
Exploring the Experiences of Tertiary students in using Artificial Intelligence (AI)

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Abstract:

This study explores the experiences of tertiary students in Benguet in using Artificial Intelligence (AI). Employing a mixed-method research design, the study gathered quantitative data through electronic surveys from 66 tertiary students and qualitative data via semi-structured interviews with 12 students from three Higher Education Institutions in Benguet. The research analyzed the types of AI tools used, how students utilize them, the challenges encountered, and their adaptive strategies.

The findings reveal that students commonly use generative AI tools such as ChatGPT, Cici, and Grammarly primarily for information acquisition, grammar checking, and enhancing outputs. Efficiency and convenience is identified as a common reason why students use these AI tools. This study highlights two main approaches to AI including AI-assisted shortcutting, where students heavily rely on AI-generated output with minimal intervention, and Human-in-the-loop (HITL), involving more human control through collaborative ideation, content improvement, text mining, and plagiarism detection. The study highlights several challenges, including limited accessibility to premium AI features, and inconsistent internet connectivity. It identified perceived challenges such as inaccuracies and insufficient data on specific topics like indigenous knowledge, lexical complexity of AI language, and issues such as the potential for AI dependency and plagiarism. In response to these challenges, students employ cross-referencing with traditional resources and tool-chain integration to verify information and enhance AI-generated content.

The study concludes that while generative AI offers convenience, its misuse can lead to inaccurate outputs, AI dependency, and plagiarism. It recommends that educational stakeholders should develop AI policies and implement AI literacy programs to guide students toward the effective and ethical integration of AI in their learning.

Keywords: Artificial Intelligence; Human-in-the-loop; AI-assisted Shortcutting; Generative AIs; AI dependency; AI Literacy

Introduction:

Artificial intelligence is a sub-field of computer science. It is the intelligence exhibited by machines or software. As artificial intelligence (AI) technology continues to advance at a rapid pace, its integration into various domains of human activity,

including education, has become increasingly prevalent. AI-driven tools and systems are being adopted to enhance teaching methodologies, personalize learning experiences, and streamline administrative tasks (Verma, 2018).

In the age of technology, artificial intelligence (AI) is significantly changing the education landscape. Artificial intelligence (AI) can support education by automating administrative tasks, freeing teachers to focus more on teaching and personalized interactions with students, enhancing rather than replacing human-led teaching (Milberg, 2024). From intelligent tutoring systems to personalized learning platforms, AI is transforming how students interact with educational content and how educators promote learning. AI-based systems facilitate individual and adaptive learning experiences, with personalized content and instruction tailored to meet each learner's unique needs and preferences (Chen et al., 2020). Its potential for enhancing learning experiences and efficiency has sparked interest and debates among educators, policymakers, and researchers worldwide.

A survey conducted by Digital Education Council, a global alliance of universities and industry representatives focused on education innovation, showed that 86% of students use artificial intelligence in their studies regularly, 24% are reported to use AI daily, 54% daily or weekly, and 54% on at least a weekly basis. In its 2024 Global AI Student Survey, the council gathered 3,839 responses from bachelor, masters, and doctorate students across 16 countries that represented multiple fields of study. The survey results showed that ChatGPT (66%) remains the most common AI tool used for their courses, followed by Grammarly (25%) and Microsoft Copilot (25%). These AI tools are used to search for information (69%), check grammar (42%), summarize documents (33%), paraphrase a document (28%), and create a first draft (24%) (Kelly, 2024).

In the Philippines, the increasing use of AI tools by students is one of the top five trends predicted to impact learning in Philippine higher education over the course of 2024 as identified by a global study released by Edutech company Instructure, in collaboration with market research firm Hanover Research. Instructure's study reported that 62% of Filipino educators use generative AI to create content for their class, 56% to facilitate research and writing, and 53% to aid personalized learning

while 83% of students use generative AI, such as ChatGPT, for research and writing, 52% for test preparation, and 47% for foreign language education (Teh, 2023b).

Moreover, a review of Artificial Intelligence (AI) in Education from 2010 to 2020 provided a content analysis of studies aiming to disclose how artificial intelligence (AI) has been applied to the education sector by analyzing 100 papers including 63 empirical papers (74 studies) and 37 analytic papers selected from the education and educational research category of Social Sciences Citation Index. The content analysis showed that the research questions focuses on the development, application and integration of AI. Also, four research trends, including Internet of Things, swarm intelligence, deep learning, and neuroscience, as well as an assessment of AI in education, were suggested for further investigation. This study also proposed that the challenges in education may be caused by AI with regard to inappropriate use of AI techniques, changing roles of teachers and students, and social and ethical issues (Zhai et al., 2021b).

