ChatGPT and the Academic Performance of Selected Student from the College of Business Administration and Accountancy

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Abstract

This study aimed to determine the relationship between the use of ChatGPT and the academic performance of selected students from the College of Business Administration and Accountancy (CBAA) at Laguna University. The study focused on how much CBAA students use ChatGPT and how this is related to their academic performance. Specifically, it aimed to answer the following questions: (1) to what extent is ChatGPT used in terms of: (1.1) research, (1.2) assessment tasks, (1.3) exam preparation, and (1.4) writing skills? (2) How does ChatGPT affect the level of academic performance of students in terms of: (2.1) General Weighted Average (GWA), (2.2) academic awards, (2.3) standardized test results, (2.4) class participation, and (2.5) assignment completion rate?(3) Is there a significant relationship between the extent of use of ChatGPT and the academic performance of College of Business Administration and Accountancy (CBAA) students?

The study used a correlational research design. A researcher-made survey questionnaire was used to gather data from selected College of Business Administration and Accountancy (CBAA) students from the Bachelor of Science in Accounting Information System (BSAIS), Bachelor of Science in Accountancy (BSA), Bachelor of Science in Tourism Management, and Bachelor of Science in Entrepreneurship (BSEntrep). Percentage, frequency distribution, and weighted mean were used to describe the responses of the students. Pearson-r correlation was used to determine if there is a significant relationship between the extent of ChatGPT use and the academic performance of the respondents.

The findings revealed that there is a strong relationship between ChatGPT and the academic performance of CBAA students. The positive impact of ChatGPT in students' academic performance was observed; it is noted that greater use of ChatGPT is consistently connected to higher levels of academic performance, showing that ChatGPT serves as an effective tool that supports students in various aspects of their academic work.

Keywords: ChatGPT, Academic Performance, Artificial Intelligence, Research, Pearson

1. Introduction

One of the most widely used AI tools in academic settings is ChatGPT, an AI chatbot developed in November 2022 by OpenAI (Wikipedia). It quickly became popular, resulting in the increased reliance of students, and the adaptation of education to technology has enhanced learning. Moreover, ChatGPT is a free-access AI tool, making it popular among students due to its availability. It plays an important role in academics, especially since it provides an overview of complex topics, assists with grammar, corrects punctuation marks, and guide students on almost any academic problems they may encounter, (Ali, et al. 2023). Despite these benefits, there are still potential risks factors, such as misuse or overreliance on ChatGPT (Kasneci, E., et al. 2023).

Meanwhile, on the College of Business Administration and Accountancy (CBAA), academic performance is a crucial part for students, as their success is often measured by their standing in class. The challenges faced by the students in their program, Bachelor of Science in Accounting Information System (BSAIS), Bachelor of Science in Accountancy (BSA), Bachelor of Science in Tourism Management, and Bachelor of Science in Entrepreneurship (BSEntrep) help prepare them for real-world responsibilities and empower them to become future professionals.

Several studies have been conducted on the impact of ChatGPT on student learning, like it was found that ChatGPT generally motivates learners to develop reading and writing skills (Ali, J. K. M. et al. 2023). ChatGPT has a positive impact on students' academic performance and their ability to read and write. Despite its advantages, the following are some issues and potential threats regarding its usage for educational purposes. Although there are numerous studies exploring the role of artificial intelligence in education, the evidence remains inconsistent regarding actual impact of ChatGPT on students' academic performance, particularly among CBAA students. Several studies highlight the benefit of ChatGPT such as improving reading and writing skills but, other studies point out concerns about over-reliance, misinformation, and variability in learning outcomes.

However, there are limited contextual evidence focusing on students from the college of business administration and accountancy, leaving unanswered questions about whether ChatGPT's utilization directly contributes to improvements in research, writing outputs, assessment tasks, and overall academic achievements. This suggests the need for the present investigation to deliver clearer, context-based findings. Therefore, this study aimed to investigate the impact of ChatGPT on the selected students of CBAA academic performance. It will provide valuable insight into whether ChatGPT serves as an effective study tool or poses challenges

2. Theoretical Background

The integration of artificial intelligence (AI) in education has revolutionized traditional learning methods, providing students with innovative tools to enhance their academic performance. Among these tools, ChatGPT has gained significant attention for its ability to assist students in understanding complex topics, generating insights, and improving study efficiency. To understand the impact of ChatGPT on the academic performance of students in the College of Business Administration and Accountancy, it is essential to ground this study in established educational theories.

