

Bridging Utility and Ethics: A Multi-Dimensional Analysis of AI Tool Usage and Its Impact on Student Learning Outcomes

Teresita S. Mijares, Eliza B. Ayo & Rosemarievic A. Bustamante

Computer Education Department, Centro Escolar University, Manila, Philippines

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*Corresponding Author: Teresita S. Mijares

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Abstract

Original Research Article

The main objective of this study is to understand the role of AI tools in shaping students' learning by analyzing how they use them, their perceived usefulness, and their views on academic integrity. The study evaluated the intersection of usage patterns and academic performance. Using a descriptive-correlational approach, data were collected from a purposive sample of 393 students at Centro Escolar University during the 2024-2025 academic year using a self-made questionnaire that underwent a reliability test. The study examines whether students' opinions on AI's usefulness align with actual improvements in critical thinking and academic success. Results from multiple regression show that regular AI use is a strong predictor of perceived learning effectiveness, explaining $R^2=0.33$ of the variance ($F=37.48$, $p=0.001$), mostly by providing quick answers to assignments.

However, AI usage patterns only account for 8% of the variance regarding the perceived limits on critical thinking skills. The perceived threat to critical thinking comes from a reliance on AI due to time pressure. Ethically, there is a significant correlation between over-reliance and worries about academic integrity. The study recommends that universities implement process-based assessments, establish clear AI usage guidelines, and provide time-management support to reduce over-reliance while fostering independent analytical skills.

Keywords: Artificial Intelligence in Education (AIED), Academic Integrity, Student Learning Outcomes, Critical Thinking, Educational Technology.

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Introduction

Over the past few years, many students have begun to explore how artificial intelligence (AI) tools may be able to assist them in their learning. One such AI tool that has seen significant exploration is ChatGPT. Its use has rapidly increased since it was made available to the public in 2022 (Singer-Freeman et al., 2025). Writing tools, such as Grammarly and QuillBot have changed how students approach writing assignments. Both of these tools provide

features including grammar checking, tone adjustments, paraphrasing, and content generation from documents (Pyrma et al., 2025). Thus, schools are beginning to realize the importance that AI holds in supporting better instructional practices and student learning outcomes when the AI is appropriately integrated into the classroom through appropriate pedagogical practices and other forms of technical support (Chen et al., 2020; Chiu et al., 2023).



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In particular, AI supports three major areas of education: adaptive learning, automated assessment and grading, and timely feedback. Therefore, the AI tools allow for a more individualized, more efficient, and more scalable method of providing education to an array of diverse student populations (UNESCO, 2021). The majority of AI tools applied in an academic setting do not pose a high risk of impacting the core learning process. These include summarizing long or complicated texts, breaking down difficult concepts into simpler terms, and creating outlines. Studies indicate that applying AI tools in this manner has resulted in a notable decrease in grammatical errors and an improvement in the logical flow of the ideas presented (Ranalli et al., 2022).

The incorporation of these AI tools into educational settings is also creating challenges to traditional educational practices. A trend of relying on these tools as an alternative to a student's total engagement with the course content is based upon cognitive offloading. Relying on such tools to complete tasks associated with synthesizing or structuring information will limit opportunities for a student to engage in cognitive processing that is required for true learning (Chen et al., 2020) (Ranalli et al., 2022).

In addition, this encourages laziness among students. Finding a balance between using AI tools and fostering independent thinking skills is essential (Szmyd, K., & Mitiera, E., 2024). Also, students' perceptions and uses of AI tools vary greatly depending on their academic level. First-year students tend to be more cautious and anxious about using AI, while seniors and graduate students view it as helpful for managing complex concepts (Singer-Freeman et al., 2025).

