Innovations

Unraveling the Digital Dilemma: A Contemporary Examination of Artificial Intelligence's Influence on Study Habits

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Abstract: *This literature review explores the multifaceted impact of artificial intelligence (AI), with a focus on ChatGPT, on the literary creativity of Filipino students and its broader implications in education. It uncovers diverse perspectives on the role of AI, highlighting both its potential benefits and associated risks. The proliferation of AI tools like ChatGPT has prompted educators to adopt measures to combat academic dishonesty, reflecting mounting concerns within academic circles. Moreover, the review delves into a conservative stance prevalent in Philippine education, which views AI as a supplementary rather than a substitute for human input, emphasizing its limitations in replicating human sensibilities. Despite AI's capacity to enhance learning experiences through personalized learning and intelligent tutoring systems, concerns arise regarding over-standardization and the potential erosion of critical thinking skills. Additionally, the review examines AI's application in creative writing, discussing its role in providing assistance and improving students' writing proficiency. The discussion section analyzes the implications of AI on learner-instructor interaction, emphasizing AI's role in providing real-time responses and personalized feedback while addressing concerns such as test-taking anxiety and reduced creativity. Overall, the abstract underscores the transformative potential of AI in education while emphasizing the importance of addressing challenges related to equity, academic integrity, and the preservation of creativity to prepare students for the demands of the modern workforce effectively.*

Key words:*Artificial Intelligence, Education, ChatGPT, Creativity, Academic Integrity*

Introduction

AI is a rapidly advancing domain focused on crafting algorithms and computer systems capable of emulating human intelligence. This encompasses tasks like speech recognition, natural language understanding, decision-making, and gaming. A pivotal advancement within AI is machine learning, where algorithms learn from data to enhance their performance progressively. Deep learning neural networks, a subset of this, have propelled breakthroughs in various domains including image and speech recognition, language translation, and gaming. Another realm where AI shines is computer vision, enabling algorithms to comprehend and analyze images and videos. Consequently, systems can classify images, identify objects and faces, and even generate new visuals. Despite these achievements, challenges persist, notably in the interpretability of AI models and concerns regarding potential negative impacts such as job displacement and societal inequalities.

Artificial Intelligence (AI) is finding its way into education more and more, changing how students learn. According to (Khalaf et.al, 2021) good study habits enhance academic performance, aid in understanding and retention of course material, and assist students get ready for tests. A person regularly patterns and behavior when studying is known as their study habits. During school, students acquire efficient study techniques. (UNESCO, 2023), emphasize the importance of applying AI education context while adhering to the fundamental principles of inclusion and equity. UNESCO aims to broaden the discourse surrounding AI by acknowledging its role in addressing existing disparities related to knowledge accessibility, research opportunities and, cultural diversity.

Moreover (Ammade et.al, 2018) stated that the significant improvements in study habits have resulted from the use of technology in the classroom, including change in how student learn. Study habits have advanced significantly in the modern era of technology enhance education, including the use of digital none-taking tools. (Belson et.al, 2013), interactive study aids (Halwani, 2017), self-directed learning (Adi et.al, 2022)and online collaborative environments (Esposito De Falco et.al, 2017).While peer interaction and corporation are encouraged on online collaborative content (Mahmud and Wong, 2018) these developments haveenhanced learning outcomes and engagement (Mcdonald et.al, 2014) among other feature of the digital Age. (Ouyang et.al, 2022) argued that in order to provide intervention for students who are at risk of disengagement or subpar performance, artificial intelligence (AI) system can also be utilized in higher education for performance tracking and performance tracking and performance prediction.

On the other hand, by creating individualized learning experiences, automating repetitive chores, and providing insights into student performance, artificial intelligence (AI) is being utilized to close gaps in students' study habits. Artificial intelligence (AI) systems can produce collaborative study aids, personalized study timetables, and knowledge- gap-focused flashcards.