Subsequently, a study proposing Chan's AI Ecological Education Policy Framework, containing guidelines for using generative AI in university teaching, both at the university and departmental levels, surveyed a feedback from 118 students and 14 academics at a teacher education institution in the Philippines. The finding of the study highlighted that Participants recognized the potential benefits of integrating generative AI into their coursework, suggesting that the guidelines could enhance teaching and learning experiences. Participants also expressed their concerns related to the ethical use of AI, the potential for academic dishonesty, and the need for clear boundaries regarding AI's role in education highlighting the need for careful consideration of these factors when implementing AI in academic settings (Cacho, 2024).

Another study by Arcilla and company (2023) provided a comparative analysis of Artificial Intelligence (AI) ethical guidelines by looking at six different sources from the USA, European Union, India, Philippines, UNESCO, and

CAIDP. The paper was able to identify ethical considerations and challenges of implementing AI in the Philippine context, including data collection, use and sharing, and AI development. This study strongly recommended the need for the Philippines to ensure that in its localized AI ethics policy, there would be a clear definition of ethical and fair use of AI across sectors and industries.

Despite these emerging frameworks, the absence of a unified regulatory approach may hinder the effective and ethical deployment of AI technologies in Philippine education. And for a national policy in AI to be developed, the trend, needs and challenges in AI use on education should be studied. This study then explored the experiences of students in using AI tools relevant for policy making.

Conceptual Framework

This study is anchored on Human-Computer Interaction (HCI) Framework. This framework focuses on a.) User experience (UX): How students engage with AI tools, focusing on usability, design, and satisfaction. b.) Accessibility issues: Challenges students face in interacting with AI tools. c.) Adaptation: How students modify their use of AI based on their experiences (What Is Human-Computer Interaction (HCI)?, 2024).

Similarly, this research focuses on a.) what kinds of AI tools are used by students and how they use these; b.) the challenges and issues that arise as they use AI tools; and c.) and adaptation or how they modify their ways of using AI in response to the challenges and issues they experience.

This research then explored the experiences of tertiary students in Benguet in using AI for their academic requirements. This study found out that students in Benguet commonly use generative AI which generates AI assisted content that can be hard to detect when students are able to give proper prompts. Their approach in using AI are either student-centered or AI dependent. These face challenges in accessibility and internet connectivity. Issues such as AI dependency and plagiarism also

arise from these experiences. By exploring these experiences, the study provided recommendations such as implementing programs for AI literacy and policy making.

Methodology:

This study used mixed method research design. The researcher used electronic survey questionnaires to gather quantitative data on the AI tools utilized by tertiary students and their reasons for using AI tools. Semi-structure interview was conducted to gather qualitative data on the experiences of tertiary students in using AI which included their strategies in using AI, the challenges and issues that arise as well as their adaptations. The participants for the study included 66 tertiary students for the survey and 12 for the semi-structure interview randomly selected from three Higher Education Institutions in Benguet. The participants voluntarily participated in the survey and interview making sure that no participant is violated or coerced during the data gathering.

The data gathered are analyzed using descriptive statistics, specifically simple frequency count, while qualitative data gathered are treated using thematic analysis.

It is important to note that the data, specifically the survey results, are limited here in Benguet and would most likely represents the experiences of tertiary students in the province. This may lead to different results when the study or the survey is replicated outside the province.

Results and Discussions:

Generative AIs, its Efficiency and the Convenience of Tertiary Students

The global survey by Digital Education Council showed that ChatGPT remains the most common AI tool used by university student followed by Grammarly and Microsoft Copilot (Kelly, 2024). Similarly, the survey results also showed that ChatGPT is the most common AI tool used by college students in Benguet.

