Use and Perception of Generative AI in Higher Education: Insights from the ERASMUS+ Project 'Teaching and Learning with Artificial Intelligence' (TaLAI)

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Abstract: The integration of Generative Artificial Intelligence (GenAI) in higher education offers transformative opportunities alongside significant challenges for both educators and students. This study, part of the ERASMUS+ project Teaching and Learning with Artificial Intelligence (TaLAI), aims to explore the familiarity, usage patterns, and perceptions of GenAI in academic settings. A survey of 152 students (mainly from Germany, Belgium, and the Netherlands) and 118 educators (81 professors, 37 trainers) reveals widespread GenAI use, with ChatGPT being the most common tool. Findings indicate both enthusiasm for GenAI's potential benefits and concerns regarding ethical implications, academic integrity, and its impact on learning processes. While students and educators recognize GenAI's ability to enhance learning and productivity, uncertainties persist regarding assessment practices and its potential short and long-term effects on various aspect such as decision making, creativity, and memory performance. The study also highlights gaps in institutional support and policy, emphasizing the need for clearer communication to ensure responsible AI adoption. This paper contributes to the ongoing discussions on GenAI in higher education and is aimed at educators, policymakers, and researchers concerned with its responsible use. By addressing students' and educators' both perspectives and concerns, institutions and policymakers can develop well-informed strategies and guidelines that promote responsible and effective use of GenAI, ultimately enhancing the overall teaching and learning experience in academic environments.

1 INTRODUCTION

The rapid advancement of Generative Artificial Intelligence (GenAI) has the potential to revolutionize higher education by offering tools that enhance teaching and learning experiences. Unlike traditional AI models that rely on predefined rules and numerical predictions, GenAI refers to models that generate novel, previously unseen content based on the data they have been trained on. These models produce human-like material that can be interacted with and consumed, rather than merely analysing existing data patterns (García-Peñalvo & Vázquez-Ingelmo, 2023). GenAI-powered tools have demonstrated capabilities in generating content, aiding in problem-solving, summarizing texts and providing personalized feedback, making them invaluable in educational contexts (Dale & Viethen,

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2021; Rowland, 2023; Nguyen, 2023). However, their adoption raises critical questions around ethical usage, academic integrity, and equitable access. The integration of GenAI tools into education has the potential to reshape learning goals, activities, and assessment practices, emphasizing creativity and critical thinking over general skills (Zhai, 2022). Educators and institutions are increasingly tasked with navigating the challenges of integrating such transformative technologies responsibly (Ray, 2023). While some studies highlight the potential of GenAI to foster critical thinking and creativity (Chan & Hu, 2023), others caution about possible over-reliance, which could impede foundational skill development (Bobula, 2023). These complexities underline the necessity of a structured approach to understanding and implementing GenAI in higher education.

The Erasmus+ project Teaching and Learning with Artificial Intelligence in Higher Education (TaLAI) addresses these challenges by aiming to train higher education (HE) faculty staff and students with the knowledge and skills to use GenAI responsibly and ethically. Launched on November 1, 2023, and running until October 31, 2026, the project seeks to foster digital literacy among academic stakeholders and to promote the ethical and effective integration of GenAI into teaching and learning. In addition to the scientific study of the implications triggered by GenAI, TaLAI aims to create a digital platform and a Massive Open Online Course (MOOC) that aims to help academic professionals to learn, discuss and integrate GenAI into their teaching and learning, while adhering to ethical standards. TaLAI thereby will also develop recommendations for assessment in the context of GenAI.

In the first year of the project, two fundamental research activities were prioritized to create a solid understanding of the current role and perception of GenAI in higher education. First, a systematic literature review, following PRISMA guidelines, examined the current state of GenAI in higher education, focusing on its effective and ethical integration into teaching and learning. The second research activity was a survey, conducted among both educators (including professors, lecturers, researchers, trainers and educational advisors) and students at higher education institutions. This survey explored four main dimensions: participants' familiarity with GenAI; the extent and nature of its use; perceptions of GenAI; and its acceptance. The survey was divided into two distinct parts, one measuring the use and perception of GenAI in academic contexts, and the other examining factors influencing GenAI acceptance through the UTAUT2 model (Unified Theory of Acceptance and Use of Technology) (Venkatesh et al., 2012).

The objective of this study is to focus solely on the findings from the first component, specifically addressing participants' familiarity with GenAI, current usage patterns, perceived benefits, challenges, and ethical considerations among educators and students. The second component, which investigates acceptance-related factors, will be explored in future research through inferential statistical analyses. By separating these two components, this study ensures a focused analysis while laying the groundwork for a deeper exploration of GenAI acceptance in subsequent work.

This paper provides a foundational analysis of the descriptive survey data, offering insights into how GenAI is currently perceived and used in academia. By exploring students' and educators' views, the research further seeks to inform policy recommendations to support responsible and effective integration of GenAI in educational settings.