Additionally, this may determine the best time and spacing for going over the content using tried-and-true methods like spaced repetition. According to (Harold K. et.al, 2023) of course there are additional advantages that may have been included. When leaders talk about the advantages of new techniques, they frequently emphasize the short term or present rather than the long term. Decision – making standards appear to be more focused on how artificial intelligence (AI) might affect and benefit the economy or competitive landscape in the present than on the more far – reaching effects that this technology might have down the road.Significantly, a number of advantages and difficulties come with incorporating artificial intelligence (AI) into university students' studyhabits. By adjusting lessons and materials to each university student's needs, giving immediate feedback, and boosting evaluation efficiency, artificial intelligence (AI) personalizes learning.

In addition to automating administrative chores like assignment grading, feedback provision, and plagiarism detection, artificial intelligence (AI) can also be used to generate social media connections, tutorials, and virtual assistants—all of which promote cooperation and teamwork. Since AI creates job opportunities in the fields of AI and related technologies, study habits of students must engage in continuous learning and develop digital skills to prepare for their changing labor market.However, AI's impact on education raises concerns about privacy, security, and the development of social and emotional skills. To educate students study habits for their needs and problems brought about by technological advancement and the widespread usage of AI, education must be adjusted to changing occupations.

Hence, AI-powered automated grading systems can evaluate and provide feedback on assignments, quizzes, and exams quickly, allowing students to understand their strengths and weaknesses in real-time (Robert et.al, 2024). This timely feedback encourages self-reflection and enables students to make the necessary improvements, leading to improved learning outcomes. This is just one of the many important advantages of AI in education.

Consequently, the study (Jana Mayer et.al, 2023) states that nearly two-thirds of students use AI-based technologies in their academic pursuits, with ChatGPT or GPT-4 being the most commonly used tools. These technologies are primarily used

by students studying engineering, mathematics, and natural sciences for clarification of understanding and explanation of subject-specific ideas. The study of (Sharples, 2022) argued that ChatGPT recently generated a great deal of attention. Numerous are looking into the impact on students spend their time studying. When using OpenAI and ChatGPT to write an academic paper, users found that the AI chatbot produced well-organized and educational content. Thus, it gives more time for students to study and do other stuff. This opportunity may cause distraction among students which thereof, be a disruption in their study habits (Sebullen, 2023).

Furthermore, students showed a high degree of AI self-efficacy as well as moderate levels of AI trust and attitude toward AI. According to the mediation study, college students' attitudes toward AI and their level of AI self-efficacy are significantly influenced by their level of AI trust (Obenza et.al, 2023) Moreover, AI has the potential to revolutionize education through personalized learning, intelligent tutoring systems, and automated administrative tasks (Abel Guerra, 2023). It can analyze student study habits progress, automate tasks, provide instant feedback, and create immersive learning experiences. Embracing AI in education can help students thrive in a technology-driven future. AI has the potential tobe useful, educational tool, reducing the workload on both teachers and students while fostering more effective environment for learning.

Whereas, an perceive opportunity and threat if not uses properly (Bernardo, 2020). Hence, in the study AI enables teachers to pinpoint students' knowledge gaps and give personalized feedback to enhance learning outcomes. Teachers may help students stay motivated and engaged outside of the classroom by offering them instant support and guidance using chatbots and virtual assistants driven by artificial intelligence. Teachers can use AI to recognize difficult kids early on and give them the specialized support they need to succeed. Recognizing the factors that influence students' attitudes can affect how schools operate in the realworld and stimulate additional study.

Nonetheless, AI can improve the evaluation process by giving students immediate, tailored feedback. Students get rapid feedback on their assignments, quizzes, and examinations using AI-driven assessment tools and automated grading systems. AI systems are able to assess answers, pinpoint areas in need of development, and provide customized recommendations for additional education. Students can monitor their progress, develop a growth attitude, and pursue continual improvement with the support of this immediate feedback. This literature review offers comprehensive details on AI initiatives, emphasizing their life cycle, traits, functions, and stakeholders. It highlights the ethical obligations of teams,

supervisors, owners of projects,and operational organizations. It also makes use of the urgency and damage characteristics of the stakeholder salience model, as well as the roles of passive and representational stakeholders (Miller, 2022). Decisions that are made without taking the future in to account can have detrimental effect on an organization's future and its relationships with its stakeholders. Stakeholders in the context can include workers, clients, consumers, suppliers, and community members in general. Stakeholders may be affected by a project, have an interest in it, or have the power to influence its success.