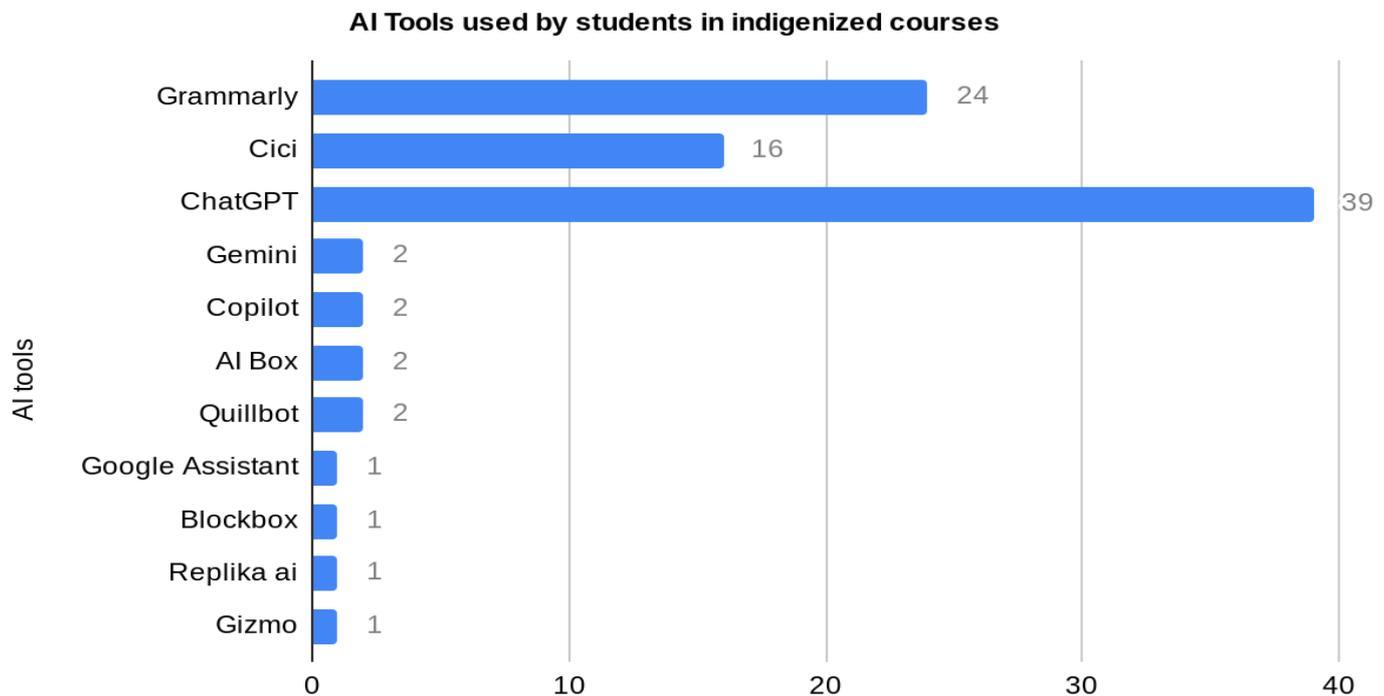


Figure 1. AI tools used by college students in Benguet.

The graph presents the AI tools used by college students in Benguet. ChatGPT, Cici and Grammarly are identified as the most commonly used AI tool among the students in Benguet. These are classified as generative AI or GenAI which uses prompts or questions to generate text that resembles human created content (Horsley, 2024). The result highlights ChatGPT as one of the most common AI tool for the students. This result conforms to the study of Al Zaidy (2024) on the Digital Education Council Global AI Student Survey 2024 which identified ChatGPT as the most widely employed and extensively used in academic studies, research, website development, and app development (“Education in the Era of Artificial Intelligence: An Evidence from Dhaka International University (Diu),” 2024).

Several studies on AI use in education in the Philippines also highlighted the use of students in ChatGPT. A study found that social influence plays a significant role in how study habits are shared among peers, potentially leading to the adoption of ChatGPT (De Jesus et al., 2024). Moreover, a study examining Filipino students' perspectives on using ChatGPT for academic research found that it has moderate usefulness and

influence on performance, with benefits including information access and writing assistance, but also concerns over accuracy, accessibility, and plagiarism (Cabuquin et al., 2024).

Students mainly use these AI tools for information acquisition and understanding. Some students reasoned that they use AI to quickly obtain information, gain a better understanding of course material, and explore topics they are unfamiliar with. This includes summarizing information, defining terms, and getting initial ideas for assignments. Tools like Grammarly are specifically used to improve the grammar, spelling, and overall quality of their written work while some students also use AI for paraphrasing. When traditional search engines like Google are perceived as overwhelming or not providing direct answers, students turn to AI as a more efficient approach to finding basic or general knowledge. They also use AI to get ideas before finding other resources.

Furthermore, almost all the students who participated in the survey cited efficiency and convenience as major drivers for using AI tools, appreciating their speed and ease of access in

obtaining quick answers and summaries. Indeed, using AI can make things easier but using it for convenience alone often leads to misuse, AI dependence and generation of inaccurate and unreliable data or output specially when employing AI-assisted shortcutting practices.

AI-assisted Shortcutting and Human-in-the-loop (HITL)

AI-assisted shortcutting is a term used by the researcher to describe the approaches of students in using AI where they take a shortcut in their learning process by relying on AI to do the work for them. This approach is highly if not totally reliant to the AI tool in generating the output without further human intervention or prompt modifications. This approach which includes automated literature search, automated summarization and query and copy is implied on the responses of the participants as they describe their ways on using AI.

Some students shared that they use AI for convenience as they need quick and direct answers especially when they have a limited time. One student shared, “I use it to search for some information about the subject because of its quick and direct answers, no additional information added and less time in using it.” Many students shared that they use AI in order to gather resources from different resources or summarize lengthy modules as quickly as possible due to limited time of doing their activity.

