

Perceived Effects of Generative Artificial Intelligence (AI) on Grade 10 Students' Study Habits

Aibie B. Gama *

Apayao State College, Malama Conner, Apayao, Philippines, 3807

International Journal of Science and Research Archive, 2026, 19(02), 1293-1301

Publication history: Received on 08 April 2026; revised on 16 May 2026; accepted on 18 May 2026

Article DOI: <https://doi.org/10.30574/ijrsra.2026.19.2.1138>

Abstract

This study examined the perceived effects of generative Artificial Intelligence (AI) on the study habits of Grade 10 students at Conner Central National High School. Using a descriptive research design, data were collected from 50 Grade 10 students through a structured survey questionnaire. The study identified ChatGPT as the most commonly used AI tool, followed by Google Gemini and Canva AI. Students primarily used generative AI for vocabulary improvement, summarizing lessons, organizing ideas, and completing assignments. The findings revealed that generative AI positively influenced students' study habits, particularly in terms of time management and learning motivation. Students reported that AI tools helped them accomplish tasks faster, stay organized, and become more engaged in learning activities. However, the study also highlighted concerns regarding overreliance on AI-generated outputs, which may affect independent learning and critical thinking skills. No significant differences were found according to age, while female students demonstrated higher engagement and longer duration of AI use than male students. Overall, the study concluded that generative AI can support academic learning when used responsibly and balanced with independent study practices.

Keywords: Generative Artificial Intelligence (AI); Study Habits; Academic Performance; Independent Learning; Educational Technology.

1. Introduction

In the era of rapid technological advancement, innovation has become a result of scientific breakthroughs and the continuous development of scientific knowledge as a tool for human and social progress.[1] The integration of artificial intelligence (AI) in education has transformed learning processes and raised important questions regarding its effects on students' cognitive development and study habits.[2] The impact of generative AI reliance on students' critical thinking skills is not inherently negative but rather depends on how these technologies are integrated into academic practices. Unguided or excessive reliance without metacognitive awareness may encourage cognitive outsourcing, which can hinder the development of higher-order thinking skills and effective study behaviors.[3] Consequently, the rise of artificial intelligence in education has increased concerns that excessive dependence on AI may weaken students' independent learning, discipline, and critical thinking abilities.

From a global perspective, Artificial Intelligence (AI) has significantly transformed teaching and learning in countries such as Canada and the state of Arizona by facilitating a shift from teacher-centered to student-centered education. [4-5] ChatGPT is an artificial intelligence chatbot that uses natural language processing to create humanlike conversational dialogue. The language model can respond to questions and compose various written content, including essays, articles, code, emails, and academic outputs.[6] Meanwhile, in countries such as India and Pakistan, generative AI systems are built on advanced technologies such as Deep Learning (DL), Natural Language Processing (NLP), and Machine Learning (ML), which are foundations of Large Language Models (LLMs).[7-8] The use of generative AI among students has

* Corresponding author: Aibie B. Gama

become increasingly common for answering questions, generating ideas, summarizing lessons, and assisting with written assignments. In November 2022, OpenAI introduced an advanced chatbot capable of producing humanlike conversations and high-quality content.[9-10] Generative AI can also generate and debug computer code, compose essays, answer examination questions, and support various learning activities depending on the context in which it is used.[11]

Globally, many students rely on these AI tools because they provide quick access to information and explanations that can enhance understanding and academic efficiency. The duration and frequency of generative AI usage vary according to the complexity of academic tasks, with some students using it briefly for clarification while others engage with it extensively for research and assignment completion. Generative AI supports educational progress and motivates students to obtain knowledge by improving engagement and interest in learning.[12] However, while AI offers advantages such as accessibility to learning materials and faster completion of academic tasks, it also presents challenges related to overdependence, reduced independent effort, and weaker study discipline.[13-15] Excessive use of AI-generated responses may negatively affect students' ability to retain information, analyze concepts independently, and manage their study routines effectively. Consequently, researchers emphasized the importance of balanced AI integration and the need for educational policies that promote responsible and ethical AI use in schools. [16-17] Since good study habits are essential for academic achievement and lifelong learning, [18-19] students must learn to use generative AI as a supplementary learning aid rather than a replacement for independent studying and critical thinking.