2 METHODOLOGY

To assess the current status of GenAI use and perception, a combined descriptive and exploratory survey design was employed, offering a robust approach for capturing participants' viewpoints. This approach allows to efficiently gather diverse responses and provides a broad understanding of the topic (Creswell & Creswell, 2018). The descriptive survey component facilitates a structured overview of variable distribution, allowing documentation of existing patterns and trends without pursuing causal inference (Aggarwal & Ranganathan, 2019). Additionally, exploratory elements were integrated into the survey allowing for in-depth responses, capturing nuanced participant perspectives. This combination of question types supports a comprehensive investigation into participant perspectives, aligning with the mixed-methods framework for educational research (Johnson & Onwuegbuzie, 2004).

The survey questions were developed through a collaborative brainstorming process, guided by relevant literature and prior studies on GenAI perceptions in higher education. The questionnaire was designed to explore students' and educators' perspectives on GenAI, with a focus on its pedagogical integration and their beliefs about its potential benefits, challenges, and overall acceptance in the classroom. To enhance validity and clarity, a pilot test was conducted with 14 researchers

experienced in using GenAI for teaching and academic purposes. Feedback from this pilot informed refinements to the questionnaire, ensuring alignment with the study's objectives. This iterative process aligns with best practices in survey research, which emphasize the value of piloting for improving reliability and validity (DeVellis, 2016).

The survey was administered online through the Unipark Survey tool, facilitating broad participation and data management efficiency. The questionnaire included three tailored sections for different target groups - students, professors, and educational instructors. The survey consisted primarily of multiple-choice and Likert scale questions (using a 5-point scale), following established survey guidelines, as these formats are effective for capturing attitudes and perceptions (Allen & Seaman, 2007). To enhance inclusiveness, we followed the comprehensive questionnaire design recommendations by Jenn (2006) including an "Other: please specify" option in several questions, allowing respondents to provide answers beyond the preset options. Additionally, two open-ended questions were included to explore commonly used GenAI tools for academic purposes.

A convenience sampling method was used to select respondents based on their availability and willingness to participate. This approach is appropriate for exploratory studies, as it enables the collection of diverse perspectives from a broad pool (Etikan, 2016). While convenience sampling provides initial insights into trends and perceptions, a key limitation is its reduced generalizability, as the sample may not fully represent the larger population, potentially introducing selection bias (Emerson, 2021). Participation in the survey was voluntary and anonymous, with informed consent obtained from all respondents. Participants were assured of confidentiality, adhering to ethical standards in educational research (Cohen et al., 2017). A total of 152 students (undergraduate and postgraduate) and 118 educators from various countries and various disciplines completed the survey, providing a comprehensive view of GenAI perceptions across academia.

The data analysis presented in this paper primarily involved descriptive statistics to summarize and interpret responses across selected survey questions. Means, standard deviations, and frequencies were calculated to identify trends and patterns in participants' responses. Demographic and contextual variables, such as role, country, academic discipline and academic experiences were analyzed to provide a comprehensive understanding of the dataset.

For the specific survey question regarding the perceived impact of GenAI tools on the learning process in the short and long term, a comparison of means was conducted to examine differences between student and educator responses. Independent samples t-tests were used to assess statistical significance, and p-values were calculated for each aspect included in the question. This additional layer of analysis explored variations in perceived impacts between the two groups, highlighting potential areas of divergence or alignment in their viewpoints (Field, 2018). Data processing and analysis were conducted using Microsoft Excel and Python's Pandas library. This combination of tools provided robust data handling and visualization capabilities, supporting clear interpretation and presentation of results.

3 RESULTS

3.1 Data Cleaning and Preparation

To prepare our primary dataset for analysis, we undertook an initial restructuring process to ensure consistency and clarity. Since some responses were downloaded as variable numbers from the survey software, these variables required annotation for interpretability. By annotating each variable with its corresponding value or meaning, a more comprehensible dataset was created, facilitating subsequent analysis.

Then, data was cleaned, i.e. errors were identified and corrected, particularly focusing on handling missing values. This systematic process of restructuring, annotating, and cleaning the dataset established a solid foundation for in depth analysis.

3.2 Data Analysis

3.2.1 Demographic Information

The survey targeted a diverse group of participants in higher education, focusing on both students and educators. Out of the 270 respondents, 56% were students, providing insights into the perceptions and current use of GenAI from a learner's perspective. The remaining participants were educators, including professors (9%), lecturers (14%), researchers (7%), trainers (3%), and educational instructors (11%), offering their perspectives on AI's role and impact in academia. This distribution allowed us to capture a comprehensive view of GenAI's perception and use, exploring whether the perceptions of students and educators align or diverge within the academic setting. Table 1 presents the demographic information of the survey participants, including their region of

work or study, years of experience (for educators), and field of study or work for both students and educators.

Table 1: Demographic Information.

