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Integrating AI in Higher Education: Prospects, Challenges, and Strategic Approaches Among Novice University Instructors

Ryan R. Pecson[1]
[1]College of Education, Bataan Peninsula State University, Balanga City, Bataan, Philippines

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ABSTRAK

Kecerdasan Buatan (AI) adalah fenomena masa kini, yang mentransformasi sekaligus mendisrupsi dunia akademis. Banyak yang khawatir AI dapat menggantikan pekerjaan pendidik di masa depan. Meskipun populer, regulasi akademik seringkali kurang memadai, sehingga karya akademik rentan dan berisiko terancam. Dalam hal ini, studi ini mengkaji integrasi AI oleh instruktur universitas pemula dalam karier dan kelas akademik mereka, dengan fokus pada aplikasi positifnya, tantangan terkait, dan pendekatan strategis yang digunakan instruktur. Penelitian ini menggunakan desain kualitatif deskriptif untuk mengeksplorasi pengalaman profesional lima guru pemula yang dipilih secara purposif dari sebuah universitas negeri di Filipina, menggunakan wawancara semi-terstruktur. Mengikuti protokol penelitian yang ketat, pengumpulan data dimulai, dan hasilnya dianalisis menggunakan analisis tematik. Temuan menunjukkan bahwa integrasi AI dalam pendidikan tinggi menawarkan banyak manfaat, seperti peningkatan persiapan mengajar dan kualitas materi, tetapi juga menghadirkan tantangan, termasuk masalah aksesibilitas dan risiko terhadap integritas akademik. Untuk memaksimalkan potensi AI, para pendidik mengadopsi strategi untuk memastikan keandalan konten dan meningkatkan pembelajaran; Namun, penelitian lebih lanjut diperlukan untuk memverifikasi temuan ini dan menetapkan praktik terbaik di populasi yang lebih luas dan berbagai situasi.

ABSTRACT

Artificial Intelligence (AI) is a phenomenon of the present, both transforming and disrupting the academic world, which concerns many that it may replace educators' jobs in the future. Despite its popularity, academic regulations are often lacking, leaving academic works vulnerable and at risk of being jeopardized. In that note, the study examines the integration of AI by novice university instructors in their academic careers and classes, focusing on its positive applications, associated challenges, and the strategic approaches instructors utilized. This research employs a descriptive qualitative design to explore the professional experiences of five purposively selected novice teachers from a state university in the Philippines, using semi-structured interviews. Following a stringent research protocol, data collection commenced, and the results were analyzed using thematic analysis. The findings indicate that integrating AI in higher education offers numerous benefits, such as improved teaching preparation and material quality, but also presents challenges, including accessibility issues and risks to academic integrity. To maximize AI's potential, educators are adopting strategies to ensure content reliability and enhance learning; however, further research is needed to verify these findings and establish best practices across a broader population and various settings.

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Corresponding Author:

Ryan R. Pecson
College of Education, Bataan Peninsula State University
Balanga City, Bataan, Philippines
Email: rrpecson@bpsu.edu.ph

1. INTRODUCTION

The integration of Artificial Intelligence (AI) in higher education is transforming traditional teaching and learning paradigms, offering numerous opportunities while also presenting significant challenges. AI is currently changing and disrupting academia, raising concerns about job displacement and highlighting the lack of regulations that leave academic work vulnerable.

AI technologies have been increasingly adopted in educational settings, evolving from basic computer-based tools to sophisticated systems, such as web-based chatbots and humanoid robots, that assist with instructional duties [1]. This progression highlights AI's potential to revolutionize education by personalizing learning experiences, providing immediate feedback, and automating administrative tasks, thereby enabling educators to focus more on curriculum development and quality instruction [2],[3],[4].

Also, AI's role in education extends beyond mere automation; it actively enhances instructional practices, assessment strategies, and administrative processes, contributing significantly to the advancement of science education [5]. The technology supports diverse educational needs, including those of students with special requirements, by offering tailored learning experiences. However, the integration of AI also necessitates comprehensive training for educators and curriculum adaptations to align with societal needs [4]. As mentioned, despite these advancements, the scope and challenges of AI in education remain areas requiring further exploration and understanding [6].

The benefits of AI in education are manifold. It enhances student learning by enabling instructors to create supportive materials and fosters an active learning environment where students engage more deeply with the content [7]. AI-powered tools have been instrumental in enhancing the quality of educational content and organization, thereby improving the overall learning experience [8]. Additionally, these tools also equip graduates with essential new skills for future careers, underscoring AI's role in preparing students for the demands of the modern workforce [3].

