

"Assessing the Perceived Burgeoning Impact of AI-Driven Educational Tools on Academic Performance Among College Students"

Imelda J. Villarin, Ed.D.¹

¹ Cebu Technological University – Main Campus, Cebu City, Philippines.

Email: imelda.villarin@ctu.edu.ph

Corresponding Author:

Imelda J. Villarin, Ed.D.

Email: imelda.villarin@ctu.edu.ph

Abstract

Research on growing and infusing impact of Artificial Intelligence in education is essential to understand how it can enhance learning outcomes, personalize education, and address challenges in teaching and accessibility. This study dwells on the perceived assessment on burgeoning impact of AI-Driven education tools on academic performance among college students of Cebu Technological University-Main Campus, Cebu City, Philippines. It sought to answer the demographic profile of the respondents and perceived impact of utilization of AI on the student's academic performance. The study anchors on the theory of Technological Pedagogical and Content Knowledge, utilizing the descriptive-survey design. Quota sampling was utilized to identify the respondents. Researcher's made instrument was employed and piloted. Statistically employed the frequency counting vis-à-vis with percentage equivalency. Findings of the study reveal that respondents used variety of AI tools for specific purpose but majority of them employed General AI for their academic activities over Narrow AI and other types of AIs, while, majority of the respondents answered sometimes for personal views as to the impact of the utilization of AI-based tools on the student's academic performance on how often they used AI-based tools, likewise, majority responded moderately on what extent they believed that AI-based tools have improved their academic performance. Findings also showed the moderate positive impact of using AI-based tools for the ability of completing assignments on time. On the other hand, neutrality along with agree responses prevailed as to how AI-based tools helped identify and improved areas of weaknesses in the respondent's studies. Finally, findings unveiled moderately positive impact of using AI-based tools for achieving learning goals. In conclusion, the study highlights a moderate yet positive perception of AI's impact on student academic performance. While, majority of students reported using AI tools occasionally, they recognized the significant role these tools play in improving assignment completion, identifying academic weaknesses, and enhancing overall learning goals. These findings suggest that AI-based educational tools have a valuable, though moderate, influence on student learning outcomes, emphasizing the need for continued integration and optimization of AI in educational environments to further support academic success.....

Keywords AI-Driven Educational tools, perceived assessment, academic performance, Cebu City, Philippines..

Rationale:

In recent years, the integration of artificial intelligence (AI) into educational settings has rapidly transformed the academic landscape. As AI technologies continue to advance, they hold the potential to significantly enhance learning outcomes and reshape traditional educational practices. The advent of artificial intelligence (AI) heralds a transformative paradigm shift to education. Artificial intelligence (AI), known by some as the industrial revolution (IR) 4.0, is going to change not only the way things are done, how people relate to others, but also what individuals know about themselves [1]. This AI has the potential to revolutionize the way people learn and teach, making it more personalized, engaging, and efficient. AI in education refers to the use of artificial intelligence technologies, such as machine learning and natural language processing, to enhance the learning experience [2]. The emergence of big data, cloud computing, artificial neural networks, and machine learning has enabled engineers to create a machine that can simulate human intelligence [3]. Rapid advancements in big data and artificial intelligence (AI) technologies have had a profound impact on all areas of human society including the economy, politics, science, and education [13]. In addition, AI- aided education, includes intelligent education, innovative virtual learning, and data analysis and prediction. Based on observation, AI is very powerful and has the potential to permeate and heavily cause changes in different sectors of the society, with the education sector being one that is likely to be majorly impacted by AI. Indeed, from the different articles reviewed, it is evident that AI has been adopted and applied in the education sector, where it has fostered improvements in different areas of the sector [4]. Using of AI in education can have a dramatic impact on the way academic and administrative

staff use their time and the manner in which students are served individually [5]. Furthermore, Artificial intelligence is already altering the world and raising important questions for society, the economy, and governance [6].