Regions	Educators	Students
Asia	25	3
Europe	90	148
North Am	2	0
Australia	1	0
South Am	0	1

Year Of Experiences	Educators
11-20 years	29
1-5 years	40
6-10 years	18
Less than a year	10
More than 20 years	21

Field of Study/ Work	Students	Educators
Education	13	23
Arts and humanities	0	0
Social sciences, journalism and information	7	13
Business, administration and law	118	25
Natural sciences, mathematics and statistics	9	7
Information and Communication Technologies	61	18
Engineering, manufacturing and construction	3	7
Agriculture, forestry, fisheries and veterinary	0	1
Health and welfare	1	6
Services	0	2
Other	0	5

3.2.2 GenAI Preferences and Ethical Considerations

We explored in our study which GenAI tools are most commonly utilized by students and educators in higher education, focusing specifically on their top choices and preferred tool. Participants were asked to name the top three generative AI tools they use, as well as their single most preferred tool. The findings, illustrated in Figure 1, reveal that ChatGPT is overwhelmingly popular, with 201 mentions among the top three tools used. Other frequently cited tools included Copilot (13), Gemini (15), and a variety of others such as Midjourney, Firefly, and Perplexity

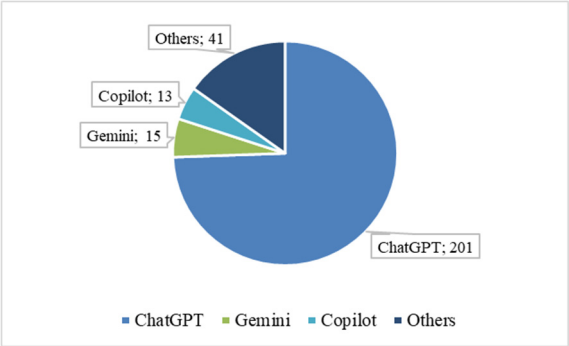

Figure 1: Preferred GenAI Tools.

(41). Additionally, when participants were asked to identify their "number one" tool, both groups consistently favored ChatGPT, with 67 out of 118 educators and 133 out of 152 students selecting it. These results underscore ChatGPT's currently prominent role in academic settings, its extensive use and perceived value across different roles within the educational ecosystem.

Table 2 and Figures 2 and 3 compare students' and educators' perspectives on the ethical considerations surrounding GenAI in higher education. The results indicate that educators express greater concerns about the use of GenAI (Mean = 3.23, SD = 1.16) than students (Mean = 2.82, SD = 1.23). The difference is statistically significant (p = 0.046), suggesting that educators are more cautious about the potential risks of GenAI in academic settings.

Table 2: Concerns and familiarity with GenAI integration in higher education.

	Students		Educators		
Questions	Mean	SD	Mean	SD	P-value
Do you have concerns while using GenAI in higher education?	2.82	1.23	3.23	1.16	**0.046***
How familiar are you with the ethical implications of integrating GenAI technologies in higher education?	3.30	1.08	3.92	1.11	**< 0.001***
Have you ever perceived the use of genAI tools in your educational activities as resembling cheating or engaging in unethical behaviour?	3.23	1.19	-	-	-

*** indicates significance**

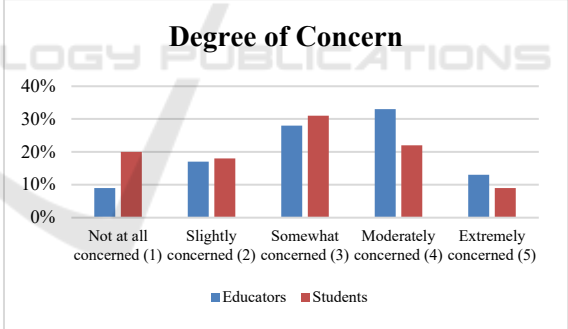

Figure 2: Concerns While Using GenAI.

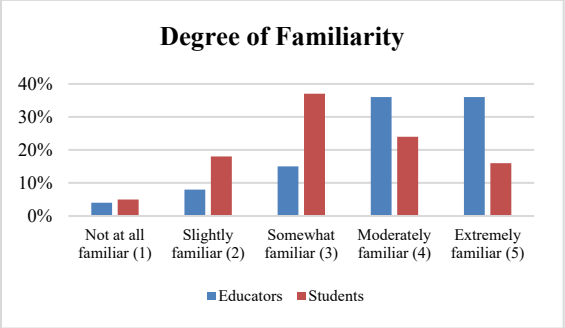

Figure 3: Familiarity with Ethical Implications.

Additionally, educators report a significantly higher familiarity with the ethical implications of GenAI integration (Mean = 3.92, SD = 1.11) compared to students (Mean = 3.30, SD = 1.08), with a highly significant difference ($p < 0.001$). This indicates that educators may have more exposure to discussions on AI ethics, policies, or guidelines within academic institutions. Furthermore, students were asked whether they perceived the use of GenAI tools in educational activities as cheating or unethical behavior – the agreement was moderate (Mean = 3.23, SD = 1.19). This indicates that while some students may view GenAI as potentially problematic in terms of academic integrity, overall, there appears to be uncertainty on the part of students at this time.

3.2.3 Perceptions and Current Practices of GenAI Use in Academic Settings

To understand the feelings of the participants when using GenAI in academic work, participants had to select multiple answers from a list of emotions. The results show that 58.5% of teachers and 44.7% of students feel "excited", which could also indicate a shared enthusiasm often observed initially surrounding technology and innovative advancements. Furthermore, 36.4% of educators and 40.1% of students feel "empowered," suggesting that many view GenAI as an empowering tool. Notably, 13.8% of students feel a "guilt" when using GenAI, further indicating uncertainty, especially when taking into account that 23.68% of students felt indifferent towards using GenAI in academia. In contrast, only 7.6% of educators share the feeling of guilt. Some educators provided additional answers by selecting the "other" option, expressing a mixture of curiosity, caution, ethical concerns, and frustration about the impact of GenAI on the quality of learning. Overall, the range of emotions reflects a positive outlook that is partially tempered by uncertainty, ethical considerations and a drive towards a responsible approach to the role of GenAI in education.