Review of Related Literatures

Artificial Intelligence

The use of artificial intelligence (AI) is becoming increasingly prevalent in various fields due to its impact, particularly in the setting ofhigher learning. AI-powered resources have significantly changed schooling in the twenty-first century (Mollick and Mollick, 2022). As artificial intelligence (AI) develops, more and more scientists are looking into how it might improve and promote mental health and wellness. AI has the potential to offer insightful information and helpful support to universities and communities looking to enhance their mental health and wellbeing because of its capacity to process vast volumes of data and make complicated judgments (D'Alfonso, 2020). Therefore, this would free to us to focus on creating policies and tactics aimed at enhancing Learning outcomes, particularly in disciplines like economics that have a wealth of theories and models that call for extensive reading, research, and quantitative data analysis in order to attain academic success.

Three-Level Model for AI Enhanced Learning

The Three-Level Model for AI-Enhanced Learning is introduced, amalgamating insights from cognitive psychology, constructivism, social learning theory, and AI technology (Kasirye, 2021). This model aims to explore the potential of AI in enhancing learning experiences across diverse educational contexts.In a nutshell, Level 1, Cognitive Processes Enhancement, the study delves into how AI can enhance individual cognition by tailoring support to meet the specific needs of learners (Khanduri, 2023). The deployment of adaptive learning systems, intelligent tutoring systems, and recommendation algorithms to personalize content based on learners'prior knowledge, learning styles, and performance data is investigated. The research aims to uncover how these tools contribute to the development of critical thinking, problem-solving skills, and self-regulated learning strategies (Güngör, 2020).

In addition, Level 2, focuses on Constructivist Approaches, where the research investigates the role of AI in facilitating active engagement with information to

construct meaning (Miller, 2022). Exploration is made into how AI-driven collaborative learning activities, virtual simulations, and interactive media deepen conceptual understanding and foster higher- order thinking. For instance, the effectiveness of AI-powered chatbots or virtual agents in facilitating discussions, debates, and role-play scenarios to encourage practical application of learned concepts is examined (Gao, 2023).

Finally, at Level 3, Social Learning Environments, research delves into how AI supports the establishment of communal learning communities. The role of AI in enabling student interaction, idea exchange, and collaboration through platforms such as online discussion boards, group project management tools, and peer assessment applications is examined (Raman et. al, 2023). Moreover, investigation is made into how AI contributes to creating inclusive environments by identifying and addressing potential barriers related to diverse backgrounds, learning preferences, and accessibility requirements. Thus, the research proposes the Three-Level Model for AI-Enhanced Learning as a comprehensiveframework for integrating AI into educational settings (Halton, 2023). By exploring the impact of AI on individual cognitive processes, constructivist methodologies, and social learning environments, the study aims to revolutionize pedagogy, ultimately offering more effective and engaging educational experiences for all students (David, 2021).

Learner–Instructor Interaction Framework (LIIF)

In research on the Learner–Instructor Interaction Framework (LIIF) within online learning, the aim is to explore how artificial intelligence (AI) integration can enhance student engagement and success. Building upon existing research, the key components of LIIF are elucidated, emphasizing AI's role in providing real-time responses, personalized suggestions, and adaptive assessments (Kerzner, 2023).

In addition, real-time responses are crucial in maintaining learner motivation and comprehension during interactive activities like discussions or problem-solving sessions. AI systems offer instantaneous feedback, fostering a sense of support as students navigate course content independently. Personalized Suggestions leverage AI algorithms to analyze individual data patterns, tailoring recommendations for study materials, resources, and strategies to meet each learner's unique needs and preferences. This personalized approach enhances the learning experience, making it more engaging and effective (Lee, 2020).

Moreover, adaptive Quizzes utilize machine learning techniques to adjust assessment questions based on an individual's performance level.This ensures an optimal challenge for learners, promoting continuous improvement through

immediate formative feedback. However, despite the benefits of AI integration, LIIF acknowledges several challenges (Long and Magerko, 2023). Over standardization, for example, may limit creativity and flexibility in teaching methods as educators rely heavily on predefined AI rules and templates. Additionally, misperceptions about AI capabilities may lead to unrealistic expectations, overlooking its role as a supportive tool rather than a standalone solution (Murphy, 2019).