Another extreme way of AI-assisted shortcutting is query and copy. This approach involves very limited human intervention and even comprehension from the students. Many student shared, “I simply type what I want to know and the app will give me some answer.” Such approach implies that students highly depend or even trust AI tools to generate an answer or output for them as they only ask and copy whatever the AI has generated without questioning or analyzing the AI generated content. Query and copy implies over-reliance to AI which can negatively affect the performance of students because they accept AI-generated outputs without verification which may

lead to errors in task performance in the context of decision-making. This can happen when students struggle to assess the reliability of AI or how much trust to place in its suggestions (Zhai et al., 2024b).

Using AI assisted shortcutting approaches can only deliver effective answers if prompts are generated properly (Getting Started With Prompts for Text-based Generative AI Tools, n.d.). The outputs of AI when using these AI- assisted shortcutting approach is considered as AI-generated content. These are contents that are created entirely by artificial intelligence algorithms without human intervention. This is different to AI-assisted content which involves a collaborative process where AI tools augment human creativity and decision-making (Xie, et al.,2024).

Another approach of the students in using AI is Human-in-the-loop (HITL).This is an approach that requires human interaction, intervention, and judgment to improve decision-making and outcomes (Mosqueira-Rey, et al., 2023). This approach allows the students to have more control over their outputs rather than being dependent on the AI tool.This is implied in the different practices of the students in using AI which includes collaborative ideation, content improvement, text mining and plagiarism detection.

Collaborative ideation is a practice where the students only use AI to get some ideas from the AI tool as a basis for their answers or output. They use AI like assistants for studying. One students shared, “ I also turn into AI during review time, specifically Gizmo.” Gizmo is a AI which create flashcards from the inputs and can be useful for interactive or visual learners. Several students also shared that when they use AI tools particularly chatbots like chatGPT and cici, they use it as a partner in brainstorming. They talk to it for more ideas. They ask the questions and give prompts to the AI. It is the students who makes the final decision and output based on what they understood from the AI’s output.

For some students they use AIs for content improvement, specifically grammarly, which is used to correct grammatical errors, enhance literary outputs and add additional information on

the students' outputs. The process involves creating their own ideas or outputs first before using AI tools to enhance this.

Text mining is another practice which involves uploading a given data or module before giving prompts and letting the AI provide answers based on the data given. This practice allows students to feed the information source to the AI allowing the it to generate contextualized or more specified output.

Another practice in using AI is plagiarism detection where students upload their output for plagiarism check before making necessary changes. This practice is common to the students who use grammarly and quillbot. However, plagiarism scanner in grammarly is only available when students are able to avail the premium version.

These practices under human-in-the-loop imply that students who use AI tools are generally in control of their final output. They create their own outputs or answers and utilize AI to enhance these. The outputs for these strategies can be classified as AI-assisted content. AI-assisted content involves a collaborative process where AI tools augment human creativity and decision-making (Xie, et al.,2024). AI-assisted content leverages AI technologies to enhance human creativity, resulting in a more controlled and potentially higher-quality output (Verhulsdonck, et al., 2024).

Understanding the difference of AI generated content and AI assisted content is essential for choosing the appropriate approach for content creation based on specific needs and contexts (Nataño, n.d.). The accuracy and quality of the data or output provided by the AI tool depends on how the students use AI. The human-in-the-loop approach in using AI has is better output.

Accessibility of AI and Internet Connectivity

As students use varied AI tools and apply different approaches of using these, they face challenges such as accessibility of AI and internet connectivity.

The students shared that accessing AI tools is a challenge. They shared that some AI tools require you to avail their membership plan in order to use

them. Subscribing to these AI tools can be costly. Students may opt to use free versions but this may lead to another challenge like inaccurate results just as shared by one student, "When using free versions I can't find any information, sometimes not credible and cannot access the latest information." Free versions of AI tools tend to be more limited while paid premium versions offer more features, more accurate results and more comprehensive output. For instance, students who use chatGPT can only use it as a plagiarism detector when it is on the free version. Quillbot also has limited chances of use when the free version is used.

Furthermore, even if you are able to subscribe to these AI tools, internet connectivity is also a problem. The students shared that you need an internet connection to be able to use AI but sometimes the internet is weak.

The reliance on internet connectivity exacerbates the digital divide, as populations in rural or economically disadvantaged areas may lack reliable internet access. This can lead to inequalities in access to AI technology, further entrenching socio-economic disparities (Shammar et al., 2024).

Students' Perceived Challenges: Data Accuracy, Sufficiency and Reliability

Most of the students shared that when they use AI, they face challenges on Data quality such as inaccuracies of information on indigenous knowledge, insufficient data on IKSPs, lexical complexity and unreliable data output.

Most students shared that they are being challenged by the inaccuracies of information on indigenous knowledge provided by the AI tools they use. They say that some information is not related to what is being asked,instead, it provides inaccurate studies. They also shared that there is limited and incorrect information about indigenous knowledge.