Moreover, AI applications in education, such as intelligent tutoring systems and automated grading, offer flexibility and transform the role of educators into facilitators, thereby enhancing learning outcomes and access to quality education globally [9]. More so, the use of AI in language learning, for instance, provides personalized learning paths and interactive engagement, which are crucial for effective language acquisition [10]. Additionally, AI's impact on student performance, particularly in STEM fields, has been noted for increasing motivation and positive attitudes towards learning [11].

However, the integration of AI in education is not without its challenges. Ethical considerations, such as data privacy and the potential for bias, are significant concerns that must be addressed to ensure the responsible implementation of AI [3],[9]. Technical issues, such as limited reliability and poor connectivity, along with pedagogical challenges, pose barriers to the effective utilization of AI in educational settings [12],[13]. Furthermore, balancing instructional assistance with fostering self-directed learning remains a critical challenge, requiring constant adaptation and consideration of ethical

implications in the deployment of AI tools [10]. Although AI in education is advancing quickly and is expected to improve student experiences, institutions should be cautious with their investments [14].

To navigate these challenges, strategic approaches such as integrating AI literacy into curricula and establishing strong ethical frameworks are essential. Educators and policymakers must work collaboratively to create inclusive, equitable, and effective learning environments that cater to the diverse needs of learners in the 21st century [4],[9]. Academic institutions should not only leverage AI technologies but also ensure that educators are well-prepared to integrate these tools effectively into their teaching practices [15]. By addressing these challenges and strategically implementing AI, higher education institutions can harness its full potential to enhance educational outcomes and prepare students for future success.

Although higher education institutions are currently making efforts to institutionalize and regulate the use of AI in academia, the academic and operational implications of this need to be taken seriously when implementing policies and curricular reforms. Moreover, empowering both faculty and students needs to be prioritized to ensure the responsible use of AI technologies in the classroom. Technological advancements must be well-integrated and regulated when used academically. This study examines the integration of AI by novice university instructors in their academic careers and classes, focusing on its positive applications, associated challenges, and the strategic approaches they utilized. This research endeavor may open doors for collaboration and the sharing of best practices between and among Higher Education Institutions (HEIs) in their operational and academic reforms, promoting and regulating the use of AI to maximize work and academic productivity and sustainable practices.

2. METHOD

The study employed a descriptive qualitative (exploratory) design. This design described phenomena by focusing on research questions aimed at gaining insights into a poorly understood area, using semi-structured interviews [16]. In the study, the descriptive qualitative design was employed to describe how novice university instructors integrate AI in their professional careers and classes, focusing on its positive use, associated challenges, and strategic approaches they utilized in the academe using semi-structured interviews as the data gathering tools, aiming to gain insights for balancing and responsibly using AI in the academe.

Five (5) university instructors, who were all novice or beginning instructors (with less than 3 years of teaching experience at the University level), served as the participants or key informants of the study who were purposively selected from a state university in the Philippines. As defined, purposive sampling is a non-random method in which the researcher intentionally selects participants who possess specific traits to best meet the study's goals [17]. Since the purpose of the study was to determine how novice university instructors integrate AI into their professional careers and classes, focusing on its positive use, associated challenges, and strategic approaches they utilize in academia to further improve policy-making and instructional delivery, the use of purposive sampling is justified. Table 1 below presents the profile of the instructor-participants.

Table 1. Profile of Study Participants

Participant	Sex	Years of Teaching at the University	Common AI Tools/AI-assisted Platforms Used
1	Male	1	ChatGPT, Perplexity AI
2	Male	2	ChatGPT, Perplexity AI, Grammarly, Quillbot
3	Male	1	ChatGPT, Perplexity AI, Quillbot
4	Female	1	ChatGPT, Perplexity AI, Quizizz, Canva, Grammarly
5	Female	2 ½	ChatGPT, Mistral AI, Perplexity AI, Grammarly, Turnitin

As shown in the table, the study participants consisted of three male instructors and two female instructors. They typically use AI tools or AI-assisted platforms such as ChatGPT, Perplexity AI, Mistral

AI, Grammarly, Quillbot, Turnitin, Quizizz, and Canva in their teaching career and classes. Also, the study employed a semi-structured interview as the primary data-gathering tool. This interview employs open-ended, predetermined questions with follow-up questions to facilitate flexibility [18]. In the study, the participants were given a set of structured questions. Follow-up questions were also asked to enrich or expand on their responses given during the interview. Three expert evaluators in education further validated the questions in the semi-structured interview.