While studies confirm the benefits and limitations of AI tools, a significant gap remains in understanding how reliance on these tools impacts cognitive and language skills across different academic levels (Pryma et al., 2025). This study aims to explore how much students rely on AI tools for learning and completing academic tasks. We conducted a quantitative survey to measure how often students use AI tools. We used multiple regression analysis to identify factors that influence learning and critical thinking. We also performed correlation analyses to

examine the relationships between perceived usefulness and reliance on AI tools, as well as their impact on learning and critical thinking. This study is important. Understanding why students frequently use AI tools could help teachers combine the benefits of AI with the need for students to develop essential academic skills as these technologies change. This study emphasizes the need to integrate AI tools into educational policies and curriculum design.

Review of Related Literature

In higher education, artificial intelligence (AI) tools significantly influence academic performance, student engagement, and learning outcomes by creating dynamic learning environments. Effective AI implementation requires strategic teacher preparation by providing AI training, careful integration into teaching strategies, and ethical considerations, all of which help fully realize the tools' potential and ensure meaningful learning experiences (Chen et al., 2020; Chiu et al., 2023; UNESCO, 2021).

However, studies suggest that as students frequently use AI tools for academic tasks, particularly writing and assessments, their reliance on these technologies increases, potentially undermining traditional academic skills and student autonomy. For example, Zunaidah et al. (2023) observe that English learners often rely heavily on AI-based writing tools, raising concerns about their perceived self-efficacy and ability to function independently without AI assistance. This dependency is a critical focus of current educational research, as it may signal a broader trend toward reliance on AI in higher education, affecting skill development and academic integrity.

Regarding assessment, AI supports formative evaluation and automated grading, with significant implications for teacher roles and student learning. González-Calatayud et al. (2021) argue that teacher training is necessary to ensure that AI complements rather than supplants educators' roles. For instance, while AI-driven assessments enable faster feedback, the depth of insights they provide may be limited without the critical judgment educators bring.

Therefore, students' growing reliance on automated tools for academic assessment might hinder the development of critical evaluative skills and self-assessment capabilities, contributing to a cycle in which students become overly dependent on AI feedback rather than developing independent critical thinking.

AI-based educational environments also interact closely with student motivation and competence. Research by Chiu et al. (2023) shows that teacher support in AI-driven environments satisfies students' needs for connection and relatedness, though it may be less effective at fostering autonomy. This finding is particularly relevant to student reliance on AI: if AI use becomes central to academic performance, students may feel less autonomous and capable in non-AI contexts, undermining their ability to learn independently. Furthermore, studies on cognitive tutors highlight the benefits of intelligent tutoring systems in improving learning outcomes but also underscore the importance of balanced use to avoid overreliance on such tools (Bilad et al., 2023). As these tools increasingly become integral to students' study routines, understanding how reliance on AI affects learning independence becomes essential.

The current study on students' reliance on AI tools at Centro Escolar University, Manila builds on these findings by examining the extent to which students depend on AI technologies for academic tasks, such as writing and self-assessment, and the potential effects on academic skill development. While AI has undeniably advanced educational practices and outcomes, the degree of its integration may create unintended dependencies, making it essential to analyze how reliance on AI affects students' learning autonomy and confidence. This research seeks to expand the literature by exploring not only the efficacy of AI but also the nuanced impacts of AI reliance on CEU's students' self-efficacy and skill acquisition, providing insights into the benefits and risks of AI adoption in educational environments.

Theoretical Framework

The theoretical framework of this study on students' reliance on AI tools is anchored in several key

theories that examine the interplay among technology adoption, motivation, social dynamics, cognitive processing, and digital literacy. The Technology Acceptance Model (TAM) (Davis, 1989) provides a foundational lens for examining how students perceive AI tools in terms of perceived ease of use and perceived usefulness. According to TAM, users are more likely to adopt and rely on technology if they find it easy to use and believe it enhances productivity or learning outcomes (Chen et al., 2020). In the context of AI tools in education, students' perceived usefulness of AI for tasks such as writing, research, or assessment may significantly contribute to their increased reliance on these technologies. This model also helps predict future behavior by identifying the factors that lead to students' growing dependence on AI tools.

