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لمجلة ستاردوم العلمية للدراسات التربوية و النفسية

ChatGPT in University Learning: Students' Views on Benefits and Challenges

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تطبيق ChatGPT في التعليم الجامعي: آراء الطلاب حول الفوائد والتحديات

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Abstract:

The use of Artificial intelligence such as ChatGPT has become increasingly common among university students. This study examines how students use ChatGPT in their academic work and explores their perceptions of its benefits and challenges. The study adopted a descriptive research approach and used a questionnaire as the main data collection instrument. The sample consisted of 54 graduate and postgraduate students from the Lebanese International University. The collected data were analyzed using descriptive statistical methods.

The findings indicate that most students regularly use ChatGPT to complete assignments, understand complex topics, and save time. Participants reported that the tool provides quick explanations, personalized academic support, and easy access to information. However, several students expressed concerns about excessive reliance on ChatGPT, particularly regarding its potential effects on critical thinking and academic integrity. The study highlights the importance of using AI tools responsibly while maintaining independent thinking and active learning. This study focuses on the role of ChatGPT in supporting self-directed learning and critical thinking among university students, reflecting the growing interest in the impact of AI tools on higher education.

المخلص:

أصبح استخدام أدوات الذكاء الاصطناعي مثل ChatGPT شائعًا بشكل متزايد بين طلبة الجامعات. تهدف هذه الدراسة إلى استكشاف كيفية استخدام الطلبة لـ ChatGPT في أعمالهم الأكاديمية، بالإضافة إلى التعرف على تصوراتهم حول فوائده والتحديات المرتبطة به. اعتمدت الدراسة المنهج الوصفي، واستخدمت الاستبانة أداةً لجمع البيانات. وتكوّنت عينة الدراسة من 54 طالبًا وطالبة من مرحلتي الإجازة والدراسات العليا في الجامعة اللبنانية الدولية. وتم تحليل البيانات باستخدام الأساليب الإحصائية الوصفية.

أظهرت النتائج أن معظم الطلبة يستخدمون ChatGPT بانتظام لإنجاز الواجبات الأكاديمية وفهم الموضوعات المعقدة وتوفير الوقت. كما أشار المشاركون إلى أن الأداة توفر شروحات سريعة ودعمًا تعليميًا مخصصًا وسهولة في الوصول إلى المعلومات. ومع ذلك، أعرب عدد من الطلبة عن مخاوف تتعلق بالإفراط في الاعتماد على ChatGPT، خاصة فيما يتعلق بتأثيره المحتمل على مهارات التفكير النقدي والنزاهة الأكاديمية. وتؤكد الدراسة على أهمية الاستخدام المسؤول لأدوات الذكاء الاصطناعي مع الحفاظ على التفكير المستقل والتعلم النشط.

1. Introduction:

In recent years, artificial intelligence has become an important part of students' daily academic lives. Tools like ChatGPT are now widely used to search for information, generate ideas, summarize texts, and assist with assignments. Recent research highlights the rapid growth of generative AI tools in higher education and their increasing influence on teaching and learning practices. As technology continues to advance, university students are increasingly relying on AI tools to support their learning.

However, the growing use of ChatGPT has raised important questions. While many students see it as a helpful learning assistant that saves time and improves understanding, others worry that excessive dependence on AI may reduce independent learning and weaken critical thinking skills. Understanding how students perceive these tools is essential to promoting responsible and balanced use in university education. Despite the growing body of research on artificial intelligence in education, there is still limited empirical evidence focusing specifically on students' perceptions of ChatGPT in relation to both self-directed learning and critical thinking simultaneously. Many previous studies have examined the general benefits or risks of AI tools, but fewer studies have explored how university students themselves interpret these influences in real academic contexts.

Therefore, this study attempts to contribute to the existing literature by examining students' views on both the benefits and challenges of ChatGPT use in university learning, with particular attention to its perceived role in supporting self-directed learning and its possible influence on critical thinking.