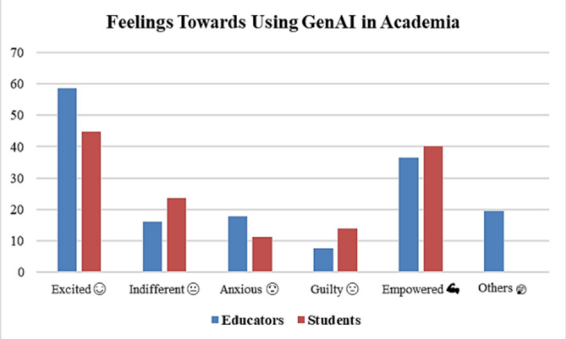

Figure 4: Feelings Towards Using GenAI.

The survey also examined how participants are currently using generative AI tools in their academic work. As illustrated in Figure 5, the majority of both educators (53%) and students (56%) prefer a flexible approach, combining systematic learning and trial-and-error. Fewer participants adopt structured methods, with 32% educators and 23% students systematically researching tools before use, while 11% educators and 20% students try new tools with minimal prior research. A small group (4% educators and 1% students) chose "Other", describing varied approaches such as starting with ChatGPT, consulting experts or colleagues, or cautiously testing tools before official use. These responses reflect diverse strategies based on individual comfort with experimentation and trust in GenAI tools.

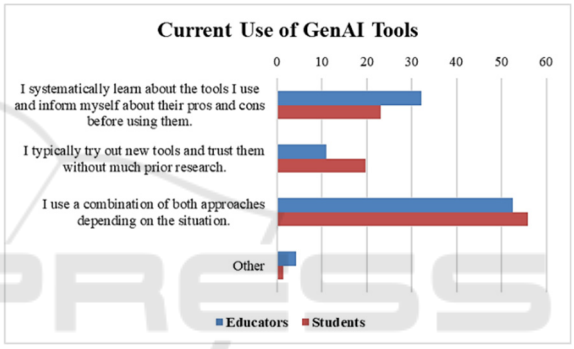

Figure 5: Current Use of GenAI Tools.

Additionally, teaching staff was asked to clarify how they incorporate generative AI in their teaching practices. Respondents were allowed to select multiple approaches, reflecting the diverse ways used to integrate GenAI into education. The most common approach, chosen by 55 participants, was discussing the risks and limitations of GenAI in higher education. Other frequently selected strategies included promoting critical thinking through essential and clear instructions (34 responses), exploring potential future applications of GenAI (33 responses), discussing the role of prompts with students (29 responses), and requiring students to document, display, and evaluate GenAI contributions in their work (29 responses).

Beyond these, educators also emphasized the importance of guiding students in evaluating the accuracy of GenAI outputs, reflecting on its influence in their assignments, and understanding how GenAI can facilitate feedback and alternative perspectives. These findings highlight that educators often employ multiple strategies, emphasizing a balanced approach

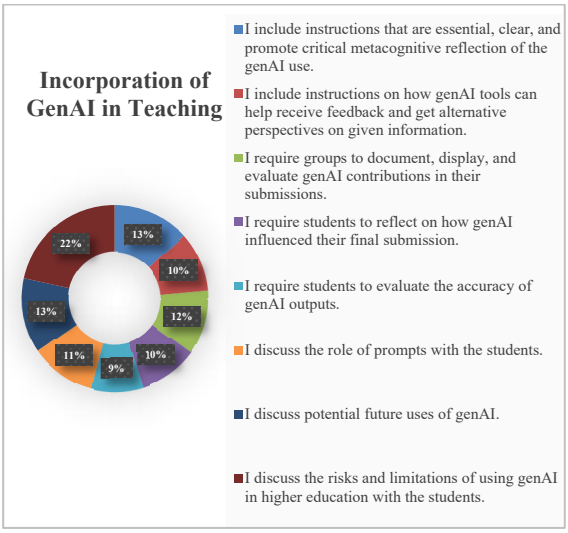

Figure 6: Incorporation of GenAI in Teaching Practices.

that combines ethical awareness with fostering critical engagement and practical understanding among students.

The survey further asked participants whether their university or study program has a policy on the ethical use of GenAI tools. The results indicate that 141 out of 270 respondents (educators 54%, students 51%) believe their institution has a clear policy. In contrast, 50 participants (educators 33%, students 7%) responded "No," indicating either the absence of such policies or a lack of awareness among participants. Additionally, 79 participants (educators 13%, students 42%) were "Unsure," suggesting that nearly one-third of respondents may not have sufficient information or clarity on this issue. Notably, a considerably larger share of students seems to be uninformed or uncertain about the existence of such policies compared to educators. This distribution reflects varied levels of awareness regarding GenAI policies, emphasizing the need for

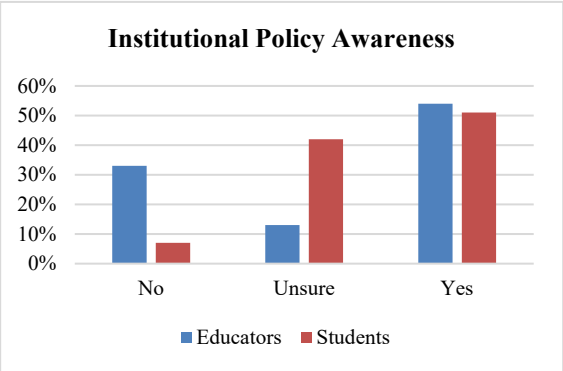

Figure 7: Availability of AI Policy.

clearer communication and implementation to ensure all stakeholders are well-informed about ethical guidelines.

