

ORIGINAL ARTICLE

AI In Higher Education: Risks and Opportunities From the Academician Perspective

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ABSTRACT

This research investigates how artificial intelligence (AI) influences higher education, specifically exploring the perspectives of academicians regarding associated risks and opportunities. The study is aimed at the implementation of AI within university settings and its impact on both educators and students. Given the swift integration of AI, notably the widespread adoption of generative AI in higher education, the article emphasises AI's ability to collect detailed data, providing a deeper understanding of academicians' learning experiences. This, in turn, enables personalised support, allowing academicians to respond more effectively to students' needs and improve the overall educational process. Moreover, the research highlights AI's potential to proactively identify students at risk of failure, offering academicians a comprehensive view for more effective assessment. On the other hand, these advantages and the growing dependence on technology pose challenges, including reduced interaction between academicians and students, shifts in workforce dynamics, concerns about student privacy and disparities in technology access. Acknowledging these issues, the study underscores the importance of preparing academicians and students for the evolving landscape of higher education shaped by AI. It stresses the need for proactive measures to navigate these changes effectively, as they are inevitable. The findings of this study are significant for the field of higher education, as they provide a clear and critical assessment of AI's transformative potential and advocate for proactive measures to navigate the changes effectively.

1 | Introduction

Rapid technological advancements are transforming institutions unprecedentedly, with universities being particularly impacted. These changes reshape how knowledge is produced and disseminated and how educational systems operate. From integrating digital tools in teaching to the rise of artificial intelligence (AI), universities are increasingly adapting to the demands of the digital age. In this regard, universities have essential roles and responsibilities, including generating knowledge, developing technology, conducting scientific research and sharing findings. They also contribute to national and global development. As critical institutions in education and community service, these duties significantly impact universities. The role of academicians

in shaping society's progress, as highlighted by Arslan (2019), is particularly significant, underscoring their unique contribution to the transformative potential of AI in higher education.

AI has recently emerged as a powerful force across various institutions, including universities, significantly influencing the modern world. In addition, AI is increasingly becoming integrated into everyday life, affecting many areas, from medicine to finance and art to education. Furthermore, its impact on daily activities and decision-making processes is growing, with many tasks and cognitive functions in modern society now relying on AI and related technologies (Dzogovic, Zdravkovska-Adamova, and Serpil 2024). Therefore, as AI advances, higher education's future is also closely tied to these

technological developments and the increasing computational power of intelligent machines.

According to the Oxford English Dictionary, s.v (2023), AI refers to the ability of computers or machines to exhibit or simulate intelligent behaviour. It encompasses the field of study aimed at developing systems capable of performing tasks that usually require human intelligence, such as learning, reasoning and problem-solving. In more recent usage, AI also involves software that utilises machine learning to analyse large datasets, make predictions and automate tasks once thought to need human intelligence. Additionally, AI can be understood as a specific software instance or a theoretical entity demonstrating these intelligent behaviours. Furthermore, Tubella, Mora-Cantalops, and Nieves (2024) defined AI as systems capable of detecting and gathering information from their environment, which they then analyse and process to perform calculations or solve complex problems.

The transformative potential of AI in higher education is becoming increasingly clear, particularly in its ability to enhance learners' decision-making by offering access to digital resources like e-books, conducting immersive simulations and incorporating virtual reality. As AI technology advances, its applications within education rapidly expand, revealing significant possibilities for future development (Maphosa and Maphosa 2023). In this sense, AI is not merely a tool but a force reshaping the educational landscape. It provides students and academicians with ground-breaking learning experiences and innovative instructional methods. Researchers predict that AI solidify its role as a core element in the ongoing transformation of education, seamlessly blending with traditional teaching practices to foster a more dynamic, inclusive and efficient learning environment (Tewari 2024). In addition to revolutionising classroom experiences, AI technologies are essential in enhancing online learning and teaching. AI fosters more efficient learning environments by automating time-consuming tasks for educators and enabling adaptive, personalised assessments (Popenici et al. 2023; Zamir, Afzal, and Sultana 2023).

The Digital Education Action Plan, precisely Action 8 (2021–2027), emphasises the need for citizens to acquire a foundational understanding of emerging technologies, particularly AI. This knowledge equips individuals to engage with, interact with or use these technologies confidently, critically and safely. It stated that heightened awareness is vital for addressing key concerns such as ethics, environmental sustainability, data protection, e-privacy, children's rights and discrimination, including gender bias, disabilities, and ethnic and racial inequalities. The plan highlights the rapid evolution of societies and underscores the importance of digital skills for students and academicians alike. Individuals must be digitally proficient to keep pace with new and emerging technologies. Moreover, the plan emphasises the need for education and training professionals across all sectors to have the competencies and confidence to integrate technologies like AI into their work effectively. This ensures they can apply these tools meaningfully to enhance teaching, learning and overall educational outcomes.

