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ACADEMIC INTEGRITY IN PERIL: TEACHERS' EXPERIENCES TOWARDS GENERATIVE ARTIFICIAL INTELLIGENCE

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Abstract:
This descriptive phenomenological study investigated the challenges encountered by tertiary teachers and the strategies they implemented to uphold academic integrity in the face of generative artificial intelligence (GAI) at a private university in Davao City, Philippines. The study used thematic analysis to examine data from in-depth interviews with seven participants selected through purposive sampling. Key challenges identified included technological dependency, cognitive offloading, misinformation, concerns over academic integrity, and teachers' readiness to tackle AI-related issues. The study also highlighted strategies such as designing authentic tasks, clearly elaborating assessment criteria, fostering teacher collaboration, promoting academic integrity, and enforcing penalties to maintain academic standards. The findings underscore the critical need to address these challenges and propose solutions to uphold academic integrity in the GAI era. As GAI continues to evolve rapidly, it is crucial to adapt to these advancements while taking proactive measures to mitigate its potential risks and pitfalls.

Keywords: academic integrity, generative artificial intelligence, GAI challenges, teachers' GAI strategies

1. Introduction

The widespread use of generative artificial intelligence (GAI) that produces text, images, and videos (Uzun, 2023) has raised concerns about academic integrity in higher education

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and scholarly writing (Currie, 2023). Research shows students are acquainted with these tools (Chan & Hu, 2023; Chan & Lee, 2023; Zastudil *et al.*, 2023) and use them for academic tasks (Chan & Zhou, 2023; Lozano & Fontao, 2023; Sumakul & Sukyadi, 2022). Moreover, some teachers have experimented with and integrated these tools into lesson plans and assessments (Qadir, 2023; Bozkurt *et al.*, 2023).

Although GAI can enhance teaching and learning, it poses risks such as reducing students' critical thinking and problem-solving skills (Baidoo-Anu & Ansah, 2023; Liu *et al.*, 2023; Kasneci *et al.*, 2023; Tanjga, 2023) and academic misconduct (Liu *et al.*, 2023; Michel-Villarreal *et al.*, 2023). These issues jeopardize the educational system's principles of academic integrity (Chan, 2023; Tatzel, 2023). Therefore, extensive studies are needed to assess these implications and develop strategies to maintain academic integrity with GAI.

The evolution of GAI makes it easier for students to create realistic outputs with less effort (Crawford *et al.*, 2023), making academic misconduct a growing concern in education. Cassidy (2023) as cited by Sullivan et al., (2023) noted that after ChatGPT's release, up to 20% of students used AI for assessments. Moreover, a survey by Intelligent (2023) found that 75% of university students cheated on tests and papers with GAI tools. Consequently, some universities have banned ChatGPT and initiated discussions on academic honesty and integrity (Dibble, 2023; Sullivan *et al.*, 2023; Weissman, 2023).

Academics voice ethical concerns about GAI (Mvondo *et al.*, 2023), but limited empirical research on responsible usage underscores the need for guiding educational policies. Yeo (2023) stresses the need to address academic integrity concerns and empower teachers to integrate AI tools effectively. In a broader context, Mohammadkarimi (2023) finds that Iraqi teachers have mixed perceptions of AI, including positive aspects (e.g., useful and accessible) and negatives (e.g., hindrance to skill development, undetectable assignments, and student cheating).

Similarly, Liu *et al.* (2023) find Chinese scholars supporting AI for personalized learning but are concerned about academic integrity and critical thinking. Moreover, Limna *et al.* (2023) report positive feedback on ChatGPT's quick assistance in Thailand but note accuracy and teacher-student interaction concerns. Estrellado and Miranda (2023) in the Philippines see AI's educational potential but emphasize digital ethics concerns. In Davao City, Maboloc (2023) stressed the need for an ethical framework to oversee GAI in education

This study examines academic integrity in GAI using Planned Behavior Theory (PBT) by Icek Ajzen (1991). PBT identifies three factors influencing behavior: attitudes, subjective norms, and perceived behavioral control. Ajzen included perceived behavioral control to predict behavior in situations with constraints or norm violations, like cheating and plagiarism. The theory suggests cheating arises from both the opportunity and intention to cheat (Fishbein & Ajzen, 1975; Mvondo & Niu, 2024).

While research has explored academic misconduct and detection methods (Chan & Hu, 2023; Chan & Tsi, 2023; Mhlanga, 2023; Cotton *et al.*, 2023; Farrokhnia *et al.*, 2023), there is limited focus on teachers' experiences and strategies for AI-related academic

dishonesty, especially in the Philippines, which lacks AI legislation (Maslej et al., 2023). This descriptive phenomenological study aims to fill this gap by examining teachers' perceptions and providing crucial information to develop effective interventions, policies, and support structures to combat academic dishonesty with GAI.

2. Material and Methods

2.1 Research Participants

The research involved teachers from the non-sectarian institution's College of Teacher Education (CTE) department. The researchers used a purposive sampling technique to select the appropriate participants for the study. Following the criteria based on Polkinghorne (1997) as cited by Creswell (2013), a group of 5 to 25 individuals was initially selected to respond to the research questions. In the end, the participants reached seven (7) members who satisfied the requirement. Specifically, study participants met the following inclusion criteria: adults aged between 24 and 60, had at least two years of experience teaching in this institution, were male or female teachers from the CTE department, had experience using GAI, and had experience working with students who had previously used GAI to complete school assignments. Meanwhile, teachers who refused to provide informed consent for the study were excluded, as well as those who did not meet the required criteria.

2.2 Research Instruments

The researchers conducted in-depth, face-to-face interviews with seven (7) teachers within the College of Teacher Education (CTE) department at a non-sectarian institution. In-depth interviews offered participants the opportunity to express their thoughts and viewpoints extensively, enabling a thorough exploration of their experiences, perceptions, and insights related to academic integrity in the proliferation of generative artificial intelligence. Conducting these interviews in person fostered a comfortable and confidential environment, facilitating candid discussions while respecting the sensitivity of the topics discussed.

Additionally, the researchers developed open-ended questions to collect meaningful feedback and teachers' experiences of students' use of and the impact of generative artificial intelligence on academic integrity. The rigorous questions developed by the researchers were validated by an adviser and approved afterwards by the research coordinator to collect appropriate data. Furthermore, the researchers obtained explicit permission from all participants to record their responses during the interviews. These recordings served as invaluable resources, enabling thorough review and analysis of participant insights and perspectives.

2.3 Research Design and Procedure

This study employed a qualitative approach, particularly utilizing descriptive phenomenological methods. Descriptive phenomenology aims to reveal firsthand

experiences concerning a chosen concept or phenomenon (Creswell, 2013; Welch *et al.*, 2017). Consequently, phenomenology seeks to identify and explain structures of experience (Van Manen, 2021), and it has been used to assess students' perceptions of online educational experience (Murders, 2017). Specifically, the qualitative research in this study was based on Creswell's (2013) paradigm, which entailed adopting a practical and interpretative approach to examine events in their natural context. This revealed teachers' perception of the impact of generative artificial intelligence on students' academic integrity.