From the national perspective, many educators in the Philippines acknowledged the usefulness of generative AI in quickly and accurately addressing various academic concerns, while others expressed worries that AI might weaken students' critical thinking, research skills, and study discipline.[20-21] Researchers also identified several challenges associated with AI use among students, including academic integrity issues and the need to evaluate AI-generated outputs critically.[22] In the Philippine educational setting, the lack of quality learning materials and varying levels of study skills remain barriers to academic success.[23-24] Thus, study habits continue to be recognized as one of the most important predictors of academic performance because students need effective study skills to organize, understand, and retain large amounts of information.[25-28] Although generative AI can help students manage academic workloads and improve efficiency, excessive dependence on AI-generated content may reduce independent effort, weaken comprehension, and negatively influence study routines.

From the local perspective, despite the rapid adoption of generative AI among students worldwide, studies examining its effects on students' study habits and critical thinking skills in local schools remain limited. Foreign and local studies consistently highlight the benefits of AI in improving accessibility, efficiency, and motivation in learning, but they also emphasize risks such as academic dishonesty, overreliance on technology, and reduced independent learning behaviors. In the Philippine context, where students face challenges related to limited learning resources and varying study practices, the responsible use of AI becomes increasingly important. These gaps in existing literature motivated the present study to examine the effects of generative AI on the study habits and critical thinking skills of Junior High School students at Conner Central National High School. Therefore, this study underscores the importance of understanding how innovative technologies influence students' learning behaviors to promote responsible, balanced, and effective educational practices rather than excessive dependence on AI tools.

2. Methodology

2.1. Research Design

A descriptive research design was employed to gather measurable data on the use of generative AI and its perceived effects on the study habits of Grade 10 students at Conner Central National High School. This design was appropriate for the study as it allowed the researcher to systematically describe patterns, trends, and variations in students' use of generative AI in relation to their study behaviors.

Specifically, the study focused on examining key variables such as the frequency of generative AI use and various aspects of students' study habits. Through this approach, the researcher was able to analyze how students perceive the influence of generative AI on their academic routines, including time management, motivation, and learning strategies, providing a clear and structured understanding of the phenomenon under investigation.

2.2. Locale of the Study

This study was conducted at Conner Central National High School, located in Ripang, Conner, Apayao. The school serves as a central educational institution in the municipality, providing access to junior high school education, particularly for Grade 10 learners. Its location within a developing community makes it a relevant setting for examining students' engagement with emerging technologies such as generative AI, especially as access to the internet continues to expand in both school and home environments.

The locale is suitable for this research because many students have increasing exposure to digital tools through mobile devices, school resources, and community internet access. Despite being in a semi-rural area, the integration of technology in education is becoming more evident, making it an appropriate context to explore how generative AI influences students' study habits. The findings from this setting may also reflect similar conditions in other public secondary schools in comparable regions.