The study also draws on Self-Determination Theory (SDT) (Ryan & Deci, 2000) to examine how AI tools affect students' intrinsic and extrinsic motivation. SDT emphasizes the role of motivation in behavior, particularly the balance between learning for personal growth (intrinsic motivation) and pursuing external rewards or conveniences (extrinsic motivation). In this context, the study examines whether students' dependence on AI tools undermines intrinsic motivation to learn or supports autonomous learning by helping them tackle complex tasks more independently (Chiu et al., 2023). This theory is critical for assessing whether students use AI tools as a crutch that diminishes motivation for independent learning or as a valuable tool that enhances their ability to engage in self-directed educational activities.

Social Cognitive Theory (SCT) (Bandura, 1986) further enriches the analysis by examining how students' use of AI tools is influenced by self-efficacy and social dynamics. SCT holds that learning occurs in social contexts and is shaped by observing, imitating, and modeling others' behavior. Students who observe peers successfully using AI tools may be more likely to adopt them as part of their learning strategies. Moreover, self-efficacy—students' belief in their ability to succeed in tasks—can shape how much they rely on AI tools (Zafari et al., 2022). This theory helps explain the social

dynamics behind AI adoption, particularly how peer influence and students' self-perception may drive AI dependence.

To assess the cognitive impacts of AI tool use, Cognitive Load Theory (CLT) (Sweller, 1988) offers an important perspective. CLT holds that learning is constrained by working memory limitations and that reducing cognitive load can enhance learning efficiency. AI tools, by automating complex tasks such as research or writing, may reduce cognitive load, allowing students to focus on higher-level thinking. However, the study will also examine whether overreliance on AI may bypass deep cognitive processing and hinder the development of problem-solving and critical thinking skills (Bilad et al., 2023). This theory thus helps analyze whether AI tools facilitate efficient learning or, conversely, lead to cognitive shortcuts that may impair long-term academic growth.

Additionally, Constructivist Learning Theory (Piaget, 1973) holds that students learn best when they actively construct knowledge through experience rather than passively receive information. In this study, constructivism helps examine whether AI tools support or hinder students' ability to construct knowledge. On one hand, AI can provide personalized learning experiences that enhance engagement; on the other hand, excessive dependence on AI for quick solutions may limit students' opportunities for deeper, more meaningful learning processes (Zunaidah et al., 2023). This theory is essential for assessing whether AI tools promote active learning or encourage passive consumption of ready-made answers.

Lastly, Digital Literacy Theory (Bawden, 2008) addresses the skills students need to navigate and critically assess digital tools and information. Digital literacy is increasingly relevant as students integrate AI tools into their learning practices. The study will examine whether students' reliance on AI tools is accompanied by an appropriate level of digital literacy, enabling them to use these tools critically and effectively, or whether their dependence on AI limits their ability to develop critical thinking and problem-solving skills in a digital context (González-Calatayud et al., 2021). This theory

underscores the importance of students' competency in using AI tools to enhance learning, rather than allowing the technology to substitute for critical engagement.

In summary, this theoretical framework integrates TAM, SDT, SCT, CLT, Constructivist Learning Theory, and Digital Literacy Theory to provide a comprehensive understanding of how students' reliance on AI tools shapes their learning processes, motivation, social behaviors, and cognitive engagement. By examining the factors that influence AI adoption and use, the study aims to uncover the broader implications of AI dependence in education.

Importance of the Study

We have seen the success of technology integration in education, evident in its value and usefulness in the academy and industry. However, with the emergence of artificial intelligence tools such as AI writing tools, personalized learning platforms, research assistant AI tools, and image creation tools, schools and universities face a new challenge: adapting to this technology. This study was conducted in this context. It aims to understand how students engage with AI tools, perceive their usefulness in their learning, and how academic integrity may be affected by the adoption of AI.