Additionally, considering the absence of institutional guidelines or policies, we asked the students whether lecturers or professors personally encourage the responsible and ethical use of generative AI tools for academic purposes. The results show that 56% of students responded "Yes," indicating they receive direct encouragement from their instructors. In contrast, 20% responded "No," and 24% were "Not Sure," suggesting that a significant portion of students either do not receive or are uncertain about receiving guidance on ethical GenAI use from their educators. Following up on the question posed to students, we also asked educators if they personally encourage students for responsible and ethical use of generative AI tools regarding academic purpose. The results show that a substantial 77% of educators (91 out of 118) responded "Yes", indicating a high level of support for GenAI usage in academic settings. In contrast, 10% said "No", and 13% were "Not Sure". This indicates a stronger inclination among educators to support GenAI use compared to the students' perception of clear instructions they received. While many educators are actively discussing GenAI's academic integration, some hesitancy remains, with a small portion either uncertain or explicitly not endorsing its use. This difference in perspectives suggests that clear instructions on the use of GenAI might not always be consistently communicated to students, despite overall positive attitudes among educators.

To gain insight into current practices, we asked participants how they manage the use of GenAI in graded assignments. This question was directed specifically at professors, lecturers, and researchers within the educator group who have direct classroom involvement. The responses reveal a range of approaches: 23 out of 81 educators allow GenAI use broadly in assignments, while a larger portion,35 educators permit its use only for specific purposes. In contrast, rest 23 educators do not allow GenAI use in any graded assignments. This distribution suggests that most educators are cautious, with many setting boundaries around GenAI based on assignment goals and context.

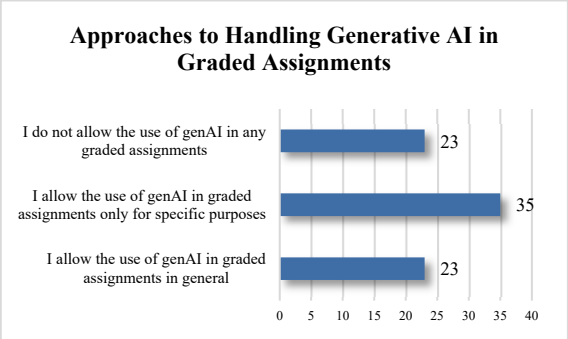

Figure 8: Handling the Use of Generative AI in Graded Assignments.

3.2.4 Perceived Impact and Challenges of GenAI on Learning

In examining the perceived short-term impact of generative AI tools on student learning, we found notable differences between students and educators across various learning aspects from the t-test result. Regarding memory performance ($p < 0.001$) and attention to detail ($p = 0.003$), students rate the impact of generative AI significantly more positive than educators. This suggests that students may see GenAI as a tool that could support memory retention and attention to detail, while educators seem to be slightly more cautious or skeptical about these potential benefits. Decision making ($p = 0.05$) and creativity ($p = 0.05$) showed borderline significance, where educators expressed slightly lower confidence in GenAI's positive impact on these areas compared to students. For critical thinking ($p = 0.95$), problem-solving ($p = 0.19$), ethical reasoning ($p = 0.19$), and communication ($p = 0.51$), no significant differences were observed, indicating that both students and educators have a similar, relatively neutral outlook on the short-term impact of GenAI on these aspects of learning. This may also be due to the fact that very little empirical evidence exists so far on the impact of using GenAI on critical thinking, problem-solving, ethical reasoning and communication. Moreover, it also depends on how GenAI has been utilized.

When considering the long-term impact of GenAI tools on learning, students and educators largely shared similar views, with no statistically significant differences in areas like critical thinking ($p = 0.49$), decision making ($p = 0.72$), problem-solving ($p = 0.61$), creativity ($p = 0.54$), ethical reasoning ($p = 0.73$), attention to detail ($p = 0.46$), and communication ($p = 0.52$). However, a significant difference was observed in memory performance ($p = 0.003$). Students rated the long-term impact of GenAI higher than educators, suggesting students might

Table 3: Perceived Impact of GenAI.