The research was conducted using in-depth interviews as the data collection method. The study began by obtaining permission from the Dean of the College of Teacher Education to conduct the study among CTE teachers. Subsequently, informed consent documents were provided to participants that outlined the interview details while ensuring compliance with the Data Privacy Act of 2012 (Republic Act 10173). Following this, an interview guide was developed so that all vital questions could be incorporated, and open-ended problems were asked to obtain a comprehensive understanding of the issues under investigation. These interviews were held in person, and researchers were allowed to record them for documentation purposes only.

Finally, objectivity was maintained by rigorously adhering to Colaizzi's (1978) seven steps during data analysis. This procedure guaranteed meticulous examination, with each step maintaining fidelity to the actual data. This culminated in a succinct yet all-encompassing portrayal of the phenomenon being studied, substantiated by the insights provided by the participants themselves. Subsequent measures outlined the process for analyzing the data collected from the research participants (Morrow *et al.*, 2015).

First, the researchers reviewed the transcripts to familiarize themselves with the participants' responses. Next, they identified statements relevant to the research topic. Third, meanings were interpreted from the participants' statements. Fourth, these meanings were organized into consistent themes. Fifth, the researchers created a detailed description of their observations and incorporated all identified themes. Sixth, this description was condensed to retain only the essential components. Lastly, the findings were returned to participants to verify whether they accurately represented their experiences. This meticulous method of data analysis ensures that the research accurately captures and presents participants' experiences, thereby enhancing the validity and reliability of the findings.

4. Results and Discussion

4.1 Teachers' Challenges on Students' Utilization of Generative Artificial Intelligence within a Private Institution

Technological dependency

The participants express worries about students relying too much on AI tools like ChatGPT, potentially reducing their work quality. The teachers' concerns about student technology dependence are mentioned below:

Dependency of students on GAI. Concerns arise as students use GAI for academic dishonesty, impacting academic outcomes. Teacher 1 observed that even capable students copy content from ChatGPT instead of completing tasks.

> *"...although they write well in face-to-face essays, what they do is copy and paste results from ChatGPT."* [Teacher 1]

Similarly, Teacher 4 observes that students are getting lazier and producing lower-quality work when they use AI tools.

> *"…students nowadays rely too much on AI tools like ChatGPT, as a result, they may become lazy, leading to poor output when they don't use AI tools."* [Teacher 4]

Moreover, Teacher 5 agrees that relying on AI makes students lazy and impedes cognitive growth and learning.

> *"…students will become lazy and will not use their cognitive skills, which is one of the reasons they don't grow and learn."* [Teacher 5]

Furthermore, Teacher 6 is worried that students are losing their creativity and relying too much on AI.

> *"…when students rely on AI tools instead of their own originality, they become overly dependent on these tools."* [Teacher 6]

Meanwhile, Teacher 7 saw that students are depending on ChatGPT for various academic tasks.

> *"…They have a reliance on the use of ChatGPT, especially when you do tasks like writing a reflection paper, position paper, and so on."* [Teacher 7]

Rane (2024) and Iskender (2023) emphasize that overusing ChatGPT hinders students' skill development, echoing Teachers 1, 4, and 5's concerns about students'

cognitive growth being affected by tool dependency. Al-Khresheh (2024) and Ulla *et al.* (2023) found that teachers are concerned about GAI reliance hindering student development. Eysenbach (2023) and Yilmaz & Yilmaz (2023) highlighted the risk of students' overreliance on ChatGPT, consistent with concerns raised by Teachers 6 and 7. In light of these challenges, Hernández-Leo (2023), Rane (2024), and Nah *et al.* (2023) recommend reevaluating learning designs, promoting AI literacy, and ensuring ethical AI-generated assignments.

Students' output quality aggravation. Participants feared a decline in student work quality due to the increasing popularity of Generative AI. Teacher 2 questions the accuracy of assignments, citing how easily students can acquire answers through AI such as ChatGPT.

> "*My concern is about the accuracy of their assignments. Because through AI, they could just input everything on the platform, we have ChatGPT… that could just immediately give them the answers*." [Teacher 2]

Similarly, Teacher 3 questions the authenticity of students' work due to discrepancies between their online writing and usual capabilities.

> *"…some students become sudden experts when it comes to writing because they use unexpected diction. That makes me question if they really were the ones who did their tasks."* [Teacher 3]

Teacher 4 shares similar concerns about verifying if students completed assignments independently due to easy access to GAI.

> *"...difficulty is the authenticity of their work since they can use ChatGPT…It is very hard for the teachers to assess if the student is really the one who did the task."* [Teacher 4]

Furthermore, Teacher 6 discusses the initial challenge of confirming the legitimacy of student work.

> "*…It was challenging for me to accurately assess the authenticity and originality of my students' work, especially without verification of their submissions' authenticity*." [Teacher 6]

Lastly, Teacher 7 highlights the challenge of verifying student work amid the widespread use of GAI tools, stressing the need for educators to ensure submissions are genuinely the students' own efforts.

> *"...it confuses me when checking if the output is authentic or not."* [Teacher 7]

Dergaa *et al.* (2023) highlight GAI's impact on academic integrity, paralleling Teachers 3, 4, and 5's challenges in discerning student work from AI-generated content. Furthermore, Forment *et al.* (2024) highlight teachers' struggles in distinguishing student work from AI-generated content, echoing observations made by Teachers 3 and 7 about verifying AI use. Craig (2022) and Creely & Blannin (2023) discuss the ongoing authenticity and originality debate with GAI, reflecting Teachers 4 and 7's challenges in distinguishing human and AI creativity. These findings underscore the need for trust, honesty, accuracy, and authenticity in student work, prompting reflection on the validity of academic assessments and educational values. Conversely, Currie *et al.* (2023) and Alexander *et al.* (2023) suggest creating assignments that promote critical thinking to deter cheating with GAI and maintain academic integrity.

Cognitive Offloading

Students using GAI engage in cognitive offloading, relying on external tools instead of internal processes for tasks (León-Domínguez, 2024). Participants are concerned that students may rely heavily on AI for critical thinking and problem-solving, hindering cognitive skill development. These concerns are detailed below:

Declination of Mental Effort

In academia, mental effort involves critical thinking, analyzing information, and forming viewpoints supported by evidence and personal judgment. (Hodson, D. 2003; Shephard, 2022). Considering this, the participants in this study articulated concerns regarding the decline of students' mental effort. For instance, Teacher 2 questions if students truly understand the material since GAI offers quick answers without promoting critical thinking.

> *"My main concern here is knowing if they really have learned from what they have researched, since AI would just immediately give them the answers without them even …checking if the answers were correct or not."* [Teacher 2]

Similarly, Teacher 5 raises worries about how GAI might affect students' critical thinking abilities, noting a trend towards laziness and a preference for simple solutions.

> *"...their behavior will be affected in terms of being lazy…they do not exert effort using their logical thinking."* [Teacher 5]

Finally, Teacher 6 points out that students may require more than GAI tools, neglecting the importance of understanding the material in favor of AI-generated answers.

> *"…it's more about the idea that these students do not really understand what you are saying, and they just continuously utilize these AI tools."* [Teacher 6]

Rasul *et al.* (2023) showed how students tend to copy and paste from ChatGPT instead of actively engaging with the materials, confirming Teacher 2's concerns about comprehension. Additionally, Dai *et al.* (2023) warned that excessive use of AI for idea development and writing may hinder student engagement with the topic, as highlighted by Teachers 5 and 6.

