

# Potential merits and demerits of generative artificial intelligence in higher education: Impressions from undergraduate students

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## RESEARCH ARTICLE

## OPEN ACCESS

**F. Sehkar Fayda-Kinik**<sup>1c</sup>

<sup>1</sup> Istanbul Technical University, School of Foreign Languages, Türkiye.

<sup>c</sup> **Corresponding Author:** Istanbul Technical University, School of Foreign Languages, Türkiye, [kinik@itu.edu.tr](mailto:kinik@itu.edu.tr)

### Article Info

#### Keywords

Generative Artificial Intelligence (GenAI), Student Perceptions of AI, Opportunities of AI in Education, Challenges of AI in Education, Higher Education.

#### Highlights:

- Students identified key opportunities of GenAI in learning, research, support, innovation, and inclusivity.
- Top concerns were detected as academic integrity, privacy risks, and negative impacts on critical thinking.
- Students suggested the need for clear guidelines and training to use GenAI responsibly.
- Balancing AI integration is essential to preserve human interaction.

### Abstract

Generative artificial intelligence (GenAI) offers new possibilities for learning, teaching, and research, and these newly recognized merits have been rapidly transforming higher education. However, its adoption also raises several concerns. Therefore, this study seeks to explore undergraduate students' impressions of GenAI's potential merits and demerits in higher education. Within semi-structured interviews, 35 undergraduate students having experienced GenAI use expressed their perceptions of the possible opportunities GenAI offers in enhancing educational outcomes and the risks associated with its implementation. The collected data was qualitatively analyzed on NVivo 14 by coding data segments and categorizing codes into themes that emerged from student views. The results indicated that AI enhances learning and skill development, facilitates research, knowledge access, and institutional support, fosters innovation and problem-solving, and promotes inclusivity and diversity in education. The concerns were identified as academic integrity, ethical considerations, privacy, security risks, and the accuracy and reliability of AI-generated content, alongside its adverse impact on learning, human interaction, employment, and professional adaptation. This research contributes to ongoing discussions about balancing the opportunities and challenges of GenAI in academic contexts and offers valuable insights for educators, policymakers, and researchers.

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## INTRODUCTION

With the advances in new emerging technologies, generative artificial intelligence (GenAI) has become a significant focus of educational research because of its capabilities in personalized learning, content generation, and adaptive assessment (Abbes et al., 2024; Sandhu et al., 2024; Yogi et al., 2024). Therefore, GenAI has started to transform traditional approaches to learning and teaching in education. GenAI refers to an AI-based segment that can automatically produce new and original content in different formats like text, images, videos, music, code, etc., by using the input provided by users (Lv, 2023; Mallikarjuna & Chittamsetty, 2024; Renugadevi et al., 2024). To evaluate, comprehend, and produce content that corresponds to human-generated outputs, GenAI models incorporate deep learning methodologies and neural networks such as OpenAI's GPT and Google's Bard (Ray, 2023).

The digital infusion into higher education institutions increasingly requires the integration of digital tools into teaching and learning, including GenAI implications. GenAI models can be widely applied to enhance teaching and learning practices, and they can provide personalized learning experiences and automate administrative processes executed in higher education (Gupta, 2024). For example, students' learning behaviors, preferences, and performance can be analyzed with GenAI tools, and learning materials can be adapted with AI tools to individual student needs, which provides customized learning experiences (Chun et al., 2025). However, challenges in data privacy, ethical issues, and academic integrity can be listed concerning GenAI use within the context of higher education (Gupta, 2024; Walczak & Cellary, 2023). For instance, regarding academic integrity, GenAI tools can lead to unintentional plagiarism because of the use of borrowed content in creating new information (Guillen-Yparrea & Hernandez-Rodriguez, 2024).

