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RESEARCH ARTICLE

Transformative potential of generative AI in higher education teaching practices

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ABSTRACT

This study examines the generative potential of AI in reshaping teaching in higher education as related to teaching methods and changing the nature of student involvement. The purpose of the study is to identify ways college educators perceive the roles of Generative AI within their classrooms and to critically evaluate both the benefits and drawbacks of its integration into courses. This adopted qualitative research design, a series of semi-structured interviews of 12 college instructors. The data were analyzed with the help of reflexive thematic analysis to identify important patterns and themes in responses. The findings suggest huge potential for Generative AI in supporting personalization of learning, providing students with tailored experiences in learning. Furthermore, it appears to be enhancing student engagement in learning by creating more interactive learning environments. Further, it can help in reducing the administrative burden on educators since repetitive tasks would be relieved and allow educators more time for meaningful interaction with students. However, the report points out some challenges for its implementation. These range from ethical issues regarding how AI affects academic integrity and personal privacy, proper education and training of teachers who use AI tools, as well as overreliance of students on technology-the likely outcome is impeded ability of students to develop new skills. The best strategy would be adopting the hybrid model, bringing the traditional methods of instruction along with Generative AI.

Keywords: Generative AI; teaching practices; potential; higher education; transformative

1. Introduction

Generative AI is quickly turning into a transforming force in higher education and revolutionizes the act of teaching and learning [1]. The use of generative AI technologies in academic institutions offers significant potential for positive educational outcomes and more personalized learning and efficient administrative activity. This change necessitates a reconstruction of pedagogic strategies as educators now discover novel applications of AI to create even more involved and effective learning environments. [2]. On one hand, in the excitement for these developments, there are critical concerns relating to ethical implementation, faculty preparation, and its impact on expected student learning outcomes.

The use of generative AI tools, therefore, is crucially expanding what educators can do to reach all students inside and outside the classroom [3]. Generative AI supports personalized learning, which ensures

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that an instructor could adjust lesson materials tailored to the needs and performance of individual students-underscoring effective instruction [4]. For instance, generative AI can look at engagement data with students to provide immediate insights, such that educators can intervene and address teaching methods in real-time [5]. This ability to be tailored allows for greater student engagement but also compels a better educational understanding of the material, thus enhancing academic results [6].

Moreover, generative AI's ability to automate routine administrative tasks presents a significant benefit for higher education institutions [7]. Streamlining processes such as grading, scheduling, and communication, generative AI liberates educators from time-consuming tasks, allowing them to focus more on pedagogical activities. For example, AI tools can facilitate grading through automated assessments, providing real-time feedback to students, which enhances learning without overburdening instructors [8]. This efficiency results in higher job satisfaction among faculty members who will be better positioned to interact with their students and focus on ensuring the quality of instruction. Beyond enhancing the instructional practices of teachers, generative AI promotes inclusiveness by promoting different learning preferences and disability requirements [9].

AI technology can develop multimedia resources to fit different preferences, making the content more accessible and appealing to diverse student populations [10]. It promotes the integration of Universal Design for Learning principles, thus enabling teachers to create adaptive learning environments that cater to different needs, leading to equity within the classroom. These developments can only focus well on how a supportive and inclusive educational environment will be engineered by generative AI [11]. Higher education institutions face both great promise and significant challenges with the transformative potential of generative AI [12].

It can fundamentally alter the educational landscape by enhancing personalization in learning experiences, automating administrative tasks, and enhancing inclusivity. However, it is important for institutions to be in line with ethical practices dealing with privacy issues that ensure fair use of these technologies [13]. As educators and administrators move forward in this changing landscape, creating a collaborative and transparent environment will be fundamental to maximizing the benefits of generative AI while protecting the mission of higher education institutions.

The aim of this research is to explore the transformative potential of Generative AI in higher education, with a focus on its effects on teaching. It investigates the perceptions of college educators regarding how Generative AI impacts their teaching methods, the engagement of students, and the more general challenges and benefits of the integration of this technology into teaching. Ultimately, it contributes to a more profound understanding of how Generative AI can facilitate enriched experiences for education, better outcomes in learning, and transformed strategies in pedagogy into the modern academia setting.

2. Literature

Generative AI's role in higher education can be understood through three interrelated themes: personalized learning, pedagogical transformation, and ethical considerations. In terms of personalized learning, AI enables adaptive instruction tailored to learners' pace, style, and prior performance, thereby promoting equity and inclusivity [14]. Personalized assessments and adaptive pathways ensure that students remain actively engaged and supported in their learning journeys. This responsive nature not only makes it easier for students to engage but also enables better learning outcomes because the learner can move through content that leverages their unique capabilities. Moreover, generative AI can help prepare unique assessments that best relate to a student's correct understanding, thus offering an educator a better insight to improve his or her teaching strategy [15].

Another important role of generative AI is automation of repetitive administrative tasks within an educational institution [16]. Replacing tedious grading of assignments and maintenance of student records, for example, can be automated by some AI solutions, liberating the educator from this routine task to engage in more practical teaching and mentoring [17]. This reduction of administrative workload contributes to a better educational environment, with which faculty will be more productively engaged with students and ultimately raise their teaching effectiveness. Introducing generative AI in administrative operations, institutions will achieve higher accuracy and efficiency, where the majority of the benefits will be reaped for both educators and learners [18].