Consent forms were obtained from participants prior to the commencement of data collection. The researcher also ensured the anonymity and confidentiality of the data gathered from them. The objectives of the study were carefully explained to them, outlining the extent of their participation in the research.

The study utilized the thematic analysis [19]. This comprised six stages, namely: (i) familiarizing oneself with the data; (ii) generating initial codes; (iii) generating initial themes; (iv) reviewing themes; (v) defining and naming the themes; and (vi) writing up. In the first stage, the researcher transcribed the data gathered from the participants and analyzed the data. In the second stage, the researcher identified key points in the transcripts by assigning codes to each participant, and then assigned a specific equivalent concept to each key response. In the third stage, the researcher identified themes related to how participants integrate AI into their professional careers and classes, focusing on its positive use, associated challenges, and the strategic approaches instructors utilized. This involved grouping concepts to create categories and subsequently grouping these categories to develop themes. In the fourth stage, the initial themes were reviewed by rescanning the transcripts multiple times. In the fifth stage, the themes were finalized and given descriptions aligned with the thoughts and ideas expressed by the participants in the transcripts. In the sixth and final stage, the write-up of the results was finalized and presented in tabular and narrative forms. Additionally, the researcher conducted member checking, wherein the participants validated the authenticity of the themes and the overall discussion of the data gathered from them.

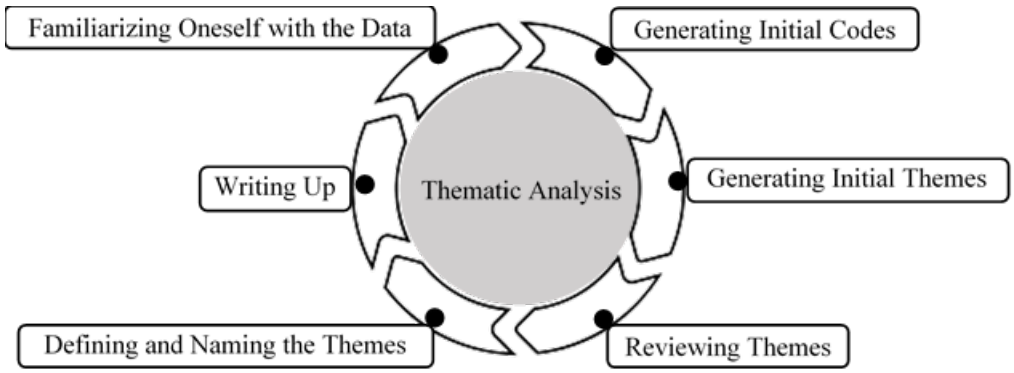

Figure 1. Six Stages of Thematic Analysis [19]

3. RESULTS AND DISCUSSION

This section presents the key findings derived from interviews conducted to select novice university instructors, highlighting the prospects, challenges, and strategic approaches to using AI in higher education.

3.1. Prospects of Using AI in Higher Education

Table 1 and Figure 1 present the themes, categories, and concepts derived from the responses provided by novice university instructors during interviews on the prospects of using AI in higher education.

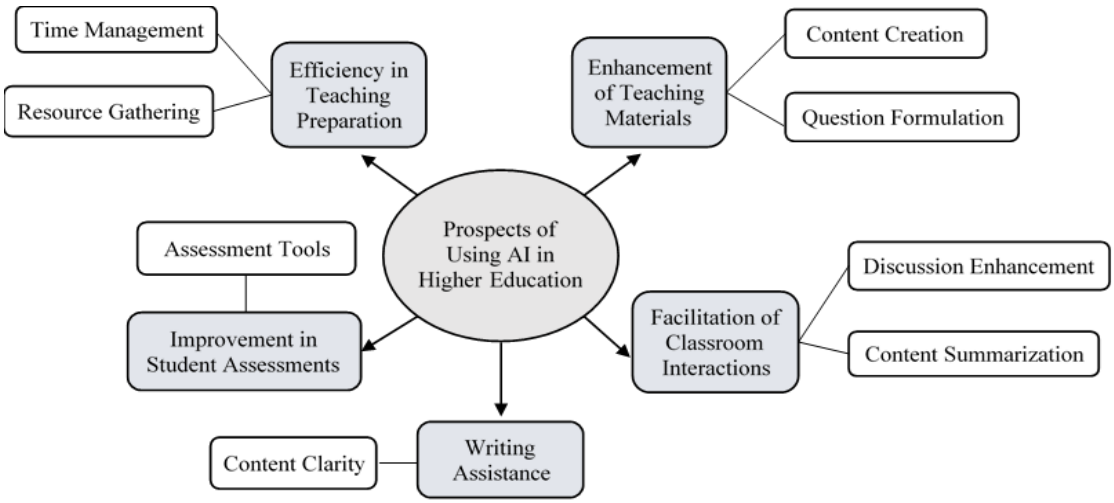

Figure 2. Diagrammatic Representation of the Themes on the Prospects of Using AI in Higher Education