The importance of this study lies in the abrupt increase in students using AI tools. Understanding the role of these AI tools in shaping students' learning will help stakeholders assess how to responsibly integrate them into teaching and learning. The study assumes the following will benefit from its results:

For students, knowing when to use AI tools responsibly to accomplish tasks while upholding academic integrity and maximizing their contribution to learning outcomes. Furthermore, the findings of this study may equip students with the skills needed for future employment using AI tools.

For teachers, the findings of this study may acquaint them with how students use AI tools, which would aid in changes to their

pedagogical strategies. Furthermore, with students using AI tools, teachers should ensure academic integrity, prompting them to change how they prepare assessments.

For school administrators, the results of this study may be used to develop policies and guidelines for the use of AI tools in teaching and learning. Promoting innovation, specifically the use of AI tools in higher education, while ensuring academic integrity.

Lastly, this will serve as a reference for future researchers investigating the use of AI tools in education.

Understanding the role of AI tools in students' learning would provide a foundation for the responsible and effective integration of AI tools in education.

Specific Problems:

The main objective of this study is to understand the role of AI tools in shaping students' learning by analyzing how they use them, their perceived usefulness, and their views on academic integrity.

Specifically, it aims to answer the following:

1. What is the profile of the respondents in terms of:
 - a. Gender
 - b. Year Level
 - c. School/Program
2. How do the frequency and utilization of AI tools influence the overall learning outcomes among students?
3. To what extent do students' perceptions of the usefulness of AI tools align with actual improvements in their academic performance and critical thinking abilities?
4. What ethical concerns do students have regarding the use of AI tools for their assignments, and how do these concerns impact their perception of academic integrity?

Materials and Methods

For data analysis, descriptive statistics were used to summarize the demographic characteristics of the respondents and their overall responses to the survey. Additionally, the multiple regression was utilized to examine the influence of AI tool frequency on usage patterns on students' perceived learning effectiveness and perceived limitation of critical thinking skills. Pearson correlation analysis was also used to examine the relationship between perceived usefulness of AI tools, academic performance indicators, critical thinking variables, and ethical concerns related to academic integrity.

The study was administered to students at the Manila campus of Centro Escolar University. A survey questionnaire was developed to assess the frequency of AI tool usage, patterns of utilization, perceived usefulness, the impact of learning outcomes and critical thinking, and ethical perceptions regarding academic integrity.

Prior to the distribution, the questionnaire was piloted to test its reliability using a set of students. This set of students was no longer included in the final assessment of the study. The resulting Cronbach's alpha coefficient was 0.94, indicating a high level of internal consistency, therefore confirming the reliability of the instrument used in the survey.

The purposive sampling was used to gather data. The survey was administered to students of Centro Escolar University, Manila campus, attending the class of the researchers for the school year 2024-2025. A total of 393 respondents participated in the study. Data collection was conducted during the first semester of the school year 2024-2025 through an online survey platform to ensure ease of access and response collection. The respondents were informed of the purpose of the study. Ethical considerations were observed by ensuring anonymity, confidentiality of responses, and the use of data strictly for research purposes only.

Results and Discussion

This section presents the findings from the analysis

of the role of AI tools in students' learning, specifically in the usage patterns, perceived usefulness, and academic integrity.

The respondents of the study are students from the Manila campus of Centro Escolar University, specifically students of one of the researchers during the school year 2024-2025. The data shows a total of 393 students participated in the study, of which 109, or 28%, are male, and 282, or 72%, are female. This indicates that Centro Escolar University is perceived

as a girls' school, with the results showing more females than males were officially enrolled in the university.

Figure 1 shows the profile of the respondents in terms of year level. The data show that 188 or 47.80% of the students are on their third year level, followed by 125 or 31.80% are on their second-year level, while 67 or 17% are first-year students, the rest are 9 or 2.30% and 4 or 1% are fourth-year and fifth-year students, respectively.