Moreover, Chang and Kidman (2023) warned of students over-relying on AI content, neglecting critical thinking skills, aligning with concerns from Teachers 2, 5, and 6 on AI hindering independent thinking.

Lack of Authenticity

The researchers discovered that teachers noted students struggle to be authentic and creative, hindering their ability to develop and express new ideas. When reviewing students' submitted outputs, Teacher 1 is noting their exceptional use of unique terminologies in construction.

> "*…I noticed that their submitted essays were not student-made due to the extreme vocabulary words that were used in their sentences…"* [Teacher 1]

Similarly, Teacher 2 found irrelevant student outputs and worried that GAI use may hinder effective knowledge conveyance.

> *"I noticed that some of their answers were off-topic. It is obvious because the words that they use are exceptional, and I know my students' capabilities, so it is suspicious to me."* [Teacher 2]

Saini and Bhalla (2022), as noted by Limna (2023), found GAI capable of mimicking human language, noted by Teacher 1 in writing tasks. However, according to Teacher 2, the generated information can be irrelevant to the main topic of study. Additionally, Tigrero (2024) cautions against AI misuse leading to technology dependency, reducing students' interest in education. Mohammadkarimi (2023) expands on Teacher 2's observation, stating that students rely on AI algorithms for assignments, leading to surpassing capabilities and making information irrelevant.

Misinformation

Misinformation is incorrect information lacking expert support or clear evidence (Tully *et al.*, 2020). Today, teachers face the challenge of students increasingly relying on GAI tools, which can produce misinformation, compromise academic integrity, and hinder the establishment of truth-based learning environments. These challenges posed by GAI are outlined below:

Tendency of Content Fabrication

Participants are concerned about GAI creating inaccurate content. Teacher 2 worries that AI offers instant answers, potentially leading to unreliable information.

> *"…AI often provides them answers instantly, without them even thinking if it's correct or not, given that these tools aren't always reliable and can produce inaccurate content."* [Teacher 2]

Similarly, Teacher 6 warns about relying too much on AI tools, which could result in incorrect answers.

> *"…if there's too much reliance on AI, it can cause problems…because while it's convenient, there's a risk of the tool generating incorrect output."* [Teacher 6]

Moreover, Teacher 7 is concerned about AI citations and facts lacking consistency and sources, highlighting the need to ensure the reliability of AI-generated content in education.

> *"…I am concerned about the accuracy of the citations and factual information they are producing because when I cross-check, I often find non-existent sources."* [Teacher 7]

Roumeliotis and Tselikas (2023) pointed out ChatGPT's reasoning errors, aligning with teachers' observations. Narayanan and Kapoor (2022) labeled ChatGPT a "storytelling machine" due to its creation of believable but potentially inaccurate stories, resonating with Teacher 6's worry. Additionally, Walters and Wilder (2023) discovered that ChatGPT's citations, though seemingly valid, can yield incorrect responses, confirming Teacher 7's concerns. Azaria *et al.* (2023) advise educators to be careful with AI-generated content and recommend verifying outputs independently.

Disconnection between student output and lesson focus. Participants note the gap between student output and lesson focus. Teacher 4 highlights disconnections in content despite strong writing quality.

> *"…even though the quality of students' writing is commendable, there are instances where the content seems disconnected from the intended answer or fails to address the key points we've covered."* [Teacher 4]

Likewise, Teacher 7 highlights divergence in student outputs from ChatGPT, acknowledging differences in ideas and terminologies discussed in class.

> *"…the terms and writing style in their outputs differ significantly from what we've discussed, making it clear that they were generated by ChatGPT"* [Teacher 7]

The study of Dwina (2024) found a disconnection in students' understanding and representation using ChatGPT, echoing Teacher 4's observation. Additionally, Johansson (2023) noted AI text lacks depth and accuracy compared to human text, mirroring teachers' concerns about student responses. Furthermore, Aronson (2023) notes that ChatGPT's reliance on prior knowledge may cause misinterpretations. This could lead to inaccuracies in student output, mirroring Teacher 7's observations. Finally, Limna *et al.* (2023) and Kuang *et al.* (2023) found instances of incorrect or shallow replies from ChatGPT, aligning with teachers' concerns of unsuitable responses.

Academic Integrity

Academic integrity is a significant concern in this study, and GAI is seen as both beneficial and risky for educators and students (Limna *et al.*, 2023; Shah, 2024). AI's influence on education poses a challenge for educators in addressing academic dishonesty (Mohammadkarimi, 2023). Below are the challenges educators face in safeguarding academic integrity amidst the proliferation of AI:

Ethical Considerations

Participants often voiced ethical concerns about misusing GAI and its impact on students' work, including the absence of clear policies cited by Teacher 1 as a factor in cheating.

> *"…the university doesn't have a policy on Al, I guess that is one of the reasons why some students use ChatGPT to answer their tasks without considering the ethical side of it."* [Teacher 1]

Similarly, Teachers 3 and 6 observed a troubling trend among students, noting their disregard for the consequences of using AI in assignments.

> "*...students are not concerned anymore if the teacher will catch them using generative AI…and even though I informed them that I will be using safe-assign for checking, there are still students who still use it..."* [Teacher 3]

> *"...students are not scared about the consequences they might receive after being caught."* [Teacher 6]

Likewise, Teacher 7 highlighted students' lack of concern about the ethical implications of AI usage, as they are not worried about being detected by teachers.

> "*...when I am checking the student's outputs, I feel like they are not scared that I know how to detect AI-generated works, they are just doing it for compliance without thinking about ethical considerations."* [Teacher 7]

The teachers' response provided insights on ethical dilemmas students face with AI. Teacher 1 noted the absence of university policies on AI, revealing unclear ethical guidelines. The university's absence of AI policies prompts students to use GAI tools unknowingly, as highlighted by studies from Xiao *et al.* (2023) and Stepanechko and Kozub (2023). This lack leaves educators navigating ethical challenges independently, emphasizing the urgency of fostering ethical awareness in students.

Teachers 3, 6, and 7 express concern over students' indifference to GAI consequences, highlighting ethical challenges. Longoni *et al.* (2023) and Chan (2023) note students' tendency to cheat with GAI despite educators' efforts to promote ethics. Okaiyeto *et al.* (2023) found that students still submit assignments using GAI, reflecting society's prioritization of convenience over ethics.

Reliability of Outputs

The development of GAI raised concerns about the reliability of students' work data, reflecting on Teacher 3's concern about its accuracy.

> *"... one of the major concerns that I have is the originality and reliability of students' output. I am also concerned about the information they get from using AI, if it is reliable or not."* [Teacher 3]

Moreover, Teacher 5 was concerned that students' presentations about the subject might be ChatGPT-generated and questioned the information's reliability.

> *"I also fear that they are not sure if the information that they got from ChatGPT is reliable and accurate."* [Teacher 5]

Al-Mughairi and Bhaskar (2024) highlight teachers' concerns about the reliability of students' tool-generated information, echoed by Teacher 3 and supported by the study of Sadasivan *et al.* (2023), who also warn about the negative impact of unchecked GAI tools on student performance, citing dangers outlined by Adelani *et al.* (2020) and Weiss (2019), as cited by Sadasivan *et al.* (2023), such as plagiarism and fabrication. Teacher 5 also faces issues with ChatGPT's reliability, highlighted in Cao *et al.'s* (2023) study, which found irregularities in AI's answers. This affects assessment integrity as teachers struggle to verify student work accuracy.