Consequently, opportunities and challenges should be considered in developing proper GenAI policies and practices in higher education. Although recent research has increasingly explored the GenAI use in education, most studies have adopted quantitative methods or focused on educators' perspectives (e.g., Amado-Salvatierra et al., 2024; Dogan et al., 2025; Ramirez-Montoya et al., 2014). There is a lack of in-depth qualitative research on undergraduate students who are the key users of GenAI tools rather than faculty in academic contexts. Undergraduate students are directly and frequently engaged in GenAI tools in academic tasks such as writing, research, and problem-solving. Their perspectives are essential to understanding the practical and ethical dimensions of GenAI use in higher education. This study addresses this gap by investigating the benefits and challenges as perceived by students. Therefore, this research aimed to explore undergraduate students' impressions of GenAI's potential merits and demerits in higher education. Based on students' remarks obtained from semi-structured interviews, this research contributes to ongoing discussions about how to balance opportunities and challenges in GenAI use within academic contexts, and the findings can provide practical implications for practitioners, policymakers, and researchers.

### Generative Artificial Intelligence in Higher Education

The quality of learning, teaching, and research practices in higher education can be enhanced with the new possibilities GenAI offers. Academic experiences of undergraduate students can significantly be fostered by the GenAI integration into learning and teaching processes in higher education. As indicated in the AI literature, several studies with qualitative designs revealed that students appraise GenAI because it enables personalized and autonomous learning particularly in complex subjects, where self-paced engagement and immediate feedback can increase comprehension (Fawaz et al., 2025; Lee & Moore, 2024; Wang et al., 2024). Besides, Liu et al. (2024) pointed out that GenAI tools, like ChatGPT, are recognized for their function to improve academic writing and communication skills, which contributes to students' overall literacy and professional preparedness. In addition to the academic support GenAI provides, it is also associated with fostering efficiency because of its automation capability in routine tasks, which can allow educators to focus on more constructive instructional roles while enhancing student engagement simultaneously (Ahmed et al., 2024; Lee & Moore, 2024). Notably, Ruiz-Rojas et al. (2024) claimed that despite their concerns about dependency on AI, university students pointed out its potential in fostering critical thinking and collaboration.

Apart from the positive perspectives on GenAI use by undergraduate students mentioned, there are also various challenges related to academic integrity, critical thinking, and ethical issues raised in several studies. To illustrate, the lack of clear institutional guidelines and students' uncertainty about the responsible use of AI notably leads to the rise in academic misconduct, including plagiarism or "AI-giarism" as the emerging phenomenon (Chan, 2024; Song, 2024). Besides, reliance on GenAI may hinder students' development of critical thinking and creativity, as the AI tools often provide simple or general responses that discourage independent analysis and deep understanding (Liu et al., 2024; Nadim & Fuccio, 2025). Regarding ethical concerns, Al-Zahrani

(2024) highlighted data privacy and algorithmic bias. Furthermore, the elimination of traditional learning and assessment techniques, such as automated grading systems and reduced emphases on academic communication, may increase risks in the development of fundamental academic and professional skills (Ahmed et al., 2024; Liu et al., 2024). Therefore, higher education institutions must establish comprehensive strategies to maintain academic integrity, encourage critical engagement, and ensure ethical use of GenAI through clear policies and improvement in AI literacy.

Several recommendations have been made in the literature to maximize its benefits and reduce its potential risks related to GenAI use in higher education. In this respect, establishing transparent, ethical systems and implementing effective verification mechanisms can help address the perceived concerns regarding data privacy, accuracy, and academic integrity (Ahmed et al., 2024; Liu et al., 2024; Oc et al., 2024). It is essential to enhance tech-savviness and AI literacy, and institutions must provide targeted training programs and embed AI education into curricula to prepare students and faculty for future demands (Christ-Brendemuhl, 2024; Oc et al., 2024). Furthermore, comprehensive and adaptable policies should be developed to ensure responsible AI use, equitable access, and departmental flexibility (Aldossary et al., 2024; Cacho, 2024; Chan, 2023). Although GenAI facilitates individualized and autonomous learning, enhancing engagement and skill acquisition, university students raise their concerns about over-reliance on AI and advocate for a balanced integration with traditional pedagogies to maintain critical thinking and independent learning (Fawaz et al., 2025; Wang et al., 2024). Overall, successful integration of GenAI requires a comprehensive approach focused on ethics, education, and policy.

## METHOD

### Research Design

This study was designed with a qualitative approach comprising semi-structured interviews with undergraduate students having experience with GenAI use. In this respect, GenAI's potential merits and demerits were investigated in the context of higher education by addressing the research questions (RQs) below:

RQ-1 What are the potential opportunities GenAI offers in higher education?