This study is supported by two key theoretical frameworks: Constructivist Learning Theory (Piaget, Vygotsky) and the Technology Acceptance Model (TAM) (Davis, 1989). These theories explain how students interact with AI-based learning tools, how they process information, and how ChatGPT can facilitate meaningful learning experiences.

The Technology Acceptance Model explains how users adopt and use technology based on perceived usefulness and ease of use. This model suggests that people's acceptance of a technology depends on perceived usefulness, which is the degree to which a person believes that using a particular system (ChatGPT) will enhance their performance and perceived ease of use, where the degree to which a person believes that using the system will be free from effort. If students find ChatGPT useful and easy to use, they will develop a positive attitude toward it. A positive attitude leads to the intention to continue using ChatGPT for learning.

The perceived usefulness of ChatGPT is reflected in students' perceptions of how the tool helps them improve their academic tasks, such as research, writing skills, exam preparation, and assessment task completion. When students perceive ChatGPT as useful for improving knowledge, efficiency, and academic achievements. Similarly, the perceived ease of use refers to how students believe utilizing ChatGPT involves minimal effort. ChatGPT's user-friendly presentation, free accessibility, and ability to provide quick responses also contribute to students' willingness to utilize the service for academic purposes.

Therefore, the Technology Acceptance Model provides a strong theoretical foundation for this study by explaining how students' acceptance and utilization of ChatGPT can significantly influence their academic performance. It supports the assumption that when students perceive ChatGPT as useful and easy to use, its integration into academic activities can contribute positively to learning outcomes.

Another theory which could support the existing study is the Constructivist Learning Theory, developed by Jean Piaget and Lev Vygotsky. It suggests that learners actively construct knowledge based on their experiences rather than passively absorbing information. This means that students learn best when they engage with concepts, apply critical thinking, and solve problems in real-world contexts. In this framework, ChatGPT serves as a scaffolding tool that supports students in constructing knowledge by providing guidance, explanations, and interactive problem-solving opportunities. This makes learning more personalized and engaging, particularly for students in the College of Business Administration and Accountancy.

This theory is highly relevant to the present study, as the use of ChatGPT supports a constructivist learning environment. ChatGPT enables students from the College of Business Administration and Accountancy (CBAA) to actively explore concepts, ask follow-up questions, and receive immediate feedback tailored to their academic needs. Instead of merely providing direct answers, ChatGPT can guide students in understanding complex topics, refining ideas, and constructing their own interpretations—key principles of constructive learning.

In relation to academic performance, Constructivist Learning Theory helps explain how effective use of ChatGPT can positively influence students' grades, class participation, and overall academic outcomes. When students actively construct knowledge using AI-assisted tools, learning becomes more personalized and meaningful, which may lead to improved academic performance. Thus, Constructivist Learning Theory provides a strong theoretical foundation for understanding the role of ChatGPT in shaping students' learning experiences and academic success in this study.

3. Research Problems

It specifically sought to answer the following questions: (a) To what extent was ChatGPT utilized in the following areas : research, assessment task, exam preparation, and writing skills, (b) level of effectiveness of ChatGPT on the academic performance of student: general weighted average (GWA), academic awards, standardized test results, class participation, and assignment completion rate, (c) significant relationship between the extent of utilization of ChatGPT and the academic performance of the CBAA students.

4. Data and Methods

The researcher employed the quantitative method and will use a correlational design to determine the relationship between the extent of utilization of ChatGPT and the academic performance of the CBAA students. In this study, correlational design is used to investigate the relationship between the two variables, particularly ChatGPT and the Academic Performance of CBAA Students. The selected participants for this study are the 2nd to 4th year students from the College of Business Administration and Accountancy. Researchers will use a survey questionnaire to collect, analyze, and summarize the extent to which the CBAA Academic Performance is realized.