Generative AI tools used by students such as ChatGPT, Copilot, and Gemini were found to provide fabricated data that appears authentic

(MIT Sloan Teaching & Learning Technologies, 2024). These can produce inaccurate and biased content because Generative AI tools are trained on vast amounts of internet data which can be rich in information but also contains accurate and inaccurate content. These models mimic patterns in their training data without assessing the truthfulness of the information resulting in false and biased data. Also, the inherent nature of generative AI tools is not designed to assess the truthfulness of data but is only trained on accurate data. As a result, generative nature can produce new, potentially inaccurate content by combining patterns in unexpected ways (Weise & Metz, 2023). Moreover, these tools function like advanced autocomplete tools designed to predict the next word or sequence based on observed patterns. It aims to generate plausible content but not to verify its truth. This means that any accuracy in their outputs is often coincidental and results in content that sounds reasonable but is inaccurate (O'Brien, 2023). Consequently, if students are not aware of these limitations of AI and are not able to modify their prompts, they are more likely to generate inaccurate information from the AI.

Aside from inaccurate and incorrect information about indigenous knowledge, students also shared that the AI tools they use have insufficient data on IKSPs. Many of the students shared that when they use AI for indigenous contents, there AI tools generate insufficient data. The AI tools they use cannot explain or provide information about indigenous knowledge and local terms. Even if there is a generated response it is often generalized and broad. This is problematic for the students since their courses focus on local and national contexts, where AI often lacks specific information.

Rankoana (2022) highlighted that Indigenous knowledge is often transmitted orally or through community practices, leading to difficulties in standardizing this information for use in AI systems. Variability in how knowledge is documented can result in inconsistencies and gaps when attempting to feed this data into AI models. In order to avoid this, students should be able to provide appropriate inputs for the AI to use as a

source. Text mining may work well to avoid this situation.

In relation to this, lexical complexity of AI terms is described as by students as another problem when using AI. They shared that AI uses deep words or words that you need to search first what it means in order to understand. They share that AI use languages that implies bias on cultures, groups or races. This AI word selection can be explained by Lewis et al. (2024) who presented in their research a critical perspective on the current trajectory of artificial intelligence (AI) development, particularly highlighting epistemological shortcomings that lead to systemic biases. It argues that the Western rationalist epistemologies that currently dominate AI design and implementation fail to account for diverse ways of knowing, leading to a narrow and biased understanding of intelligence. However, when the prompt is properly or accurately crafted, AI tools would be able to modify its word selection and will be able to provide the expected generated output.

In addition some of the students shared that AI generated content contradicts the content of other sources. They shared that some information provided by AI are not searchable and also outdated. The answer they provide does not align with the question, especially when asking a topic about cultures. These can be explained by the research of Shin et al. (2023) stating that AI systems struggle to learn and understand the nuances of cultural languages that lack substantial online content. As a result, the models may perform poorly in tasks such as translation, sentiment analysis, and conversational AI. Diniyati et al. (2023) found that many cultural languages contain idiomatic expressions that are not directly translatable. AI models trained primarily on more literal language structures may miss these subtleties, leading to translations that lack meaning or relevance. But when students are aware that AI works this ways, they should modify their prompts or input sufficient and reliable sources to avoid such situations.

The Real Issues: Limited AI Literacy, AI Dependency and Plagiarism

Generally, students perceive that the challenge in using AI is the inaccurate, insufficient, unreliable and complexity of AI generated outputs. This implies that they think of these issues as somehow inherent to the AI tools they use suggesting that it is the AI tools that should be improved. However, these experiences that is perceived as challenges for the student is not necessarily brought by the limitations of AI but issues that may have arise because of the limited AI literacy of the students.

In the global survey conducted by Digital Education Council revealed that despite the wide use of AI tools, students were not confident about their AI literacy. 58% of students reported feeling that they do not have sufficient AI knowledge and skills, and 48% felt inadequately prepared for an AI-enabled workforce (Kelly, 2024). This limited AI literacy can also be inferred from the responses of the students in this study.

In this study, the researcher defines AI literacy as the ability of the students to properly select and prompt AI tools. It focuses on two components extracted from the experiences of the students who participated in the study, the appropriation of AI tool and proper prompt.

First component is their ability to select the AI tool appropriate for the task at hand. According to the Task-Technology Fit theory, technology is more likely to positively impact individual and organizational performance when it is well-aligned with the tasks at hand (Zigurs & Buckland, 1998). Previous studies found that a fit between technology features and task requirements positively affects technology utilization (Lin & Huang, 2008; Lu & Yang, 2014). Using a technology that is fit with the tasks ensures that the technology supports the users' work processes effectively, leading to better appropriation of the technology (Felicetti et al., 2024). Similarly, students should be able to select the appropriate AI tools fit for their tasks. To be able to do so, students should be familiar on the features, the strengths and limitations of the AI tools that they

are using. They should be able to determine the appropriate AI for their specific tasks. For instance, ChatGPT is good for idea generation but cannot be utilized as plagiarism checker. Moreover, students cannot use ChatGPT for tasks such as personal reflection specially as it would only provide broad and general ideas. Unless, the student would know how to modify their prompts and not just practice query and copy.