Figure 1. Profile of Respondents in Terms of Year Level

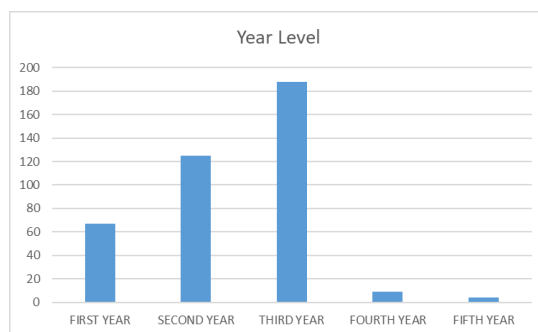
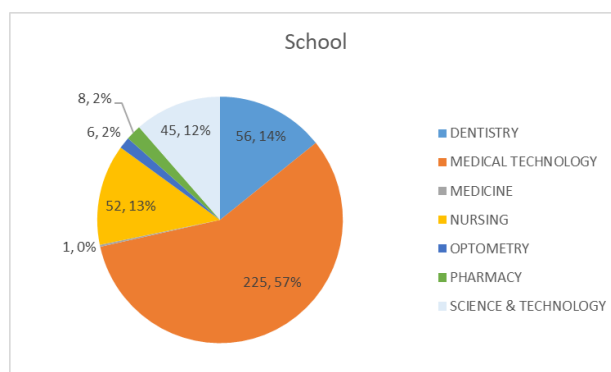


Figure 2 shows the profile of the respondents in terms of schools. Among the schools, the largest number of students who participated in the study was from the School of Medical Technology, with 255 or 57.30%, which is more than half of the total number of respondents. Followed by the School of Dentistry,

with 56 or 14.20%, then by the School of Nursing, with 52 or 13.20%, then by the School of Science and Technology, with 45 or 11.50%, then by the rest with 8 or 2.00%, 6 or 1.50%, and 1 or 0.30%, from the School of Pharmacy, School of Optometry, and School of Medicine, respectively.

Figure 2. Profile of Respondents in Terms of Schools



The tables present results of a multiple regression analysis, which answers how the frequency and utilization of AI tools influence the overall learning outcomes among students and the perceived impact of AI tools on critical thinking.

Table 1 shows the results of predicting students' perceived learning effectiveness from AI tools usage patterns. The computed overall regression model of $F=37.48$ was statistically significant, accounting for 33% of the variance in perceived learning effectiveness (adjusted $R^2=0.32$). All five independent variables showed statistically significant association with perceived learning effectiveness. Among the five independent variables, A1 "I regularly use AI tools to complete my schoolwork", with $\beta=0.20$, $t=3.46$, $p=0.001$, showed the strongest positive relationship with perceived learning effectiveness among the other independent variables measured. Followed by A3 "I rely on AI tools for help with writing and editing my assignments", with $\beta=0.15$, $t=2.69$, $p=0.007$. This

implies that students who regularly use AI tools in their schoolwork and rely on AI tools to help with their schoolwork will most likely perceive that these tools help improve their learning by providing quick answers to their assignments.

Furthermore, the significant positive relationship with the rest of the independent variables, such as assistance when difficulties in studying were encountered, idea generation, and perceived dependence on AI for timely completion, all showed that utilizing AI tools contributed to their feeling of improved learning.

The alignment between the regular use of AI tools and perceived effectiveness supports the cognitive load theory (CLT). By using AI tools to automate repetitive tasks, such as correcting grammar or suggesting initial outlines, students experience a reduced cognitive load. This offloading allows them to perceive their learning as more efficient, as they can focus on other higher-order synthesis rather than technical execution.