Quite significantly, generative AI technologies can add much quality to the educational content. AI can create high-quality interactive simulations, virtual labs, and multimedia presentations that make complex subjects more accessible and engaging for students [19]. This innovative approach encourages active learning, as students interact with materials designed to enrich their educational experience [20]. Further, generative AI would be helpful in the ongoing creation of new educational content; thus, institutions can keep up with the changes required by the evolving curricular demands and the advancing technologies [21]. Diverse and captivating content is what generative AI helps to produce toward an enriching academic environment conducive to creativity and critical thinking.

Beyond personalization, generative AI contributes to a broader pedagogical shift by encouraging interactive, student-centered approaches. It fosters collaborative learning environments, facilitates higher-order thinking, and supports creativity through dynamic simulations, projects, and peer-to-peer feedback [22-23]. AI makes a collaborative process live with undertaking assignments in real-time and then providing instant feedback on group effort, thereby enhancing peer-to-peer learning [24]. The moment institutions of learning adopt these collaborative practices; they will be able to scaffold development of important skills or competencies necessary for success in the modern workforce. Such practices align with recent discussions on reimagining instructional design in the digital era, emphasizing that AI is not a replacement but a catalyst for innovative pedagogy [25].

At the same time, ethical concerns are critical to the debate on AI integration in higher education. Issues surrounding academic integrity, student privacy, and over-reliance on AI demand the establishment of institutional policies and professional development for educators [26-27]. More recent scholarships underscores that sustainable adoption requires balancing innovation with responsibility. For example, Francis et al. [28] highlights how governance frameworks safeguard student agency.

The potential of generative AI in higher education teaching practices is being rapidly realized across all these dimensions-the personalized learning, administration efficiency, content development, collective learning, and ethical education. It is poised to revolutionize the landscape of higher education as institutions continue to innovate and adapt to these technologies [29]. Generative AI is here to challenge more than ever before the traditional practices of teaching for both students and educators in an increasingly sophisticated and technologically determined world.

3. Methodology

3.1. Research design

This research approached the transformative impact of Generative AI on teaching methods in higher education through an exploratory qualitative analysis. Individuals were interviewed to explain the subtleties found in their lived experiences and perspectives on student engagement, as well as on teaching methods following the introduction of Generative AI. Qualitative research was well-suited for this exploration

because it focuses on providing in-depth insights into complex concepts and themes [30]. The exploratory design of analyzing the interview data facilitated the identification of key themes, relationships, and narratives, thus offering a comprehensive understanding of the challenges and opportunities associated with the integration of Generative AI into higher education teaching practices [4].

3.2. Population and sampling

There were 12 college instructors, and these were selected using purposive sampling. Such non-probability sampling helps in the selection of the participant in terms of the expertise that they may possess willingness to participate [31-32]. While individual demographic details are not disclosed to protect confidentiality, the participants represented a variety of teaching contexts, subject areas, and professional experiences. This diversity in background provided a broad range of perspectives, thereby strengthening the credibility and transferability of the findings across different higher education settings.

3.3. Instrument

Semi-structured interviews were utilized in the collection of data as a primary method in this research. Researchers obtain their understanding by asking an open series of questions from respondents with regard to participants' experience, opinions, goals, and concerns [33]. This kind of method will induce conversation flow, which the respondent has the opportunity to express more subtle responses not probable in structured interview situations [34]. Table 1 below summarizes the specific interview questions that were asked in collecting the data.

Table 1. Interview questions

Objectives	Interview Questions
1. How do college teachers perceive the impact of Generative AI on their teaching methods and student engagement?	1. In what ways has Generative AI influenced your teaching methods or instructional strategies? 2. How do you believe Generative AI has affected student engagement and participation in your courses? 3. Can you provide examples of specific instances where Generative AI has enhanced your teaching effectiveness? 4. How do you perceive students' attitudes towards using Generative AI in their learning process? 5. What changes have you noticed in student learning outcomes since incorporating Generative AI into your teaching practices?
2. What are the perceived benefits and challenges of integrating Generative AI into higher education teaching practices among college educators?	1. What do you see as the primary benefits of using Generative AI in your teaching practices? 2. Can you identify any challenges or obstacles you have faced while integrating Generative AI into your curriculum? 3. How do you think the use of Generative AI compares to traditional teaching methods in terms of effectiveness? 4. What support or resources do you believe are necessary to overcome the challenges associated with using Generative AI in education? 5. How do you envision the future role of Generative AI in higher education, based on your experiences and observations?

3.4. Data gathering procedure

Before participating in the study, all participants were given a consent letter explaining the research objectives and scope. The interviews were conducted face-to-face using a semi-structured interview guide. At the beginning of each session, participants were given detailed instructions about the process and

encouraged to ask any questions for clarification. If participants required more information, the procedures were explained to them in detail to ensure they felt comfortable and fully understood the procedures. All interviews were recorded and transcribed verbatim to ensure that the responses were accurate. After reviewing the transcripts for accuracy, participants were given the opportunity to provide further insights or clarifications. During the study, anonymity and confidentiality were strictly maintained. This was one of the most essential components of the methodology; this was because the participants' stories were co-constructed by the conversation between the researcher and the participants themselves [35].