This study includes all students from different programs in the College of Business Administration and Accountancy department at Laguna University who use ChatGPT. The population for this research includes selected students from 2nd to 4th year who enrolled in the BSA, BSAIS, BSENTREP, and BSTM programs, excluding the 1st year students as the researchers aimed to gather the 2nd semester grades and academic performance of students from the College of Business Administration and Accountancy (CBAA). The BSA program consists of 85 students in 2nd year, 16 students in 3rd year, and 31 students in 4th year, with a total number of 132 students; the BSAIS program has 88 students in 2nd year, 62 students in 3rd year, and 87 students in 4th year, with a total number of 237 students; BS Entrepreneurship has 410 students in 2nd year, 208 students in 3rd year, and 99 students in 4th year, with a total number of 717 students; and BSTM has 232 students in 2nd year, 127 students in 3rd year, and 55 students in 4th year, with a total of 414 students. Thus, the total population for our study is 1,500 students.

A sample size of 306 students was calculated using Cochran's formula adjusted for finite populations to allow for statistical validity. Stratified random sampling was utilized to gather a sample where proportional representation is achieved within programs and year levels. Allocating the result sample are the following: BSA consists of seventeen (17) students in 2nd year, three (3) students in 3rd year, and seven (7) students in 4th year; BSAIS consists of eighteen (18) students in 2nd year, thirteen 13) students in 3rd year, and seventeen (17) students in 4th year; BS Entrepreneurship has eighty-three (83) students in 2nd year, forty-two (42) students in 3rd year, and twenty-one (21) students in 4th year; and BSTM has forty- eight (48) students in 2nd year, twenty-six (26) students in 3rd year, and eleven (11) students in 4th year. This sampling strategy ensures that the sample is a good representation of the population, allowing the study to effectively examine the academic performance of students who utilize ChatGPT for academic purposes such as assignments, research, and problem- solving.

5. Tables

The results of this study demonstrate significant relationships between the ChatGPT and the Academic Performance of Selected Students from the College of Business Administration and Accountancy

Table 1: Summary of the Extent of ChatGPT Utilization

Indicators	Mean	Sd	Verbal Interpretation
Research	2.79	0.87	Great
Assessment Task	3.02	0.80	Great
Exam Preparation	2.81	0.92	Great
Writing Skills	2.94	0.86	Great
Overall Mean	**2.89**	**0.86**	**Great**

The table shows that students demonstrate a great extent of ChatGPT utilization, as reflected in the overall mean of 2.89. Among the indicators, assessment tasks obtained the highest mean of 3.02, suggesting that students find ChatGPT most helpful for completing academic requirements. This is followed closely by its use in writing skills with a mean of 2.94, exam preparation with 2.81, and research with 2.79, all of which also fall within the "Great" range. The consistently high ratings indicate that students frequently rely on ChatGPT to support various academic activities, showing that it serves as a valuable tool in enhancing their learning performance. The results show that ChatGPT is really helpful for students when it comes to learning. Students use ChatGPT a lot to finish their assignments and other schoolwork. The average score is 2.89, which is pretty high. This means students really like using ChatGPT to do their assignments, to get better at writing, to study for tests, and to find information for their projects.

Students use ChatGPT the most to help them with their assignments. They also use it to improve their writing skills to get ready for exams and to do research. All of these things are very useful for students. They think ChatGPT is great, for these tasks. ChatGPT is very useful for students to understand what they need to do for school and to finish their work. The close range of mean scores across all indicators shows consistency in ChatGPT usage, suggesting that it is a versatile tool applicable to various academic activities. Overall, the results demonstrate that ChatGPT serves as a valuable learning aid that supports students in improving academic performance, enhancing skills, and increasing confidence in accomplishing their academic tasks.

Table 2: Summary of Level of Work Readiness of Fourth Year BSAIS Students

INDICATORS	Mean	SD	Verbal Interpretation
General Weighted Average	*2.59*	*0.90*	Effective
Academics Awards	*2.56*	*0.91*	Effective
Standardized Test Result	*2.55*	*0.95*	Effective
Class Participation	*2.56*	*0.95*	Effective
Assignment Task Rate	*2.81*	*0.90*	Effective
Overall Mean	***2.61***	***0.93***	**Effective**

As ChatGPT are continuously used in education, it is evident how they affect the performance of the students. With academic awards given as a recognition for the students hard-work if they are able to excel in class, which is in connection with the Standardized Test Result, Class Participation and Assignment Completion Rate, that if the students perform better on the following, they are likely to get an outstanding performance. In this case, students will be able to improve their General Weight Average (GWA) showing how the AI chat-bot is an effective tool for academics.