Several studies have found that university students have broadly positive attitudes and perceptions towards GenAI predicated on knowledge of the many educational affordances GenAI can offer (Chan & Zhou, 2023; Firat, 2023), and this base positivity appears to be common across different cultures and backgrounds (Yusuf et al., 2024) [7]. Additionally, Artificial Intelligence (AI) has the potential to address significant challenges in education, innovate learning and teaching practices and achieve SDG 4 [8]. This has likewise aroused a growing interest in education [9]. It was also found out that from the different articles and studies reviewed, it is evident that with technological innovations and advancements, computers and computer related technologies, and other innovations have encouraged the development of artificial intelligence, which has permeated different sectors of the society, and will potentially have a major impact on different industries in which it is used. One of these areas in which AI has been applied, and is resulting in a major impact, is the education sector [12]. By and large, as a foundation, and basis for understanding how AI has impacted education, a definition and description of AI was deemed essential. However, existing literature often overlooks the behavioral aspects of students regarding AI in education, focusing predominantly on technical and pedagogical dimensions [8]. While technology may provide numerous advantages to education, it is crucial to recognize that it must be utilized in combination with a well-designed curriculum and competent pedagogy in order to be genuinely successful [10]. Moreover, further conceptual and methodological understanding is needed to advance the systematic implementation of these AI's approaches [11]. Indeed, as adduced from the different sources reviewed and analyzed, the uptake and use of AI in education have taken various forms [12].

This study explores the growing impact of AI on academic performance, considering both its benefits—such as personalized learning, automated assessments, and access to vast resources—and the challenges it presents. Capitalizing the demographic profile of the respondents in terms of age and gender, types of AI tools used for academic purposes and student respondent's personal views as to the impact of utilization of AI on their academic performance. By examining how AI impacts students' academic performance among the selected college students of Cebu Technological University-Main Campus, this study aims to provide insights into how educational institutions like CTU can effectively incorporate AI to optimize learning experiences and outcomes which is the utmost interest of this study.

Literature Review:

Artificial intelligence is a field of study and the resulting innovations and developments that have culminated in computers, machines, and other artifacts having human-like intelligence characterized by cognitive abilities, learning, adaptability, and decision-making capabilities [3]. The rapid advancement of artificial intelligence (AI) technologies has led to a transformation in higher education worldwide [14]. Changes in the demands of education require innovation and creativity in the learning process with the development of Artificial Intelligence (AI) in the field of education to help process daily activities including teaching and learning [15]. Existing technologies also have the capacity to provide intelligent support to learners working in a group, and to create authentic virtual learning environments where students have the right support, at the right time, to tackle real-life problems and puzzles [16].

With the continued application or use of information technology, it is inevitable that it has impacted the education in different ways [3]. In the near future, it is expected that teaching and learning will increasingly be supported by the thoughtful application of AIED tools [16]. Recent developments in Artificial Intelligence (AI) have generated great expectations for the future impact of AI in education and learning (AIED) [17]. Often these expectations have been based on misunderstanding current technical possibilities, lack of knowledge about state-of-the-art AI in education, and exceedingly narrow views on the functions of education in society [17].

On the other hand, research findings underscore the significant advancements facilitated by AI technologies in enhancing educational outcomes, increasing access to quality education for marginalized populations, and promoting socio-economic mobility [18]. However, in the educational landscape, Christensen (1997:8) notes that the successful use of technology in the classroom highly dependent on teacher's attitudes towards computer as well as expertise and experience in the use of technology [19]. Further, the rapid rise of new AI technologies may negatively affect the labor market in the short term, and we will need to re-design our education systems that were intended to be optimal for the modern industrial society [20]. A study also unveils that, there are also two views or sentiments among the netizens about AI, the positive sentiment related to AI will help people, AI can solve complex problems, increase accuracy, and help decision-makers. However, the negative sentiments toward AI such as AI replacing human intelligence, AI creating dangerous weapons, AI supporting data manipulation, and making people dependent on machines [22]. Additionally, a study concludes with a call to embed consideration of the benefits and risks of AI in education as technology tools into the development, marketing and deployment of these tools. Hence, there are questions around who – which body or organization – should take responsibility

for regulating AI in education, particularly since AI impacts not only data protection and privacy, but on fundamental rights in general [23].