3.5. Data analysis

The interview data were analyzed using reflexive thematic analysis [36-37]. This method was chosen because it allows the researcher to actively interpret meaning from the data while remaining sensitive to patterns across participants' accounts. The process began with repeated readings of the transcripts to achieve familiarity, followed by open coding of meaningful statements related to teaching methods, student engagement, benefits, and challenges of Generative AI. Codes were organized into broader categories, which were then refined into themes that captured shared perspectives as well as points of divergence among participants. The method used is reflexive thematic analysis, typically used to uncover patterns in data, giving deeper insights and interpretations [38]. Themes were not treated as pre-determined but were constructed through continuous engagement with the dataset. Reflexive notes were kept throughout to document how interpretations developed and to account for researcher assumptions. To enhance credibility, a peer researcher independently reviewed portions of the coded transcripts, and differences in interpretation were resolved through discussion until consensus was reached. This process ensured that the themes were both grounded in the participants' accounts and supported by systematic analysis.

4. Results

Question 1. In what ways has Generative AI influenced your teaching methods or instructional strategies?

1.1 Creative and Interactive Instructional Teaching

Twelve (12) instructors shared that Generative AI has changed their teaching approaches by enabling more interactive strategies and simplifying complex content. AI helped them create personalized activities and visual materials that made lessons more engaging. Despite these benefits, they emphasized that AI cannot replace teachers' roles in nurturing critical thinking.

> "Generative Artificial intelligence (AI) has been a great tool in visualizing complex ideas and thoughts, which can be used to convey concepts in a lecture. If I'd like to show a chart or image that reflects a specific case study, a simple AI prompt would create the needed media. It saves both time and effort, which enables me, the lecturer, to focus on delivering high-yield content."

> "So I think through the help of AI, teachers were able to strategically advance their teaching methodology, especially AI helps to think of ways to become more creative in the teaching and learning process."

> "Generative AI has significantly impacted my teaching methods. I use it to create personalized learning materials, like quizzes and exercises, and to spark creativity and critical thinking in my students. For example, we might use AI to brainstorm ideas for a new scientific experiment or write different versions of a

> historical event from different perspectives. However, it's important to emphasize that AI is a tool, not a replacement for human interaction and critical thinking. I always make sure my students understand the limitations of AI and encourage them to use it responsibly and ethically."

Question 2. How do you believe Generative AI has affected student engagement and participation in your courses?

2.1 Boosts Students' Engagement

Twelve (12) respondents said that Generative AI has the potential to enhance student engagement in teaching by providing visual aids and encouraging critical thinking through interactive questioning. However, improper use can lead to negative outcomes for both learners and lecturers. Students should utilize AI creatively, engaging in spontaneous interaction to demonstrate their understanding. Generative AI has both boosted and complicated student engagement, sparking curiosity and leading to active participation in class. However, some students may become overly reliant on AI for tasks like writing, potentially hindering their own critical thinking skills. It's crucial to use AI thoughtfully, complementing human interaction and critical thinking, to maintain genuine engagement and participation in the learning process.

> "In terms of using generative AI as a tool in teaching, it allows students to understand the intricacies of the lecture as they are presented with a variety of visual aids. In turn, it allows them to ask relevant questions and think critically. On the other hand, when the power of technology is not put to proper use (especially by the students), this can lead to the opposite outcome of what was stated previously. When AI is used as a substitute and not a tool, it will almost always be problematic for both the learner and the lecturer."

> "So I am actually open to students using AI, so long as they do not copy-paste the answer. So all they have to do is to really use prompting and then be able to, you know, um, use AI to become more creative, to ask more ideas and to really make sure that the learning process is as engaging as possible."

> "Generative AI boosts the students' engagement in terms of participation during class discussion because students nowadays are more on the AI or more, let's say, they are more interactive when it comes to the integration of these new technologies in the teaching example in the teaching environment."

Question 3. Can you provide examples of specific instances where Generative AI has enhanced your teaching effectiveness?

3.1 Creating Personalized Learning

Twelve (12) respondents said that the Generative Artificial Intelligence (AI) has brought about a transformation in the field of education by visualizing intricate concepts and enabling educators to deliver top-quality content effectively. Through the integration of interactive activities, AI plays a vital role in making the learning process not only engaging but also actively involving students, thereby enhancing their level of engagement. Moreover, AI contributes to refining existing educational materials, ensuring their precision and relevance. One notable way in which AI elevates teaching effectiveness is by amplifying student engagement within the classroom.

> "There was a time where I needed to make a lesson, plan my learning outcomes and I needed to think of activities for a certain topic. What I did was I asked AI to

> give me some activities to apply it in the classroom and with the given activities, it was innovatively and creatively done and with that, it really helped me make sure that the learning process is engaging, active, and students are really into learning by doing something."
>
> "Generative AI has significantly enhanced my teaching by allowing me to create personalized learning plans, generate engaging interactive content, streamline content creation, and provide real-time feedback to students, ultimately leading to a more effective and fulfilling learning experience for everyone."

Question 4. How do you perceive students' attitudes towards using Generative AI in their learning process?