Hence, to mitigate these challenges, researchers advocate for collaborative relationships between instructors and AI developers, promoting ongoing communication and collaboration throughout the design process. Instructors should also remain cognizant of AI limitations and continue honing essential interpersonal skills, such as empathy and active listening, to complement technological advancements in education (McArthur, 2020).

Influence of AI to Students Study Habits

The influence of Artificial Intelligence (AI) on students' study habits is multifaceted. AI-powered educational tools have the potential to revolutionize learning by offering personalized experiences, adapting to individual needs and preferences, and providing instant solutions to multiple-choice questions, among other benefits (Guera, 2023). However, empirical studies on the actual impact of AI on study habits are limited, leaving much of the topic shrouded in uncertainty. For instance, whiletools like Proctorio aim to prevent cheating by monitoring students during exams, they can inadvertently increase test-taking anxiety and create discomfort among students. Similarly, standardized support from AI systems may hinder effective learning (Salido, 2023).

Conversely, AI tutoring systems can offer personalized guidance and feedback by tailoring content to individual learning patterns. Moreover, AI teaching assistants can streamline instructors' workload by addressing simple questions in online forums, allowing instructors to focus on more substantial tasks (Hwang et. al, 2020). AI analytics further contribute by providing insights into students' performance and progress based on their clickstream data. Overall, the impact of AI on students' study habits is nuanced and contingent upon the specific AI system and its implementation (Lee, 2020).

Usefulness of AI to Study Habits

The transformative potential of Artificial Intelligence (AI) in reshaping the educational landscape, particularly in how students learn, engage, and achieve academic excellence, is explored. AI stands poised to revolutionize learning by personalizing educational experiences, tailoring lessons to individual students'

needs, providing immediate feedback, and offering guidance (Perin and Lauterbach, 2018). Through AI-powered algorithms, educational platforms can customize learning materials and activities to cater to the unique requirements of each student. Furthermore, the integration of AI with virtual reality (VR) and augmentedreality (AR) technologies holds promise in creating immersive learning experiences. These simulations, personalized by AI algorithms based on individual learning needs, offer real-time feedback, fostering engaging and enduring learning encounters (Roll, Russell, and Gašević, 2018).

Moreover, AI extends its influence to assisting students in content creation, such as essays, presentations, or research papers. AI-powered content creation tools empower students to effectively express their ideas and refine their communication skills. Additionally, AI's predictive capabilities enable the identification of student success and the early detection of at-risk students who may require additional support (Ross et. al, 2018). By analyzing historical data and student performance patterns, AI algorithms provide educators with early warnings regarding potential challenges students may encounter.

However, amidst the promise of AI in education, concerns arise regarding its potential negative impacts on students, including the diminished human interaction and the potential erosion of critical thinking skills (Seo et. al 2020a). It is imperative to address these concerns and ensure equitable access to AI technologies, particularly for underrepresented populations who are often excluded from the latest AI advancements. Hence, by prioritizing inclusivity, AI
education can empower underrepresented communities to harness technologies for societal benefit, fostering positive change not only to the students in their study habits but also towards their school performance (Seo et. al., 2020).

Discussions

Uses of Artificial Intelligence on Students

According to Greene-Harper (2023), artificial intelligence (AI) has become increasingly popular in various sectors, including education. AI has recently entered the realm of education, offering personalized learning experiences for students and providing teachers with tools to monitor student progress and adapt their teaching strategies. AI-based learning platforms such as ChatGPT have gained prominence due to their ability to engage students in conversations akin to human teachers. Moreover, AI's application is acknowledged for its potential to improve educational

outcomes by offering faster and more effective learning methods. However, as AI integration in education expands, concerns arise regarding potential negative effects on learners. Some experts suggest that AI-based learning systems may hinder critical thinking skills and diminish human interaction, an essential aspect of the learning process.