Teachers' Preparedness in Facing AI Challenges

Teachers' preparedness to face AI challenges is a complex of knowledge and skills vital in the modern educational realm. The teachers' concerns about preparedness in facing AI challenges are elaborated below:

Redeveloping Assessments

With remote learning expanding, concerns over academic dishonesty in assessments are rising. Teacher 1 highlights the challenge of assessing original student ideas alongside AI-generated content.

> *"My difficulties now are how do I devise assessments with AI in consideration, and how do I properly determine that their ideas are indeed stated in the essays."* [Teacher 1]

Moreover, Teacher 2 fears ChatGPT may compromise assessment authenticity by generating optimized responses quickly.

> *"I am worried about how to develop an assessment to ensure that the understanding of the students is truly measured, even with online assessments, especially now that there are AI tools."* [Teacher 2]

Finally, Teacher 3 stresses changing assessments to engage students and avoid overreliance on AI-generated material.

> *"Given the AI, it is challenging for me to stick to traditional assessment methodologies, so I have to change my methods to ensure that the students will actively engage in the learning process and not rely solely on these tools."* [Teacher 3]

Sweeney (2023) suggests universities revamp assessments to challenge AI responses. By guiding students in unique tasks requiring critical thinking, institutions aim to safeguard students' work from AI replication (Rasul *et al.*, 2023; Crawford *et al.*, 2023; Iordanou *et al.*, 2019). Moreover, Ifelebuegu (2023) argues that AI challenges online evaluation credibility, requiring educators to change assessment methods for meaningful learning through authentic forms like open-ended tasks and project-based work, preventing ChatGPT assistance. Pellegrino and Quellmalz (2010), cited by Ifelebuegu (2023), show how assessment structure impacts learning and learner engagement.

Difficulty in Detecting Generative AI

Participants raised concerns over identifying AI-generated outputs due to limitations in current detection tools, as noted by Teacher 3.

> "*Some answers of AI cannot be detected by SafeAssign or Turnitin."* [Teacher 3]

Similarly, Teacher 4 struggles to confirm if students' work is genuine, making it hard to verify their effort.

> *"It is very hard for the teachers to assess if the student is really the one who did the task."* [Teacher 4]

Furthermore, Teacher 5 worries about similarities between AI-generated and student works, complicating differentiation.

> *"It is difficult for me to distinguish whether a student's output is generated by AI.…"* [Teacher 5]

Finally, Teacher 7 highlights challenges in detecting student work due to the use of multiple AI tools like ChatGPT and QuillBot.

> "*Some students, after generating the data from ChatGPT, they use Quillbot on it, making it difficult to detect through plagiarism checks."* [Teacher 7]

The study by Alexander *et al.* (2023) shows that even experienced teachers struggle to differentiate between student and AI-generated work, similar to Teachers 4 and 5. Khalil and Er (2023) discovered students using ChatGPT for undetected essay completion, echoing Teacher 3's concerns on AI answers and the limitations of detecting tools.

Likewise, Al Afnan *et al.* (2023) stress the importance of effective plagiarism detection software to verify student tasks accurately, aligning with the challenges faced by Teachers 4 and 5. Elkhatat *et al.* (2023) noted varying AI detection tool performance based on model complexity, while Krishna *et al.* (2023) found that rephrasing AI texts reduced tool accuracy, echoing Teacher 7's recognition issues with multiple AIs.

Lack of imposed guidelines and policies. Teachers lack policies for GAI employment, hindering their ability to handle related ethical and pedagogical issues, for which Teachers 1 and 3 emphasized preparedness. According to Teacher 1, the university has no GAI policies. Thus, this suggests that each teacher is free to establish their own norms when dealing with this issue in the classroom.

> *"In terms of university policies, it really doesn't have any yet. So, the education institution has no established policy at all regarding what is deemed acceptable or unacceptable in the use of generative AI."* [Teacher 1]

Similarly, Teacher 3 highlights the institution's lack of action on GAI use by noting the syllabus doesn't address GAI cheating, leading to no steps taken against such dishonesty.

> *"The institution has not taken any action regarding the use of generative AI. If you read our syllabus, particularly in the last section, the policy only states that students are prohibited from cheating, but there is no specific rule about the use of generative AI."* [Teacher 3]

Teacher 1's acknowledgment highlights the absence of university policies on GAI, leaving educators to navigate this technology landscape independently, requiring them to establish classroom GAI protocols. According to Xiao *et al.* (2023), educators should set GAI policies independently due to a lack of institutional guidance, highlighting adaptability and proactive approaches to tackle AI challenges.

Furthermore, Chan (2023) emphasizes the importance of teachers' proactive approach in addressing non-existent university policies on GAI, highlighting the need for individual strategies to maintain academic integrity and fairness in assessments, mirroring Teacher 3's observation of the institutional silence on AI's impact on academic dishonesty. Without any specific regulations or instructions, teachers must take note of the possible dangers of AI-based cheating and act accordingly. This means that teachers are more likely to face unexpected AI disruptions since they might have no rules, structures, or guidelines established by the institutions.

4.2. Teachers' Strategies to Guarantee the Academic Integrity of Students' Output

Carrying Out Authentic Tasks

The participants frequently mentioned implementing authentic assessments as a key strategy for ensuring academic integrity in student outputs. The execution of authentic assessments was outlined below:

Classroom-centric Assessments

Conducting authentic assessments inside the classroom instead of online can help teachers prevent student cheating and discourage reliance on GAI. As per Teacher 2, educators should not always rely on written outputs as they can be easily manipulated by GAI.

> *"…It is important to use performance tasks, and to complement it with written outputs like essays, reaction papers, or any research subjects…"* [Teacher 2]

Moreover, Teacher 4 mentioned that to test students' skills in essays and answering random questions, assessments should be classroom-based.

> *"I prefer assignments done in the classroom to assess their ability to construct sentences and answer random questions accurately, rather than at home or elsewhere."* [Teacher 4]

Lastly, to minimize student reliance on GAI, Teacher 6 suggests assigning in-class tasks rather than online assessments.

> *"I realized I should give assessments in the classroom rather than just online..."* [Teacher 6]

Classroom-based assessments, rather than relying solely on online methods, are crucial to prevent students from exploiting GAI for cheating and to accurately assess students' skills, according to Teachers 2 and 4. This method is in line with the findings of Stiggins and Chappuis (2018), cited by Ceyhun Ozan (2019), who all claim that tasks that take place in the classroom provide a more accurate assessment of students' abilities and test their actual skills. Moreover, Teacher 6 prefers in-class assessments over online ones, agreeing with Daniel's (2020) argument that conducting assessments in the classroom avoids threats to assessment integrity posed by AI tools. This approach helps prevent students from over-relying on AI, which could otherwise hinder critical thinking.

Designing AI-defiant Assessments

Considering the existence of GAI in education, participants employed strategies that hindered AI from generating answers effortlessly. Teacher 2 elaborates that crafting assessments involve paraphrasing specific references rather than directly relying on ChatGPT's outputs, akin to sourcing information from books or textbooks.