5-Point Likert Scale; 1=Very Negative, 5=Very Positive * indicates significance					
Short Term					
Aspect	**Mean (Students)**	**SD (Students)**	**Mean (Educators)**	**SD (Educators)**	**p-value**
Critical thinking	3.09	1.00	3.09	0.98	0.949
Decision making*	3.41	0.89	3.19	0.89	**0.053**
Problem-solving	3.48	0.91	3.33	0.95	0.189
Creativity*	3.17	1.00	2.92	1.02	**0.046**
Memory performance*	3.11	0.90	2.64	0.95	**< 0.001**
Ethical reasoning	3.13	0.78	3.00	0.85	0.186
Attention to detail*	3.26	0.95	2.92	0.91	**0.003**
Communication	3.36	0.87	3.28	1.00	0.509
Long Term					
Aspect	**Mean (Students)**	**SD (Students)**	**Mean (Educators)**	**SD (Educators)**	**p-value**
Critical thinking	3.01	1.05	3.10	1.05	0.493
Decision making	3.21	0.97	3.17	0.90	0.723
Problem-solving	3.22	1.04	3.29	1.01	0.609
Creativity	3.05	1.04	2.97	1.04	0.542
Memory performance*	2.97	1.03	2.62	0.86	**0.003**
Ethical reasoning	3.04	0.88	3.08	0.86	0.730
Attention to detail	3.14	0.97	3.06	0.90	0.458
Communication	3.30	0.94	3.22	1.00	0.523

expect GenAI to aid memory retention more than educators believe it will. This contrast in views on memory performance could indicate differing expectations for GenAI's role in supporting cognitive functions over time.

Interestingly, despite the relatively neutral perceptions of GenAI's impact on critical thinking, problem-solving, and ethical reasoning, these aspects prominently feature in the challenges reported by both groups. The challenges associated with GenAI differ slightly between students and educators, but some concerns are shared. Among students, the most reported challenges include maintaining academic integrity and preventing plagiarism (94 responses), verifying reliability and accuracy of AI-generated content (81 responses), and balancing GenAI tool usage with their own contributions (72 responses). Educators, on the other hand, foresee similar challenges when addressing students' use of GenAI, with maintaining academic integrity (88 responses) and addressing concerns about AI tool reliability (77 responses) being prominent. Additionally, educators emphasize the need for students to understand the ethical implications of GenAI (79 responses), which aligns with 41 students acknowledging this as a challenge.

Apart from the given options, both target groups shared additional insights. Educators expressed concerns about fostering critical thinking, ensuring authentic assessments aligned with labor market demands, and encouraging creativity. They also highlighted the risks of over-reliance on GenAI tools, the challenge of convincing students to master foundational skills, and the relevance of traditional learning objectives in an GenAI-driven era. On the

other hand, students mentioned difficulties in verifying sources provided by GenAI, deciding which tools to document, and crafting effective prompts to generate outputs that meet their needs. These results highlight shared concerns around academic integrity and reliability while emphasizing educators' focus on ethical awareness and students' focus on preventing plagiarism and balancing GenAI usage with their own contributions.

3.2.5 Institutional Support for Ethical and Effective GenAI Integration

The integration of GenAI tools in higher education demands thoughtful and tailored institutional support. Insights from the survey suggest that students and educators recognize the importance of institutional support for effectively and ethically integrating GenAI tools into higher education.

Students were offered answer options focusing on guidance and skill-building. The most frequently mentioned needs included learning ethical approaches to using GenAI for assignments (83 responses), understanding how to effectively conduct written assignments with GenAI support (77 responses), and exploring broader applications of GenAI to enhance learning (69 responses). Additionally, 60 respondents stressed the need for resources that promote responsible and ethical usage of GenAI tools. Under the "Other" category, students proposed providing free or discounted access to GenAI tools and offering detailed guidelines for documenting GenAI use in academic submissions.

Educators, on the other hand, were offered a different set of predefined options, focusing more on structural and resource-based support. About half of the educators requested clear policies and guidelines (66 responses), as well as training and professional development programs (64 responses).

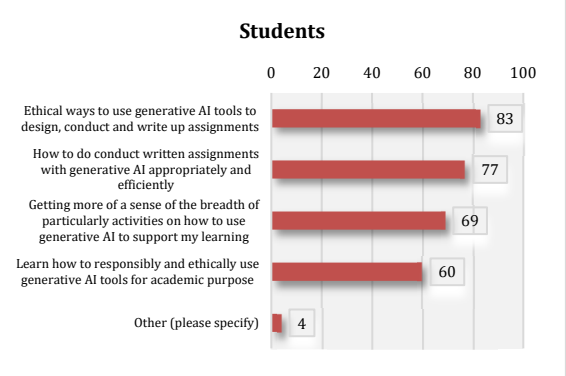

Figure 9: Institutional Support (Students).

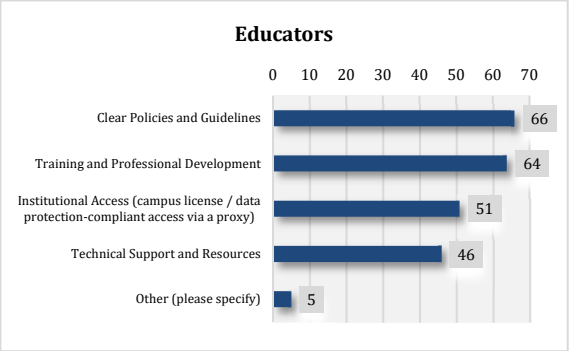

Figure 10: Institutional Support (Educators).