4.1 Excited for AI's Potential

Twelve (12) respondents state that the students have a positive attitude towards the use of AI, displaying a range of emotions from excitement about its effectiveness and personalization to concern about problems like academic integrity and plagiarism. They also stressed that it is evident that students are aware of the limits and ethical issues surrounding AI technology. The main concern is that an over-reliance on AI might prevent pupils from developing the critical thinking abilities needed to solve problems in the real world. Although generative AI helps students with ideation, contextualization, and content adaptation, their opinions about the use of AI depend on things like content ownership and instructor consent.

> "I think most of the students have a positive attitude towards the use of AI, since it really helped them in their learning process. Sometimes if they can really think of something for assignments or for their outputs, they would ask AI to generate ideas and from the idea, they can modify the content and to contextualize the content."
>
> "I think students are very excited to use AI, generative AI, because I think it goes along with the ease of doing assignments or doing some requirements. Their attitudes change, you know, whenever there will be teachers who would allow them to use AI. In my case, I do allow AI to be used in my learning process, teaching and learning process. Provided there are sufficient claim disclaimers and credit to the owners of the content that they got from. But since what I've mentioned, since evaluation and assessments are based on spontaneous production. Of learning, then AI would have very limited participation in my class. Maybe, of course, it depends on the subject also."

Question 5. What changes have you noticed in student learning outcomes since incorporating Generative AI into your teaching practices?

5.1 Highlighted the Need for a Balance

Twelve (12) respondents said that the integration of generative AI in teaching has shown a mix of positive and negative effects on student learning outcomes. While AI has boosted student engagement and motivation, it is vital to maintain a balance by fostering critical thinking skills. To maximize the benefits of AI in education, it is imperative to promote deeper analysis, critical assessment, and original content creation, rather than solely relying on AI-generated materials.

> "Student learning can be influenced by multiple factors. Regardless of whether I incorporate generative AI in my teaching practices, it will always boil down to

how the students' willingness to learn. Additionally, I have not yet fully explored the features of gen AI, hence I have not been using gen AI as much yet. But if I may cite a change, it might be the mere fact that they are also trying their best to visualize complex ideas on their own. Just as how I present my lectures."

"Incorporate changes that have happened. I think they're quite excited with AI. I think it's something that they have to embrace, whether a teacher wants it or not. So, the changes that you would notice to students is, I think they're welcoming with AI, but I'm sure they're cautious also with, now the teachers are very much aware and into AI also, of cheating using a platform that can cheat, no? Especially when they're being assessed. So that's, these are changes. I mean, the caution. From the student's part, happens when the teacher is not just complacent in terms of giving assignments, which AI can invade some opportunities in doing their assignments."

"Generative AI has increased student engagement and motivation, but also highlighted the need for a balance between AI use and the development of critical thinking skills. While AI tools can be helpful, students need to develop their own independent thought and problem-solving abilities."

Research Objective 2. What are the perceived benefits and challenges of integrating Generative AI into higher education teaching practices among college educators?

Question 6. What do you see as the primary benefits of using Generative AI in your teaching practices?

6.1 Teacher Personalize Learning

Eight (8) respondents state that the Generative AI is a powerful tool that revolutionizes teaching by streamlining complex concepts and enhancing student engagement. It empowers educators to focus on delivering high-yield content by automating tasks and generating engaging materials. AI fosters creativity and responsiveness to diverse student needs, enabling personalized learning experiences and tailored instruction.

"One of the primary benefits of using AI in this process is to help teachers become more creative and then when it comes to teaching philology, the second benefit is that it does not limit teachers to thinking of the possible and even alternative ways of giving activities that are relevant to the kind of students that we deal with right now."

"The primary benefits of Generative AI in my teaching practices lie in its ability to personalize learning, create engaging content, and streamline content creation, ultimately leading to a more effective and fulfilling learning experience for my students."

6.2 Boost Student Engagement

Four (4) respondents said that Generative AI offers a significant advantage in teaching by boosting student engagement, participation, and relevance in the 21st century. It empowers students to explore and understand the capabilities of cutting-edge technologies. While some learning activities can be undertaken independently, AI can enhance presentations and provide a more engaging and interactive learning experience. This approach allows students to delve deeper into the intricacies of new technologies and develop a greater understanding of their potential applications.

> "The primary benefit of using the generative AI in a teaching practice is that first it boosts the student's engagement participation during class second is that it is really relevant for today's era because we are living in a 21st century and I believe that students are more in they call this more in the technologies more on exploration third is it allows the students to explore more on the different technologies and different it is different what you call this and it's different features of this new technologies."

> "Well, the primary benefit would definitely be polishing their works, their ideas. So in terms of presentation, for example, I mean, I do ask them to have their ideas done by themselves without the help of AI. But when it comes to presentation, they can use AI already and some other forms of artificial intelligence for better presentation."

Question 7. Can you identify any challenges or obstacles you have faced while integrating Generative AI into your curriculum?

7.1 Integrating Generative AI into Our Curriculum

Twelve (12) Generative Artificial Intelligence (AI) serves as a valuable tool for simplifying complex ideas and communicating concepts effectively in lectures. However, integrating AI into the curriculum comes with challenges such as navigating unfamiliar interfaces, ensuring ethical use, avoiding excessive dependence on AI, overcoming technical limitations, and ensuring equal access to AI tools for all students. One of the primary obstacles faced is the requirement for robust internet connections to access AI tools effectively. Despite the advantages, incorporating AI into the curriculum raises concerns about ethics, potential plagiarism, and the necessity for reliable and precise AI tools that align with teaching objectives and pedagogical principles.