The table shows that ChatGPT is perceived as effective in enhancing students' academic performance, as shown by the overall mean of 2.61. Among the indicators, the assignment completion rate scored the highest with a mean of 2.81, suggesting that ChatGPT is most helpful in guiding students to accomplish their tasks on time. This is followed by its positive influence on general weighted average with a mean of 2.59, academic awards with 2.56, class participation with 2.56, and standardized test results with 2.55, all of which consistently fall under the effective category. These results indicate that ChatGPT contributes meaningfully to various aspects of students' academic performance, supporting their achievement and participation in school-related activities.

Table 3

Summary of Significant Relationship Between the Students' Extent of ChatGPT Utilization and Effectiveness in Students' Academic Performance

ChatGPT Utilization	Academic Performance	r-stat	Strength of Relationship	p-value	Analysis
Research	General weighted average	0.668	Strong	0.000	Significant
	Academic awards	0.636	Strong	0.000	Significant
	Standardized test result	0.683	Strong	0.000	Significant
	Class participation	0.613	Strong	0.000	Significant
	Assignment completion rate	0.597	Strong	0.000	Significant
Assessment task	General weighted average	0.702	Strong	0.000	Significant
	Academic awards	0.628	Strong	0.000	Significant
	Standardized test result	0.680	Strong	0.000	Significant
	Class participation	0.632	Strong	0.000	Significant
	Assignment completion rate	0.730	Strong	0.000	Significant
Exam preparation	General weighted average	0.723	Strong	0.000	Significant
	Academic awards	0.670	Strong	0.000	Significant
	Standardized test result	0.755	Strong	0.000	Significant
	Class participation	0.678	Strong	0.000	Significant
	Assignment completion rate	0.674	Strong	0.000	Significant
Writing skills	General weighted average	0.689	Strong	0.000	Significant
	Academic awards	0.649	Strong	0.000	Significant
	Standardized test result	0.685	Strong	0.000	Significant
	Class participation	0.628	Strong	0.000	Significant
	Assignment completion rate	0.74	Strong	0.000	Significant

Table 3 reveals that there is a strong and significant relationship between the students' extent of ChatGPT utilization and their academic performance, as shown by correlation coefficients ranging from 0.597 to 0.755, all with p-values of 0.000. These results indicate that higher levels of ChatGPT use in the areas of research, assessment tasks, exam preparation, and writing skills are consistently associated with better academic outcomes.

Among the components of utilization, exam preparation and assessment tasks produced the highest correlation values, particularly in relation to assignment completion rate and standardized test results. This suggests that students who frequently use ChatGPT to review lessons, clarify concepts, and complete academic tasks tend to achieve higher levels of performance.

Since all computed correlations fall within the strong relationship range and are statistically significant, the findings clearly show that ChatGPT functions as an effective academic support tool. Its use appears to positively influence various aspects of student achievement, helping learners perform better across multiple indicators of academic performance.

6. Conclusion

The purpose of this study was to assess the effectiveness of ChatGPT and the Academic Performance of Selected Student from the College of Business Administration and Accountancy. Based on the findings of the study, the following conclusions are formulated:

1. The extent of ChatGPT utilization to the CBAA students is perceived great in research, assessment tasks, exam preparation, and writing skills. Despite the benefits, students are aware of its limitations and risks usage, wherein over reliance can cause dishonesty, decreased in critical thinking, etc.

2. ChatGPT is perceived as effective in enhancing students' academic performance, resulting in a positive result in their General Weighted Average (GWA), academic awards, standardized test results, class participation, and assignment completion rate. Therefore, ChatGPT helps CBAA Students improve in their overall Academic Performance.

3. There is a significant correlation between ChatGPT utilization and Academic Performance.

4. Since the null hypothesis was rejected, the finding shows that there is significant relationship between the extent utilization of ChatGPT and the Academic Performance of the College of Business Administration and Accountancy (CBAA) students.

The study concludes that the selected Students from the College of Business Administration and Accountancy have shown a high extent of ChatGPT utilization in academic performance, such as research, assessment task, exam preparation, and writing skills. Although the ChatGPT serves as a learning companion of the students, it also have limitations such as over-reliance, lessen the critical thinking skills of the students, and academic dishonesty that cause plagiarism. Despite these issues, ChatGPT proves to be a helpful tool in academic performance based on good results in general weighted average, academic awards, class participation and assignment completion rate, most especially when used properly. The results further indicate that ChatGPT utilization has a strong significant connection with academic performance.