Methodology:

This study utilized a descriptive survey method to explore the respondents' demographic profile, and personal views, particularly in relation to their use of artificial intelligence (AI) tools on student's academic activities. It also examined respondents' perceptions of their engagement with technology through the use of AI tools. Only 50 respondents were utilized in the study employing the quota sampling. The respondents are students from Cebu Technological University-Mian Campus, Cebu City, Cebu Province, Philippines.

A researcher-developed survey questionnaire was employed, which underwent a pilot testing to ensure its validity, reliability, and usability. The instrument was divided into two sections: (1) demographic profile and personal views as to the impact or extent of utilization of artificial intelligence or AI on the respondent's academic performance.

Results and Discussion:

This portion presents the results and discussion of data gathered. Basically, disclosed the data collected and provided with analysis, interpretations, and implications.

Respondent's Demographics

Respondent's demographic profile unveils that 17 out 50 or 34% of the respondents belonged to the age range of 21, 14 or 28% belonged to the age range of 22, 9 or 18% belonged to 20 age range, 5 or 10% belonged to the age range of 23, 2 or 4% belonged to the age range of 24, and 1 or 2% for age range of 18, 19, and 28. Data showed that majority of the respondents belonged to the threshold age of 21 followed by ages of 22, 20, 23, 24, 18, 19, and 28 bracket. This means that respondents of the study definitely belonged to the tertiary level based on their age range which implies that the targeted respondents of the study were met. Although the captured respondents were taken based on the quota sampling mode.

On the other hand, 32 or 64% out 50 respondents were females and 18 or 36% were males. Hence, majority of the respondents who answered the questionnaire were female and followed by males. The distribution of the questionnaire was not selective in terms of gender since the sampling technique used was a quota sampling. Thus, it depends on the first come basis based on the quota. However, majority who responded were females. This means that female respondents came ahead over males and gave their affirmation on the research request.

Furthermore, data gathered disclosed that respondents used different types of AI-based tools for their academic activities. Specifically, 27 out of 50 or 54% of the respondents utilized General AI either ChatGPT, Alexa, supercomputer such as weather forecasting, aviation and etc., 11 or 22% used Narrow AI either image recognition, self-driving car, internet searches, and AI virtual assistance, and 12 or 24% opted not to mention their AI-based tools. Further these data impart that majority of the respondents utilized the General AI and followed by Narrow AI, although some did not specify their AI tools used, knowing that this was based on discretionary inputs of the respondents. This can be construed that AI-based tools have been slowly considered now an alternative means for academic activities of the student's respondents, which explicitly implies that the used of AI-based tools is noticeably captured the majority of the respondents for any specific purpose. With this gradual fascination of students using the AI, future careers will become increasingly interdisciplinary as students work with the various components that are part of AI, like robotics, cognitive systems, and machine learning [25]. On the other hand, educators have the opportunity to model openness to learning and teaching more than one subject domain, since machines are often specific to a particular domain, humans have the ability to cross domains and create applications across fields [25].

Personal views of the respondents as to the impact or extent of utilization of artificial intelligence on their academic performance in terms of frequency of using AI-based tools, extent of Using AI-Based Tools in Improving Academic Performance, and how AI impacted the Ability to complete assignment on time**Frequency of Using AI-Based Tools**

This section presents the personal views of the respondents as to the impact or extent of utilization of artificial intelligence on their academic performance in terms of frequency of using AI-based tools. Based on the data collected it reveal that 31 out of 50 or 62% of the respondents answered *Sometimes* which means that respondents used AI-based tools occasionally, but not consistently; usage may vary depending on specific needs, while, 11 or 22% answered *Often* which means that respondents used AI-based tools in their activities, though not at all times, 5 or 10% replied *Rarely* which means that respondents used AI-based tools infrequently, possibly only a few times in a month or less, and 3 or 6% responded *Always* which conveyed that respondents consistently or almost exclusively relies on AI-based tools in their tasks. Largely, the data suggest that AI-based tools were not used consistently by the respondents, over those using the AI-based tools more often. This implies that academic

activities of the respondents were not really tainted and dependent on with the used of AI-based tools. As such, research finding says, overreliance on AI tools appears to hinder critical facets of student development, including study habits, emotional well-being, social interactions, and critical thinking [31]. Furthermore, the convenience of AI risks fostering passive learning behaviors, reducing interpersonal communication, and promoting emotional and social detachment [31].