RQ-2 What are the potential risks associated with GenAI in higher education?

RQ-1 and RQ-2 were investigated with two main open-ended questions clarified and expanded by four sub-questions to identify the merits and demerits of GenAI use. These questions were constructed to learn about students' experiences with GenAI in their university courses. The expressions obtained from the participants were analyzed qualitatively, and relevant codes and themes were organized to address these RQs.

### Participants

The purposive sampling method was employed to select the participants of this study. The semi-structured interviews were implemented with 35 undergraduate students who declared their familiarity with GenAI. The demographic characteristics of the participants are demonstrated in Table 1.

**Table 1.** Participant Demographics

Gender	n	Age <sub>(min-max)</sub>	$\bar{X}$
Male	18	19 <sub>min</sub> - 26 <sub>max</sub>	20.57
Female	17		
Year of Study	n	Faculty of	n
Freshman	3	Education	21
Sophomore	17		
Junior	11	Engineering	14
Senior	4		

The participants of this study consisted of 18 male and 17 female students studying at university. The age range of the participants was between 19 and 26 years, with a mean age of 20.57 years. Of 35 undergraduate students, three freshmen, 17 sophomores, 11 juniors, and four seniors were involved in the semi-structured interviews. Regarding their faculty, 21 students were studying at the faculty of education, whereas 14 were at the faculty of engineering.

### Data Collection and Analysis

Before implementing the interviews, permission for scientific and ethical compliance to conduct the study was granted by the Board of Ethics for Human Studies in Social Sciences and Humanities (documented on 13.01.2025 with project number 625). Accordingly, a semi-structured interview form was organized into two

sections; first, the demographic information of the participants was requested, such as gender, age, year of study, and faculty; second, the interview questions were prepared based on the purpose of the study asking for student opinions about the opportunities and challenges of GenAI use in higher education.

After all the semi-structured interviews were completed, the participants were coded as P1 through P35 for anonymity, confidentiality, and analytical consistency. The collected data was configured on NVivo 14. Content analysis was performed with an inductive approach. In inductive content analysis, codes and themes are directly derived from raw data without predetermined categories or theoretical frameworks (Thomas, 2006). In the analysis process, the data is coded to identify patterns and themes, and similar codes are grouped into categories, which is iterative, including constant comparison and refinement of categories (Elo & Kyngas, 2008; Hsieh & Shannon, 2005). Consequently, codes were created based on student expressions, and they were categorized into themes in terms of the potential merits and demerits of Gen AI in higher education. Notably, some students recommended ideas for university policies and practices related to AI. These expressions were also analyzed and categorized into themes.

To ensure trustworthiness in data analysis, several strategies were adopted as indicated by Lincoln and Guba (1985): credibility, transferability, dependability, and confirmability. Credibility was provided through triangulation that integrates multiple data sources, such as interviews, observations, and relevant literature, to cross-verify the data obtained from the participants (Gunawan, 2015). Transferability was achieved with detailed sampling procedures and processes (Ahmed, 2024); accordingly, the purposive sampling method was selected, and all the participants were confirmed to have sufficient experience with GenAI tools. Regarding dependability, all the research processes were documented in detail to justify the decisions made during the analysis (Eryilmaz, 2022). Confirmability was ensured through peer debriefing (Amin et al., 2020; Lincoln & Guba, 1985), and the codes and themes analyzed inductively were validated through getting feedback from two experts in the field.

## RESULTS

### Potential Merits of GenAI in Higher Education

To address RQ-1, the participants were requested to indicate the potential opportunities GenAI offers in higher education. The results were inductively analyzed, and five different themes emerged: (1) AI for learning and skill development, (2) AI for research and knowledge access, (3) AI for institutional and educational support, (4) AI's role in innovation and problem-solving, and (5) AI for inclusivity and diversity as listed in Table 2 with the relevant codes.

