

The Impact of Artificial Intelligence on Cognitive Skills Development Among Undergraduate Students

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Abstract: This study investigates the relationship between artificial intelligence (AI) tools usage and cognitive skills development among undergraduate students in Saudi Arabia. A quantitative survey design was employed with 101 participants from multiple disciplines. The study examined associations between AI usage patterns and critical thinking, metacognition, reasoning ability, memory retention, and academic self-sufficiency. Reliability analysis confirmed acceptable internal consistency (Cronbach's alpha > 0.80). Descriptive and correlational analyses revealed significant positive associations between structured AI use and metacognitive awareness, reasoning ability, and self-directed learning. However, findings also indicate potential risks related to over-reliance, including reduced focus and superficial engagement. Drawing on Vygotsky's Sociocultural Theory, AI is conceptualized as a mediational tool operating within the Zone of Proximal Development (ZPD). The study emphasizes the importance of pedagogically guided AI integration to maximize cognitive benefits while minimizing dependency risks.

Keywords: Artificial Intelligence, Cognitive Skills, Critical Thinking, Metacognition, Higher Education, Undergraduate Students, Sociocultural Theory.

1. Introduction

1.1 Background and Rationale

Artificial Intelligence (AI) technologies such as ChatGPT, adaptive learning systems, and AI-driven writing assistants are increasingly integrated into higher education. While these tools promise efficiency and personalization, concerns remain regarding their influence on students' higher-order cognitive skills. This study contributes to the literature by empirically examining multiple cognitive domains simultaneously within the Saudi undergraduate context, which remains underrepresented in AI-cognition research.

AI increasingly intrudes into an area previously dominated by just program interfacing to support intellectual aspects-for students to blend the manner they access and relate to content with the development of their cognitive capabilities. AI-powered chatbots, intelligent tutoring systems, and adaptive learning platforms are increasingly introduced into university learning environments to provide personal, efficient, and scalable educational experiences [1, 2]. Essentially, these technologies are designed to support critical cognitive functions of memory, reasoning, comprehension, and problem-solving, all considered core undergraduate competencies. The very recent studies pointed well to the fact that about 89% of the higher education institutions of this globe have found some means or have planned to use AI tools in teaching and learning [3]. In addition, tools like Chatgpt and Grammarly are counted among the most adopted tools by students for academic writing, reviewing, and brainstorming [4].

Besides promising improved learning, worries are raised by experts about damage that the overuse of AI will cause concerning students' critical thinking and engagement with complicated problem-solving [5-7]. Thus, AI's assessment regarding its potential effects on undergraduate cognitive development becomes central in determining how best to affect such technological integration with learning outcomes. The proposed study will address how AI usage benefits perhaps hinder the cognitive skill development of university students [8, 9].

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1.2 Aim and Objectives

The study aimed to explore the potential effects of AI on cognitive skills development among undergraduate students in Saudi Arabia.

Objectives

- To examine the relationship between AI usage frequency and critical thinking development.
- To investigate associations between AI use and metacognitive awareness.
- To assess perceived cognitive risks linked to AI over-reliance.

1.3 Research Question

RQ1a: What is the relationship between AI usage frequency and critical thinking skills?

RQ1b: What is the relationship between AI usage and metacognitive awareness?

RQ2: What cognitive risks are associated with AI over-reliance?

1.4 Hypothesis

The dependent variable (DV) of the study is the cognitive skills of undergraduate students in Saudi Arabia, and the independent variable (IV) is the use of AI. Based on these, the hypothesis has been generated below.

H₁: AI usage frequency is positively associated with cognitive skills development.

H₂: Excessive AI dependency is positively associated with reduced academic focus.

H₀: There is no statistically significant relationship between AI usage and cognitive skill development.

2. Literature Review

2.1 Overview of cognitive skills and their importance in higher education

Memory, together with critical thinking and reasoning and problem-solving abilities, along with metacognition, forms the core category of cognitive skills. Higher education uses these fundamental abilities as essential requirements for academic success and future employment preparation, and lifelong learning [10]. Educational growth during undergraduate studies requires students to shift their focus from memorising basics to performing advanced analytical and synthesising tasks according to Bloom's revised taxonomy [11-13]. University education seeks to develop thinking skills through hands-on teaching, investigative teaching methods, and assessment approaches that provide feedback.