> *"…whatever is in their reference, I don't copy it verbatim, and as much as possible, I paraphrase it. I make sure to paraphrase so that they will not be able to see it automatically on ChatGPT or directly in their books or textbooks…"* [Teacher 2]

Moreover, Teacher 7 also says that teachers should modify the assessments to pose difficulties for GAI to generate.

> *"…let's create activities that are challenging for AI to generate."* [Teacher 7]

Ifelebuegu (2023) study illustrates a trend towards normalizing dishonesty and increasing the risk and effort associated with outputs. His research suggests modifying test questions to challenge both AI systems and students, aligning with Teacher 2's approach of altering questions to deter computer-generated responses. Moreover, Teacher 7's emphasis on AI-proof assessments underscores the need for modified techniques to address advances in information technology, especially GAI. This is underscored by Crawford *et al.* (2023), Iordanou *et al.* (2019), and Rasul *et al.* (2023), who all emphasized the need to come up with assessments that encourage critical thinking and are capable of resisting the auto-generating tools students used for answering tasks.

Diverse Evaluation Approaches

In students' extensive employment of GAI in assessments, teachers formulated numerous evaluation approaches to gauge students' classroom performance rather than online. The following statements illustrate the application of various assessment strategies:

Conducting Oral Validation

The oral validation assessment is one of the methods of evaluation that the participants of this study commonly use. Teacher 2 stimulates student learning by posing follow-up questions in class.

> *"After they submit their assignments, you give them follow-up questions, like in a face-to-face class...just try to check if they have really understood what they have researched."* [Teacher 2]

Furthermore, Teacher 3 expressed satisfaction with the university's blended learning approach, noting that while classes are not entirely online, they incorporate both online and in-person components.

> *"…if we have limited time in which I cannot let the student take the quiz face-to-face, I may let them take the quiz online, but with oral validation face-to-face."* [Teacher 3]

Finally, Teacher 5 mentioned that they conduct oral validation in order to assess students' metacognitive skills.

> *"...I conduct oral recitations to test if the students are using their metacognitive skills and not AI."* [Teacher 5]

Teachers 2 and 3 recommend oral validations as a follow-up to online quizzes or exams to assess student understanding. This approach is supported by Wojtczak's (2022) findings, which highlight its effectiveness in addressing the challenges posed by extensive GAI misuse. On the contrary, Teacher 5 uses oral recitations to encourage critical thinking skills, aligning with Ying Xie *et al.* (2023). They aim to reduce students' dependence on GAI tools and emphasize critical thinking by incorporating oral recitations into their syllabi. Additionally, oral validation tests provide teachers with valuable insights into students' learning, enabling them to adjust their teaching methods. Wojtczak (2022) also noted that oral validation tests not only assess student understanding but also mitigate overreliance on GAI.

Utilization of AI-detecting tools. Teachers assess their students' work using AI detection tools to ensure the authenticity of the material and to mitigate overreliance on artificial intelligence. Teacher 1 mentioned the use of AI-detecting software to verify the authenticity and originality of students' output.

> *"…in terms of AI-detecting, I use software to check authenticity and originality…"* [Teacher 1]

Additionally, Teacher 2 utilizes AI-detecting tools such as Turnitin to find AI in student work.

> *"…I used Turnitin to check since…you would know where they got it since Turnitin will provide the citation or reference of where they got that statement."* [Teacher 2]

Similarly, Teacher 3 depends on Turnitin and SafeAssign to check the authenticity of students' work.

> *"...software like SafeAssign and Turnitin monitors the student's work to see if it has a copy from anywhere in the world. That's why it is really helpful."* [Teacher 3]

Meanwhile, Teacher 4 uses Turnitin, Grammarly and uses plagiarism detection on BBL-LMS for online tests.

> *"I only use Turnitin and Grammarly since those are just the tools that I know…"* [Teacher 4]

Lastly, Teacher 7 uses Grammarly and Turnitin to check student assessments, using their accounts for these AI-detecting tools.

> *"We were given an account like Grammarly so that when we check the students' output, we can really see if it's from AI or not."* [Teacher 7]

The study participants were aware of the substantial issue surrounding the use of GAI in education. In response, Teachers 1, 2, and 3 have proposed using AI-detecting tools to combat misuse of GAI by checking students' submitted work. This approach aligns with findings from Alsallal *et al.* (2023), Elkhatat (2022), and Foltýnek *et al.* (2020), which emphasize the importance of using anti-plagiarism software to uphold academic integrity and prevent unethical behaviors like academic dishonesty. Such practices can impact students' future academic and career prospects, as academic plagiarism undermines skill development and fair assessment.

In addition to Turnitin, Elkhatat *et al.* (2023) employ other AI detection applications like Grammarly and Quillbot to identify AI-generated content in student submissions, as discussed in the responses of Teachers 4 and 7. Furthermore, tools like Turnitin are specifically designed as online tools to encourage originality in students' writing by detecting plagiarism. Thus, Turnitin helps deter students from engaging in academic dishonesty. Its widespread recognition and adoption by various institutions have significantly contributed to the efforts in combating plagiarism.

Teachers' Professional Instincts

Even with the advances in AI-driven assessment systems, human judgment, and experience are still necessary to guarantee the validity and impartiality of evaluating students' output. Teacher 1 highlights the invaluable instincts of teachers, which enable them to discern when students employ AI assistance in students' outputs.

> *"...Our teacher instinct is irreplaceable as it allows us to recognize when our students are using AI."* [Teacher 1]

Likewise, Teacher 4 underscores the innate capability of educators to sense discrepancies in student work, which can be indicative of AI involvement.

> *"...We always have this instinct in our teaching skills in which we can identify or find hints that the student is not the one who did the tasks because you will notice that there are some unfamiliar words that my students use."* [Teacher 4]

The reliance upon teachers' professional instincts, which in turn represents a fundamental aspect of ensuring academic integrity in the age of GAI, Teacher 1 and Teacher 4 demonstrate the ongoing importance of these instincts in detecting potential instances of student reliance on GAI. Their deep subject knowledge and teaching expertise uniquely qualify them to identify anomalies in student work that suggest AI involvement. This response aligns with the study by Waks (2018), which states that intuition is "*the only truly valuable thing*," asserting that only "*intuition based on a sympathetic understanding of experience*" can grasp the fundamental laws of the universe.

Additionally, an intuitive approach combined with AI-driven assessment systems can add a crucial human dimension to evaluations, promoting fairness and integrity. If such an approach is integrated into teacher education programs, as speculated by Valle (2018), it can empower educators to navigate the complexities of technology while maintaining academic standards.

Teachers' Collaboration

Teacher collaboration refers to a process or strategy in which teachers work together to find solutions to issues related to students' academic integrity. The following statements from participants illustrate how they collaborated to address academic integrity:

Recommending AI-detecting Tools

To verify the authenticity and originality of students' outputs, the participants recommend specific AI tools to their peers at the institution, with Turnitin being one of the most popular. Teacher 1 mentioned advising other faculty members on the AI-detecting tools they use to review students' work.

> "*…In terms of collaboration, we just inform our colleagues about the tools we use."* [Teacher 1]

Similarly, Teacher 2 highlighted the use and recommendation of AI-detecting software as part of collaborative efforts among teachers to assess the validity of student outputs.