Table 1: Multiple Regression Analysis Predicting Perceived Learning Effectiveness from AI Tools Usage Pattern

Variable	B	SE	Beta	t	p
(Constant)	1.07	0.18	-	5.91	-
A1 I regularly use AI tools to complete my schoolwork.	0.22	0.06	.2	3.46	.001
A2 AI tools are my primary source of assistance when I encounter difficulties in my studies	0.13	0.06	.12	2.2	.029
A3 I rely on AI tools for help with writing and editing my assignments.	0.16	0.06	.15	2.69	.007
A4 I use AI tools whenever I need to generate ideas for projects or essays.	0.13	0.05	.14	2.51	.012
A5 Without AI tools, I would find it difficult to complete my coursework on time.	0.09	0.05	.11	1.98	.049

R2	0.33				
Adjusted R2	0.32				
F	37.48				-
Df	5				

Moreover, Table 2 presents the multiple regression results of examining the prediction of the perceived impact of AI tools on the students' critical thinking based on the patterns of using AI tools. The overall regression model presents a statistically significant result with $f=6.56$, $p<0.01$, but it accounted for a small proportion of variance in perceived limitation of critical thinking skills with $R=0.08$ and adjusted $R^2=0.07$. The R^2 value of 0.08 indicates that all the AI usage pattern measured in the study only explain 8% of the variance in how students perceive the impact of AI on their critical thinking. The study showed that varied use of AI tools does not have a very significant impact on students' critical thinking skills. Among the five independent variables, only A5 "Without AI tools, I would find it difficult to complete my coursework on time" showed a statistically significant positive association with the perceived limitation of critical thinking skills, with computed $\beta=0.13$, $t=2.05$, and $p=0.041$, which is less than the critical value of 0.05. This implies that the varied use of AI tools does not have a very significant impact on the critical thinking skills of the students. Only the perceived reliance on AI for the

timely completion of schoolwork showed as a significant positive predictor that AI tools limit their ability to think when meeting deadlines. It implies that the perceived threat to critical thinking comes from time-pressure reliance, not from specific educational tasks for which AI is used.

The lack of a statistically significant relationship between the other four independent variables, such as general use, help with difficulties, writing and editing, and generation of ideas, with the dependent variable, which is the perceived limitation of critical thinking, is noteworthy. This may imply that students do not necessarily see these applications of AI as inherently detrimental to their critical thinking skills. It is more closely related to the feeling of being over dependent on it rather than the specific tasks for which the AI tools are used.

The finding that the statement "without AI tools, I would find it difficult to complete my coursework on time" (A5) significantly predicts a limitation in critical thinking with a computed value that $\beta=0.13$, $p=0.041$ is consistent with the self-determination theory (SDT).

Table 2: Multiple Regression Analysis Predicting Perceived Impact of AI on Critical Thinking

C5 Using AI tools limits my ability to think critically about my coursework	B	Std. Error	Beta	t	p
(Constant)	1.67	0.24	0	6.91	0
A1 I regularly use AI tools to complete my schoolwork.	0.08	0.08	0.06	0.91	0.366
A2 AI tools are my primary source of assistance when I encounter difficulties in my studies	0.03	0.08	0.03	0.46	0.647

A3 I rely on AI tools for help with writing and editing my assignments.	0.06	0.08	0.05	0.74	0.458
A4 I use AI tools whenever I need to generate ideas for projects or essays.	0.09	0.07	0.08	1.22	0.225
A5 Without AI tools, I would find it difficult to complete my coursework on time.	0.13	0.06	0.13	2.05	0.041
R2	0.08				
Adjusted R2	0.07				
F	6.56				0
df	5				

When students use AI tools to meet deadlines, their motivation shifts from intrinsic to extrinsic; that is, from learning for mastery to avoiding academic failure. This indicates that the threat to independent analysis is not a result of the use of AI tools but a lack of skills in managing academic workloads.

Table 3 shows the alignment of the students' perceptions of the usefulness of AI tools with the actual improvements in their academic performances and critical thinking abilities.

It indicates a positive and moderate alignment

between students' perceived usefulness of AI tools with academic performance and critical thinking. The correlation coefficients among the variables B1-B5 for the academic performance range from 0.333 to 0.613, showing consistent alignment. The strongest positive correlation was computed between reliance on AI for explanation of concepts (B4) and the use of AI tools as an essential part of the study routine (B5) with a computed $r=0.613$. This suggests that students who rely on AI for understanding concepts are more likely to utilize it in their regular learning process.