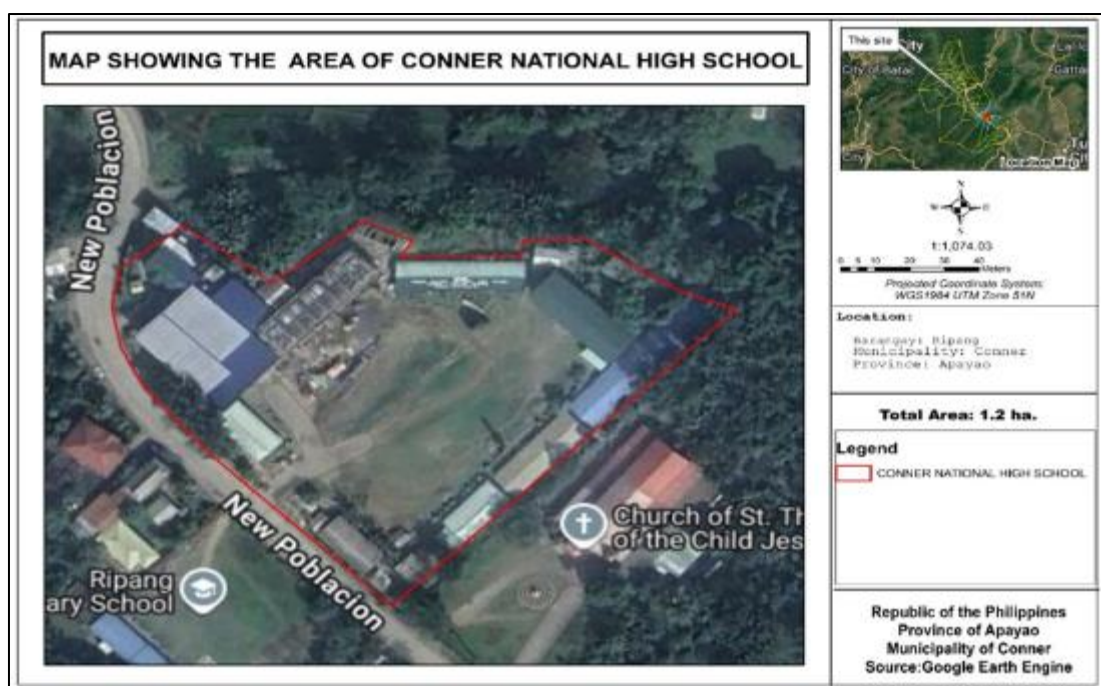


Figure 1 Vicinity Map of Conner Central National High School

2.3. Respondents of the Study

The targeted respondents of this study are the Grade 10 students at Conner Central National High School, limited to the currently enrolled students during the school year 2025-2026. A mixed sampling method of stratified and random sampling techniques was used to ensure representation across different sections. There were 50 students selected as respondents to conduct the data gathering.

2.4. Research Instrument

The research instrument that was employed in this study is a modified structured-survey questionnaire based on the survey conducted by Muacevic & Adler (2024) [29] and Barroga (2025) [30] with the goal of identifying the students' knowledge, attitude, and practice regarding generative AI for academic purposes. The modified structured-survey questionnaire consists of the checklist and 4-point Likert scale questions that are divided into three parts. First is Part I, the Profile of the students, Part II, Generative AI Tools; it enumerates some AI tools that participants may use. Part III is the Frequency of Generative AI Use; this contains items regarding the purpose of use and duration of use of generative AI. Part IV, Study Habits, includes statements evaluating time management and learning motivation when using generative AI.

Prior to full-scale administration of the questionnaire, the tool underwent validation and a reliability test since the gathering tool was a self-made questionnaire. The following presents the content validation and reliability analysis using Cronbach's alpha.

2.5. Reliability Test (Cronbach's Alpha)

Table 1 Reliability coefficient

Cronbach's alpha	Sample size	Interpretation
0.796	25	Good

Prior to full-scale administration, the material/test questionnaire was tested for reliability using Cronbach's alpha, resulting in a value of 0.796, which shows that the scores are internally consistent across all tests since the value is greater than 0.70 (Goforoth, 2015) [31-32]. Hence, the researcher may proceed for full-scale administration (assuming that the instrument has undergone content validity and yielded satisfying results).

Interpretation

Cronbach's Alpha	Internal Consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

With the help of this tool, the researcher was able to acquire the needed data to arrive at the conclusion and recommendations of this study.