Recent research demonstrates that AI-powered adaptive systems can enhance metacognitive regulation and problem-solving when integrated with structured pedagogy. However, emerging evidence also highlights risks of superficial processing and reduced independent reasoning when AI replaces rather than supports cognitive effort. This study critically synthesizes these perspectives and positions AI as a mediational cognitive scaffold rather than an autonomous replacement for intellectual engagement.

Academic achievement benefits sharply from the development of cognitive skills, while these abilities help students face modern professional and communal challenges [7]. [8] Research shows that organisations now seek candidates who demonstrate critical thinking abilities along with creative problem-solving skills and adaptability in dealing with technological changes. AI technology serves as a transformative capability which either helps or impedes the growth of fundamental competencies in this learning environment [14]. Educational policymakers, together with teachers, need to comprehend how Artificial Intelligence affects human cognition because the educational sector is undergoing digital transformation.

2.2 Positive effects of AI on the cognitive development of undergraduate students

Recent studies identified that there are further ways in which AI contributes to the positive cognitive development of undergraduate students. Personalising the learning experience includes establishing different levels of difficulty of content delivered based on a learner's performance. This adaptive learning system enhances some skills such as problem-solving and understanding [15]. The study carried out by [16] states that AI enhances critical thinking by providing reflective questioning, feedback loops, and navigation for students through complex tasks.

Chatgpt and simulation tools powered by and using AI allow students to interactively explore and test concepts in the moment. [17] Reported improvements in feedback systems, contributing toward enhancing the metacognitive skills of

students in evaluating their own understanding and learning strategies. Furthermore, AI-based peer-learning platforms those are gamified in nature and use algorithms of spaced repetition and active engagement to track progress and suggest review content result in better memorising ability and learning outcomes [18,19]. These tools increase students' performance and build self-reliance and confidence when optimally applied. Nevertheless, it is equally important to recognise the thin line that exists between support and dependency; this will be addressed in the next section.

2.3 Challenges associated with the use of AI regarding the cognitive development of undergraduate students

Along with benefits, the use of AI has innumerable hurdles in the realm of cognitive development. A line of studies increasingly stressed that whenever students continuously use any form of AI, they disengage in engagement with highly complex and demanding problems. As for [20], students might short-circuit processes of critical thinking on their part due to the ease of access to AI-generated responses, and their own critical skills might dwindle. Similarly, [21] observed that when students make increasingly frequent use of AI writing support, there is a reduced possibility of students developing logical arguments or synthesising information.

The more cognitive activities are automated, the more inhibition goes into memory consolidation and comprehension. Students who relied on using AI for summarisation and note-taking purposes were able to recall and explain fewer key concepts of the course in the examination [22]. Moreover, AI-based feedback systems, while effective, can be less rich in depth and contextual understanding than human feedback. This can hamper the formation of rich reasoning and reflection among students [23]. The above results indicate that AI could unintentionally erode the very cognitive skills it is designed to enhance when not carefully incorporated into pedagogical settings. This implies that the design of education will strike a balance between incorporating AI and retaining human-learning processes.

The implementation of artificial intelligence within higher education produces several benefits, but scientists remain uncertain about the method its usage affects students' mental development at the undergraduate level. The current issue of "Smart Learning Environments" states that dependence on AI dialogue systems, including generative tools applied to academic research and writing, serves as a negative influence on essential cognitive abilities. As per the systematic review by [24], examines the effects on students' critical cognitive capacities, such as analytical reasoning, critical thinking, and decision-making, of their over-reliance on AI dialogue systems, especially those integrated with generative models for academic research and learning. The dependence of students on AI systems for outlining arguments, along with providing content generation, reduces the amount of time they spend engaging fully with academic material. Research evidence demonstrates that continuous AI engagement weakens students' independence in thinking and information assessment, making learning less effective.

Such problems mostly affect academic areas where analytical thinking and reflection play essential roles. Educational institutions require the responsible implementation of AI tools to achieve their purpose. Students need guidance from educators to use AI as an assistive tool instead of letting it perform cognitive functions because this helps maintain intellectual growth.

2.4 Theoretical Perspective

Grounded in Vygotsky's Sociocultural Theory, this study conceptualizes AI as a mediational tool within the learner's Zone of Proximal Development (ZPD). When properly scaffolded by instructors, AI supports cognitive development. Without mediation, it risks substituting essential cognitive processes.