**Table 2.** Codes and Themes on the Merits of GenAI Use

Themes	Codes	Participants	n
AI for Learning and Skill Development	- Enhancing learning skills	P2, P3, P11, P12, P18, P20, P23, P24, P32	9
	- Providing personalized learning experiences	P4, P8, P11, P15, P16, P21, P22, P23, P28	9
	- Enhancing student work	P9, P11, P19, P30	4
	- Providing tutoring	P20, P25, P31, P32	4
	- Meeting individual student needs	P8, P15	2
AI for Research and Knowledge Access	- Reaching information quickly	P6, P10, P14, P16, P28, P34	6
	- Research sources	P1, P8, P12, P14, P15	5
	- Facilitating research processes	P20, P34, P35	3
AI for Institutional and Educational Support	- Reducing faculty workload	P4, P8, P15, P16	4
	- Contributing to institutional efficiency	P15, P16	2
	- Supporting institutions with data analysis and guidance	P4, P16	2
	- Reform for education	P1	1
	- Analyzing data	P16	1
AI's Role in Innovation and Problem-Solving	- Fostering innovation	P16, P27, P30	3
	- Providing easier solutions to complex problems	P7, P9	2
	- Fostering creativity	P22, P29	2
	- Providing cross-domain insights	P13	1
AI for Inclusivity and Diversity	- Fostering inclusivity	P16, P23	2
	- Breaking language barriers	P23	1
	- Offering a diversity of perspectives	P13	1
	- AI as a non-judgmental tool	P5	1

As displayed, the first theme, AI for learning and skill development, consisted of the codes of enhancing learning skills (n=9), providing personalized learning experiences (n=9), enhancing student work (n=4), providing tutoring (n=4), and meeting individual student needs (n=2). The theme of AI for research and knowledge access included reaching information quickly (n=6), research sources (n=5), and facilitating research processes (n=3). As for AI for institutional and educational support, it was comprised of reducing faculty workload (n=4), contributing to institutional efficiency (n=2), supporting institutions with data analysis and guidance (n=2), reform for education (n=1), and analyzing data (n=1). The theme of AI's role in innovation and problem-solving consisted of fostering innovation (n=3), providing easier solutions to complex problems (n=2), fostering creativity (n=2), and providing cross-domain insights (n=1). Finally, the theme of AI for inclusivity and diversity was created with codes of fostering inclusivity (n=2), breaking language barriers (n=1), offering a diversity of perspectives (n=1), and AI as a non-judgmental tool (n=1).

### Potential Demerits of GenAI in Higher Education

The participants stated their views on the potential risks of GenAI use in higher education, and the results were inductively analyzed to address RQ-2. Accordingly, six different themes were identified: (1) academic integrity and ethical concerns, (2) privacy and security risks, (3) AI's adverse impact on learning and skills, (4) accuracy and reliability concerns, (5) AI's adverse impact on the human factor, and (6) employment and professional adaptation as presented in Table 3 with the codes included.

**Table 3.** Codes and Themes on the Demerits of GenAI Use

Themes	Codes	Participants	n
Academic Integrity and Ethical Concerns	- Ethical issues	P3, P4, P10, P13, P14, P19, P20, P22, P23, P32	10
	- Plagiarism concerns in AI use	P7, P15, P16, P19, P20, P22, P33, P34, P35	9
	- Academic misuse of AI	P8, P28, P30, P31, P34	5
Privacy and Security Risks	- Data privacy	P4, P10, P11, P12, P15, P16, P20, P26, P28, P30	10
	- Data security	P2, P4, P13, P15, P20, P22, P28	7
AI's Adverse Impact on Learning and Skills	- Impact on critical and creative thinking	P8, P9, P13, P15, P18, P21, P24, P29, P35	9
	- Leading to laziness	P3, P18, P23, P25, P30, P33	6
	- Over-reliance on AI	P15, P16, P23, P24	4
	- Not contributing to lifelong skills	P2	1
	- AI-based learning challenges	P14	1
Accuracy and Reliability Concerns	- Issues about accuracy and reliability	P1, P3, P8, P15, P16, P33	6
	- Information pollution	P3	1
	- Overestimation of AI's capabilities	P5	1
AI's Adverse Impact on the Human Factor	- Emotional detachment	P6, P35	2
	- Erosion of human integrity	P17, P21	2
Employment and Professional Adaptation	- Challenges in faculty adaptation	P15	1
	- Job displacement due to AI	P27	1