Extent of Using AI-Based Tools in Improving Academic Performance

Artificial intelligence plays a major role in our day-to-day life [24]. Thus, this study on personal views on the impact or extent of utilization of artificial intelligence or AI are likewise play an integral part to ascertain how AI-tools have impacted the student's life. Henceforth, this section articulates the personal views of the respondents as to the impact or extent of utilization of artificial intelligence using AI-based tools in improving Academic Performance.

Based on the data collected, 21 out 50 or 42% of the respondents answered **Moderately** which means that AI-based tools have provided noticeable support leading to some improvement in the respondent's academic performance. On the other hand, 13 or 26% of the respondents responded that AI-based tools have **Significantly** impacted, which means that AI tools have enhanced academic performance with clear improvements in understanding their subjects. While, 12 or 24% of the respondents answered **Slightly** which means that AI-based tools have had minimal impact, with only a small improvement in understanding their subjects. Additionally, 2 or 4% ticked **Extremely** which means that AI-based tools have been essential to academic success and making a substantial or transformative impact on the respondent's subject's comprehension. Finally, 2 or 4% of the respondents marked **Not at all** which means that AI-based tools have not contributed to any improvement in academic performance. A study imparts that, in spite of people's knowledge about the technology, people still might refuse to accept a technology out of personal or affective reasons, even though the technology is also beneficial for them [26].

By and large, the data showed that AI-based tools have moderately impacted in improving academic performance as perceived over other views. This implies that AI-based tools have slowly perceived as considerable tools for academic activities. Based on study, technology acceptance is a multi-factorial process. During this process a person, the (potential) user, evaluates whether they approve of the advertised technology based on several systemic, individual, and context-related influences [26].

How AI Impacted the Ability to Complete Assignment on Time

Articulated in this section the personal views of the respondents as to the impact or extent of utilization of artificial intelligence on their academic performance in terms of how AI impacted the ability to complete assignment on time. Data gathered disclosed that 21 out of 50 or 42% of the respondents marked **Moderate Positive Impact** during the conduct of the study, which means that AI-based tools have provided noticeable support, making the assignment completion somewhat easier and improving efficiency. While, 13 or 26% of the respondents answered **Slight Positive Impact** which conveys that AI-based tools have helped minimally, providing small benefits but not significantly affecting assignment completion time. Moreover, 12 or 24% of the respondents marked **Significant Positive Impact** which means that AI-based tools have greatly enhanced assignment completion, leading to a clear reduction in time and increased productivity. In concluding, 4 or 8% of the respondents ticked **Extremely Positive Impact** which means that AI-based tools have been crucial in completing assignments on time, significantly improving speed, organization, and efficiency. Generally, the data showed that majority of the responses have ticked on the **Moderate Positive Impact** of the AI-based tools over other responses. This means that the AI-based tools have progressively embraced as tools for completing assignments on time. This implies that AI-based tools have slowly captured the student's respondents as substantial tools for completing assigned tasks. Existing technologies also have the capacity to provide intelligent support to learners working in a group, and to create authentic virtual learning environments where students have the right support, at the right time, to tackle real-life problems and puzzles [27].

How AI-Based Learning Tools Helped and Improved Areas of Weaknesses in the Studies

Explicitly spelled out in this section the personal views of the respondents as to the impact or extent of utilization of artificial intelligence on their academic performance in terms of how AI-based learning tools helped and improved areas of weaknesses in the studies.