2.6. Statistical Analysis

To analyze the collected data from respondents, descriptive statistics such as frequency, percentage, profile, and mean were used to describe how often and in what ways students use generative AI. Weighted Mean and Standard Deviation were used to determine the level of students' study habits. To assess the significant difference in respondents' perceptions when grouped by Generative AI preference, the Independent Samples t-test was employed. And for Pearson Product-Moment Correlation was utilized to determine if there is a significant relationship between the perception of the respondents and their academic performance.

These tools measured the final results from the raw data acquired, which will be discussed and interpreted to be able to conclude and recommend in this study.

3. Results and discussion

Table 2 Profile of the Respondents

Variables	Frequency	Percentage
AGE		
14 years old	17	34%
15 years old	28	56%
16 years old	2	4%
17 years old	2	4%
Total	50	100%

SEX		
Male	22	44%
Female	28	56%
Total	50	100%

Table 2 shows that most respondents were 15 years old, comprising 56% of the total participants, followed by 14-year-old students at 34%. Only a few respondents were 16 and 17 years old, with 4% each, indicating that most participants belonged to the typical grade 10 age group. In terms of sex, female respondents slightly outnumbered male respondents, with 56% and 44%, respectively.

Table 3 Generative AI tools are most frequently used by the respondents

Rank	Generative AI Tool	Frequency (n)	Percentage (%)
1	ChatGPT	38	76.0
2	Google Gemini	17	34.0
3	Canva AI	16	32.0
4	Others	15	30.0
5	Grammarly AI	14	28.0
6	QuillBot	10	20.0
7	Perplexity AI	1	2.0

Table 3 shows that ChatGPT was the most commonly used generative AI tool among the respondents, with 76% of students reporting its use for academic tasks. Google Gemini, Canva AI, Grammarly AI, and QuillBot were also used by several students, while Perplexity AI had the lowest usage. The findings indicate that students commonly use AI tools for writing support, summarizing lessons, improving language skills, organizing ideas, and receiving instant feedback. Overall, ChatGPT emerged as the most preferred tool due to its accessibility, ease of use, and ability to efficiently assist students in their academic activities.

Table 4 Mean Scores and Interpretations for the Purpose of Use of Generative AI

Item	Statement	M	SD	Interpretation
1	I use generative AI to improve my vocabulary.	3.86	0.35	Strongly Agree
2	I use generative AI to summarize and paraphrase texts.	3.82	0.39	Strongly Agree
3	I use generative AI to organize my ideas when we have written works at school.	3.58	0.54	Strongly Agree
4	I use generative AI for collaboration with my teachers and classmates.	3.52	0.50	Strongly Agree
5	I use generative AI to create my social media captions.	3.28	0.76	Agree
	Overall	3.61	0.24	Strongly Agree

Table 4 reveals that respondents strongly agreed on using generative AI for various academic purposes, as reflected by the overall mean of 3.61. The highest-rated purposes were improving vocabulary and summarizing or paraphrasing texts, indicating that students mainly use AI tools for language and academic support. Organizing ideas for written work and collaborating with teachers and classmates also received high ratings, showing that AI helps students in writing and communication tasks. Meanwhile, creating social media captions received the lowest rating, suggesting that students primarily associate Generative AI with academic productivity rather than personal or entertainment use.

Table 5 Mean Scores and Interpretations for Duration of Use of Generative AI

Item	Statement	M	SD	Interpretation
1	I use generative AI daily for my assignments.	3.64	0.75	Strongly Agree
2	I use generative AI every time I'm out of ideas for my school projects.	3.52	0.54	Strongly Agree
3	I use generative AI every time I prepare an essay.	3.12	0.96	Agree
4	I use generative AI during class hours.	3.12	1.21	Agree
5	I use generative AI for my online recitation classes.	3.02	1.17	Agree
	Overall	3.28	0.80	Agree

Table 5 shows that respondents generally agreed on frequently using Generative AI tools, with an overall mean of 3.28. The highest-rated items were using AI daily for assignments and when running out of ideas for school projects, indicating that students commonly rely on AI for routine academic tasks and idea generation. Meanwhile, the use of AI for essay preparation, during class hours, and in online recitation classes received lower but still positive ratings, suggesting that students vary in how they use AI during structured classroom activities. Overall, the findings indicate that students use Generative AI more often for self-directed academic work than during real-time class interactions.