Table 3: The Correlation between Perceived Usefulness of AI Tools and Indicators of Academic Performance & Critical Thinking

Variable	B1	B2	B3	B4	B5	C1	C3
B1. AI tools significantly improve the quality of my schoolwork	—	0.461	0.333	0.437	0.526	0.356	0.422
B2. I rely on AI tools to make my schoolwork easier and faster to complete		—	0.517	0.46	0.578	0.469	0.404
B3. I find myself turning to AI tools before attempting to solve problems on my			—	0.34	0.565	0.431	0.292

own							
B4. I rely on AI tools for explanations of concepts I do not understand				—	0.613	0.411	0.362
B5. The use of AI tools has become an essential part of my study routine					—	0.521	0.481
C1. I believe that my learning would be negatively affected if I could no longer use AI tools						—	0.419
C3. AI tools reduce the amount of effort I need to put into understanding difficult topics							—

Similarly, the correlation between the perceived improvement in terms of quality of schoolwork (B1) and the use of AI tools as an essential part of study routine (B5), with a computed value of $r=0.526$, indicates that increased use of AI is aligned with the improved perception of academic output.

However, the correlation between AI usefulness and critical thinking indicators (C1 to C3) is moderate but comparatively weaker with computed values of $r=0.292$ to 0.521 . The results show that the relationship between AI tools as an essential part of the study routine (B5) and the perceived negative impact on learning without AI tools (C1) with a computed value of $r=0.521$ reveals a growing dependence on AI tools. Moreover, the alignment between AI use and reduced effort in understanding complex topics (C3) with a computed value of $r=0.481$ points to the decline of cognitive engagement.

Overall, while the findings support a positive alignment between the AI use and academic performance, they simultaneously reveal a more complex impact on critical inquiry. Specifically, an over-reliance on AI tools may inadvertently lead to cognitive offloading. Essentially, while AI makes the work easier, it may also make students less likely to challenge themselves or think deeply on their own.

The following shows the findings from the analysis of students' perceptions regarding the usefulness and ethical implications of AI tools in their schoolwork. The correlation analysis shows a complex pattern of relationships among the AI acceptability (E1), ethical concerns (E2), perceived threats to academic integrity (E3), and the guilt feeling (E4).

The results show a statistically significant but weak positive correlation between accepting the use of AI

tools (E1) and the ethical perception (E2) with a computed $r=0.174$, $p<.05$. This indicates that students who consider the use of AI tools in their learning process still feel some degree of ethical concern, suggesting that the acceptance does not equate to the absence of concerns. On the other hand, AI acceptability (E1) shows no significant relationship with perceived threat to academic integrity (E3), with a computed value of $r=-0.032$, $p>0.05$, and the feeling of guilt (E4), with a computed value of $r=-0.085$, $p>0.05$. This result implies that students who regularly use AI tools may not strongly associate it with misconduct or emotional discomfort.

In contrast, a stronger and statistically significant correlation was observed among the ethical concern variables. Ethical concern (E2) has a moderate correlation with perceived threats to academic integrity (E3), with a computed value of $r=0.397$, $p<0.05$, and is more strongly correlated with the feeling of guilt (E4), with a computed value of $r=0.501$, $p<0.05$. Furthermore, the strongest correlation computed is between the perceived threats to academic integrity (E3) and the feeling of guilt (E4), with a computed value of $r=0.515$,

$p<0.05$. These results suggest that as students become more aware of the potential ethical implications of the utilization of AI tools in their learning process, they are more likely to perceive risk to academic integrity and experience associated emotional responses.

The respondents demonstrated a high level of digital literacy based on the finding of a strong correlation between perceived threats and feelings of guilt with a computed value of $r=0.515$. The respondents are not merely passive users of technology; They are aware of the ethical concerns and the potential for AI to substitute for deep learning. Their feeling of guilt suggests that while they use AI tools (TAM), they recognize the potential cognitive “shortcuts” that may impair long-term growth (CLT).