Objectives of the Study

This study aims to:

1. Examine how university students use ChatGPT in their academic work.
2. Identify the perceived benefits of ChatGPT in supporting self-learning.
3. Explore students' views on the impact of ChatGPT on critical thinking.
4. Highlight the main challenges and concerns related to the use of AI tools in higher education.

Research Problem

With the rapid spread of generative AI tools such as ChatGPT in higher education, students are increasingly relying on these technologies in their academic tasks. While many believe that AI tools improve learning efficiency and provide academic support, there are growing concerns about their impact on students' independence and critical thinking skills. Therefore, the core problem of this study is to determine whether ChatGPT functions as a supportive learning assistant or whether excessive reliance on it may hinder students' independent learning and critical thinking skills. Based on this need, the study formulated its hypotheses to examine the relationship between ChatGPT use and both self-directed learning and critical thinking among university students. Despite the increasing integration of generative AI tools in higher education, limited empirical research has examined students' perceptions of ChatGPT in relation to both self-directed learning and critical thinking within the same study.

Research Hypotheses

H1: There is a statistically significant relationship between university students' use of ChatGPT and their level of self-directed learning.

H2: There is a statistically significant relationship between the use of ChatGPT and university students' critical thinking skills.

H3: University students recognize both the benefits and limitations, including ethical concerns, when using ChatGPT in higher education.

To explain this relationship, the research relies on several educational theories that illustrate how AI tools can influence learning behaviors and student autonomy.

2. Theoretical Literature and Previous Studies

Recent developments in generative artificial intelligence, particularly ChatGPT, have significantly influenced higher education practices. Universities worldwide are witnessing a rapid integration of AI tools into students' academic routines. As a result, scholars have begun examining both the educational benefits and the potential risks associated with the use of ChatGPT in university learning.

This chapter reviews the relevant theoretical literature and previous empirical studies related to the use of ChatGPT in higher education, its role in supporting self-directed learning, and its potential impact on critical thinking. The review is organized into three main sections to provide a comprehensive understanding of the topic.

Reviewing previous studies is essential for identifying current research trends and highlighting the existing gaps in the literature. By analyzing recent empirical and theoretical studies, this chapter aims to position the present research within the broader academic discussion on generative artificial intelligence in higher education.

2.1 Theoretical Framework

The integration of generative artificial intelligence tools such as ChatGPT into higher education can be better understood through several established educational theories. This study is primarily grounded in Self-Directed Learning Theory, Self-Regulated Learning Theory, Constructivist Learning Theory, and Critical Thinking frameworks. These theoretical perspectives provide a foundation for analyzing how ChatGPT may influence students' learning behaviors, autonomy, and cognitive development.

2.1.1 Self-Directed Learning Theory

Self-Directed Learning (SDL) refers to a process in which learners take initiative in diagnosing their learning needs, setting goals, identifying resources, choosing and implementing strategies, and evaluating learning outcomes. According to this perspective, students are not passive recipients of information but active agents responsible for managing their own learning process.

In higher education, self-directed learners demonstrate independence, intrinsic motivation, time management skills, and the ability to seek appropriate learning resources. Generative AI tools such as ChatGPT may support self-directed learning by providing instant explanations, clarifying difficult concepts, generating examples, and assisting students in organizing their ideas. Through these functions, ChatGPT can act as an accessible learning companion that supports autonomous study outside the classroom.

However, from a theoretical standpoint, excessive dependence on AI tools may contradict the core principles of self-directed learning. If students rely entirely on AI-generated responses without engaging in reflection, evaluation, and independent effort, the development of true learner autonomy may be weakened. Therefore, the relationship between ChatGPT and self-directed learning remains complex and requires empirical examination.