"...collaborative efforts of teachers are using or recommending those platforms, like Turnitin or any other platforms..." [Teacher 2]

Moreover, Teacher 5 emphasized the importance of teacher collaboration in utilizing AI-detecting software like Turnitin to identify artificial intelligence in student work and prevent the misuse of GAI.

"We teachers collaborate, and we use Turnitin to check the student's output and to make sure that the student will stop using AI tools..." [Teacher 5]

Lastly, Teacher 7 noted that they use and suggest Grammarly and Turnitin since they have accounts of those AI-detecting programs.

"The tools we use and recommend are Grammarly and Turnitin..." [Teacher 7]

Using AI-detecting algorithms is another method to counter AI-generated student submissions. University professors suggest that their peers use these tools to verify the validity of students' work and their knowledge. Teachers 2 and 7 mentioned using AI-detecting algorithms and recommended them to colleagues to ensure the authenticity of students' output, echoing Ercegovac and Richardson (2018), who suggest incorporating AI-detecting tools and plagiarism detection software, such as Turnitin, into assessment procedures at higher education institutions to reduce instances of matching texts. Nazaretsky *et al.* (2022) noted that these tools, specifically AI-detecting tools, can significantly assist educators in evaluating students' submitted work. Therefore, it is important to spread awareness and share these tools with other educators.

Collective Deliberation about AI-related Issues

In addition to recommending specific AI tools to their colleagues, participants also raise these topics in meetings. Achinstein (2018) emphasized that expressing diverse viewpoints and reconciling divergent goals are crucial in devising solutions to address plagiarism and AI-related issues. Furthermore, teachers collectively discuss AI concerns during seminars and forums to address the widespread use of GAI by students and ensure the authenticity of their tasks and outputs. The teachers' deliberation of AI-related issues is evident below:

Participants Collectively Deliberate on AI-related Issues and Their Potential Resolutions

Teacher 3 noted a policy on cheating in the syllabus, but no specific rule regarding students' use of GAI. Additionally, there are no institutional initiatives to curb academic dishonesty, as the negative impact of student AI use is still being investigated.

"…and when it comes to collaboration, we have discussions about it, but we have not taken steps yet because it is a new issue..." [Teacher 3]

Similarly, Teacher 4 highlighted the inclusion of these concerns in their meetings, where discussions revolve around formulating solutions to combat the misuse of GAI by students.

"…we do usually include this concern to our meetings that we have to attend on how we are going to address these concerns. Just that, meetings and seminars…" [Teacher 4]

Participants in this study showed a sincere commitment to addressing AI-related problems through discussions and meetings. Willems (2023) noted that AI misuse, especially tools like ChatGPT, has become a significant concern for teachers. Teachers 3 and 4 highlighted these issues during AI-focused seminars. Additionally, Zhai (2022) highlighted ChatGPT's negative impact on students' educational experiences, prompting teachers to seek peer advice. Educators' proactive approaches to GAI challenges underscore the recognition of the risks this technology poses to academic integrity.

Teachers' unified evaluation of students' performance. Seeking advice from colleagues on monitoring students' output helps determine if their work was AI-generated. Medgyes and Malderez (2018) found that unified teacher evaluations based on communication, inquiry, and debate enhance student education and performance. Teachers confer to ensure student work is authentic and original. Below are teachers' responses regarding their unified evaluation of students' performance:

Teacher 2 engages in interrater activities with colleagues to assess students' written tasks and consults experts to ensure the legitimacy and authenticity of students' output.

"We use interrater activities, like when students submit their essay, you will let other teachers do the rating as well; let them read the essay and ask for their opinion and expertise…" [Teacher 2]

Furthermore, Teacher 4 agreed to seek advice and consultation from colleagues to verify the authenticity of the student's work.

"…I also do consultations with my co-teachers if I have some essay tasks to ensure the authenticity and if the output of the student is correct." [Teacher 4]

Meanwhile, Teacher 6 illustrated their collaborative efforts in connecting with other teachers to inquire about student progress in process- and product-oriented tasks.

"I always connect and talk to the teachers in determining whether these students are highly performing inside the classroom, whether on both process or product-oriented tasks." [Teacher 6]

The participants collaborate with peers to analyze student outputs, aiming for cohesive conclusions in assessments. In accordance with the study of Graham *et al.* (2018), educators should prioritize inter-rater agreement to ensure authenticity, reliability, and a thorough assessment of students' capabilities. Teachers 2 and 4 employ this approach by involving colleagues in rating and providing feedback on student work.

Additionally, based on the studies of Tinsley and Weiss (2018) and Walker (2018), teachers could utilize inter-rating as an evaluation rubric, similar to a rubric for assessing student outputs, which aligns with Teacher 4's method of using peer evaluation criteria. Teacher 6 mentioned comparing students' performances across classes by consulting with previous teachers. These findings corroborate Schleifer *et al.*'s (2019) assertion that educators within strong collaborative teaching communities can come up with fresh ideas aimed at enhancing student engagement in schoolwork and course materials.

Promoting Academic Integrity

The integration of advanced writing tools and technologies, including AI-driven aids, presents both challenges and learning opportunities. While GAI technologies can enhance educational opportunities and accelerate academic development, ethical considerations and comprehensive education on the responsible use of AI-generated content are crucial. These elements ensure the responsible and balanced integration of AI within higher education environments. Below are strategies employed by participants to promote academic integrity:

Supervising Student Orientation about AI-related Guidelines

Participants are supervising student orientation to set clear guidelines and expectations regarding the responsible use of AI tools within the academic environment. Teacher 1 emphasizes the importance of clear communication regarding expectations for students.

> *"…I usually conduct an orientation… regarding the use of AI in my class…making sure to orient them about what's acceptable and not acceptable for me in terms of the use of AI."* [Teacher 1]

Furthermore, Teacher 4 instructs students not to use GAI as part of their work.

> *"…I always tell my students, on their orientation day, not to use AI in doing their assignments."* [Teacher 4]

Similarly, Teacher 7 holds a similar opinion that using ChatGPT is a form of cheating.

> *"…during orientation, I provide them with information that they should not cheat, so the use of ChatGPT is a form of cheating when they create essays or anything similar."* [Teacher 7]

Teachers actively integrate AI-related guidelines into their orientation sessions. Cotton *et al.* (2023) recommend establishing clear guidelines for the use of GAI tools and communicating them effectively to students, outlining specific procedures and acceptable/unacceptable uses. Additionally, Sogut (2024) emphasizes that thorough communication or orientation is crucial for developing academic integrity among teacher trainees and increasing awareness of academic principles and policies related to AI tools. Furthermore, Akgun and Greenhow's (2022) article states that students must be taught what AI tools can and cannot do. Teachers can increase awareness by providing information on how AI tools function and involving students in discussions about the ethical implications of cheating.

Utilizing generative AI as an assistive tool. GAI tools integrated into educational practices have opened new opportunities for assistance in the student's learning journey. Participants suggest students use GAI as an assistive tool to aid their studies, rather than a substitute for active learning participation. Teacher 2 cites the aspect of reminding the students to use GAI to help them learn instead of depending totally on it.