Application of Chat GPT on Students

ChatGPT, an AI-powered chatbot, is under scrutiny for its effectiveness across diverse domains, from answering queries to composing emails, essays, poems, and even code. Despite its proficiency in providing general information, it's cognizant of its limitations and unable to replicate human thought processes. While AI holds promise in revolutionizing education by rendering it more personalized and accessible, there's a concern that it might diminish critical thinking and human interaction abilities. Moving forward, it's imperative to acknowledge these challenges and take proactive measures to mitigate them. When examining the potential impact of AI-driven technologies in education, it's crucial to address issues such as equitable access to information, the augmentation of human creativity through AI, and the ethical and constructive utilization of these technologies (Arriola, 2023).

Risks of Using Artificial Intelligence in Educating Students

Morron (2023) reports emerging concerns regarding the potential impacts of artificial intelligence (AI) on learning and creativity as its use in education expands. While AI holds promise in enhancing educational outcomes and the learning experience, there are apprehensions about its potential adverse effects on creativity and critical thinking.A significant concern is the potential for AI to standardize and automate the educational process, leading to a uniform approach that discourages individuality and creativity. AI's capability to process vast amounts of data and provide personalized recommendations based on student performance and preferences could inadvertently promote a one-size-fits-all teaching method that stifles creative thinking.

Furthermore, there is apprehension that AI may entirely replace human teachers, diminishing the human element in education. While AI can offer automated assistance and feedback, it may lack the understanding and empathy necessary to address the specific needs of individual learners. Ultimately, AI cannot fully substitute for teachers in fostering critical thinking and creativity among students.

Additionally, there are concerns that AI could be employed to replace creative endeavors such as writing or painting, potentially diminishing originality and

creativity. AI models like DALL-E, capable of generating realistic visuals from textual inputs, enable individuals to produce artwork without innate artistic talent. While beneficial for designers and artists, there's a risk that such tools may standardize artistic expression, inhibiting originality.

The literature review on the impacts of artificial intelligence (AI) on creative writing in educational settings explores the integration of AI technologies into writing courses to enhance students' creativity and writing skills. It discusses the use of AI tools like text editors, chatbots, and grammar checkers to provide real-time feedback, generate content, and improve students' writing proficiency. The review highlights the potential benefits of AI in fostering creativity by enhancing traits like curiosity and persistence, as well as its role in improving educational systems through personalized study regimens and effective lesson planning. Additionally, it addresses concerns such as online cheating and academic integrity in e-assessment, emphasizing the need to responsibly incorporate AI into education to prepare students for the modern workforce while ensuring academic integrity and creativity are maintained.

Finally, the sources provided discuss the impacts of artificial intelligence (AI) on creative writing in educational settings, focusing on how AI technologies can enhance students' creativity and writing skills. The benefits of AI to students' writing creativity are highlighted, emphasizing how AI can foster traits like curiosity, persistence, and attentiveness that are linked to creativity. Additionally, the sources discuss the potential of AI to improve educational systems through personalized learning pathways and effective lesson planning. The research delves into the use of AI tools like Grammarly to teach grammar effectively and provide explanations that enhance students' knowledge. Furthermore, the sources touch on the theoretical framework of accelerating change theory and the potential for AI to revolutionize education, albeit with challenges related to opportunity equity and the potential for a technological singularity. The research design section outlines a qualitative investigation using a case study approach to understand the impact of AI on students' creativity in educational settings, focusing on Grade 11 STEM students at the Technological Institute of the Philippines - Quezon City. Primary and secondary data sources, including in-depth interviews, are utilized to gather insights into the effects of AI on students' creative writing and its implications for education.

The advent of artificial intelligence (AI) has significantly transformed various aspects of education, fundamentally altering how students interact with learning materials and develop study habits. As AI technologies, such as intelligent tutoring systems, adaptive learning platforms, and automated grading tools, become more prevalent,

researchers have sought to understand their impact on educational practices. This literature review explores the current state of knowledge on AI's influence on study habits, highlighting the benefits, challenges, and ethical considerations associated with this digital transformation.