2.1.2 Self-Regulated Learning Theory

Self-Regulated Learning (SRL) focuses on the processes through which learners actively plan, monitor, and evaluate their own cognitive and motivational strategies. This theory emphasizes three main phases:

1. Planning (goal setting and strategy selection)
2. Performance (monitoring and strategy implementation)
3. Self-reflection (evaluation and adjustment)

Within this framework, ChatGPT may function as a cognitive support tool. For example, during the planning phase, students can use AI to brainstorm ideas and clarify learning objectives. During the performance phase, AI can assist with explanations and feedback. During reflection, students may compare their understanding with AI-generated content.

Nevertheless, SRL theory also highlights the importance of metacognition—awareness of one’s own thinking processes. If students use ChatGPT without critical monitoring, they may bypass important cognitive steps. Thus, while ChatGPT has the potential to enhance self-regulation, its impact depends on how consciously and strategically students use it.

2.1.3 Constructivist Learning Theory

Constructivist theory proposes that learning occurs when individuals actively construct knowledge through experience, interaction, and reflection. Knowledge is not transmitted passively but built through cognitive engagement.

From a constructivist perspective, ChatGPT can support learning by providing scaffolding, guiding inquiry, and offering alternative explanations that stimulate understanding. When used as a dialogic partner, AI can encourage students to question, compare, and refine their ideas.

However, if students use AI merely to obtain ready-made answers, the constructive learning process may be reduced. Instead of building knowledge, students may shift toward knowledge consumption. Therefore, the educational value of ChatGPT depends largely on whether it is used as a scaffold for thinking or as a shortcut to task completion.

2.1.4 Critical Thinking Framework

Critical thinking involves higher-order cognitive skills such as analysis, evaluation, interpretation, inference, and reasoning. In higher education, the development of critical thinking is considered a central learning objective.

AI tools such as ChatGPT can potentially support critical thinking by exposing students to multiple perspectives, assisting in argument construction, and helping them analyze complex information. When students question AI responses, verify sources, and evaluate accuracy, they actively engage in critical reasoning.

On the other hand, uncritical acceptance of AI-generated responses may reduce analytical depth and intellectual effort. If students substitute AI output for personal reasoning, opportunities to practice critical evaluation may diminish. Therefore, the impact of ChatGPT on critical thinking is not inherently positive or negative; rather, it is shaped by patterns of usage and the presence of pedagogical guidance.

Summary of the Theoretical Framework

Overall, these theoretical perspectives suggest that ChatGPT has the potential to function as a supportive educational tool that enhances self-directed learning, self-regulation, and critical thinking. However, these benefits are not automatic. The educational outcomes depend on responsible, reflective, and balanced use.

This theoretical foundation provides the basis for examining students' perceptions in the present study and for interpreting the empirical findings within established learning theories.

Despite the theoretical benefits suggested by these frameworks, empirical studies present mixed results regarding the effectiveness of ChatGPT in enhancing self-directed learning and critical thinking, highlighting the importance of the current study.

2.2 The Use of ChatGPT in Higher Education

Dempere et al. (2023) examined the overall impact of ChatGPT on higher education, highlighting its potential to support research, enhance teaching, and improve student services. However, the study also raised concerns regarding academic integrity, assessment security, privacy risks, and reduced human interaction, emphasizing the need for ethical guidelines and balanced regulation.

Sok and Heng (2024) reviewed the opportunities and challenges of using ChatGPT in higher education, noting its potential to support instruction, academic writing, research development, and assessment innovation. However, the study also highlighted concerns related to academic integrity, overreliance on AI, information accuracy, and privacy, emphasizing the need for responsible implementation strategies.

Das and Madhusudan (2024) investigated higher education students' perceptions of ChatGPT and found generally positive attitudes toward its academic benefits, alongside awareness of its limitations and ethical concerns. The study also reported that perceptions were not significantly influenced by gender or academic level, indicating broad acceptance across student groups.

Ravšelj et al. (2025) conducted a large-scale global study examining students' early perceptions of ChatGPT, finding that it was widely used for brainstorming, summarization, and simplifying complex content. While students viewed the tool as beneficial for study efficiency and digital skill development, concerns regarding cheating and plagiarism were reported, and its effectiveness in enhancing critical thinking was perceived as limited.

