice and early career researchers. *Journal of Advanced Nursing*, 81(8), 5181–5195. <https://doi.org/10.1111/jan.16481>
- Wakelin, K. J., McAra-Couper, J., & Fleming, T. (2024). Using an online platform for conducting face-to-face interviews. *International Journal of Qualitative Methods*, 23. <https://doi.org/10.1177/16094069241234183>
- Wiboolyasarin, W., Wiboolyasarin, K., Tiranant, P., Jinowat, N., & Boonyakitanont, P. (2025). AI-driven chatbots in second language education: A systematic review of their efficacy and pedagogical implications. *Ampersand*, 14, 100224. <https://doi.org/10.1016/j.amper.2025.100224>
- Williams, R. T. (2024). The ethical implications of using generative chatbots in higher education. *Frontiers in Education*, 8. <https://doi.org/10.3389/feduc.2023.1331607>
- Yildiz Durak, H., & Onan, A. (2024). Predicting the use of chatbot systems in education: A comparative approach using PLS-SEM and machine learning algorithms. *Current Psychology*, 43(28), 23656–23674. <https://doi.org/10.1007/s12144-024-06072-8>