Basically, disclosed in the data collection that 22 out of 50 or 44% of the respondents answered **Neutral** which means that AI-based tools have had some effect, but their impact on identifying and improving weaknesses is unclear and inconsistent. Further, 21 or 42% of the respondents viewed **Agree** which imparts that AI-based tools have been helpful in recognizing and addressing weaknesses, leading to noticeable improvement. Additionally, 5 or 10% of the respondents marked **Strongly Agree** which means that AI-based tools have been highly effective in identifying weaknesses and significantly improving academic performance. Finally, 2 or 4% of the respondents

answered *Disagree* which means that AI-based tools have had little impact, with minimal assistance in recognizing or improving weak areas. Basically, the data showed that majority of the respondents viewed neutral along with agreeing the impact of AI-based tools in helping and improving areas of weaknesses in their studies. This implies that AI-based tools have progressively viewed as considerable tools for addressing academic weaknesses. Hence, given the rapid evolution of technology and its infusion into various sectors of life, it is difficult to ignore its undeniable impact on educational paradigms [28]. Likewise, Loeckx [8] suggested that AI could be an effective learning tool that lessens the burdens of both teachers and students and offers effective learning experiences for students [3].

How AI has Impacted Learning Goals

Distinctively presented in this section the personal views of the respondents as to the impact or extent of utilization of artificial intelligence on the academic performance in terms of how AI has impacted learning goals. Based on the data gathered, 21 out 50 or 42% of the respondents marked *Moderately Positive Impact* which means that AI-based tools have provided noticeable support, helping refine learning objectives and improve progress to some extent. While, 16 or 32% of the respondents viewed *Slightly Positive Impact* which conveys that AI-based tools have a minimal effect, offering small benefits but not significantly shaping learning goals. Moreover, 11 or 22% of the respondents ticked *Significantly Positive Impact* which imparts that AI-based tools have played a major role in enhancing learning goals, improving focus, motivation, and achievement. Ultimately, 2 or 4% of the respondents marked *Extremely Positive Impact* which means that AI-based tools have been transformative in shaping and achieving learning goals, making a substantial and lasting impact. Generally, the data disclosed that majority of the respondents perceived that AI-based tools have *Moderately Positive Impact* on the learning goals over other responses. This implies that deliberately the student's respondents have utilized the AI-based tools for achieving their learning goals and have impacted in different levels. Based on research, AI does not only impact what students learn through recommendations, but also how they learn, what are the learning gaps, which pedagogies are more effective and how to retain learner's attention [29]. Additionally, AI algorithms and technology can then help to leverage faster, more nuanced and individualized scaffolding for learners [30].

Findings:

Findings of the study have revealed that respondents used variety of AI tools for specific purpose but majority of them employed General AI for their academic activities over Narrow AI and other types of AI, while, majority of the respondents answered *sometimes* for personal views as to the impact of the utilization of AI-based tools on the student's academic performance on how often they used AI-based tools, likewise, majority responded *moderately* on what extent they believed that AI-based tools have improved their academic performance. Findings also showed the *moderate positive impact* of using AI-based tools for the ability of completing assignments on time. On the other hand, *neutrality along with agree* responses prevailed as to how AI-based tools helped identify and improved areas of weaknesses in the respondent's studies. Finally, findings unveiled *moderately positive impact* of using AI-based tools for achieving learning goals.

Conclusion:

In conclusion, the study highlights a moderate yet positive perception of AI's impact on student academic performance. While, majority of students reported using AI tools occasionally, they recognized the significant role these tools play in improving assignment completion, identifying academic weaknesses, and enhancing overall learning goals. These findings suggest that AI-based educational tools have a valuable, though moderate, influence on student learning outcomes, emphasizing the need for continued integration and optimization of AI in educational environments to further support academic success..