Table 2. Prospects of Using AI in Higher Education

Themes	Categories	Concepts	Key Responses
Efficiency in Teaching Preparation	Time Management	Reduction in preparation time	P5: It lessens the time for preparation, although you still need to review and modify some of the key concepts to be considered in the discussion.
	Resource Gathering	Ease of gathering reliable sources	P2: It is easy for me to gather reliable sources that are connected with the topic that I am researching."
Enhancement of Teaching Materials	Content Creation	Assistance in creating presentations	P5: It helps me by providing instant information and a PowerPoint presentation for my lesson.
	Question Formulation	Efficient creation of analytical questions	P4: It became efficient to create questions on the analysis and application part of the examination.
Improvement in Student Assessments	Assessment Tools	Grammar and quality assessment	P5: *Ang paggamit ng mga AI tool katulad ng grammar checkers ay nakatutulong sa pag-assess ng mga ipinapasanag akademikong sulatin ng mga mag-aaral batay sa kalidad nito at pagtupad sa mga tuntuning panggramatika.* [The use of AI tools such as grammar checkers helps in assessing the academic papers submitted by students based on their quality and compliance with grammatical rules.]
Facilitation of Classroom Interactions	Discussion Enhancement	Suggestions for class discussions	P1: It suggested questions that can be used for class discussions.
	Content Summarization	Summarization of information	P1: It provided a summation of information on a particular topic or lesson.
Writing Assistance	Content Clarity	Suggestions for clear and concise writing	P1: AI provided me with suggestions for writing paragraphs clearly and concisely.

The integration of Artificial Intelligence (AI) into higher education has led to significant improvements in teaching efficiency and learning experiences, as evidenced by responses from various faculty members. One of the primary benefits highlighted is the efficiency AI brings to teaching preparation. For instance, Participant 5 (P5) noted, "It lessens the time for preparation, though you still

need to check and modify some of the needed concepts to be considered in the discussion." This sentiment highlights how AI tools can significantly reduce the time required for lesson planning, enabling educators to focus more on refining content rather than on initial preparation. Similarly, Participant 2 mentioned, "It is easy for me to gather reliable sources which are connected with the topic that I am researching," indicating that AI facilitates the quick and efficient gathering of relevant and credible resources, thereby streamlining the research process.

AI also plays a crucial role in enhancing teaching materials. Participant 5 further elaborated on this by stating, "It helps me by providing instant information and PowerPoint presentations for my lesson." This capability of AI to instantly generate comprehensive teaching aids, such as presentations, can significantly augment the quality of instructional materials available to educators. Additionally, AI's role in creating analytical and application-based questions for examinations was highlighted by Participant 4, who remarked, "It became efficient to create questions on the analysis and application part of the examination." This not only aids in the assessment process but also ensures that the questions are well-aligned with the learning objectives, thereby enhancing the overall educational experience.

Another critical area where AI has made a substantial impact is in enhancing student assessments. Participant 3, who likely teaches in a language other than English, pointed out, *"Ang paggamit ng mga AI tool katulad ng grammar checkers ay nakatutulong sa pag-assess ng mga ipinapasanag akademikong sulatin ng mga mag-aaral batay sa kalidad nito at pagtupad sa mga tuntuning panggramatika,"* which translates to "The use of AI tools such as grammar checkers helps in assessing the academic papers submitted by students based on their quality and compliance with grammatical rules." This illustrates how AI tools can help maintain high standards of academic writing and provide consistent, objective assessments.

AI's facilitation of classroom interactions is another noteworthy benefit. Participant 1 shared, "It suggested questions that can be used for class discussions," and "It provided a summation of information on a particular topic or lesson." These AI functions not only help foster an interactive and engaging classroom environment but also ensure that students receive concise and comprehensive summaries of the topics discussed, thereby aiding in their understanding and retention of the material. Furthermore, AI's assistance in writing was emphasized by Participant 1, who stated, "AI provided me with suggestions in writing paragraphs clearly and concisely." This capability can be particularly beneficial in helping educators communicate complex ideas more effectively and clearly.