> "I think the main challenge or obstacles when we integrate this generative AI into our curriculum is the internet connection because we all know that we cannot access these different AIs if we don't have that strong type of internet connection."

> "Integrating Generative AI into my curriculum has presented challenges such as addressing ethical concerns, preventing over-reliance on AI, navigating technical limitations, and ensuring equitable access to AI tools for all students. These challenges require careful consideration and ongoing effort to ensure responsible and effective AI integration."

Question 8. How do you think the use of Generative AI compares to traditional teaching methods in terms of effectiveness?

8.1 Excel in Efficiency and Effectiveness

Twelve (12) respondents state that Generative AI presents a powerful tool that surpasses traditional teaching methods in terms of efficiency and effectiveness. While traditional teaching methods remain crucial for fostering critical thinking, social-emotional development, and real-world application of knowledge, AI can enhance personalized learning, engage learners, and create a more dynamic learning environment. However, AI cannot replace the human element of teaching, such as fostering critical thinking, building relationships, and nurturing creativity.

> "Generative AI makes the teaching process more efficient and effective in a way that it provides a faster way of teaching. Another thing that makes it more

effective is because it encourages learners' engagement during classes which boost the confidence of the teacher to teach."

"Generative AI offers a powerful complement to traditional teaching methods, enhancing personalized learning, engaging content creation, and task efficiency. However, AI cannot replace the human element of teaching, which includes fostering critical thinking, building relationships, and nurturing creativity. The most effective approach is to combine the strengths of both, using AI as a tool to enhance traditional methods and create a more dynamic and engaging learning experience."

Question 9. What support or resources do you believe are necessary to overcome the challenges associated with using Generative AI in education?

9.1 Integrating Clear Guidelines

Twelve (12) respondents state that when it comes to screening for AI generated submissions from students. One of which is that some screening sites flag non-AI generated papers or essays as AI generated. They mentioned that workshops and seminars for both educators and students are essential to promote understanding and responsible use of AI. Continuous monitoring of AI usage, adapting to advancements, and upholding ethical guidelines are vital to address issues like plagiarism and equity. Ensuring equitable access to AI tools and providing targeted professional development for educators are crucial steps. Additionally, emphasizing human-centered skills such as critical thinking and collaboration alongside AI skills, and fostering open dialogue among stakeholders, will help navigate the ethical and practical implications of AI in education.

"There are a number of issues with gen. AI especially when it comes to screening for AI generated submissions from students. One of which is that some screening sites flag non-AI generated papers or essays as AI generated. So perhaps better technology should be used to be able to decipher which is which. However, in the end, people should be trained in an environment that requires more practical and experiential learning to be able to overcome the challenges of using gen AI in education."

"Overcoming the challenges of integrating Generative AI in education requires a multi-faceted approach that includes ethical frameworks, technological support, curriculum innovation, and collaboration. We need clear guidelines for responsible AI use, equitable access to AI tools, AI-specific professional development for educators, and a focus on human-centered skills alongside AI integration."

Question 10. How do you envision the future role of Generative AI in higher education, based on your experiences and observations?

10.1 Transformative Role

Twelve (12) respondents said that Generative AI presents a powerful tool that can assess students' abilities to handle real-world situations, making it a growing trend in education. Its use holds the potential to benefit teachers, students, and higher education as a whole. However, strategic planning and methodological analysis are essential to ensure its effectiveness. They also mentioned that generative AI should serve as an aid to the teaching and learning process, not the primary focus. It can personalize learning, enhance research, facilitate collaboration, and requires ethical considerations.

> "I envision generative AI as an interactive actor or tool that can be used to test and assess students' capabilities in handling stimulated situations that they might encounter in the field. For example, for their practical exam, students are tasked to engage with a client (AI) that generates a problem or case for them to solve."

> "I envision Generative AI playing a transformative role in higher education, personalizing learning, enhancing research, facilitating new forms of collaboration, and requiring a focus on ethical considerations and the evolving role of educators. This technology has the potential to create a more engaging, equitable, and innovative learning environment, but it must be approached thoughtfully and responsibly."

5. Discussion

Objective 1. How do college teachers perceive the impact of Generative AI on their teaching methods and student engagement?

The findings suggest that generative AI has changed the manner in which educators instruct effectively, allowing the educators to involve students in a much more interactive and engaging way while learning. This fits earlier research on the way that AI can facilitate more adaptive learning and higher levels of student engagement [14]. All these experiences illustrate the benefits of using AI in creating visible complex ideas, producing dynamic engaging activities, and tailoring feedback to support learning processes for better instructional and active learning.

However, the study also shows the positive effects as well as the side effects of generative AI, as it could trigger curious interest and prompt active contributions in class. On the other hand, students depend on AI too much, as it helps them write answers or even whole compositions that may be detrimental for developing their critical thinking power [15]. This finding underscore responsible usage of AI using it in a way that adds depth to the human interaction, making people think critically rather than replacing them.