Overall, the results emphasize the increasing importance of Artificial Intelligence specifically the ChatGPT in the students academic performance. With educational settings becoming more technologically advanced, there is an increasing need for the proper use of technologies such as ChatGPT to assist students to perform well academically. It is therefore important that institutions foster ethical use, adoption of the technology within teaching, and continued guidance of students to ensure that they can compete successfully in an increasingly competitive environment.

References

AlAfnan, M. A., Dishari, S., Jovic, M., & Lomidze, K. (2023). ChatGPT as an educational tool:Opportunities, challenges, and recommendations for communication, business writing, and composition courses. *Journal of Artificial Intelligence and Technology, 3(2), 60-68.*https://ojs.istp-press.com/jait/article/view/184

Al-Abdullatif, A.M. & Alsubaie, M. A. (2024). ChatGPT in Learning: Assessing Students' Use Intentions through the Lens of Perceived Value and the Influence of AI Literacy.https://www.mdpi.com/2076-328X/14/9/845?utm_source=chatgpt.com

Ali, J. K. M., Shamsan, M. A. A., Hezam, T. A., & Mohammed, A. A. (2023). Impact of ChatGPT on learning motivation: teachers and students' voices. *Journal of English Studies in Arabia Felix, 2(1), 41-49.https://journals.arafa.org/index.php/jesaf/article/view/51*

Ali, K., Rahu, Z. A., Mushtaque, M. A. R., & Ali, S. M. (2025). The Impact of ChatGPT as a Learning Assistant for Refining Writing Skills at Shaheed Benazir Bhutto University Sanghar Campus. *Journal of Innovative Intelligent Computing and Emerging Technologies (JIICET), 1(1), 11* https://jiicet.gnt.com.pk/index.php/jiicet/article/view/8

Almulla, M. A. (2024). Investigating influencing factors of learning satisfaction in AI ChatGPT for research: University students perspective. Heliyon, 10(11). https://www.cell.com/heliyon/fulltext/S2405-8440(24)08251-3

Altarawneh, H. (2023). ChatGPT impact on Student Educational Performance: aconceptualanalysis. https://www.researchgate.net/publication/376627019_ChatGpt_impact_on_StudentEducational_Performance_a_conceptual_analysis

Anani, G.E., Nyamekye, E. & Bafour-Koduah, D. Using artificial intelligence for academic writing in higher education: the perspectives of university students in Ghana. Discov Educ 4, 46 (2025). https://doi.org/10.1007/s44217-025-00434-5

Anwar Z. et al. (2024), "Measurement models and predictors of student academic success: A systematic literature review".https://doi.org/10.51773/sssh.v3i1.252

Baidoo-Anu, D., & Ansah, L. O. (2023). Education in the era of generative artificial intelligence (AI): Understanding the potential benefits of ChatGPT in promoting teaching and learning. *Journal of AI, 7(1), 52-62.* https://dergipark.org.tr/en/pub/jai/issue/77844/1337500

Basith Y. et al. (2024) , " The Use of Artificial Intelligence (Ai) In Education: Review of Opportunities And Challenges of ChatGPT As A Learning Companion". https://jurnal.penerbitafasapustaka.com/index.php/aicie/article/view/154

Bhattacharya, M., et al. (2024), "ChatGPT's scorecard after the performance in a series of tests,"Patterns,5(4),100123.https://www.sciencedirect.com/science/article/pii/S2590262824000200

Çalışkan, (2023) "Exam Preparation with ArtificialIntelligence:Exa m i n a t i o n for Building Material Course with Chat GPT." https://www.academia.edu/107964310/Exam_Preparation_with_Artificial_Intelligen ce_Exam ination_for_Building_Material_Course_with_Chat_GPT

Caratiquit, K., Caratiquit, L. (2023). ChatGPT as an academic support tool on the academic performance among students: The mediating role of learning motivation.https://www.researchgate.net/publication/375527759_ChatGPT_as_an_academic_support_t ool_on_the_academic_performance_among_students_The_mediating_rol e_of_learning_mo tivation

Cotton, D. R. E., Cotton, P. A., & Shipway, J. R. (2023), "Chatting and cheating: Ensuring academic integrity in the era of ChatGPT" *Innovations in Education and Teaching International,60(4), 1–12*. https://doi.org/10.1080/14703297.2023.2190148

Chiu T. et al. (2023), "Teacher support and student motivation to learn with Artificial Intelligence (AI) based chatbot. Interactive Learning Environments". https://doi.org/10.1080/10494820.2023.2172044.