Second component is the ability of students to provide and modify their prompts. These are important because the artificial intelligence is only as good as the data it is fed (Cipolle, 2022). Hence, AI is dependent on the prompt of the students. Without proper prompting, the generated output might not meet the expected generated output. For instance, the participants shared that they often encounter insufficient data regarding IKSPs. However, if the student would know how to employ text mining, they may input information about the IKSPs and the AI will use this as the reference. Moreover, issues such as lexical complexity is easy to solve when student know how to modify their prompts. One of the students shared that when she encounters complicated words she changes her prompt into "make it simple, humanize and comprehensive".

Currently, artificial intelligence (AI) is essentially a tool that analyzes data and performs tasks based on its programming. It does not have its own values or goals but follows those set by its developers. While there's potential for AI to evolve with "artificial wisdom", a form of enhanced decision-making, it still relies on the wisdom and perspectives of its creators. Essentially, AI reflects the Western scientific approach, focusing on data and algorithms, and its development and application are influenced by this narrow worldview (Williams & Shipley, 2021). This status of AI implies that it still needs to be enhanced and its effectiveness would rely on correct prompts from the users.

When students are AI literate these situations which they consider as challenges may be avoided. The issues is not about the inaccurate, unreliable and complex information generated by the AI but

on the limited AI literacy of the students. These problematic AI generated output can be avoided if the students are able to select appropriate AI tools and input proper prompts.

AI dependency is another issue that arises in using AI in the educational setting. Overdependence on AI can make students complacent, leading them to trust AI outputs without sufficient critical evaluation. Such blind trust can be dangerous, particularly in complex situations where nuanced human judgment is necessary. Users may become overly reliant on AI recommendations, neglecting their own analytical skills (Zhai et al., 2024). One student shared, “Overusing it is not good. Sometimes I don't know if this app makes me knowledgeable or if it just makes me lazy.” Similar responses like these from the students imply that they are aware of the consequences of being over dependent but they still cannot help to rely on it especially when they are rushing.

While the integration of AI in education offers substantial advantages, it also necessitates careful consideration of ethical implications and the potential for dependency, highlighting the need for balanced usage and proper guidelines (Estrellado & Miranda, 2023). This is because ethical tensions such as cheating and plagiarism was also found as an arising issue whenever students use AI.

Most students shared during the interview that they can easily copy and paste AI generated answers and oftentimes skips citing resources. As a result, students' skills are highly subjected to doubt. Some students shared, “Instructor may find you cheating. And human writing is thought to be AI generated.” Because of rampant and excessive use of AI, students outputs are highly doubted as AI generated especially when it resembles AI generated outputs. Such situation is unavoidable because generative which are widely used by students are capable of producing text that closely resembles human writing in style and coherence. This ability allows users to generate responses, essays, or reports quickly, which can be submitted as original work without proper acknowledgment. (Pudasaini et al., 2024). The challenge lies in detecting whether the text was created by a human

or an AI, as the lines between the two have blurred considerably (Taguchi, 2024). Such challenges require teachers to strictly regulate students' use of AI. This calls for structure guidelines and policies on the use of AI.

Co-creation: Traditional Resources vis-a-vis AI tools

Students modify their ways of using AI based on their experiences. Facing challenges in the utilization of AI tools, students find ways to adapt or address the problems they encounter. Co-creation such as tool-chain integration and cross-referencing are among the practices of students that address their experiences with inaccurate, insufficient and unreliable AI generated tools.

Co-creation is a practice employed by the students to minimize the negative impact of the issues arising from AI utilization. Co-creation encompasses a wide range of methods and frameworks that can include end-user development (EUD), participatory design, and user-centered design methodologies. These approaches aim to empower users and stakeholders to play an active role in the development and refinement of AI technologies (Fogli, 2022). Co-creation is applied by the students in three ways which includes AI Interaction Management, AI Ethics Management and Toolchain Integration.

AI interaction management refers to how a person interacts with AI tools—setting limits, choosing tasks for AI to handle, and maintaining control over the final decisions. This emphasizes the human role in directing AI's function and ensuring it complements rather than dominates decision-making (Lawal, 2024).

In AI interaction management, students have to be in control of when to use AI. Some students shared they try to use AI when needed only. Aside from using AI on appropriate times or tasks, the students also shared that they try to know how to make prompts. A student shared that to get the right answers from the AI tool, she has to make sure that the question is appropriately constructed.

Another way of addressing the challenge of a bias language in AI is observing AI Ethics. Several students shared that when using AI, they avoid presenting information that is culturally sensitive. Through these students are able to avoid submitting erroneous and biased information regarding indigenous or minority groups.