Moreover, the study shows how AI can be employed to create personalized learning plans, generate engaging content, and offer real-time feedback, all of which contribute to a more effective and fulfilling learning experience [4]. These outcomes align with prior research that highlights AI's potential to tailor instruction to individual student needs and learning styles.

Even though the impact of AI in education is perceived to be positive, there are mixed feelings from students concerning the incorporation of AI into education. While most students are enthusiastic about AI's efficiency and ability to customize learning, others raise questions about the problem of academic integrity and plagiarism [23]. This, therefore, calls for educators to handle such concerns in the application of AI tools to maintain the standards of academia.

The integration of generative AI in teaching has shown a combination of positive and negative effects on student learning outcomes. Although AI has successfully increased student engagement and motivation, there is a need to balance this with the development of critical thinking skills. As AI becomes a more common tool in education, students must also foster the ability to think independently and solve problems [39].

Objective 2. What are the perceived benefits and challenges of integrating Generative AI into higher education teaching practices among college educators?

Key takeaways of Generative AI usage in teaching and learning identified by the respondents include personalized learning, content generation, and simplification of content development [20]. This gives an

implication that AI will be beneficial to teachers since they can maximize the time to ensure that most high-yield content is delivered to the students and even provide personal support. With automation of some tasks, AI gives educators more quality time in relating to students on an individualized basis.

The participants also stated that AI can enhance the engagement of students through a more interactive and dynamic learning experience. This finding is in line with earlier research that focuses on the ability of AI to motivate and engage students in the learning process [22]. Educators can create a more stimulating environment for students by engaging them in AI-driven activities and feedback.

However, embedding Generative AI into the curricula has proved not so easy. As the following issues need consideration: among them, are ethical matters, the student becoming a dependent user, technicalities, and issues of ensuring that AI instruments are available to all. These require consistent follow-up by ensuring that, on the one hand, AI is harnessed without compromising the desired ethical boundaries and without hampering resource access [7].

While the participants acknowledged the benefits of Generative AI, they also acknowledged that it cannot replace the human element of teaching. This includes such important things as fostering critical thinking, building relationships, and nurturing creativity [16]. Educators emphasized that AI should complement traditional teaching methods rather than replace the unique role of the instructor in guiding students' intellectual and personal growth.

To integrate AI responsibly, participants called for guidelines on the use of AI, equitable access to AI tools, professional development on AI for educators, and the development of human-centered skills along with AI integration [29]. These are crucial steps to ensure that AI improves, not degrades, the quality of education.

Looking forward, the participants envision Generative AI playing a transformative role in higher education. It has the potential to personalize learning, enhance research, facilitate new forms of collaboration, and innovate in the classroom [40]. However, it should be done thoughtfully and responsibly, taking into account ethical considerations and the changing role of the educator. When implemented effectively, Generative AI can create a more engaging, equitable, and innovative learning environment for both educators and students.

The respondents' perspectives are consistent with the claims made by other studies, particularly in terms of the importance of ethical concerns and policy guidance. This study, however, is not without limitations. The small sample of twelve instructors restricts the generalizability of findings. Because purposive sampling was used, there is a possibility of self-selection bias, as those already interested in AI may have been more willing to participate. In addition, the absence of student perspectives limits the scope of the findings to teachers' views, leaving out how learners themselves experience Generative AI in higher education. Future research should therefore expand to larger and more diverse samples and incorporate student perspectives to provide a more comprehensive understanding.

Based on the findings, a conceptual framework of balanced integration emerges. At the center of this framework is the goal of enhancing student learning. On one side, Generative AI contributes personalization, efficiency, and inclusivity by generating tailored materials, streamlining routine tasks, and offering alternative learning resources. On the other hand, traditional teaching provides mentorship, critical thinking, and human interaction dimensions that technology cannot replace. Institutional support, through ethical policies, faculty training, and equitable access to infrastructure, forms the foundation that enables this balance. The framework highlights that neither AI nor traditional pedagogy alone is sufficient; effective

practice in higher education depends on their complementary strengths, guided by responsible and human-centered integration.

6. Conclusion

The integration of Generative AI into higher education presents substantial potential to transform teaching practices and enhance student learning experiences. This potential is tempered by challenges that require careful and responsible adoption. The findings of this study show that Generative AI can individualize instruction, stimulate learner engagement, reduce repetitive administrative work, and expand inclusivity in classrooms. However, these benefits cannot be fully realized without addressing ethical risks, providing adequate faculty training, and ensuring that students continue to develop critical skills such as problem-solving and independent thinking. The results further indicate that the most effective approach is a hybrid model that combines the efficiencies of AI with the irreplaceable human elements of traditional teaching, including mentorship, creativity, and critical inquiry. Such an approach can create a dynamic and engaging educational environment while safeguarding against the erosion of pedagogical values. As AI technologies advance, integration must remain human-centered and aligned with long-term educational goals rather than short-term efficiencies.

Future research should extend the scope of this study by incorporating student voices to provide a more comprehensive view of AI's role in higher education. Including learners' perspectives would help assess how AI impacts motivation, academic integrity, and skill development from their standpoint. Furthermore, adopting mixed methods designs that combine qualitative and quantitative approaches would enable triangulation of findings and yield more robust conclusions. Policymakers will then need to weigh these insights carefully, balancing the advantages of AI integration with measures that safeguard the mental, emotional, and academic well-being of students.