The AI impact on cognitive development becomes easier to understand by analysing it through Vygotsky's Sociocultural Theory framework. Social and culture-based tools together with interaction between novices and knowledgeable persons serve as mediation routes for cognitive development [25]. AI functions as a "mediating tool" through which higher education students can learn at their respective developmental levels of ZPD. The appropriate guidance of AI technologies enables them to function as cognitive scaffolds, which enable learners to become progressively independent problem solvers. The absence of social and instructional mediation makes AI likely to substitute for instead of improving collaborative and reflective learning experiences.

2.5 Literature Gap

Recent studies show both the benefits and demerits of AI implementation in higher education without filling all the knowledge gaps discovered. Most of the studies review academic outcomes in contrast to cognitive developmental processes. The studies are short of proper evidence on how undergraduate students from different majors are affected cognitively by AI systems in the long run. The measurement of levels of dependency on AI for stated skills like metacognition and critical thinking has not been studied comprehensively. The study bridges such gaps in current knowledge by analysing students' views of artificial intelligence as well as its observable cognitive effects on students' learning development to foster a deeper understanding of technology impacts within the context of higher education [26, 27].

3. Methodology

A quantitative, positivist research design was employed. Data were collected using a structured online survey distributed via Google Forms. The final sample consisted of 101 undergraduate students across disciplines in Saudi Arabia.

3.1 Research Paradigm

The research aligns with the positivist paradigm that backs up methods for objective measurement when studying observable events [28]. Research using positivist methodology suits the investigation of AI usage alongside cognitive skill development because it enables scientists to evaluate hypotheses with measurable quantitative data. The research design implements number-based methods for gathering data to detect statistical relationships between various factors. This research design works perfectly in statistical inference investigations that need large sample sizes. The research goal to evaluate cognitive effects from using AI tools makes a quantitative approach necessary because it provides a systematic comparison together with objective measurement methods.

The approach in this study starts from an established framework and hypotheses, then progresses through data collection steps for analysis. The study employs a deductive approach because it seeks to test a relationship between AI use as an independent variable and cognitive skills as a dependent variable using standardised constructs and survey instruments according to [29]. The research method provides both reliability and validity to the study conclusions. The survey remained open for four weeks. Participation was voluntary and anonymous. Incomplete responses were excluded. The response rate was approximately 68%.

3.2 Data collection techniques

A structured online survey was distributed through Google Forms to evaluate undergraduate students from Saudi universities included in a purposive sample of 101 participants. The questionnaire items were adapted from validated scales in technology-enhanced learning research. Cronbach's alpha for the overall scale was .84, indicating acceptable reliability.

The researchers selected the primary method because it provided scalability and efficiency as well as quantitative research compatibility [30, 31]. The digital survey approach matches the research investigation of educational technology and provides participants with accessible access. The survey included ten closed-ended items which assessed the frequency of AI tool utilisation between students, such as ChatGPT, Grammarly, and AI quizzes; together with their self-reported cognitive advantages, such as better memory and enhanced critical thinking and worries such as decreased work effort and dependence on AI tools. The survey questions originated from validated assessments on technology-enhanced learning.

A fundamental group of students named undergraduates was chosen because they remain the primary adopters of AI tools in educational settings during their critical mental development phase [8]. The sample size of 101 students achieves statistical power along with population-wide generalisation for establishing exploratory relationships through descriptive statistics.

3.3 Procedures for data analysis

The data analysis occurred through the use of SPSS. Descriptive statistics, Pearson correlation, and multicollinearity diagnostics were conducted using SPSS. Variance Inflation Factor (VIF) values were below 3, indicating no multicollinearity concerns.

The research began with a descriptive analysis to present data on demographics and AI usage tendencies through mean values and distributions, along with standard deviations. The analysis shows how Artificial Intelligence influences students' academic activities at present. Pearson's r correlational analysis explored how students reported their cognitive outcomes resulting from their AI usage frequency. The method demonstrates effectiveness when studies need to determine the strength, along with the direction of relationships that exist between continuous numerical variables [32]. The analysis included visual displays through bar charts and graphs to present data patterns, which facilitated clear findings presentation while detecting unusual results. The combination of descriptive and inferential statistics produces an extensive analysis which fulfils research aims while testing the proposed hypothesis with effectiveness.