One of the primary benefits of AI in education is its potential to personalize learning experiences. AI-driven systems can analyze vast amounts of data to tailor educational content to individual students' needs, thereby promoting more effective and efficient study habits. For instance, adaptive learning platforms can adjust the difficulty of exercises based on a student's performance, ensuring that they are challenged at an appropriate level. Studies have shown that such personalized approaches can lead to improved academic outcomes, increased motivation, and enhanced engagement. Moreover, AI can provide instant feedback, allowing students to correct mistakes and understand concepts more quickly, which fosters a more interactive and dynamic learning environment.

Despite these benefits, the integration of AI in education is not without challenges. One significant concern is the potential for AI to exacerbate educational inequalities. Access to AI technologies often depends on socioeconomic factors, with students from wealthier backgrounds more likely to benefit from advanced AI tools. Additionally, the algorithms powering these systems may inadvertently perpetuate biases, leading to unfair outcomes for certain groups of students. Researchers have highlighted the importance of transparency in AI systems, advocating for the development of algorithms that are not only effective but also ethical and fair. The challenge lies in balancing the potential of AI to enhance learning with the need to ensure equitable access and treatment for all students.

Another critical aspect of the AI-education nexus is the ethical implications of data collection and privacy. AI systems often require large datasets to function effectively, raising concerns about the privacy of students' personal information. The ethical considerations around data collection, consent, and the potential misuse of data are increasingly prominent in the literature. Scholars argue for robust data protection measures and clear policies to safeguard students' rights. Furthermore, there is a growing discourse on the psychological impact of AI on students, particularly regarding dependency on technology and the potential reduction in critical thinking skills. As students increasingly rely on AI for study support, it is essential to examine how this reliance might affect their cognitive development and autonomy.

The literature also points to the dynamic and rapidly evolving nature of AI technologies as a significant challenge for researchers. The pace of technological advancement means that studies can quickly become outdated, necessitating continuous research to keep abreast of the latest developments. This dynamic landscape complicates the assessment of AI's long-term effects on study habits, as new technologies with different capabilities and limitations constantly emerge. Thus, while the current literature provides valuable insights into AI's influence on education, it also underscores the need for ongoing investigation and adaptation.

Lastly, the body of research on AI's impact on study habits presents a complex picture, characterized by both promising opportunities and significant challenges. The potential of AI to personalize learning and enhance educational outcomes is well-documented, yet concerns about equity, ethics, and the evolving nature of technology remain pressing issues. As AI continues to shape the educational landscape, it is crucial for researchers, educators, and policymakers to engage in a nuanced and critical examination of its implications, ensuring that the integration of AI in education serves to benefit all students equitably.

Conclusion

In conclusion, the widespread adoption of artificial intelligence (AI) in education has ushered in a transformative era of personalized learning and pedagogical innovation. AI-powered tools and frameworks, like the Three-Level Model and the Learner-Instructor Interaction Framework (LIIF), empower educators to tailor instruction, foster deeper engagement, and cultivate inclusive learning environments that cater to individual student needs. However, to fully harness AI's potential, we must navigate critical challenges.

One key concern lies in ensuring equitable access to AI-powered education. The digital divide necessitates strategies to bridge the gap between students with and without access to technology. This could involve initiatives such as providing low-cost devices, establishing community tech centers, and developing AI tools that function effectively in offline environments.

Another challenge involves upholding academic integrity in an AI-driven learning landscape. The potential for plagiarism through AI-powered writing tools needs to be addressed. Solutions might include implementing plagiarism detection software, fostering open communication about responsible AI use, and developing assessment strategies that emphasize critical thinking and problem-solving skills.

Finally, fostering creativity and critical thinking skills remains paramount in the age of AI. While AI excels at automating tasks and delivering information, it currently lacks the human capacity for creative problem-solving and independent thought. To mitigate this, educators can leverage AI as a tool to support creative exploration, not replace it. This might involve using AI to generate prompts for creative writing exercises or to personalize simulations for project-based learning.

Moving forward, collaborative efforts between educators, AI developers, and policymakers are essential. By proactively addressing concerns, maximizing the benefits of AI integration, and fostering responsible use, we can prepare students for the demands of the 21st century while nurturing the human qualities that will define success – creativity, critical thinking, and a lifelong love of learning.

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