Conflict of interest

The authors declare no conflict of interest

References

1. Allen, T., & Allen, T. (2024, November 28). Generative AI in higher education and responsible implementation. ACUE. https://acue.org/blog/generative-ai-in-higher-education-and-responsible-implementation/
2. Chavez, J. V. (2023, May 9). Assessing Online Academic Integrity and Humanized Teaching in Zamboanga Peninsula Polytechnic State University. https://so03.tci-thaijo.org/index.php/sduhs/article/view/268335
3. Deen, M. (2024, August 20). Generative AI and its transformative role in higher education. Tiffin University. https://go.tiffin.edu/blog/generative-ai-and-its-transformative-role-in-higher-education/
4. Duhaylungsod, N. a. V., & Chavez, N. J. V. (2023). ChatGPT and other AI Users: Innovative and Creative Utilitarian Value and Mindset Shift. Journal of Namibian Studies History Politics Culture, 33. https://doi.org/10.59670/jns.v33i.2791
5. Chavez, J., & Lamorinas, D. D. (2023). Reconfiguring assessment practices and strategies in online education during the pandemic. International Journal of Assessment Tools in Education, 10(1), 160–174. https://doi.org/10.21449/ijate.1094589
6. Schroeder, R. (2024, September 10). AI is already advancing higher education. Inside Higher Ed | Higher Education News, Events and Jobs. https://www.insidehighered.com/opinion/blogs/online-trending-now/2024/09/10/ai-already-advancing-higher-education
7. Amasri, F. (2024). Exploring the Impact of Artificial intelligence in teaching and learning of Science: A Systematic Review of Empirical research. Research in Science Education, 54(5), 977–997. https://doi.org/10.1007/s11165-024-10176-3
8. Calzada, K. P. D. (2024). Anti-dependency teaching strategy for innovation in the age of AI among technology-based students. Environment and Social Psychology, 9(8). https://doi.org/10.59429/esp.v9i8.3026

9. Inoferio, H. V., Espartero, M., Asiri, M., Damin, M., & Chavez, J. V. (2024). Coping with math anxiety and lack of confidence through AI-assisted Learning. Environment and Social Psychology, 9(5). https://doi.org/10.54517/esp.v9i5.2228
10. Del Mundo, M. A., Reyes, E. F. D., Gervacio, E. M., Manalo, R. B., Book, R. J. A., Chavez, J. V., Espartero, M. M., & Sayadi, D. S. (2024a). Discourse analysis on experience-based position of science, mathematics, and Tech-Voc educators on generative AI and academic integrity. Environment and Social Psychology, 9(8). https://doi.org/10.59429/esp.v9i8.3028
11. Fortner, K. M., Lalas, J., & Strikwerda, H. (2021). Embracing Asset-Based School Leadership Dispositions in Advancing True Equity and Academic Achievement for Students Living in Poverty. https://eric.ed.gov/, 7(1). http://files.eric.ed.gov/fulltext/EJ1288402.pdf
12. Arini, D. N., Hidayat, F., Winarti, A., & Rosalina, E. (2022). Artificial intelligence (AI)-based mobile learning in ELT for EFL learners: The implementation and learners' attitudes. International Journal of Educational Studies in Social Sciences (IJESSS), 2(2). https://doi.org/10.53402/ijesss.v2i2.40
13. De Leon, A., Jumalon, R., Chavez, J., Kairan, M., Abbas, K., Radjuni, A., Kadil, H., Sahirul, J., Tantalie, E., Hussin, A., Amlih, M., & Albani, S. (2024). Analysis on the implementation of inclusive classroom: perception on compliances and obstructions of selected public-school teachers. Environment and Social Psychology, 9(9). https://doi.org/10.59429/esp.v9i9.2537
14. Nedungadi, P., Tang, K., & Raman, R. (2024). The transformative power of generative artificial intelligence for achieving the sustainable development goal of quality education. Sustainability, 16(22), 9779. https://doi.org/10.3390/su16229779
15. Murro, R. a. R. A., Lobo, J. G., Inso, A. R. C., & Chavez, J. V. (2023). Difficulties of parents with low educational attainment in assisting their children in modular distance learning during pandemic. Environment and Social Psychology, 9(1). https://doi.org/10.54517/esp.v9i1.1957
16. Nikolopoulou, K. (2024). Generative Artificial Intelligence in Higher Education: Exploring Ways of Harnessing Pedagogical Practices with the Assistance of ChatGPT. Deleted Journal, 1(2), 103–111. https://doi.org/10.47852/bonviewijce42022489
17. Garil, B. A., Abbas, T. S. C., & Limen, M. V. (2024). Analyzing the demographic-based grammatical competence and its relationship to academic performance in higher education setting. Forum for Linguistic Studies, 6(3), 343–356. https://doi.org/10.30564/fls.v6i3.6453
18. Nyaaba, M. (2024, November 16). Transforming teacher education in developing Countries: The role of Generative AI in bridging theory and practice. arXiv.org. https://arxiv.org/abs/2411.10718
19. Batista, J., Mesquita, A., & Carnaz, G. (2024). Generative AI and Higher Education: Trends, Challenges, and Future Directions from a Systematic Literature Review. Information, 15(11), 676. https://doi.org/10.3390/info15110676
20. Kohen-Vacs, D., Amzalag, M., Weigelt-Marom, H., Gal, L., Kahana, O., Raz-Fogel, N., Ben-Aharon, O., Reznik, N., Elnekave, M., & Usher, M. (2024). Towards a call for transformative practices in academia enhanced by generative AI. European Journal of Open Distance and E-Learning, 26(s1), 35–50. https://doi.org/10.2478/eurodl-2024-0006
21. Borer, D., Hackenberg, E., McIntosh, N., Lane, A., & Thanh, B. N. (2024). A Practical study of Generative AI Tools for Higher Education Innovative Transformation. In Emerald Publishing Limited eBooks (pp. 35–62). https://doi.org/10.1108/978-1-83549-486-820241003
22. Lytras, M. D., Serban, A. C., Alkhaldi, A., Aldosemani, T., & Malik, S. (2024). Transformative Learning for Future Higher Education: The Artificial Intelligence-Enabled Learning Revolution 2035. In Emerald Publishing Limited eBooks (pp. 231–241). https://doi.org/10.1108/978-1-83608-424-220241009
23. Krause, S., Panchal, B. H., & Ubhe, N. (2024, April 16). The Evolution of Learning: Assessing the Transformative impact of Generative AI on Higher education. arXiv.org. https://arxiv.org/abs/2404.10551
24. Entong, M. B. M., Garil, B. A., Muarip, V. C., & Chavez, J. V. (2024b). Language Delivery Styles in Academic Trainings: Analysis of Speaker' s Emotional Connection to Audience for Lasting Learning. Forum for Linguistic Studies, 6(3), 326–342. https://doi.org/10.30564/fls.v6i3.6533
25. Katsampoxaki-Hodgetts, Kallia & Kotsidis, Konstantinos & Papadakis, Stamatios & Anastasiades, Panagiotes. (2025). Reimagining preschool pedagogy: AI-enhanced teaching through multiliteracies-informed curriculum innovation. 10.33225/BalticSTE/2025.104.
26. Yusuf, A., Pervin, N. & Román-González, M. Generative AI and the future of higher education: a threat to academic integrity or reformation? Evidence from multicultural perspectives. Int J Educ Technol High Educ 21, 21 (2024). https://doi.org/10.1186/s41239-024-00453-6
27. Marín, Y.R., Caro, O.C., Rituay, A.M.C. et al. Ethical Challenges Associated with the Use of Artificial Intelligence in University Education. J Acad Ethics (2025). https://doi.org/10.1007/s10805-025-09660-w
28. Francis, Nigel & Jones, Sue & Smith, David. (2025). Generative AI in Higher Education: Balancing Innovation and Integrity. British Journal of Biomedical Science. 81. 10.3389/bjbs.2024.14048.