Dowling, M.; Lucey, B. ChatGPT for (finance) research: The Bananarama conjecture. Financ. Res. Lett. 2023, 103662. https://www.sciencedirect.com/science/article/pii/S1544612323000363

Duarte, F. (2025). Number of CHATGPT Users Feb 2025). https://explodingtopics.com/blog/chatgptusers

Dwivedi, Y. K., Kshetri, N., Hughes, L., Slade, E. L., Jeyaraj, A., Kar, A. K., Baabdullah, A. M., Koohang, A., Raghavan, V., & Ahuja, M. (2023), "So what if ChatGPT wrote it?" Multidisciplinary perspectives on opportunities, challenges, and implications of generative conversational AI for research, practice, and policy". *International Journal of Information Management, 71, 102642.* https://doi.org/10.1016/j.ijinfomgt.2023.102642

Forrest, R.(2025), "CHATTING WITH THE ASSISTANT: ENABLING STUDENTS TO USE CHATGPT FOR SELF-ASSESSMENT BEFORE ASSIGNMENT SUBMISSION".https://end-educationconference.org/wp-content/uploads/2025/08/202502VP034.pdf

Gilson, A., Safranek, C., Huang, T., Socrates, V., Chi, L., Taylor, R. A., & Chartash, D. (2022). How well does ChatGPT do when taking the medical licensing exams? The implications of large language models for medical education and knowledge assessment. medRxiv.https://doi.org/10.1101/2022.12.23.22283901.

Guleria, A., Krishan, K., Sharma, V., & Kanchan, T. (2023). ChatGPT: ethical concerns and challenges in academics and research. The Journal of Infection in DevelopingCountries,17(09),1292-1299. https://jidc.org/index.php/journal/article/view/37824352

Hidayatullah E. (2024), "Evaluating the effectiveness of ChatGPT to improve English students'writing skills." https://seminar.ustjogja.ac.id/index.php/heal/article/view/1467/991

Homolak, J. (2023). Opportunities and risks of ChatGPT in medicine, science, and academic publishing: a modern Promethean dilemma. *Croatian Medical Journal, 64(1), 1-3.* https://hrcak.srce.hr/file/478726

Imran, M., & Almusharraf, N. (2023). Analyzing the role of ChatGPT as a writing assistant at higher education level: A systematic review of the literature.*ContemporaryEducationalTechnology,15(4),ep464.*https://www.cedtech.net/article/analyzing-the- role-of-chatgpt-as-a-writing-assistant-at- higher-education-level-a- systematic-review- 13605

Jaiswal, P. (2020). Integrating educational technologies to augment learners' academic achievements. *InternationalJournal of Emerging Technologies in Learning (IJET), 15(2), 145- 159.* https://doi.org/10.3991/ijet.v15i02.11809

Kasneci, E., Seßler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F.,...& Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and individual differences*, *103*, *102274.*https://www.sciencedirect.com/science/article/abs/pii/S104160802300019 5

Kim, H., Park, J., & Lim, S. (2023). AI-Assisted Learning: The Impact of ChatGPT on Students' Academic Performance. *International Journal of Educational Research, 30(2), 55-72.* https://chatgpt.com/c/67c6942c-ed9c-8009-9088-a444c3a4b5a

Kiryakova, G. (2025). ChatGPT as a Supportive Tool for Creating Assessment Resources. TEM Journal, 14(2), 1014-1023. https://www.ceeol.com/search/article-detail?id=1340468

Kortemeyer, G. (2023). Could an artificial-intelligence agent pass an introductory physics course?. Physical Review Physics Education Research, 19(1),010132.https://journals.aps.org/prper/abstract/10.1103/PhysRevPhysEducRes.19.010132

Kung, T. H., Cheatham, M., Medenilla, A., Sillos, C., De Leon, L., Elepaño, C., ... & Tseng, V. (2023). Performance of ChatGPT on USMLE: potential for AI-assisted medical education using large language models. PLoS digital health, 2(2),e0000198. https://journals.plos.org/digitalhealth/articleid=10.1371/journal.pdig.0000198&fbclid=I wAR3U