> *"…we have to remind students to make use of AI in helping them and not the AI doing the activity for them."* [Teacher 2]

Comparably, Teacher 3 acknowledges that AI is helpful as an aid in tasks where it can better enhance productivity and help students learn without compromising their autonomy.

> *"...I'm not saying that AI is harmful, because if we use it as an assistive tool, then it is a very effective companion… It really is helpful if you use it as an assistive tool, not in academic dishonesty."* [Teacher 3]

Moreover, Teacher 4 asserts that while using AI to aid assessment tasks can be beneficial, relying solely on AI-generated content without proper citations constitutes cheating.

> *"… if the student only uses it to assist his or her task, then that is good..."* [Teacher 4]

Teacher 2 supports AI to aid learning processes, emphasizing student control in their educational journey. Teacher 3 also sees GAI's effectiveness as a supportive tool for tasks, stressing its appropriate use to enhance productivity and learning without reducing student autonomy. These stances align with scholars like Baidoo-Anu & Ansah (2023) and Liu *et al.* (2023), who emphasize the importance of balancing AI support with student autonomy. Similarly, GAI tools like ChatGPT, while beneficial for learning, raise significant ethical concerns (Wang *et al.*, 2023).

The optimal approach to prevent ChatGPT overuse is to encourage its use as a supplementary tool rather than a primary source (Liu *et al.*, 2023). Teacher 4 similarly

contends that while AI can enhance understanding, relying solely on it without proper citation constitutes cheating.

Dissuading Students from Using Generative AI

GAI technology has compromised academic integrity by enabling easier plagiarism and cheating among students. Teachers can mitigate this by discouraging tool use and educating students about risks. Teacher 4 explicitly instructs students against using GAI for assignments, setting clear expectations from the first day of school. This proactive approach sets clear expectations and boundaries regarding the use of GAI tools.

> *"...I always tell my students, especially on their first day of school not to use AI in doing their assignments."* [Teacher 4]

Correspondingly, Teacher 5 not only discourages students from using GAI but also emphasizes an evaluation strategy that involves personally testing, assessing, and evaluating student outputs to ensure authenticity.

> *"...I discourage them from using AI…The best approach as a teacher is to instruct your students from the very beginning not to use AI."* [Teacher 5].

Moreover, Teacher 6 reinforced the commitment to checking outputs thoroughly for any signs of academic dishonesty related to AI tools, reprimanded, and told students that AI is not good.

> *"…to really see if there's what is called practice of academic dishonesty with the utilization of AI tools. In that case, I reprimand the student and say that these are some of those parts and even ideas that you really copied."* [Teacher 6]

Dai *et al.* (2023) stated that GAI tools, like ChatGPT, can produce high-quality content quickly, which may encourage students to plagiarize or cheat. These actions undermine the learning process and erode academic integrity, potentially lowering academic standards. Teachers 5 and 6 advocated for discouraging students from using GAI, emphasizing the necessity of personally evaluating student outputs to ensure authenticity. They also reprimand students who exhibit signs of AI-facilitated academic dishonesty. This stance is supported by Goodlad and Baker (2023) and Caines (2023), who found that discouraging AI use while informing students about its risks and ethical issues can be effective.

Students are advised from excessive reliance on AI. The use of AI in educational settings comes with numerous implications for the pedagogy and learning outcomes of the students. Teacher 2 stresses students should not rely solely on AI, urging them to paraphrase and integrate personal thoughts in researched answers for deeper understanding and independent thinking.

"I make sure to give reminders that if they're going to use AI, they need to paraphrase it; they read and add their own thoughts about the answers that they have researched, not just what AI provided." [Teacher 2]

Meanwhile, Teacher 3 reminded students that over-reliance on GAI might not facilitate learning.

"…remind them of the virtue of honesty. Always remind them that if they do not do the task themselves, then they will not learn if they rely too much on AI." [Teacher 3]

Furthermore, Teacher 4 wishes to educate the students about AI's proper and ethical use, and that one should not depend too much on AI to maintain academic honesty.

"...since using AI is actually a part of somehow cheating…They are allowed to use, but they are not allowed to rely." [Teacher 4]

Like Teacher 2's concerns, Teacher 5 stressed the need for deep understanding and personal reflection to mitigate the long-run effects of too much dependence on AI, such that students do not impair their learning by relying too much on AI-generated content.

"…If they rely on AI, there is a probability that in the future, they will still struggle because they won't have a deep understanding due to their reliance on AI." [Teacher 5]

Lastly, Teacher 6 emphasized the need for practicing academic integrity with limited dependence on AI tools.

"*…when they are too highly dependent on these AI tools, it's not them learning anymore. It's actually the tools providing them the learning towards them…And they should not become too reliant when it comes to AI."* [Teacher 6]

Dai *et al.* (2023) argued that excessive reliance on AI hinders students from deepening their understanding of the subject matter, as they tend to seek quick solutions from AI rather than engaging with the problem. Conversely, Teacher 3 emphasizes that overuse of AI can impede the learning process for students. These views echo the perspectives of Liu *et al.* (2023), who noted that excessive dependence on automated tools diminishes creativity, innovation, and critical thinking among students. Furthermore, Liu *et al.* (2023) highlighted that establishing clear guidelines on the ethical use of AI in academic institutions promotes academic integrity. In summary, this approach lends credence to Teacher 4's advocacy for using AI responsibly to uphold academic integrity, thereby fostering an environment that empowers both students and instructors.

Reflecting on concerns voiced by Teacher 2, Teacher 5 emphasizes fostering deep understanding through personal reflection, ensuring students prioritize learning over excessive reliance on AI-generated content. Lastly, Teacher 6 balances allowing GAI tool use with emphasizing academic integrity. This aligns with scholars like Chan and Lee (2023), Korn and Kelly (2023), and Liu *et al.* (2023), who stress the importance of balancing AI use to preserve independent learning and academic integrity.

Implementing Penalties

Combating academic dishonesty in the era of GAI is only possible with the support of educational institutions and policymakers. The educational policy focused on the implementation of penalties for GAI usage can help students understand the ethical dimensions of using GAI in academic settings. The penalties implemented for using GAI by the students are observed below:

Grade Deductions to Avoid AI Usage

The imposition of grade deductions became a prominent intervention strategy that the teachers utilized to deter students from leveraging GAI for cheating. Teacher 1 articulated the enactment of grade deductions in the classroom as a repercussion for students who are exploiting GAI.

> *"If we proved that our students are indeed using GAI, we will give them low scores."* [Teacher 1]

Meanwhile, Teacher 5 and Teacher 6 are strictly against the use of GAI, and both propose an automatic fail grade for those using GAI.

> *"…if I catch them using GAI and if I notice their output does not look like they made it… I'll give them failing grades."* [Teacher 5]

> *"I tell them that if we do not have an honest discussion about whether their output is generated using AI tools, they will definitely receive a failing mark for that output."* [Teacher 6]

Teacher 1 emphasizes the adoption of grade deductions as a consequence for students found using AI, aligning with the recommendations of Royal *et al.* (2018), who advocate for explicit academic integrity policies with appropriate penalties for violations. Additionally, Tupas *et al.* (2023) implement disciplinary measures to address academic dishonesty among students, including issuing incomplete remarks, deducting points, or reporting misconduct when detected. On the other hand, Teachers 5 and 6 advocate automatic failing grades for students caught using AI, a stance supported by Hazel's (2021), which provides guidelines for discouraging academic dishonesty, including recommendations for failing individual assignments, failing students in a course, or

imposing grade penalties without an actual course failure. Several studies have demonstrated that implementing consequences such as failing grades or point deductions serves as a deterrent and underscores the importance of ethical practice (Bryzgornia, 2022; De Lambert *et al.*, 2018; Kitahara & Westfall, 2018).