References

1. Tzu Chi Med J. 2020. The impact of artificial intelligence on human society and bioethics. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7605294/>
2. Harry Alexandra. 2023. Role of AI in Education. <https://injury.pusatpublikasi.id/index.php/inj/article/view/52>
3. Chu, Xuesong Zhai, Chu, Xiaoyan, Chai, Ching Sing; et al. .2021. A Review of Artificial Intelligence (AI) in Education from 20210 to 2020 <https://onlinelibrary.wiley.com/doi/full/10.1155/2021/8812542>
4. Chen, Lijia, Chen, Pingping; Lin, Zhijian. 2020. Artificial intelligence in Education: A Review. <https://ieeexplore.ieee.org/abstract/document/9069875>
5. Ahmad, Sayed Fayaz, Alam, Muhammad Mansoor, et al. 2022. Academic and Administrative Role of Artificial Intelligence in Education

- <https://www.mdpi.com/2071-1050/14/3/1101>
6. Uno, I. A., Otu, O. D., Obaji-Akpet, I. O., Nwagboso, C. I., Eja, T. R., Awubi, E., & Ukume, G. D. 2024. Artificial Intelligence and Academic Research: Understanding the Potential and the Threats to Academic Writing <https://iannajournalofinterdisciplinarystudies.com/index.php/1/article/view/282>
 7. Ngo, Thu Ngan; Hastie, David. 2024. Artificial Intelligence for Academic Purposes (AIAP): Integrating AI literacy into an EAP module. <https://www.sciencedirect.com/science/article/pii/S0889490624000504>
 8. Singh, Ekamdeep, Vasishta, Prihana; Singla, Anju. 2024. AI-enhanced education: exploring the impact of AI literacy on generation Z's academic performance in Northern India. <https://www.emerald.com/insight/content/doi/10.1108/QAE-02-2024-0037/full/html>
 9. Martinez, Immaculada G., Batanero, Jose Maria F., Cerero, Jose F.; Leon, Samuel P. 2023. Analyzing the Impact of Artificial Intelligence and Computational Sciences on Student Performance: Systematic Review and Meta-Analysis. <https://link.springer.com/article/10.7821/naer.2023.1.1240>
 10. Tzenios, Nikolaos. 2020. Examining the Impact of EdTech Integration on Academic Performance Using Random Forest Regression <https://www.researchberg.com/index.php/rrst/article/view/84>
 11. Hernandez, Carlos Filipe R., Musso, Mariel, Kyndt, Eva, Cascallar, Eduardo. 2021. Artificial neural networks in academic performance prediction: Systematic implementation and predictor evaluation. <https://www.sciencedirect.com/science/article/pii/S2666920X21000126>
 12. Chen, Lijia, Chen, Pingping; Lin, Zhijian. 2020. Artificial Intelligence in Education: A Review. <https://ieeexplore.ieee.org/abstract/document/9069875>
 13. Luan, Hui, Geczy, Peter, Lai, Hollis, et al. 2020. Challenges and Future Directions of Big Data and Artificial Intelligence Education <https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2020.580820/full>
 14. Dahri, Nisar Ahmed, Yhaya, Noraffandy, Rahmi, Waleed Mugahed Al. et al. 2024. Investigating AI-Based Academic Support Acceptance and Its Impact On Students' performance In Malaysian and Pakistanin Higher education. <https://link.springer.com/article/10.1007/s10639-024-12599-x>
 15. Tira Nur Fitria. 2021. Artificial Intelligence (AI) In Education: Using AI Tools For Teaching And Learning Process. https://www.researchgate.net/publication/357447234_Artificial_Intelligence_AI_In_Education_Using_AI_Tools_for_Teaching_and_Learning_Process
 16. Holmes, Luckin, R, W; 2016. Intelligence Unleashed: An argument for AI in Education <https://discovery.ucl.ac.uk/id/eprint/1475756/>
 17. Holmes, Wayne; Tuomi, Iikka. 2022. State of the art and practice in AI in education. <https://onlinelibrary.wiley.com/doi/full/10.1111/ejed.12533>
 18. Nuary, Muhammad Guruh, judijanto, Loso, Nurliyah, Elly Siti, et al. 2022. Impact of AI in Education and Social Development through Individual Empowerment <https://edujavare.com/index.php/JAI/article/view/301>
 19. Guilherme, Alex. AI and Education. The Importance Teacher and Student Relation. 2017. <https://link.springer.com/article/10.1007/s00146-017-0693-8>
 20. Arai, Noriko; Matsuzaki, Takuya. 2014. The impact of A.I. on education – Can a robot get into The University of Tokyo? <https://library.apsce.net/index.php/ICCE/article/view/858>
 21. Subaveerapandiyan A., Vinoth A.; Tiwary, Neelam. 2023. Netizen, Academicians, and Information Professionals' Opinions About AI With Special Reference to ChatGPT. <https://philpapers.org/rec/ANAAFT>
 22. Dessy Harisanty, Nove Eka V. Anna, Rahma Sugihartati, Koko Srimulyo, & Mohd Faizal Bin Hamzah 2024. Netizen Views on Artificial Intelligence: A Social Media Content Analysis. <https://kurdishstudies.net/menu-script/index.php/KS/article/view/609>
 23. Berendt, Bettina, Littlejohn, Allison; Blakemore, Mike. 2020. AI in education: learner choice and fundamental rights. <https://www.tandfonline.com/doi/abs/10.1080/17439884.2020.1786399>
 24. Paruvathavardhini J., Menaga, S., Gomathi, N., Karthikkumar, S., Brindha, S. 2020. A Study Depicting The Advent of Artificial Intelligence In Health Care. https://dlwqtxts1xzle7.cloudfront.net/66106167/EJMCM_Volume_7_Issue_11_Pages_131_146-libre.pdf?1616754386=&response-content-disposition=inline%3B+filename%3DA_STUDY_DEPICTING_THE_ADVENT_OF_ARTIFICI.pdf&Exp