As the first challenge in GenAI use in higher education, academic integrity and ethical concerns was created as a theme including the codes of ethical issues ( $n=10$ ), plagiarism concerns in AI use ( $n=9$ ), and academic misuse of AI ( $n=5$ ). Regarding privacy and security risks, two codes were categorized under this theme; namely, data privacy ( $n=10$ ) and data security ( $n=7$ ). The theme of AI's adverse impact on learning and skills consisted of its impact on critical and creative thinking ( $n=9$ ), leading to laziness ( $n=6$ ), over-reliance on AI ( $n=4$ ), not contributing to lifelong skills ( $n=1$ ), and AI-based learning challenges ( $n=1$ ). As for accuracy and reliability concerns, it was comprised of three codes: issues about accuracy and reliability ( $n=6$ ), information pollution ( $n=1$ ), and overestimation of AI's capabilities ( $n=1$ ). The theme of AI's adverse impact on the human factor included the codes of emotional detachment ( $n=2$ ) and erosion of human integrity ( $n=2$ ). Finally, the theme of employment and professional adaptation consisted of challenges in faculty adaptation ( $n=1$ ), and job displacement due to AI ( $n=1$ ).

### Policy- and Practice-Based Recommendations for GenAI in Higher Education

In addressing RQ-1 and RQ-2, several participants indicated their policy- and practice-based ideas about GenAI use in higher education. Consequently, these ideas were inductively analyzed, and the results revealed two main themes: (1) academic integrity in AI use and (2) AI training and adoption in academia as depicted in Table 4.

**Table 4.** Codes and Themes on the Recommendations of GenAI Policy and Practice

Themes	Codes	Participants	n
Academic Integrity in AI Use	- Ensuring responsible use of AI	P15, P16, P23	3
	- AI disclosure	P15, P33	2
	- Compliance with data regulations	P15, P16	2
	- Use of AI detection tools	P15, P16	2
	- Selection of appropriate AI tools	P15	1
	- Designing critical-thinking assessments	P15	1
AI Training and Adoption in Academia	- AI training for faculty and students	P15, P16	2
	- AI-driven research and innovation	P12	1
	- Encouraging AI adoption in academia	P12	1

As listed, first, the participant recommendations were categorized under the theme of academic integrity in AI use including the codes of ensuring responsible use of AI ( $n = 3$ ), AI disclosure ( $n = 2$ ), compliance with data regulations ( $n = 2$ ), use of AI detection tools ( $n = 2$ ), selection of appropriate AI tools ( $n=1$ ), and designing critical-thinking assessments ( $n=1$ ). Second, under the theme of AI training and adoption in academia, three codes were involved; namely, AI training for faculty and students ( $n=2$ ), AI-driven research and innovation ( $n=1$ ), and encouraging AI adoption in academia ( $n=1$ ).

## DISCUSSION

GenAI use within the context of higher education offers new approaches and practices for learning, teaching, and research, and these newly recognized merits have been unprecedentedly transforming universities. However, its adoption also triggers a variety of concerns. Therefore, this study investigated undergraduate students' impressions of GenAI's potential merits and demerits in higher education. According to the results, five themes were identified for the prospective positive aspects of GenAI use: AI for learning and skill development, AI for research and knowledge access, AI for institutional and educational support, AI's role in innovation and problem-solving, and AI for inclusivity and diversity.

GenAI use holds the capacity to contribute to learning and skill development in higher education, as indicated in this study. For instance, educational content can be tailored in AI-driven personalized learning platforms (e.g., intelligent tutoring systems) based on individual students' needs; thus, adaptive and engaging learning experiences can be promoted (Alam, 2023; Osman & Ahmed, 2024). Consistently, AI fosters skill development, particularly in STEM fields, by offering interactive problem-solving tools and simulations (Del Mundo et al., 2024).

As identified in the present study, undergraduate students considered that GenAI applications in academic research can significantly enhance the efficiency and accessibility of knowledge production. The accuracy and speed of research processes can be improved with AI-powered tools used for literature review and data analysis (Amin et al., 2024; Srivastava & Shetye, 2024). Academic publishing can also be facilitated and qualified through



AI-based writing and editing tools to ensure high standards of scholarly output (Agarwal et al., 2024; Srivastava & Agarwal, 2024).