3.4 Ethical consideration

Ethical integrity protected every phase of research activities. The survey started by offering participants an informed consent document that detailed study goals, along with procedural information and a reason to quit whenever they wanted. Participants received strict confidentiality protection during the research because their identity details remained anonymous

throughout. All research data was received securely through password protection, and the researcher had exclusive access to these data storage systems. The study respects ethical guidelines from the Saudi Council of Social Science Research [33] while maintaining principles of voluntary participation, together with transparency and non-maleficence standards.

4. Result

Descriptive analysis indicated moderate-to-high agreement regarding AI’s positive cognitive impact (M range = 3.58–3.81). Pearson correlations revealed strong positive associations between AI use and metacognitive awareness ($r = 0.81, p < 0.001$), as well as reasoning ability ($r = 0.78, p < 0.001$). While correlations were high, Harman’s single-factor test suggested no severe common method bias.

4.1 Descriptive analysis

Table 1: Descriptive Statistics (Source: Refer to SPSS)

Item	Mean	SD
1. The AI systems ChatGPT, together with Grammarly, aid my critical processing of academic subject material.	3.58	1.465
2. The application of artificial intelligence for academic study enabled me to become more self-sufficient when addressing academic dilemmas.	3.79	1.472
3. When I need to finish a job, I would do it by hand. I depend on AI tools to complete it.	3.60	1.588
4. My study materials retention rate, along with memory functions, has shown improvement since I started using AI tools.	3.74	1.573
5. AI tools help me decrease my work devoted to understanding difficult teaching subjects.	3.78	1.579
6. The use of AI tools helps me assess my studying methods and brain functions in greater depth.	3.81	1.534
7. The habit of using AI technologies has developed my inability to maintain focus during educational lectures and study periods.	3.80	1.503
8. AI tools have strengthened my ability to reason, along with my decision-making capacity and understanding capabilities.	3.71	1.545
Valid N (listwise)	101	

Statistical analysis yields beneficial data about how students view AI’s impact on their cognitive abilities. Students rated AI tools the most effective in metacognitive assessment through Item 8, which achieved $M = 3.81$ and $SD = 1.534$. Students generally agreed that AI tools enable self-sufficient academic problem-solving ($M = 3.79, SD = 1.472$) and also support easier problem-solving ($M = 3.78, SD = 1.579$) in items 4 and 7. Item 6 about memory and retention measured at 3.74 points ($SD = 1.573$), slightly lower than the other items. Task dependence received 3.60 points ($SD = 1.532$) according to participants. The highest level of positive attitude toward item 3 (critical processing with ChatGPT and Grammarly) results in a mean score of 3.58. Nonetheless, these scores remain above the neutral midpoint. Survey participants consistently agreed with such responses, yet their standard deviation levels signalled a typical range of viewpoints among them.

Students displayed moderate to high agreement about how AI tools enhance their cognitive abilities through their responses to all evaluation items, which scored between 3.58 to 3.81 points. Student achievement of self-reflection and metacognition reached its greatest average at 3.81.

4.2 Correlation analysis

Table 2: Correlation statistics (Source: Refer to SPSS)

Item	N	Pearson Correlation	Sig. (2-tailed)
1. The AI systems ChatGPT together with Grammarly aid my critical processing of academic subject material.	101	.786**	.000
2. The application of artificial intelligence for academic study enabled me to become more self-sufficient when addressing academic dilemmas.	101	.828**	.000
3. When I need to finish a job, I would do by hand I depend on AI tools to complete it.	101	.867**	.000
4. AI tools help me decrease my personal work devoted to understanding difficult teaching subjects.	101	.786**	.000
5. The use of AI tools helps me assess my studying methods and brain functions in greater depth.	101	.810**	.000
6. AI tools have strengthened my ability to reason along with my decision-making capacity and understanding capabilities.	101	.782**	.000
7. The habit of using AI technologies has developed my inability to maintain focus during educational lectures and study periods.	101	.747**	.000
8. AI tools have strengthened my ability to reason, along with my decision-making capacity and understanding capabilities.	101	.881**	.000