Table 6 Perceived Effects of Generative AI on Study Habits: Time Management

Item	Statement	M	SD	Interpretation
1	Using generative AI for my school work is easier and faster.	3.98	0.14	Strongly Agree
2	Using generative AI allows me to do my assignment late at night as it provides answers in an instant.	3.98	0.14	Strongly Agree
3	Using generative AI creates a solid timetable or schedule.	3.76	0.43	Strongly Agree
4	Using generative AI makes it faster to plan which assignment I should work on first.	3.58	0.50	Strongly Agree
5	Using generative AI improves my efficiency when doing assignments.	3.48	0.76	Agree
	Overall	3.76	0.30	Strongly Agree

Table 6 shows that respondents strongly agreed that generative AI positively affects their time management, with the highest overall mean of 3.76 among all study habit dimensions. Students strongly agreed that AI makes schoolwork easier and faster and helps them complete assignments late at night through instant answers. They also agreed that AI helps in creating schedules and prioritizing assignments more efficiently. However, responses varied slightly on whether AI truly improves efficiency in doing assignments, suggesting differences in how students perceive its impact on their work process. Overall, the findings indicate that students view Generative AI as a useful tool for managing academic tasks and saving time.

Table 7 Perceived Effects of Generative AI on Study Habits: Learning Motivation

Item	Statement	M	SD	Interpretation
1	Generative AI motivates me to ask more questions to learn more.	3.76	0.43	Strongly Agree
2	Generative AI intrigues me with how naturally it responds to multiple and complex topics.	3.52	0.54	Strongly Agree
3	Generative AI drives me to ask about my assignments more.	3.52	0.58	Strongly Agree
4	Generative AI encourages me to learn how to differentiate AI-generated outputs from human works.	3.52	0.54	Strongly Agree
5	Generative AI makes me want to rely on its ability to generate essays.	3.38	0.78	Agree
	Overall	3.54	0.39	Strongly Agree

Table 7 shows that respondents strongly agreed that generative AI positively affects their learning motivation, with an overall mean of 3.54. The highest-rated finding was that AI motivates students to ask more questions and learn more, indicating increased curiosity and engagement in learning. Students also agreed that AI helps them better understand complex topics, encourages inquiry about assignments, and promotes awareness of distinguishing AI-generated content from human-written work. The lowest-rated item was reliance on AI for generating essays, although it still received an Agree rating, suggesting that students generally use AI as a support tool rather than a replacement for their own thinking. Overall, the findings indicate that generative AI encourages active learning and academic engagement among students.

Table 8a Comparison of Student Perceptions According to Age Group (Kruskal-Wallis H Test)

Dimension	Age 14 M (SD)	Age 15 M (SD)	Age 16-17 M (SD)	H	Decision
Purpose of Use	3.66 (0.27)	3.59 (0.24)	3.60 (0.16)	0.592	Accept H ₀
Duration of Use	3.40 (0.66)	3.29 (0.83)	2.75 (1.12)	1.329	Accept H ₀
Time Management	3.79 (0.30)	3.74 (0.31)	3.70 (0.35)	0.370	Accept H ₀
Learning Motivation	3.56 (0.40)	3.54 (0.39)	3.45 (0.38)	0.496	Accept H ₀
Overall	3.60 (0.24)	3.54 (0.33)	3.38 (0.46)	0.871	Accept H ₀

Note. M = Mean; SD = Standard Deviation; H = Kruskal-Wallis H statistic. No comparisons reached statistical significance at $p < .05$.