GenAI also has the potential to improve institutional efficiency because it can effectively optimize resources and support educational procedures. For example, AI facilitates the integration of digital technologies into institutional workflows, which can increase productivity and optimization in educational processes (De Bem Machado et al., 2024; Zhan et al., 2024). Additionally, automating administrative tasks (e.g., grading and course scheduling) with AI-powered systems can enable instructors and practitioners to focus on pedagogical strategies rather than operational burdens (Chetradevee et al., 2022). Such advancements can contribute to institutional growth and the development of adaptive learning environments responding to students' changing needs, and facilitate faculty workload.

Regarding the theme of AI's role in innovation and problem-solving, GenAI can foster creativity, problem-solving, and strategic implementation of new ideas. AI-driven solutions can support research-based innovation by assisting in complex problem-solving tasks and enabling the development of cutting-edge educational technologies (Becue et al., 2024; Wind et al., 2023). Consistently, AI plays a significant role in shaping innovative strategies because it encourages experimentation and cross-disciplinary collaborations and expands the scope of academic and industrial innovations (Wind et al., 2023; Zhou, 2024).

As the final theme detected in this research, the role of GenAI in promoting inclusivity and diversity has been increasingly recognized in higher education. In parallel with the literature, AI-powered tools can mitigate biases in employment processes and support diversity, equity, and inclusion initiatives in academic institutions (Evangelista & Barone, 2024; Jora et al., 2022). Moreover, AI contributes to educational equity by ensuring fair access to learning opportunities, particularly for students from marginalized communities (Diene, 2024; Virani & Gulzar, 2024). However, the ethical implementation of AI remains crucial to prevent algorithmic bias and ensure equitable educational outcomes (Al-Zahrani, 2024; Choudhary & Pandita, 2023).

As for the risks associated with GenAI in higher education, students' expressions focused on six themes: academic integrity and ethical concerns, privacy and security risks, AI's adverse impact on learning and skills, accuracy and reliability concerns, AI's adverse impact on the human factor, and employment and professional adaptation. One of the most significant risks of GenAI use in higher education is its impact on academic integrity. Consistently, the existing literature proved how students could exploit AI-generated content for plagiarism and cheating (Chan, 2024; Rasul et al., 2023; Song, 2024; Wang & Li, 2024). The capability of AI tools to generate essays, reports, and even research papers challenges traditional academic honesty, which prompts educational institutions to reconsider assessment strategies. Ethical considerations also include issues of intellectual property, as students and educators navigate ownership rights over AI-assisted work (Asad & Ajaz, 2024).

Concerning the theme of privacy and security risks, it is notable that AI tools can collect personal and academic information (Dogan et al., 2025). Particularly, the integration of AI with large datasets may lead to critical privacy and security issues. Therefore, it is essential to take strong security measures, including authentication processes, encryption techniques, and access restrictions, to protect data from violations and unauthorized access (Nguyen, 2025).

Another theme negatively associated with GenAI use in higher education was found to be AI's adverse impact on learning skills. Even though AI can enhance learning, excessive reliance on it may hinder students' abilities in critical thinking and problem-solving. Consistently, Wang (2023) indicated that students' work or assignments prepared with "GenAI-generated content may not genuinely represent the student's actual level of understanding" and learning (p. 220). Notably, over-dependence on AI-generated content could also reduce engagement in active learning and influence students' cognitive and analytical skills adversely (Fawaz et al., 2025; Rasul et al., 2023; Wang et al., 2024; Zhong et al., 2024).

The other theme in the demerits of GenAI was identified as the accuracy and reliability of GenAI. Despite their sophistication, AI models can generate misinformation or contextually inappropriate responses (Rasul et al., 2023; Wang & Li, 2024). Students, particularly those with limited subject-matter knowledge and expertise, may be misled by errors in academic materials generated with AI tools. Therefore, higher education institutions must establish mechanisms for verifying outputs provided with AI-based tools to maintain academic credibility (Francis et al., 2024).