Requiring Students to Redo AI-generated Outputs

The teachers employ a policy that requires students to redo their output if it is proven to be generated by GAI. Teacher 3 utilizes software tools to identify high-risk or high-percentage matches in submissions.

> *"...once the report of the Turnitin or SafeAssign manifests a high percentage, I will not accept their submission but will allow a resubmission to ensure they create their own output."* [Teacher 3]

Moreover, Teacher 4 advises the students to refrain from using GAI in their assignments. If the student uses AI despite the advice, he will ask the students to redo their output, preferably in person.

> *"…I always tell my students…not to use AI in doing their assignments because if I catch them using one, I will have them redo their task, but in a face-to-face context…"* [Teacher 4]

In Teacher 7's class, in cases where he spots such cases, he will immediately take back the assignment and direct the students to redo it.

> *"…I am returning to the students whose papers are clearly generated by AI, and I will ask them to write another output."* [Teacher 7]

In conformity with Tupas *et al.* (2023), AI tools like plagiarism detection software help identify and prevent academic dishonesty. This stance is consistent with that of Teacher 3, who used AI-detecting software to prompt students to produce new outputs where necessary. Teacher 4 warns students against using AI in assignments and requires a redo if such is done despite the advice. Tupas *et al.* (2023) stated that consequences for academic dishonesty are communicated, providing a surefire discouragement against plagiarism through reprimands and disciplinary actions.

Moreover, in Teacher 7's class, AI-generated papers in student outputs are clearly identified, and assignments are returned with instructions for producing new, original work. This approach supports broader educational goals of fostering independent thinking, deep subject understanding, and upholding academic integrity. Chirikov *et al.* (2019) emphasize the importance of imposing clear, serious, and immediate penalties for academic dishonesty that outweigh perceived benefits from unethical practices.

5. Recommendations

5.1 Implications for Educational Practice

Drawing from participants' feedback and relevant literature, this study unveils implications for educational practice in maintaining academic integrity amidst the evolving landscape of GAI. The researchers encourage teachers to take measures in order to reduce the opportunity for academic dishonesty among students by developing the following strategies: To begin with, educators should reduce chances that contribute to cheating among learners by use of these methods: One is through incorporating transformative pedagogies into their teaching practices which encourage critical thinking, moral reasoning as well self-awareness among students. Teachers can also make inquiry-based learning more effective through dialogue and active involvement with course content, thus empowering pupils to gain a deeper understanding of principles of academic integrity within the digital era.

Secondly, holding interactive seminars or orientations could be another approach where students are taught about the ethical usage of AI technologies in the course of their academic work, covering its implications using AI-driven tools such as plagiarism detection software, online proctoring systems, and the importance of integrity while leveraging these technologies responsibly. Thirdly, educators should give priority to assessments that can be managed within the confines of a classroom but still remain authentic and valid, taking into account difficulties caused by AI-driven technologies. Teachers can create assessments that mirror real-life tasks and situations related to what is taught in class, such as project-based assignments or simulations, among others. This will help ensure that students have an opportunity to express their knowledge and skills in an authentic way while at the same time reducing chances for cheating through artificial intelligence. Finally, it is essential for teachers' vigilance against potential threats posed by AI-supported academic dishonesty. They should keep track of new methods and trends employed by learners when trying to outwit detection systems powered by artificial intelligence.

Conversely, the researchers further advise the policymakers to take clear policies and guidelines for academic integrity issues with a more profound emphasis on issues that are heightened by the nature of GAI technology. The researchers suggest that policymakers in the Philippines should revise these regulations or create new policies specifically aimed at addressing the challenges posed by GAI. These updates could enhance the Cybercrime Prevention Act and the Intellectual Property Code by incorporating explicit guidelines for detecting and preventing AI-assisted plagiarism and academic misconduct. Moreover, these policies should outline standards for ethical behavior, protocols for reporting and investigating misconduct, and consequences of violations. For instance, rigorous penalties such as grade deductions and making students redo outputs produced by AI serve to deter students from academic dishonesty. Finally, it is incumbent upon the institution as well as the policymakers to ensure that effective AI-detecting tools are available for teachers' use and provide training and

resources to teachers on how to effectively use these tools in identifying and managing instances of academic dishonesty. Such comprehensive approaches can ensure academic integrity, make students accountable for their academic work, and foster a culture of honesty and accountability within educational institutions.

5.2 Implications for Future Research

This subject area requires more research, and it is highly suggested that future studies continue to explore the subject even after this study. The study sought the responses of seven teachers working at a university in Davao City, Philippines, regarding the utilization of GAI by students and its effect on academic integrity. Throughout the course of the study, there were many challenges to overcome that prevented some parts from being researched. Thus, further research on the matter can be conducted. The following research gaps can be considered by future academic researchers who wish to explore this topic:

For instance, from the perspective of the students, the impact of generative artificial intelligence on academic integrity was not further explored in this study. By examining students' perceptions regarding using GAI to complete tasks and projects, subsequent researchers will be able to better understand why students use GAI. They might also provide more insights into students' motivations for using GAI and whether they are aware of its personal impact. In that respect, subsequent researchers might conduct research on students' perceptions regarding the use of AI in the context of academic integrity. This will give institutions and other researchers essential insights and information on combating or reducing the adverse effects of GAI and its impact on student learning.

Furthermore, future researchers should also expand their studies beyond the understanding of students' perceptions of GAI. Although this study has provided meaningful insights into the techniques that college instructors use, there is a need for further studies to investigate such techniques in basic education settings. This is because it would be beneficial to have further research on how to prevent academic cheating in the GAI era, especially in primary and secondary education settings. Such research studies may help draw practical techniques to be used in classrooms against students' inappropriate usage of GAI in an academic setting. Lastly, future research might also consider conducting a quantitative study, which can gather a larger sample size of participants, enhancing the reliability and generalizability of the results.

6. Conclusion

Throughout this study, the researchers can see the prevalence of using GAI for students' outputs, and even teachers are now experiencing difficulties in determining which work is authentic, genuine, and original. The accessibility of GAI is one of the reasons the researchers observed why students continuously use these tools for their outputs. Given the nature of these tools as free, the students can access them with little to no limitations.

Moreover, the researchers realized that in order for the teachers to defeat generative AI, ironically, there is a need to use AI-detecting tools, such as Turnitin, to detect such outputs. On top of that, the researchers perceive the necessity of developing comprehensive policies or guidelines to uphold academic integrity when addressing GAI. The teachers' firm statements about the increasing indistinguishability of GAI outputs and their detrimental effects on students' authentic learning bring out the pressing need for action. Failure to address these challenges may compromise the future academic and professional success of students, thereby hindering their ability to compete in the current competitive global workforce and limiting their opportunities for personal and professional growth.

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Conflict of Interest Statement

The authors declare no conflicts of interest.

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