Overall, the findings suggest that while the students may generally accept the use of AI tools, ethically, the students are concerned and are significantly associated with the perception of academic integrity and the feeling of guilt. This highlights a critical issue in AI-integrated learning environments: students simultaneously normalize the use of AI while remaining aware of its potential to challenge in-place policies of academic honesty.

Table 4: The Correlation between the Students’ Perception of AI Usefulness and Ethical Perception

Statements		E1	E2	E3	E4
E1 I feel that using AI tools for my schoolwork is an acceptable practice		1	.174[a]	-0.032	-0.085
	Sig. (2-tailed)		0.001	0.521	0.092
E2 I often question whether my use of AI tools crosses ethical boundaries in academic work			1	.397[a]	.501[a]
	Sig. (2-tailed)			0	0
E3 I believe that relying too much on AI tools may lead to issues with academic integrity				1	.515[a]

	Sig. (2-tailed)				0
E4 I feel guilty when I use AI tools to complete parts of my schoolwork					1
	Sig. (2-tailed)				
Significant at .05 level					
N = 393					

Findings

This study examined the students' perception of the role of AI tools in the learning process in terms of utilization, perceived usefulness, and ethical considerations related to academic integrity among the students of Centro Escolar University, Manila campus, during the school year 2024-2025.

A total of 393 students participated in the study, with the majority of female students (72%) primarily enrolled in the School of Medical Technology, showing that the sample is largely representative of students in health-related programs.

In terms of AI use and learning outcomes, the results showed that the use of AI tools significantly influences the students' perception of learning effectively. The regression analysis showed that the frequent use of AI tools is a strong predictor of improved learning outcomes. These findings suggest that AI tools improve the overall quality of students' academic work.

However, only the reliance on AI for completing tasks under time pressure significantly contributed to the perceived limitation of critical thinking. This indicates that AI tools do not generally hinder critical thinking, but over-dependence, particularly in time-constrained situations, may reduce opportunities for deeper cognitive thinking.

Furthermore, the study found moderate alignment between students' perception of AI usefulness and their academic performance. Students who regularly use AI tools showed improvement in the quality of their schoolwork. But, this alignment was weaker in

relation to critical thinking, suggesting that while AI improves the quality of schoolwork, it does not equally enhance higher-order thinking skills.

While in terms of ethical considerations, the findings revealed that students accept the use of AI tools in their learning process. However, they also showed moderate ethical concerns. While there's a weak relationship between AI acceptability and ethical concern, stronger correlations were found between ethical concern, perceived threats to academic integrity, and feelings of guilt. This indicates that the students are aware of potential risks to academic integrity, despite its acceptance.

Conclusions

Based on the findings of the study, the following conclusions were drawn:

1. AI tools have become essential for students and have significantly improved the quality of their academic output.
2. Over-reliance, especially under time constraints, may lead to minimal independent thinking or reduced cognitive engagement.
3. There is a positive correlation between the perceived usefulness of AT tools and improved academic output, but this relationship is less pronounced in the development of critical thinking skills.
4. Students showed a balanced perspective on AI use, wherein they accept its role in improving academic work while recognizing its ethical

implications and potential threats to academic integrity.

Recommendations

Based on the findings and conclusions, the following recommendations are proposed:

1. Teachers should carefully consider integrating AI tools into their teaching strategies in a structured manner that promotes active engagement and critical thinking.
2. Teachers should design and develop higher-order thinking activities that require analysis, synthesis, and evaluation to ensure that students will not depend on AI-generated responses.
3. University officials should formulate policies on the ethical use of AI tools to uphold academic integrity.
4. Academic institutions should provide training programs that educate students on the responsible, ethical, and effective use of AI tools in their schoolwork.
5. Students should be encouraged to use AI as a supplementary tool rather than a replacement for independent learning and thinking.
6. Conduct further research to explore the long-term effects of AI use on students' academic performance.

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