Approximately every third educator asked for access to institutional resources, such as campus licenses or compliance-aligned GenAI tools (51 responses), and technical support (46 responses). In addition, educators underlined the importance of fostering critical thinking and non-AI-dependent skills, promoting ethical GenAI practices, encouraging opportunities for GenAI-related research and experimentation, and developing community-driven GenAI initiatives tailored to institutional needs.

These responses reflect a shared emphasis on ethical practices and structured institutional support while highlighting the unique emphasis of each group based on the options provided.

4 DISCUSSION

The study on the use and perception of GenAI in higher education underlines its transformative potential while revealing significant gaps in ethical awareness, institutional support, and integration practices that need to be addressed for its effective adoption. The results presented in this paper provide insights into the use and perception of GenAI among students and educators in higher education, revealing both shared and divergent perspectives. One of the most notable differences lies in the levels of familiarity and ethical awareness regarding GenAI between students and educators. Educators stated a significantly higher awareness of ethical implications compared to students, which aligns with their professional responsibility to uphold academic integrity. Conversely, students exhibited moderate agreement on viewing GenAI usage as potentially unethical or resembling cheating. These findings align with recent studies that emphasize the importance of fostering ethical literacy among students to mitigate misuse of GenAI technologies in educational contexts (Fu & Weng, 2024). Institutions

must bridge this gap by fostering ongoing dialogue between students and educators about the ethical boundaries of GenAI use in academia.

The short-term and long-term impact of GenAI on various learning aspects is perceived overall neutral from both groups. This neutrality may derive from a lack of long-term exposure to GenAI tools and limited evidence on their concrete benefits or drawbacks in supporting higher-order cognitive skills. While students generally rated GenAI's contributions to short-term memory performance (Mean = 3.11, SD = 0.90) and attention to detail (Mean = 3.26, SD = 0.95) more positively, educators remained slightly more skeptical, as evidenced by statistically significant differences in these areas (memory performance Mean = 2.64, SD = 0.95; attention to detail Mean = 2.92, SD = 0.91). This disparity may stem from educators' cautious approach to over-reliance on GenAI tools, fearing they might inhibit critical thinking and foundational skill development. Both groups rated the impact on critical thinking and ethical reasoning neutrally, signalling a shared uncertainty about GenAI's potential to support or hinder higher-order cognitive skills. These findings highlight an urgent need for empirical evidence on the effectiveness of integrating GenAI as a supportive tool while preserving essential cognitive competencies.

Overall, these findings resonate with the prior research emphasizing the dual nature of technological adoption in education as enabling and disruptive (Mogavi et al., 2024). Both students and educators expressed enthusiasm and a sense of empowerment regarding GenAI's potential, but notable differences emerged in their emotional responses. Educators reported greater caution and frustration compared to students. This caution likely arises from concerns about the potential impact of GenAI on learning quality and academic integrity, as well as uncertainties surrounding its ethical and pedagogical implications. Frustration, on the other hand, may be linked to a lack of robust evidence on GenAI's effectiveness in diverse learning environments and the rapid emergence of new tools, contributing to technology anxiety.

Interestingly, students were more likely than educators to report feelings of "guilt" and "indifference" toward the use of GenAI in academic settings. Guilt may arise from the strict academic integrity policies they are subject to, combined with the fear of repercussions for perceived misuse. Students may also experience guilt from a belief that relying on GenAI could undermine their learning process or conflict with expectations to produce original work. The ambiguity surrounding what constitutes acceptable use of GenAI adds to this tension, as students may be unsure if their actions align with ethical standards. This uncertainty, coupled with the high stakes of academic evaluations, creates a psychological conflict that fosters feelings of guilt.

Conversely, feelings of indifference may be attributed to students' familiarity with rapidly advancing technologies. Many students see GenAI as just another tool, potentially underestimating its ethical implications or transformative effects in academia. For some, indifference may reflect a rationalization of GenAI use as a practical necessity in a competitive academic environment, where achieving results often takes precedence over the process. Others may feel indifferent due to a lack of perceived enforcement or clearly defined boundaries regarding GenAI use in academia.

These mixed emotions - guilt and indifference, may also reflect broader cultural and situational factors. Students experiencing cognitive dissonance might rationalize their use of GenAI to reconcile the tension between academic integrity and the demands of academic success. While guilt arises from the perceived ethical compromise, indifference might stem from prioritizing efficiency over adherence to traditional academic norms. Additional empirical studies are required to further explore the feelings triggered by students with respect to GenAI in their academic work.

Nevertheless, the emotional responses highlight the transformative yet challenging role of GenAI in education, underscoring the need for professional development programs to equip educators and students alike with strategies for effective integration while addressing potential risks. Supporting this, a recent study on U.S. universities' GenAI policies revealed an open yet cautious approach, prioritizing ethical usage, accuracy, and data privacy, while providing resources like workshops and syllabus templates to aid educators in adapting GenAI effectively in their teaching practices (Wang et al., 2024). Several studies have also highlighted the importance of involving students in the development of GenAI training curricula and policies and guidelines for the ethical and responsible use of GenAI that directly affect their academic work (Camacho-Zuñiga et al. 2024; Magrill & Magrill, 2024; Moya & Eaton, 2024; Vetter et al., 2024; Goldberg et al., 2024; Bannister et al., 2024; Chen et al., 2024; Malik et al., 2024).