In general, the participants illustrate that AI tools bring multifaceted benefits to higher education. These include enhancing teaching preparation and efficiency, improving the quality of teaching materials, aiding in student assessments, and facilitating more effective classroom interactions. By leveraging AI, educators can not only optimize their teaching processes but also provide a more enriching and engaging learning experience for their students.

The findings indicate that AI tools enhance teaching efficiency, improve materials, aid assessments, and facilitate classroom interactions. These aspects align with literature highlighting AI's role in advancing education through tailored learning experiences and support for diverse needs [5],[4]. AI-powered tools enhance content quality and student engagement, equipping graduates with essential skills and transforming educators into facilitators, thereby improving learning outcomes and expanding global education access [7],[8],[3],[9].

3.2 Challenges of Using AI in Higher Education

Table 3 and Figure 3 present the themes, categories, and concepts derived from the responses provided by novice university instructors during interviews on their challenges in using AI in higher education.

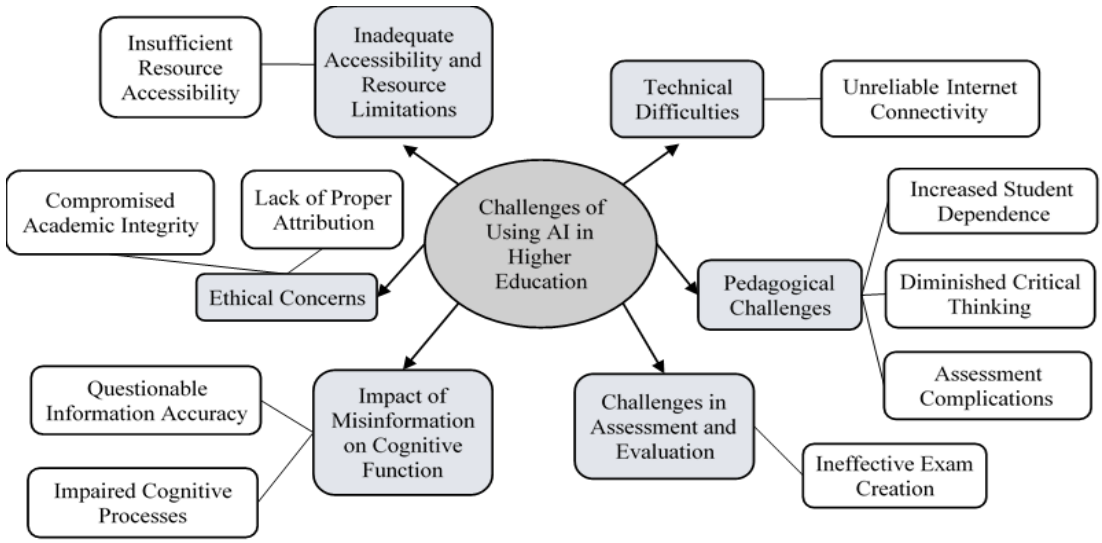

Figure 3. Diagrammatic Representation of the Themes on the Challenges of Using AI in Higher Education

Table 3. Challenges of Using AI in Higher Education

Themes	Categories	Concepts	Key Responses
Inadequate Accessibility and Resource Limitations	Insufficient Resource Accessibility	Inaccessible AI resources	P1: Some of the resources or references given by AI are not accessible.
Technical Difficulties	Unreliable Internet Connectivity	Dependence on a strong internet connection	P5: On the technical side, one of the challenges I encountered was with the use of the internet connection. If you do not have a strong internet connection, you will not be able to utilize it to its full potential.
Ethical Concerns	Compromised Academic Integrity	Potential for academic dishonesty	P5: *Pwede talagang dayain ng student yung outputs.* [Students can cheat on the outputs.]
	Lack of Proper Attribution	Lack of proper attribution to original authors	P3: *Madalas din ay hindi na nabibigyan ng sapat na pagkilala ang mga author na pinagkukuhanan ng impormasyon ng mga mag-aaral.* [Often, the authors from whom students source information are not given enough recognition.]
Pedagogical Challenges	Increased Student Dependence	Over-reliance on AI tools	P3: *Ang mga mag-aaral ay naging dependent dito. Ang pagiging over-reliance ng mga mag-aaral ay nagpapababa ng kanilang kritikal at mapanuring pag-iisip.* [Students have become dependent on it. The over-reliance of students lowers their critical and analytical thinking.]
	Diminished Critical Thinking	Reduction in critical thinking skills	P5: *Lalo ng naging tamad ang students natin.* [Our students have become even lazier.]
	Assessment Complications	Difficulty in assessing learning	P4: It also assessed learning difficulties since it bothers me to conduct it online. It is for the reason that my students may use it during quizzes or tests.