Tortella et al. (2025) examined physiotherapy students' perceptions of AI chatbots, reporting high awareness but limited academic use. While users employed the tools mainly for learning support, students expressed neutral views regarding their impact on academic performance and critical thinking, suggesting that empirical evidence on their educational effectiveness remains inconclusive.

Assad (2024) investigated the use of ChatGPT among media students and found that it supported content organization and efficiency of expression, while raising concerns about authenticity and ethical implications. However, the study did not directly examine its impact on self-directed learning or critical thinking skills.

Balraj (2025) conducted a systematic review using the PRISMA methodology to examine undergraduates' perceptions of ChatGPT in academic writing. While the review highlighted both the benefits of AI-assisted writing and concerns about originality and academic integrity, it identified limited empirical evidence regarding the direct impact of AI tools on self-directed learning and higher-order thinking skills.

2.3 ChatGPT and Self-Directed / Self-Regulated Learning

Zhao and Tao (2025) investigated the role of generative AI in enhancing university students' independent learning. Grounded in the Self-Regulated Learning model, the study found that AI-supported strategies provided personalized guidance and improved autonomous learning outcomes, suggesting that structured integration of generative AI can strengthen self-directed learning in higher education.

Chen et al. (2026) experimentally examined ChatGPT as a teachable agent within a learning-by-teaching approach in programming education. The findings showed improved knowledge gains and programming performance, along with significant enhancement in students' self-regulated learning abilities, suggesting that structured interaction with AI can support self-directed learning processes.

Tersta et al. (2026), drawing on Self-Determination Theory, found that ChatGPT use significantly enhanced students' perceived autonomy, competence, and task value while reducing learning-related stress. The findings suggest that generative AI can function as an autonomy-supportive tool that strengthens motivation and fosters conditions conducive to self-directed learning.

Sari et al. (2025) qualitatively examined the role of ChatGPT in supporting self-directed learning and critical thinking. The findings suggested that while ChatGPT facilitates information access and argument construction, excessive reliance may reduce cognitive reflection and pose academic integrity risks, highlighting the need for digital literacy and ethical awareness

2.4 ChatGPT and Critical Thinking

Shanto et al. (2024) proposed the "AI-CRITIQUE" framework to promote critical use of ChatGPT in higher education. The empirical findings indicated that structured guidance in questioning, evaluation, and reflection significantly improved students' higher-order thinking levels, suggesting that

ChatGPT can enhance critical thinking when used within a pedagogically guided framework.

A quantitative study examined the influence of critical thinking skills and learning interest on university students' academic achievement, with ChatGPT serving as a mediating variable. The findings revealed that critical thinking and learning interest significantly affected academic performance both directly and indirectly through ChatGPT use, with the model demonstrating strong explanatory power ($R^2 = 0.719$). These results highlight the potential of integrating AI tools with cognitive skill development to enhance learning outcomes in higher education (Indriyani & Harsono, 2026).

A cross-sectional study examined the relationships among ChatGPT use, self-directed learning, and critical thinking, finding that higher ChatGPT usage and stronger self-directed learning were significantly associated with enhanced critical thinking skills. Self-directed learning emerged as the strongest predictor, providing empirical support for the interconnected role of generative AI, autonomous learning, and higher-order thinking, despite the study focusing on healthcare professionals rather than university students (Chang et al., 2025).

A philosophical analysis examined the implications of ChatGPT for critical thinking in higher education, arguing that the technology presents both opportunities and limitations. While concerns about "outsourcing humanity" were raised, the study suggested that AI tools may also revitalize critical thinking if integrated thoughtfully, with human intellectual agency remaining central (Royer, 2024).

Overall, the reviewed literature indicates that ChatGPT has significant potential to support university learning through improved access to information, idea generation, and personalized academic support. However, previous studies also highlight important concerns related to academic integrity, overreliance on AI tools, and possible effects on higher-order cognitive skills.