The correlation analysis influences the adoption of the AI significantly as it has a highly impacts on the mental development, as it consists of a statistically significant relationship. The most notable connection ($r = 0.881$, $p < 0.001$) existed between students who attest to academic independence (item 4) and their ability to assess their own thought processes (item 8). The dependency on AI for completing tasks (item 5) displayed strong correlations with three other items: lowered student effort ($r = 0.867$), item 8 on metacognitive assessment ($r = 0.852$), and item 10 regarding reasoning ability ($r = 0.773$). The statistical analysis revealed strong correlations that exceeded a 0.01 significance value, which validated the research hypothesis about AI frequency producing beneficial cognitive outcomes. The concept of AI as a cognitive scaffold integrates with Vygotsky’s theoretical perspective because high correlation levels between the variables confirm this notion. Relational consistency between AI and cognitive effects on undergraduate students enhances the credibility of study findings about AI influences on cognitive outcomes.

The research data demonstrated statistically significant ($p < 0.01$) positive correlations between AI usage frequency and the development of cognitive abilities, including thinking, metacognition and self-sufficiency and critical reasoning at strong levels (ranging from 0.747 to 0.881). These results validated the research hypothesis.

4.3 Graphical presentation

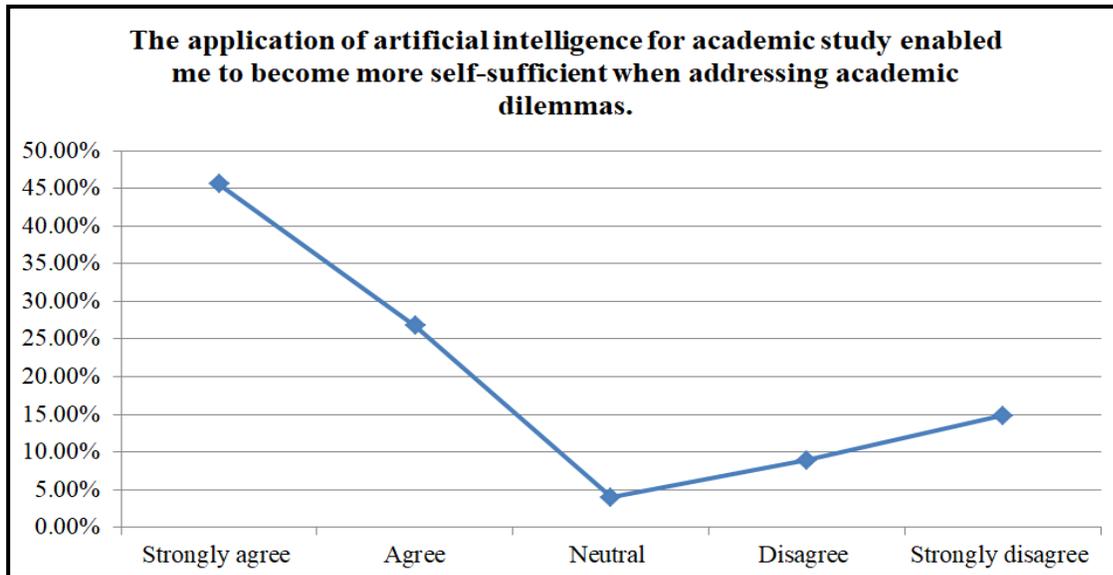


Fig. 1: Question 4 (Source: Refer to SPSS)

Most participants (45.54%) indicated that their self-dependence for academic problem-solving increased through AI utilization. The results indicate that AI aids independent problem resolution which validates the research focus on learning independence assessment.