Using AI to suffice for AI's shortcoming is another method used by students to solve the aforementioned challenges such as generating inaccurate, insufficient and unreliable information. Toolchain integration as a strategy for students in using AI involves leveraging a series of interconnected AI tools and platforms to enhance learning, problem-solving, and creative exploration. By combining various AI platforms, students gain access to a multitude of resources tailored to their learning needs, which can foster greater engagement and understanding (Sharma, 2023). When students use tool-chain integration, they use different types of AI to improve the output such as in paraphrasing AI generated contents, and comparing AI generated contents have accurate information and avoid biased languages. Since AI tools have distinct functions, it is important for students to familiarize themselves with the strengths and weaknesses of the different AI tools in order to utilize them properly.

Another adaptation practice of the students is cross-referencing. Cross-referencing is acquiring details from one part of a book, catalog, index, etc. to another part, for additional information (Webster's New World College Dictionary 4th Edition, 2010). This includes using multiple sources such as other online resources and traditional resources such as libraries or books. Students consider contextualized resources when cross-referencing especially when checking information surrounding local terms, or indigenous knowledge. For local terms that are not widely available on the internet, students verify information on contextualized resources such as magazines, brochures and books published in the specific setting.

Another way of cross-referencing especially for indigenous knowledge is face to face inquiry or

utilizing primary resources. One student shared, "Since I do not trust AI generated information about indigenous peoples and communities. I usually go to primary sources such as myself and my community for I am an indigenous myself, an insider and reliable sources as well. This is a must for these kinds of topics even though they are difficult to find and access but worth the struggle". These practices implies that traditional resources are still needed today even when information are readily available online for AI tools to use as its resources.

While AI can offer personalized learning experiences, access to vast amounts of information, and new ways of engaging with content, textbooks still provide a carefully curated, curriculum-aligned, and reliable foundation for learning that is often integral to national educational standards and teacher practice. They represent a consensus on essential knowledge and skills deemed important for students at a particular level (Pavešić & Cankar, 2022). This implies that even when AIs are now readily available for students use, they should not neglect the use of textbooks and educational stakeholders should still continue to enhance textbook qualities and distribution while educating learners on the proper use of AI..

Conclusion:

In conclusion, this study reveals that tertiary students in Benguet are actively utilizing generative AI tools like ChatGPT, Cici, and Grammarly, primarily for information acquisition, grammar checking, and enhancing writing efficiency. While the convenience offered by these tools drives their adoption, particularly through AI-assisted shortcutting approaches like "query and copy," this often results in reliance on AI-generated content which can be inaccurate, especially concerning nuanced topics such as indigenous knowledge and local terms. Students themselves recognize the potential for AI dependency and plagiarism arising from such uncritical use.

However, the study also highlights the proactive adoption of Human-in-the-loop (HITL) strategies

by students, including collaborative ideation, content improvement, text mining, and plagiarism detection, leading to the creation of AI-assisted content with greater human oversight. Faced with challenges like limited access to premium AI features, inconsistent internet connectivity, and concerns about data accuracy and lexical complexity, students have demonstrated adaptive co-creation practices such as tool-chain integration and cross-referencing with traditional and contextualized resources, including primary sources for indigenous knowledge.

The perceived challenges related to AI output quality are often linked to limited AI literacy, specifically the ability to properly select and prompt AI tools effectively. Overcoming these limitations is crucial, as AI is fundamentally a tool dependent on the quality of user input.

Recommendations:

To support the benefits of AI in education while mitigating the identified risks, it is strongly recommended that educational stakeholders in Benguet develop comprehensive AI policies providing clear guidelines on the ethical and appropriate use of AI, distinguishing between AI-assisted and AI-generated content and emphasizing proper citation.

Moreover, they should implement AI literacy programs focusing on equipping students with the skills for effective AI tool selection and advanced prompting; training students to critically evaluate the accuracy, sufficiency, reliability, and potential biases in AI-generated content including understanding the limitations of AI in areas like indigenous knowledge; Promoting Ethical AI Use and Addressing AI Dependency and Integration of Co-creation Strategies.

Alongside student programs, educators need professional development opportunities to understand AI technologies, their pedagogical implications, and effective strategies for integrating AI into their teaching while maintaining academic integrity. This will enable them to guide students effectively and address concerns about AI-generated content

Furthermore, future research could explore the long-term impact of AI integration on student learning outcomes and evaluate the effectiveness of existing AI literacy interventions and policy implementations within Philippine tertiary education to leverage the use of AI in schools.