The adoption of AI technologies in higher education has been steadily increasing. There has also been a noticeable increase

in research on how AI is used in higher education (Popenici and Kerr 2017; Memarian and Doleck, 2023; Michel-Villarreal et al. 2023). The pace of growth has accelerated significantly, mainly since the onset of the COVID-19 pandemic and has been further propelled by the emergence of generative AI in 2023. Before this rapid evolution, universities extensively utilised AI-powered systems to handle student queries and provide automated feedback in various teaching and learning scenarios (Pechenkina 2023).

This study aimed to examine the potential and actual impact of AI on higher education from the viewpoint of academicians. Higher education, as a vital component of this advancement, is undergoing a transformative shift due to the integration of AI, altering traditional teaching models and methods. Higher education is progressively moving towards greater informatisation and intelligence, necessitating educators to use AI technologies for professional development. In line with this purpose, the study sought answers to the following questions from the perspectives of academicians:

1. How have academicians' experiences with AI-supported processes influenced their interaction with students?
2. What are the advantages and disadvantages of using AI in educational environments?
3. What concerns do academicians have regarding the future role of AI in education?
4. How has the increasing use of AI in higher education changed student-academic relationships?
5. What steps must academicians take to maximise AI's transformative potential in education effectively?

1.1 | Artificial Intelligence in Higher Education

American computer scientist John McCarthy coined the first AI in 1955. McCarthy organised the Dartmouth Conference, where the term was formally introduced to describe the study and development of machines capable of intelligent behaviour. As one of the founders of AI, McCarthy's work laid the foundation for exploring AI as both a scientific and technological discipline (McCarthy et al. 1955). Additionally, AI is a field focused on understanding and creating intelligent systems while investigating human intelligence's nature. AI encompasses various subfields, such as machine learning, perception, game-playing, creative writing, autonomous driving and medical diagnosis. AI is regarded as a broad, innovative field that continues to grow, requiring contributions from researchers across diverse disciplines (Russell and Norvig 2016).

Rizvi (2023) defined how AI reshapes education by enabling machines to perform tasks traditionally requiring human intelligence, such as language comprehension and pattern recognition. This shift allows AI-based technologies to offer personalised learning experiences, providing real-time feedback and data-driven decision-making that enhance student engagement and improve learning outcomes. Similarly, information technologies have already transformed areas like travel, time management and access to information. As AI

and machine learning emerge from data management, education is one of the sectors where their integration is seen as a game-changer (Kuleto et al. 2021).

It is worth mentioning that the rapid advancement of AI is already transforming services in higher education. For instance, universities like Deakin University in Australia have integrated IBM's supercomputer Watson to provide 24/7 student support, demonstrating early AI adoption in academic settings (Deakin University 2014). Although Watson's algorithms focus on repetitive and predictable tasks, their use hints at AI's future impact on higher education administrative roles. This shift is not just a change but a transformation, changing service quality, the structure of university workforces and how time is managed within institutions. Similarly, OpenAI has partnered with Arizona State University (ASU) (2024) to integrate ChatGPT Enterprise into coursework, tutoring and research. ASU has been developing a personalised AI tutor for students, enabling them to create AI avatars for study and expanding its prompt engineering course. These developments underscore the transformative potential of AI in reshaping higher education, inspiring us with the possibilities it brings.

According to Bećirović and Mattoš (2024), technology in education should be used for more than just creating digital teaching content and facilitating communication between students and faculty. The authors noted the importance of modern technologies, especially AI, in optimising administrative tasks, reducing staff workloads and improving decision-making through comprehensive databases. AI's positive impact, in particular, plays a crucial role in these advancements, paving the way for a more efficient and effective higher education system.

To achieve a successful digital transformation, educational institutions need to adopt a strategic approach that includes:

- Developing digital and AI literacy and competencies for instructors and students.
- Enhancing students' critical thinking and problem-solving abilities.
- Preparing students to navigate a highly digitalised world beyond school.
- Equipping students for an increasingly dynamic and automated labour market.

This approach advocates for a strategic and holistic integration of AI in education, emphasising the importance of digital literacy, critical thinking and ethical use to prepare students for the future. In this context, the framework and principles illustrated in Figure 1 consolidate the recommendations that Pechenkina (2023) crafted. These guidelines advocate for universities to incorporate these principles into the formulation of institutional policies for AI. This strategic integration guarantees that all university AI implementations adhere to fairness, transparency and justice standards.

As seen in Figure 1, to ensure transparency, the institution provides clear information to students and academicians about the data collected and its intended use. It articulates the pedagogical

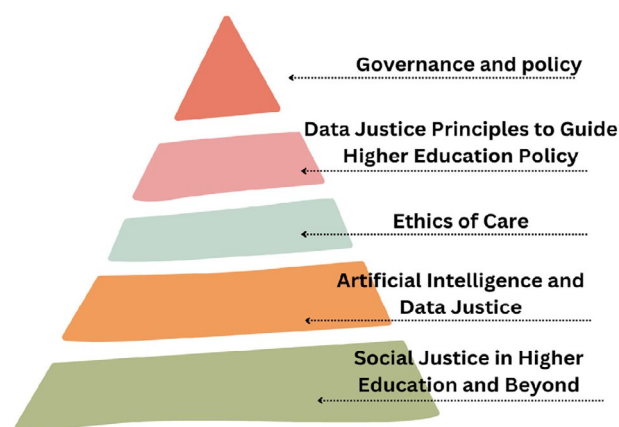


FIGURE 1 | The conceptual framework for principles for AI governance in HE. Pechenkina (2023).