The Kruskal-Wallis H test showed no significant differences among age groups in terms of Purpose of Use, Duration of Use, Time Management, Learning Motivation, and the Overall composite score, as all p-values were greater than .05. Although 14-year-old respondents had slightly higher mean scores compared to older groups, these differences were not statistically significant. The findings suggest that students across the 14–17 age range generally shared similar perceptions regarding the use and effects of Generative AI. The narrow age range and unequal group sizes may have limited the ability to detect age-related differences.

Table 8b Comparison of Student Perceptions According to Sex (Mann-Whitney U Test)

Dimension	Male M (SD)	Female M (SD)	U	p	Decision
Purpose of Use	3.61 (0.26)	3.61 (0.24)	307.50	1.000	Accept H ₀
Duration of Use	2.84 (0.93)	3.64 (0.45)	157.50	.003*	Reject H ₀
Time Management	3.68 (0.33)	3.81 (0.28)	238.50	.123	Accept H ₀
Learning Motivation	3.47 (0.39)	3.59 (0.38)	250.00	.238	Accept H ₀
Overall	3.40 (0.32)	3.66 (0.26)	163.00	.005*	Reject H ₀

Note. M = Mean; SD = Standard Deviation; U = Mann-Whitney U statistic; r = effect size. * $p < .05$.

The findings showed that male and female students had similar perceptions regarding the purpose of use, time management, and learning motivation related to generative AI, as no significant differences were found in these dimensions. However, a significant difference was observed in the Duration of Use, where female students reported higher engagement and longer use of AI tools compared to male students. Female respondents also obtained a significantly higher overall composite score, mainly influenced by their greater duration of AI use. Overall, the results suggest that while both sexes perceive the benefits and purposes of AI similarly, female students tend to spend more time using generative AI tools for academic activities.

Table 9 shows that there were no statistically significant differences between ChatGPT users and non-ChatGPT users across all four dimensions, as all p-values were greater than .05. The mean scores of both groups were very similar, indicating that students generally shared comparable perceptions of the effects of generative AI on their study habits regardless of the specific AI tool they used. The findings suggest that the overall use of generative AI tools, rather than the type of platform, influences students' perceived academic benefits, such as improved time management, idea organization, and learning motivation. However, the small number of non-ChatGPT users may have limited the ability to detect possible differences between groups.

Table 9 Mann-Whitney U Test Results Comparing Perceptions of ChatGPT Users and Non-ChatGPT Users

Dimension	ChatGPT (n=38) M (SD)	Non-ChatGPT (n=12) M (SD)	U	p-value	Result
Purpose of Use	3.61 (0.25)	3.62 (0.22)	217.5	.813	Not Significant
Duration of Use	3.32 (0.80)	3.18 (0.83)	251.0	.601	Not Significant
Time Management	3.74 (0.31)	3.82 (0.28)	196.5	.421	Not Significant
Learning Motivation	3.55 (0.40)	3.50 (0.36)	253.0	.559	Not Significant

4. Conclusion

The study concluded that Generative Artificial Intelligence (AI) had a positive perceived effect on the study habits of Grade 10 students.

Compliance with ethical standards

Acknowledgments

I acknowledge that I have not used ChatGPT or Copilot to refine some any sections of this document.

Disclosure of conflict of interest

Author declares that they have no known competing financial interests or non-financial interests, OR personal relationships that could have appeared to influence the work reported in this paper.

Statement of ethical approval

The study was conducted and in accordance with the standards and guidelines of the college No Ethical approval was required, as the researcher followed all applicable ethical guidelines, ensuring respect for the respondents' privacy and confidentiality.

Statement of informed consent

I affirm that the respondents voluntarily agreed to participate after being fully informed about the purpose, nature, and potential implications of the study. Their responses have been collected with utmost respect for their privacy and confidentiality, in accordance with ethical research guidelines.