The study revealed significant gaps in institutional support and policy clarity surrounding

the use of GenAI. While more than half of the respondents (52%) believed their institutions had policies addressing the ethical use of AI, a notable proportion (29%) were uncertain, indicating either a lack of communication or the absence of comprehensive guidelines. Interestingly, a significant number (56%) of educators called for clear institutional policies as institutional support, highlighting a potential contradiction. This may suggest that policies are either underdeveloped, or inadequately communicated to relevant stakeholders. The absence of well-communicated institutional policies often results in uncertainty and fragmented practices among educators and students. Research has shown that explicitly communicating expectations about what students are permitted to do and where restrictions apply can reduce ambiguity and foster compliance with institutional guidelines (Kumar et al., 2024; Ivanov, 2023; Dai et al., 2023). Furthermore, while students expressed a need for practical resources and opportunities to develop GenAI-related skills, educators emphasized the importance of structural support, including professional training and access to technical resources. Addressing these gaps requires a dual-focus approach: institutions must establish transparent, well-communicated policies, while simultaneously equipping stakeholders with the tools and skills necessary to navigate GenAI responsibly.

Both groups identified shared challenges in integrating GenAI into academia, particularly regarding maintaining academic integrity and verifying the reliability of AI-generated content. Educators highlighted the importance of fostering critical thinking and creativity while ensuring equitable access to AI tools. Recent studies also emphasize the need to enhance holistic competencies (Chan, 2023), focus on developing lifelong skills (Elbanna & Armstrong, 2024; AlDhaen, 2022) and strengthen students' critical thinking and creativity (Klyshbekova & Abbott, 2023; Xie & Ding, 2023; Chan & Hu, 2023). On the other hand, students reported challenges in crafting effective prompts and documenting AI usage, underscoring the need for practical skill-building resources. These findings suggest that while GenAI holds transformative potential, its integration into academia must be supported by robust educational practices to address these barriers effectively. Aligning with existing recommendations from literature, students should be encouraged to critically evaluate AI-generated content and distinguish between reliable and unreliable sources, fostering essential critical thinking skills (Chan & Hu, 2023; Yeadon & Hardy, 2024). Furthermore, caution must be exercised regarding the accuracy and reliability of GenAI outputs, as highlighted by recent studies (Kayalı et al. 2023; Pallivathukal et al. 2024; Camacho-Zuñiga et al. 2024). Addressing these challenges will require a comprehensive, collaborative approach that empowers both students and educators to navigate GenAI responsibly while maximizing its educational potential.

This study provides valuable inspirations for future studies but is not without limitations. The use of a convenience sampling method may limit the generalizability of findings to other contexts. Therefore, future research could benefit from diverse sampling techniques to enhance representativeness. Future research should explore longitudinal studies to assess how perceptions and impacts of GenAI evolve over time as its adoption becomes more widespread. Furthermore, qualitative methods such as interviews or focus groups could provide deeper insights into participants' hands-on experiences with GenAI, particularly in addressing feelings of uncertainty, guilt, and indifference, as well as the challenges associated with its integration.

5 CONCLUSIONS

This study emphasizes the transformative potential of GenAI in higher education while highlighting critical areas that require attention for its effective adoption. A key finding is the higher ethical awareness among educators compared to students, reflecting their professional responsibility to uphold academic integrity. Conversely, some students experience feelings of guilt in using GenAI, stemming from unclear boundaries around acceptable practices and concerns about academic integrity.

The research also reveals a significant gap in institutional support, with many respondents uncertain about the existence or clarity of GenAI-related policies. This uncertainty highlights the necessity for universities to establish comprehensive and transparent policies that address both opportunities and risks associated with GenAI use. These policies should be actively communicated to educators and students to ensure informed decision-making and ethical engagement with AI tools.

Training programs tailored for both faculty and students are crucial in fostering AI literacy and equipping users with the skills to critically assess and integrate GenAI into academic practices. Educators, in particular, require professional development opportunities to explore effective teaching strategies

that incorporate GenAI while upholding academic standards. Additionally, students need guidance on how to use AI tools responsibly, with a focus on understanding the ethical implications and ensuring that AI-generated content does not replace independent learning and critical thinking.

There is a burning need of reevaluating assessment practices in response to the growing use of GenAI. Traditional evaluation methods may need to be adapted to ensure that assessments accurately measure students' understanding and problem-solving abilities, rather than their ability to generate AI-assisted responses. Developing assessment frameworks that promote critical engagement with AI, requiring students to analyze, justify, or refine AI-generated content, could help maintain academic integrity while leveraging GenAI's potential as a learning aid.

Furthermore, fostering open discussions about GenAI's role in education is essential for shaping its ethical and pedagogical integration. Institutions should create platforms where educators and students can share experiences, voice concerns, and collaborate on best practices for AI adoption in teaching and learning. Such collaborative efforts will help bridge the gap between policy development and practical implementation, ensuring that AI tools enhance rather than undermine educational objectives.

While GenAI holds immense potential to enhance educational outcomes, its integration must be approached thoughtfully to address ethical concerns, emotional responses, and structural barriers. By establishing clear policies, providing tailored training, and encouraging open dialogue, higher education institutions can create an environment where GenAI's potential is maximized responsibly and equitably.

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