Themes	Categories	Concepts	Key Responses
Impact of Misinformation on Cognitive Function	Questionable Information Accuracy	Veracity of AI-provided information	P4: The veracity of the information that it provides.
	Impaired Cognitive Processes	Disruption of independent thinking	P4: AI disrupts my ability to think since it presents itself as an immediate source of information.
Challenges in Assessment and Evaluation	Ineffective Exam Creation	Limitations in creating multiple-choice questions	P2: When it comes to creating multiple-choice exams, choices should be revised since AI can only state a negation form of the correct answer.

The integration of Artificial Intelligence (AI) into higher education presents a variety of challenges that span technical, ethical, and pedagogical domains. One significant issue is the inadequate accessibility and resource limitations associated with AI tools. As noted by Participant 1, "Some of the resources or references given by AI are not accessible," highlighting the frustration educators face when essential materials are unavailable, thereby hindering the effective use of AI in educational settings.

Technical difficulties further compound these challenges, particularly unreliable internet connectivity. Participant 5 pointed out, "As for the technical side, one of the challenges I encountered is with the use of the internet connection. If you do not have a strong internet connection, you would not be able to maximize its use." This dependence on a robust internet connection can limit the effectiveness of AI tools, especially in regions or institutions with inconsistent internet service, thereby affecting the overall learning experience.

Ethical concerns are also paramount when integrating AI into the education system. A significant issue is compromised academic integrity, as AI can potentially facilitate academic dishonesty. Participant 5 remarked, *"Pwede talagang dayain ng student yung outputs,"* which translates to "Students can cheat on the outputs," indicating the risk of students using AI to produce work that is not their own. Additionally, there is a lack of proper attribution to original authors, as Participant 3 observed, *"Madalas din ay hindi na nabibigyan ng sapat na pagkilala ang mga author na pinagkukuhanan ng impormasyon ng mga mag-aaral,"* meaning "Often, the authors from whom students source information are not given enough recognition." This lack of attribution undermines the principles of academic honesty and intellectual property.

Pedagogical challenges are another critical area of concern. Increased student dependence on AI tools can lead to over-reliance, which diminishes critical thinking skills. Participant 3 noted, "*Ang mga mag-aaral ay naging dependent dito. Ang pagiging over-reliance ng mga mag-aaral ay nagpapababa ng kanilang kritikal at mapanuring pag-iisip,"* translating to "Students have become dependent on it. The over-reliance of students lowers their critical and analytical thinking." This over-reliance is echoed by Participant 5, who stated, *"Lalo ng naging tamad ang students natin,"* meaning "Our students have become even lazier," suggesting a decline in student engagement and effort. Moreover, assessment complications arise as educators struggle to evaluate learning effectively. Participant 4 explained, "It also assessed learning difficulties since it bothers me to conduct it online. It is for the reason that my students may use it during quizzes or tests," indicating concerns about the integrity of online assessments due to potential AI use by students.

The impact of misinformation on cognitive function is another significant challenge. The veracity of AI-provided information is often questionable, as Participant 4 noted, "The veracity of information that it provides," highlighting concerns about the accuracy and reliability of AI-generated content. This misinformation can impair cognitive processes, disrupting independent thinking. Participant 4 further elaborated, "AI disrupts my ability to think since it presents itself as an immediate source of

information," suggesting that reliance on AI can hinder the development of critical thinking and problem-solving skills.

Lastly, challenges in assessment and evaluation are evident, particularly in the creation of exams. Participant 2 mentioned, "When it comes to creating multiple-choice exams, choices should be revised since AI can only state a negation form of the correct answer," pointing out the limitations of AI in generating effective and varied assessment questions. This limitation can affect the quality and comprehensiveness of evaluations, thereby impacting the overall educational outcomes.