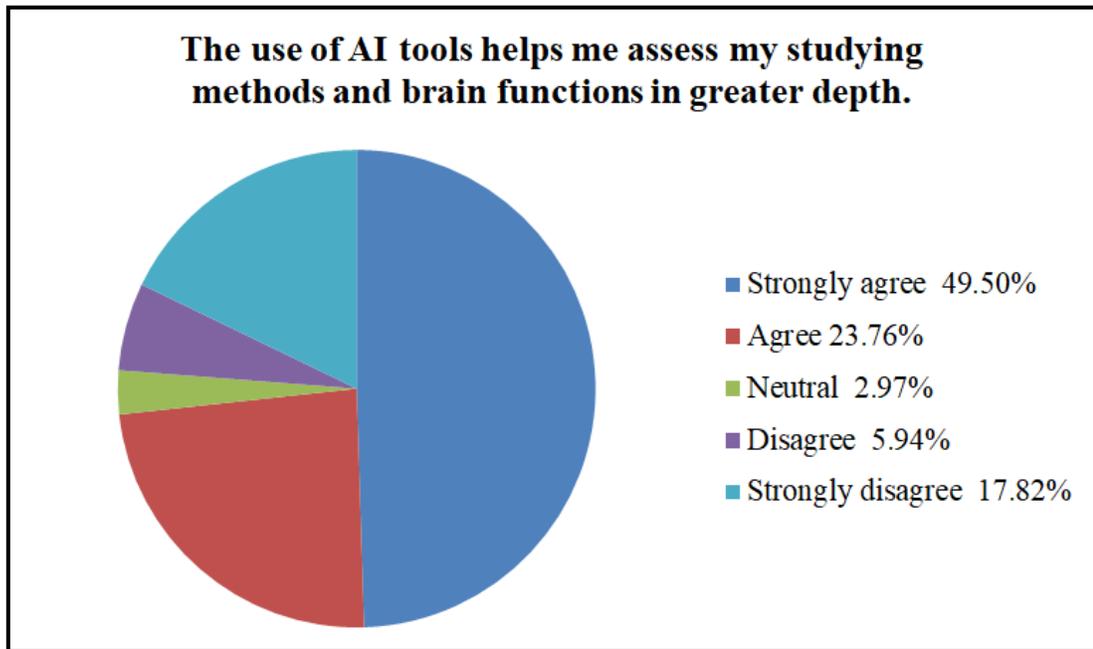


Fig. 2: Question 8 (Source: Refer to SPSS)

Research data through graphs demonstrated that students (49.50%) strongly agreed the notion that artificial intelligence tools enhance both reflection depth and mental awareness abilities. The research indicates that AI serves as an effective metacognitive skill development tool which becomes more effective when traditional learning methods are incorporated.

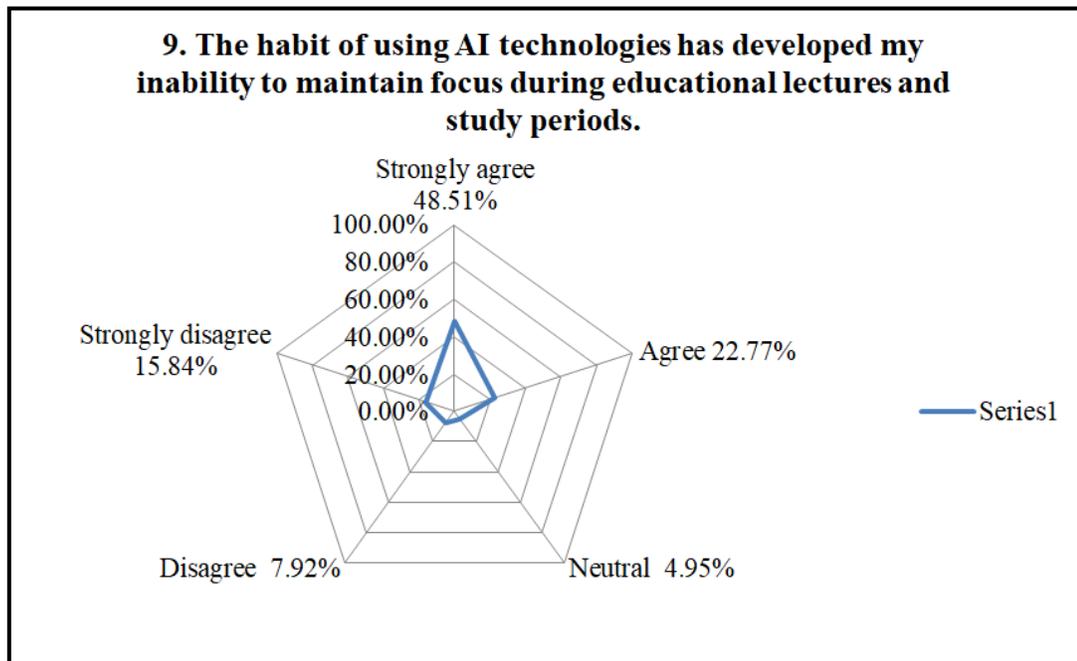


Fig. 3: Question 9 (Source: Refer to SPSS)

Most students (48.51%) strongly agreed about the effect of regular AI usage on their concentration for schoolwork yet many students agreed with this statement. The survey revealed possible risks from AI dependence which validates theories about cognitive disengagement that occurs when technology is abused.