References

- [1] Enarson, H., & Drucker, P. F. (1960). Innovation in higher education. *Journal of Higher Education*, 31(9), 495–501. <https://doi.org/10.1080/00221546.1960.11777628>
- [2] Zafar, S., Ayaz, N., Bibi, H., & Abbas, S. G. (2025). The effect of ChatGPT on the critical thinking skills of secondary students: A survey-based study. *Journal of Social Signs Review*, 3(3), 243–259. <https://socialsignsreview.com/index.php/12/article/view/164>
- [3] Milan, Y., & Graham, O. (2025). The impact of ChatGPT reliance on the development of student critical thinking skills. https://www.preprints.org/frontend/manuscript/a7aebc3751a8c251822e2e11c87c20b1/download_publication
- [4] Tang Kuok Ho, D. (2024). Implications of artificial intelligence for teaching and learning. https://www.researchgate.net/publication/378307304_Implications_of_Artificial_Intelligence_for_Teaching_and_Learning
- [5] University Canada West. (2025). Advantages and disadvantages of AI in education. <https://www.ucanwest.ca/blog/education-careers-tips/advantages-and-disadvantages-of-ai-in-education>

- [6] Hetlet, A. (2025). Definition: What is ChatGPT? TechTarget. <https://www.techtarget.com/whatis/definition/ChatGPT>
- [7] Sasikala, P., & Ravichandran, R. (2024). Study on the impact of artificial intelligence on student learning outcomes. ResearchGate.
- [8] https://www.researchgate.net/publication/383451820_Study_on_the_Impact_of_Artificial_Intelligence_on_Student_Learning_Outcomes
- [9] Javaid, M., Haleem, A., Singh, R. P., Khan, S., & Khan, I. H. (2023). Unlocking the opportunities through ChatGPT tool towards ameliorating the education system. <https://www.sciencedirect.com/science/article/pii/S2772485923000327>
- [10] Stephens, D. (2024). ChatGPT and artificial intelligence (AI) in education examples for teachers. <https://nearpod.com/blog/chatgpt-ai-artificial-intelligence>
- [11] Hasanein, A. M., & Sobaih, A. E. (2023). Drivers and consequences of ChatGPT use in higher education: Key stakeholder perspectives. <https://pmc.ncbi.nlm.nih.gov/articles/PMC10670526>
- [12] Rajabi, P., Taghipour, P., Cukierman, D., & Doleck, T. (2024). Unleashing ChatGPT's impact in higher education: Student and faculty perspectives. *Computers in Human Behavior: Artificial Humans*. <https://www.sciencedirect.com/science/article/pii/S2949882124000501>
- [13] Youssef, E., et al. (2024). Examining the effect of ChatGPT usage on students' academic learning and achievement: A survey-based study in Ajman, UAE. <https://www.sciencedirect.com/science/article/pii/S2666920X2400119X>
- [14] Khalkho, R., Singh, S., Gupta, N., & Srivastava, P. (2024). Impact of educational AI on students' studying habits and academic performance. In *2024 International Conference on Artificial Intelligence and Quantum Computation-Based Sensor Application (ICAIQSA)* (pp. 1–6). IEEE. <https://doi.org/10.1109/ICAIQSA64000.2024.10882178>
- [15] Nguyen, T. N. T. (2024). Artificial intelligence (AI) in education: A case study on ChatGPT's influence on student learning behaviors. https://www.edupij.com/files/1/articles/article_335/EDUPIJ_335_article_66685d9fd5d09.pdf
- [16] Khan, R., Qamar, M. T., Ansari, M. S., & Yasmeen, J. (2025). Enhancing or impairing? Exploring Indian EFL learners' academic writing narratives with ChatGPT. *Cogent Education*, 12(1). <https://www.tandfonline.com/doi/full/10.1080/2331186X.2025.2514329>
- [17] Ali, O., Murray, P. A., Momin, M., Dwivedi, Y. K., & Malik, T. (2024). The effects of artificial intelligence applications in educational settings: Challenges and strategies. **Technological*