In general, integrating AI into higher education faces technical, ethical, and pedagogical challenges. These include accessibility issues, unreliable internet connectivity, risks to academic integrity, and concerns about student over-reliance on AI, which can diminish critical thinking and complicate assessments. Additionally, the reliability of AI-generated information is often questionable, which can disrupt cognitive processes. While AI holds promise for transforming higher education, these challenges highlight the need for careful consideration and strategic implementation to mitigate potential drawbacks and maximize the benefits of AI in educational settings.

The findings of this study align closely with the existing literature on the integration of AI in higher education. Both highlight significant technical, ethical, and pedagogical challenges, including issues of accessibility, unreliable internet connectivity, and concerns about academic integrity and student over-reliance on AI [3],[9],[12],[13]. The literature further supports the findings by emphasizing the need to balance instructional assistance with the promotion of self-directed learning and critical thinking, as over-reliance on AI can diminish these essential skills [10]. Additionally, both the study and the literature emphasize the importance of implementing AI tools cautiously and strategically to mitigate potential drawbacks and maximize benefits, thereby ensuring the responsible and effective use of AI in educational settings [14].

3.3 Strategic Approaches Utilized in Addressing the Challenges of Using AI in Higher Education

Table 4 and Figure 4 present the themes, categories, and concepts derived from the responses provided by novice university instructors during interviews about their challenges in using AI in higher education.

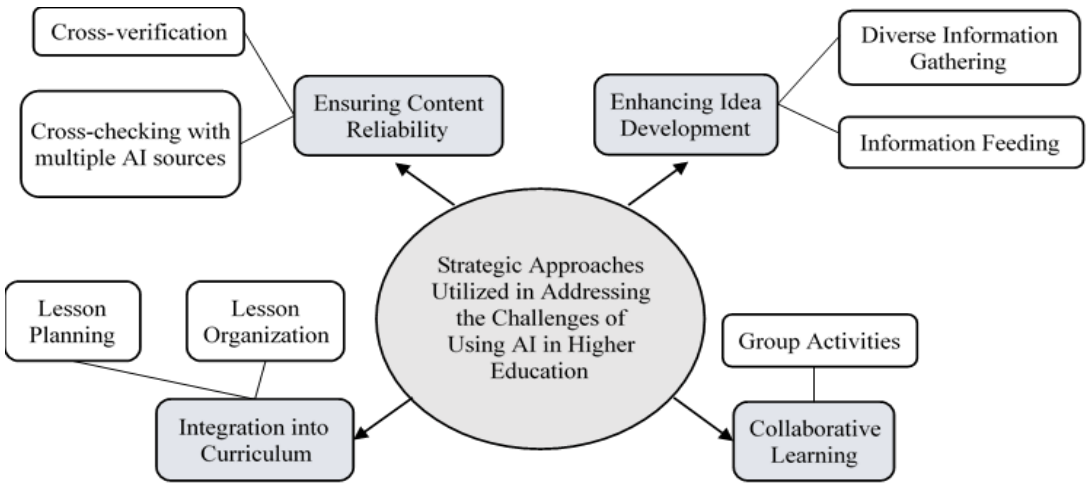

Figure 4. Diagrammatic Representation of the Themes on the Strategic Approaches Utilized in Addressing the Challenges of Using AI in Higher Education

Table 4. Strategic Approaches Utilized in Addressing the Challenges of Using AI in Higher Education

Themes	Categories	Concepts	Key Responses
Ensuring Content Reliability	Cross-verification	Use of specific references	P1: Have specific references that can be used to check if AI's content is reliable.
	Cross-checking with multiple AI sources	Cross-verification of AI information	P4: I cross-check the information provided with that of other AI systems.
Enhancing Idea Development	Diverse Information Gathering	Utilizing multiple AI sources	P5: Do not focus on a single source. Gathering information from different AIs may help enhance the construction and development of ideas.
	Information Feeding	Feeding information to AI	P2: Feeding information to the AI is one of the best ways to get more concrete answers.
Integration into Curriculum	Lesson Planning	Incorporating AI into the syllabus	P1: At our university, we are encouraged to incorporate the use of AI into our syllabus. What I do is line up some lessons that apply AI.
	Lesson Organization	Using AI for lesson rearrangement	P4: I mostly use AI to rearrange the order of my lessons. This ensures that the information I input is accurate, and the job of AI is to organize it in a clear and orderly manner.
Collaborative Learning	Group Activities	Use of AI in cooperative learning	P3: *Mainam gamitin ang AI sa mga pangkatang gawain/cooperative learning, katulad na lamang ng paggamit ng mga ready-made templates sa pagpapagawa ng mga visual materials gaya ng infographics o mga presentations.* [It is beneficial to use AI in group activities/cooperative learning, such as using ready-made templates for creating visual materials like infographics or presentations.]