Notably, as detected in this present study, human interaction can be limited with the integration of GenAI into educational contexts. Dogan et al. (2025) indicated that AI-mediated learning environments can reduce engagement between students and teachers, which can be critically challenging for mentorship practices and personalized learning. Additionally, the growing role of AI in content delivery and assessment may challenge the traditional role of instructors and potentially devalue their expertise (Francis et al., 2024; Rasul et al., 2023;

Zhong et al., 2024). Therefore, a balance should be established between AI assistance and human supervision to sustain the educational processes and procedures in higher education effectively.

Finally, the theme of employment and professional adaptation was identified as the last demerit of GenAI in this research. Particularly, the adaptation of the workforce has become necessary with the rise of AI use in education. Hence, instructors must acquire new competencies to integrate AI effectively and prepare students for an AI-influenced job market (Chiu, 2024; Francis et al., 2024). Continuous professional development needs to be provided to faculty and administrative staff, and job roles must be redefined within academia due to potential shifts in employment dynamics resulting from the integration of GenAI tools into higher education. Accordingly, institutions must develop policies and provide training to support this transition to ensure that both faculty and students remain competitive in an AI-driven world (Christ-Brendemuhl, 2024; Dogan et al., 2025; Oc et al., 2024).

### Limitations and Future Perspectives

This study is limited to the expressions of undergraduate students analyzed qualitatively. Even though students declared their familiarity with GenAI tools, their level of familiarity may be at significantly different stages. Besides, their responses might have been influenced by their current academic context, disciplines, or institutional policies, which were not controlled in this study. The findings may not be generalizable to all higher education settings or student populations. Future research should adopt a mixed-methods approach to validate these perceptions across broader and more diverse samples, which may include comparative analyses based on discipline, academic level, and prior exposure to GenAI tools. Each theme emerged as the findings of this study should be extensively explored in different research designs for future studies. Additionally, longitudinal studies could help evaluate how students' perceptions and usage patterns evolve as GenAI becomes more integrated into educational environments.

## CONCLUSION

The application of GenAI has potential merits as well as challenging risks in higher education. As revealed in this research, GenAI may present significant opportunities for higher education; namely, enhancing learning and skill development, facilitating research and knowledge access, fostering institutional and educational support, encouraging innovation and problem-solving, and promoting inclusivity and diversity. However, university students stated critical concerns resulting from GenAI use in higher education, such as academic integrity and ethical concerns, privacy and security risks, its adverse impact on learning, skills, and the human factor, and employment and professional adaptation. To address these challenges, several students pointed out policy- and practice-based recommendations categorized into two themes: academic integrity in AI use and AI training and adoption in academia. Accordingly, higher education institutions are recommended to ensure responsible AI use, enforce AI disclosure, when necessary, comply with data regulations, effectively utilize AI detection tools with credibility, carefully select appropriate AI tools, and design critical-thinking assessments to mitigate over-reliance on AI-generated content. Furthermore, universities should provide AI training for faculty and students, encourage AI-driven research and innovation, and promote AI adoption while maintaining ethical and pedagogical considerations. By embracing these recommendations, higher education institutions can benefit from the potential of AI while safeguarding the integrity and quality within administrative and academic contexts.

#### Statement of Researcher

##### Researcher's Contribution Rate Statement:

The author confirms the sole responsibility for the conception of the study, the presented results, and manuscript preparation.

##### Conflict Statement:

The author declares no known conflicts of interest related to this study or its publication.

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##### Ethical Considerations:

This research was approved by the Istanbul Technical University Board of Ethics for Human Studies in Social Sciences and Humanities, documented on 13.01.2025/625.



### Author Biography

**Dr. F. Sehkar Fayda-Kinik** is a senior lecturer at Istanbul Technical University, Türkiye. After gaining her Master's degree in Educational Administration and Supervision, she started to work for Istanbul Technical University as a lecturer, embracing teaching undergraduate students and conducting research. Before starting an academic career, she received her Ph.D. in the same field. Her research has encompassed educational sciences with a special emphasis on higher education, knowledge management, professional development, technology in education, leadership, comparative education, and sustainable development. She has actively contributed to several international projects and collaborations on education. She is currently a member of the International Study Association on Teachers and Teaching (ISATT), the British Educational Leadership, Management and Administration Society (BELMAS), and the Association of Educational Administrators and Educational Supervisors (EYEDDER).

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