References:

1. Abbas. (2024). Enhancing Student Engagement through AI-driven Analytics in Higher Education Institutions. 10.13140/RG.2.2.28982.47682.
2. Al Zaidy, A. (2024). The Impact of Generative AI on Student Engagement and Ethics in Higher Education. <https://doi.org/10.70715/jitcai.2024.v1.i1.004>
3. Arcilla, A. O., Espallardo, A. K. V., Gomez, C. A. J., Viado, E. M. P., Ladion, V. J. T., Naanep, R. A. T., Pascual, A. R. L., Artificio, E. B., & Tubola, O. D. (2023). Ethics in AI Governance: Comparative Analysis, Implication, and Policy Recommendations for the Philippines. 319–326. <https://doi.org/10.1109/icsec59635.2023.10329756>
4. Cabuquin, J., Acidre, M. A. S., Manabat, M. A. A., Aruta, M. G. H., Sangutan, J., & Yu, R. F. B. (2024). The role of ChatGPT on academic research: perspectives from filipino students across diverse educational levels. *Salud, Ciencia y Tecnología - Serie de Conferencias*, 3. <https://doi.org/10.56294/sctconf2024.1205>
5. Cacho, R. M. (2024). Integrating Generative AI in University Teaching and Learning: A Model for Balanced Guidelines. *Online Learning*. <https://doi.org/10.24059/olj.v28i3.4508>
6. Chen, L., Chen, P., & Lin, Z. (2020). Artificial Intelligence in Education: a review. *IEEE Journals & Magazine | IEEE Xplore*. <https://ieeexplore.ieee.org/document/9069875>
7. Cipolle, A. (2022). How Native Americans are trying to debug A.I.'s biases. *The New York Times*. <https://www.nytimes.com/2022/03/22/technology/ai-data-indigenous-ivow.html>

8. De Jesus, F., Ibarra, L., Villanueva, W., & Leyesa, M. (2024). ChatGPT as an Artificial Intelligence Learning Tool for Business Administration Students in Nueva Ecija, Philippines. *International Journal of Learning, Teaching and Educational Research*, 23(6), 348–372. <https://doi.org/10.26803/ijlter.23.6.16>
9. Education in the era of artificial intelligence: an evidence from dhaka international university (diu). (2024). *Bangladesh Journal of Multidisciplinary Scientific Research*. <https://doi.org/10.46281/bjmsr.v9i1.2186>
10. Estrellado, C. J. P., & Miranda, J. C. (2023). Artificial Intelligence in the Philippine Educational Context: Circumspection and Future Inquiries. *International Journal of Scientific and Research Publications*, 13(5), 16–22. <https://doi.org/10.29322/ijsrp.13.05.2023.p13704>
11. Felicetti, A. M., Cimino, A., Mazzoleni, A., & Ammirato, S. (2024). Artificial intelligence and project management: An empirical investigation on the appropriation of generative Chatbots by project managers. *Journal of Innovation & Knowledge*, 9(3), 100545. <https://doi.org/10.1016/j.jik.2024.100545>.
12. Government Approaches and Discussions on Addressing AIGC Challenges in Education. (2024). *Frontiers in Educational Research*, 7(6). <https://doi.org/10.25236/fer.2024.070629>
13. Kelly, R. (2024, August). Survey: 86% of Students Already Use AI in Their Studies. *CampusTechnology*. <https://campustechnology.com/articles/2024/08/28/survey-86-of-students-already-use-ai-in-their-studies.aspx>
14. Milberg, T. (2024). The Future of Learning: AI is revolutionizing education 4.0. *World Economic Forum*. <https://www.weforum.org/agenda/2024/04/future-learning-ai-revolutionizing-education-4-0/#:>
15. Pavešić, B. J., & Cankar, G. (2022). Textbooks and students' knowledge. *Center for Educational Policy Studies Journal*, 12(2), 29–65. <https://doi.org/10.26529/cepsj.1283>
16. Pawar, P. (2023). AI-Enhanced education: personalized learning and educational technology. *ResearchGate*. <https://doi.org/10.25215/9358791152.01>
17. Teh, R. K. (2023b, November 26). Report sees AI, skills-based learning as top trends in PH higher educ in 2024. *Newsbytes.PH*. <https://newsbytes.ph/2023/11/26/report-sees-ai-skills-based-learning-as-top-trends-in-ph-higher-educ-in-2024/#:>
18. Verma, M. (2018). Artificial intelligence and its scope in different areas with special reference to the field of education. *International Journal of Advanced Educational Research*, 3(1), 5-10. <https://files.eric.ed.gov/fulltext/ED604401.pdf>
19. Williams, D. H., & Shipley, G. P. (2021). Enhancing Artificial Intelligence with Indigenous Wisdom. *Open Journal of Philosophy*, 11, 43-58. <https://doi.org/10.4236/ojpp.2021.111005>
20. Xie, Q., Li, M., & Enkhtur, A. (2024). Exploring Generative AI Policies in Higher Education: A Comparative Perspective from China, Japan, Mongolia, and the USA. <https://doi.org/10.48550/arxiv.2407.08986>