The integration of Artificial Intelligence (AI) into educational curricula has prompted educators to adopt various strategic approaches to maximize its benefits while mitigating potential drawbacks. One key strategy involves ensuring the reliability of AI-generated content. Educators emphasize the importance of cross-verification to maintain content accuracy. For instance, Participant 1 highlighted the necessity of having "specific references that can be used to check if AI's content is reliable." This approach is crucial for validating the information provided by AI, ensuring that it meets educational standards and is factually correct. Similarly, Participant 4 mentioned, "I cross-check the information provided with other AI," underscoring the practice of using multiple AI sources to verify and enhance the accuracy of educational content.

Another strategic approach involves enhancing idea development by utilizing diverse information sources. Participant 2 suggested, "Do not focus on a single source. Gathering information from different AIs may help enhance the construction and development of ideas." This method encourages a broader perspective and a more comprehensive understanding of topics, thereby enriching the learning experience. Additionally, Participant 2 noted that "feeding information to the AI is one of the best ways to get more concrete answers," indicating that providing specific inputs to AI can yield more precise and relevant outputs, tailored to the educational context.

Incorporating AI into the curriculum itself is another effective strategy. Participant 1 shared, "In our university, we are encouraged to incorporate the use of AI in the syllabus. What I do is I line up some lessons in which they apply AI." This integration helps students become familiar with AI tools

and understand their applications in various subjects, thereby preparing them for a world driven by technology. Furthermore, AI can be utilized for organizing and structuring lessons. Participant 4 explained, "I mostly use AI to rearrange the order of my lessons. This is to make sure that the information is that I input and the job of AI is to arrange it in a clear and orderly manner," illustrating how AI can assist in creating a logical flow of topics, enhancing both teaching and learning processes.

Collaborative learning is also enhanced through the strategic use of AI. Participant 3 mentioned, *"Mainam gamitin ang AI sa mga pangkatang gawain/cooperative learning, katulad na lamang ng paggamit ng mga ready-made templates sa pagpapagawa ng mga visual materials gaya ng infographics o mga presentations,"* which translates to "It is beneficial to use AI in group activities/cooperative learning, such as using ready-made templates for creating visual materials like infographics or presentations." This approach leverages AI to facilitate group work, making collaborative projects more efficient and engaging, thereby fostering teamwork and collective problem-solving skills among students.

In general, the strategic incorporation of AI into course curricula involves a multifaceted approach that includes ensuring content reliability, enhancing idea development, integrating AI into lesson planning, and promoting collaborative learning. Educators are strategically integrating AI into curricula by ensuring content reliability through cross-verification, enhancing idea development with diverse sources, and incorporating AI tools into lesson plans. AI aids in organizing lessons and fostering collaborative learning, making group projects more efficient and engaging. These strategies not only optimize the educational process but also prepare students for future challenges by equipping them with essential technological skills and knowledge.

The findings of this study align with the existing literature, highlighting the strategic integration of AI into course curricula through a multifaceted approach. Both highlight the importance of ensuring content reliability, enhancing idea development, and integrating AI tools into lesson planning to optimize the educational process [4],[9]. The literature further supports these findings by advocating for the integration of AI literacy into curricula and the establishment of strong ethical frameworks, ensuring that educators are well-prepared to leverage these tools effectively [15]. By addressing these challenges and implementing AI strategically, educational institutions can create inclusive, equitable, and effective learning environments, thereby equipping students with essential technological skills and knowledge for future success.

4. CONCLUSION

The integration of AI in higher education presents a range of benefits, including enhanced teaching preparation, improved material quality, and more effective student assessments and classroom interactions. However, this integration also poses significant technical, ethical, and pedagogical challenges, including accessibility issues, risks to academic integrity, and concerns about overreliance on AI. To address these challenges, educators are adopting strategic approaches, such as ensuring content reliability, enhancing idea development, and incorporating AI tools into lesson planning. These strategies aim to optimize the educational process and equip students with essential technological skills, highlighting the need for careful and strategic implementation of AI to maximize its potential in educational settings.

Since the study is limited only to select novice university instructors, further research in a broader population and settings needs to be undertaken as well to verify the results and explore best practices that could serve as benchmarks for possible partnerships that may be conducted between Higher Education Institutions (HEIs) as they navigate and promote responsible use of AI in the academe.

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