29. Sedkaoui, S., & Benaichouba, R. (2024). Generative AI as a transformative force for innovation: a review of opportunities, applications and challenges. European Journal of Innovation Management. https://doi.org/10.1108/ejim-02-2024-0129
30. Chavez JV, Ceneciro CC. (2024). Discourse analysis on same-sex relationship through the lens of religious and social belief systems. Environment and Social Psychology 2024; 9(1): 1912. Doi: 10.54517/esp.v9i1.1912
31. Rai, N., & Thapa, B. (2015). A study on purposive sampling method in research. Kathmandu: Kathmandu School of Law, 5(1), 8-15.
32. Tongco, M. D. C. (2007). Purposive sampling as a tool for informant selection. Ethnobotany Research & Applications, 5, 147-158.
33. Knott, E., Rao, A. H., Summers, K., & Teeger, C. (2022). Interviews in the social sciences. Nature Reviews Methods Primers, 2(1), 73.
34. Naz, N., Gulab, F., & Aslam, M. (2022). Development of qualitative semi-structured interview guide for case study research. Competitive Social Science Research Journal, 3(2), 42-52.
35. Muylaert, C. J., Sarubbi Jr, V., Gallo, P. R., Neto, M. L. R., & Reis, A. O. A. (2014). Narrative interviews: an important resource in qualitative research. Revista da Escola de Enfermagem da USP, 48, 184-189.
36. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101. https://doi.org/10.1191/1478088706qp063oa
37. Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. Qualitative research in sport, exercise and health, 11(4), 589-597.
38. Corsley, J. (2021). What (Exactly) Is Thematic Analysis?. GradCoach [Online]. https://gradcoach.com/what-is-thematic-analysis/
39. Ruiz-Rojas, L. I., Salvador-Ullauri, L., & Acosta-Vargas, P. (2024). Collaborative working and critical Thinking: adoption of generative artificial intelligence tools in higher education. Sustainability, 16(13), 5367. https://doi.org/10.3390/su16135367
40. Beagon, U., Kövesi, K., Tabas, B., Nørgaard, B., Lehtinen, R., Bowe, B., Gillet, C., & Spliid, C. M. (2022). Preparing engineering students for the challenges of the SDGs: what competences are required? European Journal of Engineering Education, 48(1), 1–23. https://doi.org/10.1080/03043797.2022.2033955