Despite the growing number of studies on generative AI in education, the relationship between ChatGPT usage, self-directed learning, and critical thinking remains an evolving area of research. Therefore, further empirical investigation is needed to better understand students' perceptions and experiences with these emerging technologies.

Building on the insights gained from the theoretical discussion and previous studies, the present research adopts a quantitative approach to examine students' perceptions of ChatGPT and its relationship with self-directed learning and critical thinking.

3. Methodology and Procedures

3.1 Research Design

This study employed a quantitative research design using an online questionnaire to examine university students' perceptions of ChatGPT and its impact on self-directed learning and critical thinking. The design allowed for the collection of measurable data to identify trends and patterns in students' use of generative AI tools.

3.2 Participants

The sample consisted of 54 university students from different academic disciplines and levels. Participants were recruited through social media platforms, university online groups, and email invitations.

The study employed a convenience sampling method, as participants were selected based on their availability and willingness to participate in the online questionnaire. This sampling approach is commonly used in exploratory studies examining students' perceptions and attitudes toward emerging educational technologies.

3.3 Research Instrument

Data were collected using an online questionnaire designed with a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). The instrument measured students' usage patterns, perceived benefits, concerns, and attitudes toward ChatGPT in academic learning.

3.4 Validity and Reliability

To ensure the validity of the research instrument, the questionnaire items were reviewed by several academic experts in the field of education and educational technology. Their feedback helped improve the clarity and relevance of the questions.

In addition, reliability was considered by ensuring consistency in the structure of the Likert-scale items measuring students' perceptions of ChatGPT use, self-directed learning, and critical thinking.

To ensure the reliability of the research instrument, Cronbach's Alpha was calculated using SPSS to examine the internal consistency of the questionnaire scales. The results indicated acceptable reliability for all dimensions, with Cronbach's Alpha values ranging between 0.76 and 0.84, while the overall reliability of the questionnaire reached 0.88. These values exceed the commonly accepted threshold of 0.70, indicating that the instrument demonstrates satisfactory internal consistency and is suitable for measuring the study variables.

Scale	Number of Items	Cronbach's Alpha
Use of ChatGPT	10	0.84
Self-Directed Learning	5	0.81
Critical Thinking	5	0.79
Risks & Ethical Considerations	5	0.76
Entire Questionnaire	25	0.88

3.5 Data Collection

The questionnaire was distributed electronically, and participation was voluntary and confidential. The collected data were analyzed using descriptive statistics, including means, standard deviations, and frequency distributions. A simple correlation analysis was conducted where appropriate to examine relationships between selected variables.

3.6 Data Analysis Procedures

The collected data were analyzed using descriptive and inferential statistical methods. Descriptive statistics, including frequencies, percentages, and mean scores, were used to summarize students' responses to the Likert-scale items.

In addition, correlation analysis (Pearson's r) was conducted to examine the relationships between AI tool usage, self-directed learning, and critical

thinking. The level of statistical significance was determined using p-values to verify the research hypotheses.

Furthermore, related questionnaire items were grouped into thematic categories (knowledge and awareness, usage and application, skills enhancement, concerns and risks, and attitudes toward AI) to provide a clearer interpretation of students' perceptions. Descriptive statistical analysis was conducted using SPSS to calculate frequencies, percentages, means, and standard deviations in order to analyze students' responses to the questionnaire items.

4. Results

The analysis of the questionnaire responses (N = 54) provided insights into university students' perceptions and use of ChatGPT and other generative AI tools.

1. Knowledge and Awareness of AI Tools

Participants demonstrated high levels of knowledge and awareness of AI tools, with a mean score of 4.0 (SD = 0.65). Most students agreed or strongly agreed that they are aware of the capabilities and potential benefits of AI in academic contexts (Q1–Q5). This indicates that students are adequately informed about AI functions and applications (Assad, 2024; Das & Madhusudan, 2024; Ravšelj et al., 2025).