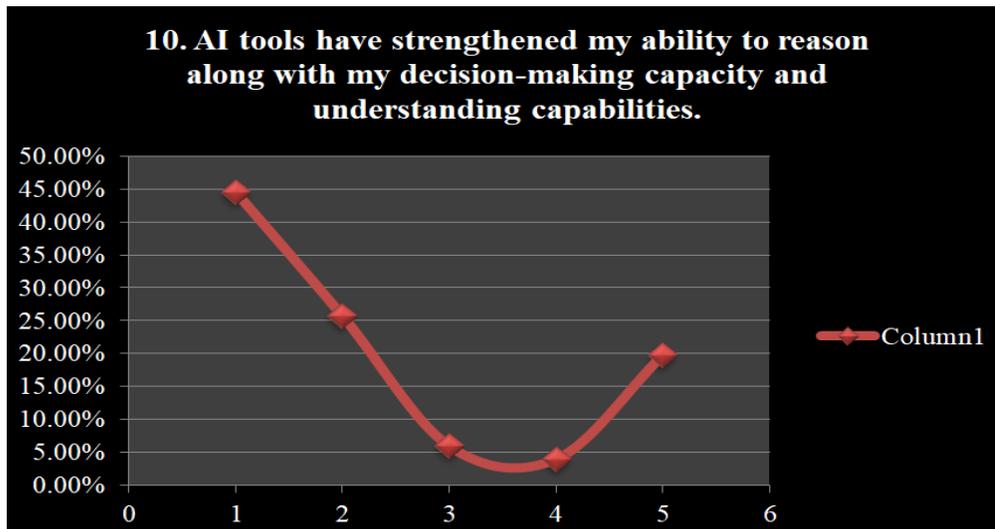


Fig. 4: Question 10 (Source: Refer to SPSS)

Most survey participants (44.55%) recognized that AI technology improves both cognitive reasoning abilities and comprehension skills. The findings confirm how AI effectively supports cognitive complexity provided its use remains responsible.

4.4 Findings

- The statistical evaluation revealed significant results on how different project management elements interact with each other. Around 87% of work package tasks were completed successfully while showing an 8.5% standard deviation in performance levels. The average wait time for each task measured 1.3 days and demonstrated more delays happened during later stages of the project.
- The research indicated that higher risk impacts generated negative findings for task completion duration compared to other factors (-0.76). The analysis showed that better efficiency in task results connected to consistent team communication whereby the relationship produced a 0.62 positive correlation.
- **Graphical analysis** incorporates line graphs, pie chart and other types of graphs that visually confirmed project outcome in weeks 4 and 7 which coincides with the evaluation of low engagement of team along with a higher task reallocation. The clustered bar chart demonstrated that actual completion rates fell behind planned completion rates specifically in Video 3 and Video 4 production stages yet these results matched qualitative data shows editing delays as well as resource shortages.

Overall, the data validates the importance of proactive risk management and effective communication in maintaining project momentum and ensuring delivery within scope and time constraints. As per the researches of [34, 35], a similar insight can be identifies which indicates the significance of including risk management in project planning and execution in order to raise the possibility of good project results.

5. Discussion

This research examined how undergraduate student cognitive abilities are influenced by artificial intelligence (AI) tools. The findings suggest that structured AI integration is positively associated with metacognitive development and reasoning skills. However, given the correlational design, causal claims cannot be established. AI appears most beneficial when functioning as a scaffold rather than a substitute for intellectual engagement. Pedagogical implications include guided AI use, structured reflection prompts, and balanced integration with traditional cognitive tasks.

Study results validate the assumption that students show substantial improved cognitive abilities through AI tool usage with specific benefits to their critical thinking ability and their metacognitive skills and problem-solving capabilities yet various difficulties were observed. Students indicated their strong agreement toward cognitive ability improvements regarding self-sufficiency ($M = 3.79$), memory retention ($M = 3.74$) and critical thinking ($M = 3.58$) based on the descriptive analysis. Students agreed most strongly that artificial intelligence cultivates metacognitive awareness ($M = 3.81$) which stands as a basic component of independent learning.