- res=1739248727&Signature=JKo-0x8kNhDxoKWq6moe8P9FxiKetsNnXMNnQpoxYWghMKbUWNlbcnVA5ngZ~OZV1qaStHW6q98H9f1cP6eLq9S61AezQrbl~GlAt5sgm0K5a0vujI0GJEP1l3uM71peokVli0L3iSbSplXHh6w~1AuNW49BgyaiSwD4PNicN8sWhr1bYIbfDMYpBzNGCTUWiB20WDgBqlxU6at2kG0IdpNZXxN19NAZwpAzIZ1p4PcYiwuenA5mBiwjyLrVguDwApb7s26pzLEpjoo~w~rcp4gEHoFvJhgic3D6~TrNfpvm5uoO0uYPT-o6IDWfynKM-5C77QESPoJPzyg6R0g__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA
25. Zimmerman, Michelle. 2018. Teaching AI, Exploring New Frontiers For Learning. https://books.google.com.ph/books?hl=en&lr=&id=ATuAEAAAQBAJ&oi=fnd&pg=PP1&dq=Study+on+how+students+fascinated+the+used+of+AI&ots=2V4SLWdMGN&sig=mjRj_rv4DaoHHrrrWTyVdASCqz0&redir_esc=y#v=onepage&q=Study%20on%20how%20students%20fascinated%20the%20used%20of%20AI&f=false
26. Alexander Hick and Martina Ziefle. 2022. A Qualitative Approach To The Public Perception Of AI. <https://ijciconline.com/paper/11/11422ijci01.pdf>
27. Holmes, Luckin, R.. 2016. Intelligence Unleashed: An argument for AI in Education. <https://discovery.ucl.ac.uk/id/eprint/1475756/>
28. Nguyen, Andy, Hong, Yvonne, Dang, Belle; Huang, Xiaoshan. 2024. Human-AI Collaboration Patterns in AI-assisted Academic Writing. <https://www.tandfonline.com/doi/full/10.1080/03075079.2024.2323593>
29. Chaudhry, Muhammad Ali; Kazim, Emre. 2021. Artificial Intelligence in Education (AIED): a high-level academic and industry note 2021. <https://link.springer.com/article/10.1007/S43681-021-00074-Z>
30. Luckin, Rosemary; Cukurova, Mutlu. 2019. Designing educational technologies in the age of AI: A learning sciences-driven approach <https://bera-journals.onlinelibrary.wiley.com/doi/abs/10.1111/bjet.12861>
31. Khalkho, Rachel, Singh, Savita; Gupta, Nidhi. 2024. Impact of Educational AI on Students' Studying Habits and Academic Performance <https://ieeexplore.ieee.org/abstract/document/10882178>