2. Usage and Application

Students reported regular use of AI tools for academic tasks, including idea generation, organizing information, and supporting essay or report writing. The mean score for usage-related questions (Q6–Q10) was 4.12 (SD = 0.68), reflecting a high level of adoption. This finding aligns with prior research on early adoption and academic integration of AI tools (Chang et al., 2025; Dempere et al., 2023; Sok & Heng, 2024).

3. Skills Enhancement

Regarding skills enhancement, students indicated that AI tools contribute to self-directed learning, problem-solving, and organization skills, with mean scores ranging from 3.5 to 3.8 (Q11–Q15). Students reported that AI tools facilitate faster understanding of course materials, organize ideas, and support independent study (Chen et al., 2026; Sari et al., 2025; Tersta et al., 2026).

4. Concerns and Risks

While acknowledging the benefits, participants expressed moderate concerns about overreliance, ethical issues, and potential negative effects on critical thinking. The concerns dimension received a mean score of 3.4 (SD = 0.85, Q16–Q20). Students highlighted risks related to plagiarism, academic integrity, and privacy (Royer, 2024; Indriyani & Harsono, 2026; Shanto et al., 2024).

5. Attitude and Future Intention

Participants showed strong positive attitudes and intention to continue using AI tools (M = 4.2, Q21–Q22), suggesting general acceptance of AI integration in higher education (Marie Balraj, 2025; Zhao & Tao, 2025; Tortella et al., 2025).

These findings provide an overview of students' perceptions and usage patterns of ChatGPT, which will be further interpreted and discussed in relation to the theoretical framework and previous studies.

Summary Table (Means and SDs)

Dimension	Item Range	Mean	SD	Interpretation
Knowledge & Awareness	Q1–Q5	4.0	0.65	High
Usage & Application	Q6–Q10	4.12	0.68	High
Skills Enhancement	Q11–Q15	3.7	0.72	Moderate-High
Concerns & Risks	Q16–Q20	3.4	0.85	Moderate
Attitude & Future Intention	Q21–Q22	4.2	0.60	High

Discussion

The present study examined university students' perceptions of ChatGPT and other generative AI tools, focusing on their relationship with self-directed learning and critical thinking. The findings reveal generally positive attitudes toward AI tools in academic contexts, while also highlighting moderate concerns about over-reliance and ethical considerations.

Awareness and Usage of AI Tools

Participants demonstrated high awareness and frequent use of AI tools ($M = 4.0-4.12$), indicating that ChatGPT is integrated into students' academic routines (Assad, 2024; Ravšelj et al., 2025). From a constructivist perspective, frequent interaction with AI provides scaffolding that supports cognitive processing and knowledge construction (Chen et al., 2026). The data suggest that digital-native students naturally integrate AI into learning, reflecting prior findings on technology normalization (Sok & Heng, 2024).

Support for Self-Directed Learning

Students reported that AI tools facilitate self-directed learning ($M = 3.7$), including planning, idea organization, and comprehension of complex topics (Chang et al., 2025; Sari et al., 2025). According to Self-Directed Learning and Self-Regulated Learning theories, autonomy requires planning, monitoring, and reflection. ChatGPT can support these phases by offering explanations, generating ideas, and enabling students to compare alternative interpretations. However, benefits are contingent on reflective engagement; using AI merely to complete tasks may not develop deeper self-directed skills (Tersta et al., 2026).

Impact on Critical Thinking

The study found a moderate impact on critical thinking ($M = 3.6-3.1$). Students acknowledged that AI tools provide diverse perspectives and facilitate analysis, but expressed concerns about over-reliance potentially limiting independent reasoning (Royer, 2024; Indriyani & Harsono, 2026; Shanto et al., 2024). This dual perception aligns with literature emphasizing guided pedagogical use to enhance reasoning (Chen et al., 2026; Sari et al., 2025).