Kusumo, B., Sutrisman, H., Simanjuntak, R., Prihartanto, A., Askrening, A., & Yunus, R. (2024). The Impact of Technology-Based Learning on Student Engagement and Achievement in the Digital Era. International Journal of Educational Evaluation and Policy Analysis,1(4),https://international.aripi.or.id/index.php/IJEEPA/article/view/55

Liling, J. R. et. al (2023). "Analysis of ChatGPT usage to support student lecture assignments" Jurnal FASILKOM (Teknologi Informasi dan Ilmu Komputer), 13(3), Article 6254. https://ejurnal.umri.ac.id/index.php/JIK/article/view/6254

Lo, C. K. (2023), "What is the impact of ChatGPT on education? A rapid review of the literature".*Education Sciences, 13(4),410.*https://doi.org/10.3390/educsci13040410

Mugaanyi, J., Cai, L., Cheng, S., Lu, C., & Huang, J. (2024). Evaluation of large language model performance and reliability for citations and references in scholarly writing:cross-disciplinary study. *Journal of Medical Internet Research*, *26*, e52935. https://www.jmir.org/2024/1/e52935/

Mohammed A. Alomaria and Manar Omar Jabrb (2020). The effect of the use of an educational software based on the strategy of artificial intelligence on students' achievement and their attitudes towardsit.https://www.researchgate.net/publication/341607956_The_effect_of_the_use_of_an_educational_software_based_on_the_strategy_of_artificial_intelligence_on_students'_achievementand_their_attitudes_towards_it

Ngo, T. T. A. (2023). The perception by university students of the use of ChatGPT in education. *International Journal of Emerging Technologies in Learning (Online), 18(17),4.*https://www.proquest.com/openview/8fa819963571b15f4092d8ba787c10b9/1cbl=54452619&%20pq-origsite=gscholar

Rafida V. (2025), "Analysis of Lecturer and Student Perspectives on ChatGPT Utilization for Completing Assignments in Business Education".https://ijel.asia/index.php/ijel/article/view/252

Rahman, M. M., Terano, H. J., Rahman, M. N., Salamzadeh, A., & Rahaman, M.S. (2023). ChatGPT and academic research: A review and recommendations based on practical examples. Rahman, M., Terano, HJR, Rahman, N., Salamzadeh, A., Rahaman, S.(2023). ChatGPT and Academic Research: A Review and Recommendations Based on Practical Examples. *Journal of Education, Management and Development Studies, 3(1),1-12.* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4407462

Rahman, M. M., & Watanobe, Y. (2023). ChatGPT for education and research: Opportunities, threats, and strategies. Applied sciences, 13(9), 5783. https://www.mdpi.com/2076-3417/13/9/5783

Ramprakash, B., Nithyakala, G., Bhumika, K., & Avanthika, S.(2024).Comparing traditional instructional methods to ChatGPT: A comprehensive analysis. *Journal of Engineering Education Transformations, 612-620.* https://journaleet.in/index.php/jeet/article/view/2477

Samardžija et al. (2024), "WORK IN PROGRESS: ENHANCING EXAMPREPARATION WITH CHATGPT AMONG UNIVERSITY FRESHMEN STUDENTS." https://library.iated.org/view/SAMARDZIJA2024WOR

Santos, M. R., & Villanueva, D. T. (2023). ChatGPT as a study aid: Effects on student comprehension and academic performance. *Philippine Journal of Learning Sciences, 37(2),54–72.*https://chatgpt.com/c/67c6942c-ed9c-8009-9088-a444c3a4b5a

Susnjak, T. (2022). ChatGPT: The End of Online Exam Integrity?.https://www.researchgate.net/publication/366423865_ChatGPT_The_End_of_Online_

Venugopal, A. (2024). Impact of Digital Learning Platforms on Student Academic Performance.*Medicon Engineering Themes, 6(5), 19-21.* https://themedicon.com/pdf/engineeringthemes/MCET-06-208.pdf

Yee, K., Whittington, K., Doggette, E., & Uttich, L. (2023). ChatGPT assignments to use in your classroom today. https://stars.library.ucf.edu/oer/8/

Youssef, E., Medhat, M., Abdellatif, S., Al Malek, M., (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

Zhai, X. (2022). ChatGPT User Experience: Implications for Education. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4312418