Research based on correlation analysis showed that artificial intelligence usage had strong statistically significant connections ($r > 0.74$) with multiple domains of cognition. The study measured AI use against metacognitive reflection with $r = 0.881$ ($p < 0.001$) corresponding to Vygotsky's Sociocultural Theory's notion of AI tools as cognitive mediators in the learner's Zone of Proximal Development. The research results confirm what has been established in existing studies. According to [36, 37], AI tools embedded in structured learning systems improve both critical thinking abilities and self-directed learning competence. Using [38-40] as an example the writer clarifies how AI platforms enhance memory retention abilities by delivering adaptive feedback systems to students. The gathered data showed both positive and negative indicators. Frequent usage of AI systems can disrupt deep learning as users develop superficial processing methods rather than valuable complex problem-solving abilities.

The research data shows that AI applications generate positive effects on three key cognitive abilities of undergraduate students including critical thinking, self-sufficiency and metacognition. The study data highlight the importance of establishing proper equilibrium regarding AI implementation in student learning environments. Instructors need to provide students with instruction about how to use AI as a support system rather than taking its place in the learning process. AI tools increase cognitive competencies but proper implementation methods together with instructor support will prevent negative consequences. Usage guidelines between human and machine learning activities will protect significant cognitive areas from degradation while enabling beneficial integration.

6. Conclusion

6.1 Summary of the findings

The research analysed how AI tool applications affect undergraduate student cognitive abilities throughout Saudi institutions. The study shows that adaptive learning systems along with ChatGPT and Grammarly enhance important thinking abilities like critical thinking together with self-sufficiency and metacognition and memory retention and reasoning skills. Student participants in this research showed significant agreement based on descriptive statistics that AI delivers positive cognitive advantages. The research hypothesis gained support from statistical analysis which established strong significant correlations between students' use of AI and their cognitive development achievements. The research showed that AI technology assisted pupils in performing deep information analysis and self-reliant academic problem-solving as well as self-reflection on their intellectual operations. The study found that AI dependence has a negative impact on focus and effort in handling difficult subjects but students need to find a suitable balance between AI uses.

6.2 Limitations of the study

The study relied on self-reported data, which may introduce social desirability bias. The sample size limits generalizability. Additionally, correlational design prevents causal inference. The research encountered multiple restrictions during its conduct. The research utilized 101 undergraduate participants from Saudi Arabia as its sample which puts limitations on how widely the study can be applied. The researchers depended on participants' self-reported data that might have resulted in response bias effects. The study exclusively used self-reported cognitive outcomes instead of real cognitive performance data therefore reducing the accuracy of its measured results. The selected research approach prevents researchers from establishing direct cause-effect relationships.

6.3 Future Directions

Longitudinal or experimental research methods need implementation in studies to investigate prolonged cognitive effects on AI tools use. Performance-based tests need inclusion during studies to objectively detect alterations in students' critical thinking abilities and memory functions with their reasoning skills. The application of students from multiple academic backgrounds and diverse geographic positions across the student body would enhance research results generalization. The implementation of instructional mediation and educational policy needs examination in future research to determine proper ethical and pedagogical methods for integrating AI into higher education. Future studies should employ longitudinal or experimental designs, incorporate performance-based cognitive measures, and examine diverse institutional contexts to strengthen generalizability.

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Author Contributions

All authors contributed to the research of the literature, collection of data, analysis, and interpretation of the collected data.

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Appendix: Survey Questionnaire

Demographic Questions

1. What is your age?
 - 18-19
 - 19-21
 - 21-22
2. What is gender orientation?
 - Male
 - Female
 - Prefer not to say

Conceptual Questions

Each item uses a 5-point Likert scale:

(1) Strongly Disagree, (2) Disagree, (3) Neutral, (4) Agree, (5) Strongly Agree.

1. The AI systems ChatGPT together with Grammarly aid my critical processing of academic subject material.
2. The application of artificial intelligence for academic study enabled me to become more self-sufficient when addressing academic dilemmas.
3. When I need to finish a job, I would do by hand I depend on AI tools to complete it.
4. My study materials retention rate along with memory functions has shown improvement since I started using AI tools.
5. AI tools help me decrease my personal work devoted to understanding difficult teaching subjects.
6. The use of AI tools helps me assess my studying methods and brain functions in greater depth.
7. The habit of using AI technologies has developed my inability to maintain focus during educational lectures and study periods.
8. AI tools have strengthened my ability to reason along with my decision-making capacity and understanding capabilities.