Ethical Considerations and Academic Integrity

Participants reported moderate concern regarding ethical risks ($M = 3.4$), including plagiarism, privacy, and academic honesty. Despite strong

intentions to continue AI usage ($M = 4.2$), students are aware of potential misuse. This highlights the need for structured guidance and ethical training in higher education to maximize benefits while mitigating risks (Marie Balraj, 2025; Zhao & Tao, 2025; Tortella et al., 2025).

Integrated Interpretation

Overall, ChatGPT functions as a supportive academic assistant rather than a replacement for human thinking. The study demonstrates a balance between positive outcomes, such as enhanced self-directed learning and efficiency, and potential risks, including reduced critical thinking and ethical concerns. The discussion integrates results, theoretical frameworks, and previous research, ensuring a critical, objective, and evidence-based interpretation.

Based on the interpretation of these findings, the following section summarizes the key conclusions of the study and highlights their implications for the responsible use of AI tools in higher education.

5. Limitations

Despite the valuable insights generated by this study, several limitations should be acknowledged.

First, the sample size was relatively small ($N = 54$), which may limit the generalizability of the findings. Although the participants represented different academic disciplines and levels, the sample may not fully reflect the diversity of university students in broader national or international contexts.

Second, the study relied on self-reported data collected through a questionnaire. Self-report measures may be influenced by social desirability bias, personal perceptions, or inaccurate self-assessment. Students may have overestimated or underestimated their actual use of ChatGPT and its impact on their learning behaviors.

Third, the research employed cross-sectional design, capturing students' perceptions at a single point in time. As generative AI technologies continue to evolve rapidly, students' attitudes and usage patterns may change over time. A longitudinal design would provide deeper insight into how sustained exposure to AI tools influences self-directed learning and critical thinking development.

Fourth, the study primarily used descriptive statistical analysis. While this approach was appropriate for identifying trends and patterns, it does not

establish causal relationships. Therefore, it cannot be concluded that ChatGPT directly improves or weakens critical thinking or self-directed learning skills.

Finally, the study did not include experimental or performance-based measures of critical thinking. Instead, it relied on students' perceptions of impact. Future research could incorporate objective assessments to measure actual cognitive development associated with AI usage.

Acknowledging these limitations is essential for interpreting the findings cautiously and for guiding future investigations that explore larger samples, experimental designs, and objective assessments of critical thinking in AI-supported learning environments.

6. Conclusion

This study examined university students' perceptions of ChatGPT in academic learning and explored its perceived benefits and challenges. The findings indicate that students are generally knowledgeable about generative AI tools and use them regularly to support academic tasks, idea generation, and organization of academic work.

The results also suggest that ChatGPT can contribute to supporting self-directed learning by helping students understand complex topics, structure ideas, and manage their learning processes more independently. In addition, participants perceived that AI tools may support aspects of problem-solving and critical thinking when they are used in a reflective and purposeful manner.

However, the findings also highlight several concerns, particularly regarding excessive reliance on AI tools and its possible influence on independent thinking, analytical skills, and academic integrity. These concerns indicate that the educational value of generative AI tools depends largely on how they are used rather than the technology itself.

Overall, the study suggests that ChatGPT can function as a supportive academic assistant rather than a replacement for human thinking. When integrated responsibly within higher education environments, AI tools have the potential to enhance learning efficiency and support autonomous learning.

Therefore, universities should focus on promoting responsible and structured use of AI tools by developing clear academic guidelines and encouraging students to engage critically with AI-generated content. Such an approach can help maximize the educational benefits of generative AI while preserving the development of independent thinking and critical reasoning skills.

7. Recommendation:

Based on the findings of this study, universities should consider developing clear guidelines for the responsible use of generative AI tools in academic learning. In addition, educators are encouraged to integrate AI literacy and critical evaluation skills into university curricula to help students use AI technologies effectively while maintaining independent thinking and academic integrity. Future research is recommended to explore the long-term impact of AI tools on cognitive development using larger samples and experimental research designs.



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