or other rationales for all AI solutions affecting students and academicians, using plain language to explain why specific data is collected. To prevent harmful profiling, it integrates measures into AI designs to conceal or avoid utilising student ethnicity data unless there is a robust justification for its inclusion. It empowers students and academicians to actively exercise their right to opt-out and withdraw their data without prejudice. Active governance is established through a meaningful institutional entity, such as a dedicated ethics committee, to handle complaints and other AI-related issues, including members well-versed in these matters, student representatives and advocates for social justice. It emphasises accountability by weighing the expected benefits of AI against estimated risks, implementing mitigation strategies and embedding reporting processes to ensure transparency and accountability to the public. These principles emphasise the importance of fairness, transparency and accountability in deploying AI in higher education. They provide a framework to safeguard individuals' rights and ensure responsible and ethical use of AI technologies in educational settings. Incorporating active governance, including student representation and ethical oversight, reflects a commitment to addressing concerns and fostering a more inclusive and just AI landscape in higher education.

1.2 | Opportunities and Risks of Artificial Intelligence

Over the past decade, higher education has experienced significant transformations attributed to the widespread adoption of new technologies, particularly AI. The integration of AI in this sector has presented both opportunities and challenges. Higher education students often struggle with balancing academic demands, research and social activities, and AI applications have emerged as solutions to address these complexities (Shimpi 2024). In this sense, Rizvi (2023) stated that the key opportunities that AI offers in the field of education are:

- *Personalised Learning*: AI enables tailored learning experiences using student performance data. Individualised study paths and adaptive content allow students to progress at their own pace and focus on challenging areas. Swift feedback helps refine understanding before moving on, reducing student achievement gaps.

- *Automated Administrative Tasks*: AI automates administrative duties like scheduling, grading and data management. This efficiency frees up educators' time and resources for better student engagement. AI-powered grading systems provide quick and accurate assessments, while automated scheduling enhances organisation.
- *Enhanced Student Engagement*: AI enhances engagement by providing personalised guidance. Intelligent tutoring systems offer tailored instruction, and AI-powered Chatbots improve online course satisfaction.
- *Accessibility*: AI improves accessibility for students with disabilities through transcription services. Converting audio and video into accessible formats like text-to-speech and closed captioning benefits individuals with hearing impairments. Studies demonstrate AI's effectiveness in providing alternative learning pathways for those facing barriers due to disabilities. AI in education holds excellent potential to individualise learning, streamline administrative tasks, increase engagement and enhance accessibility for all students, including those with disabilities.

In this regard, AI has played a crucial role in creating secure and interconnected campuses, facilitating academic research and enhancing students' overall teaching and learning experiences. The potential of AI to promote equity and offer personalised learning experiences in higher education is noteworthy. AI applications have democratised access to quality education from top-ranked universities, transcending geographical barriers and enabling students worldwide to engage in a global learning community (Shimpi 2024). In this sense, the perspective of Dai, Liu, and Lim (2023) emphasises both the benefits and challenges of AI in education, highlighting the need for policymakers to ensure AI integration in higher education. As students must develop proficiency in AI for their respective fields, providing equal access to the latest technologies is crucial. This approach can reduce educational and career inequalities while promoting more significant social equity. These perspectives underline the importance of responsible AI implementation in higher education to ensure all students benefit equally from technological advancements.

The relevant literature on AI in education has existed for over three decades. However, many challenges and opportunities remain unresolved or unexplored, partly due to the essentially unchanged structure of educational systems, which have not adapted sufficiently to incorporate AI effectively (Nwana 1990; Woolf 1991). AI development raises questions about its technical feasibility and its ethical challenges. These challenges include potential job losses due to automation, shifts in how people spend their leisure time and concerns about preserving individual uniqueness. Additionally, there are risks of AI misuse, loss of accountability and even existential threats to humanity. Unlike other scientific and engineering fields, the ethical considerations in AI demand ongoing reflection on its responsible development and use (Russell and Norvig 2016).

Moreover, in line with Zawacki-Richter et al. (2019), while AI offers considerable advantages in supporting teaching and learning, its development in higher education introduces new ethical implications and risks. For instance, administrators may be

tempted to replace human educators with potentially profitable automated AI solutions during budget constraints. This could lead to concerns among faculty members, teaching assistants, student counsellors and administrative staff, who may worry about the possibility of intelligent tutors, expert systems and Chatbots taking over their roles. While AI can enhance learning analytics capabilities, implementing such systems necessitates vast amounts of data, including confidential information about students and faculty. This raises significant issues related to privacy and data protection. Additionally, Tubella, Mora-Cantallos, and Nieves (2024) emphasise that AI is a strategic area of importance for the economic and social development of the European Union and a vital element of the Digital Agenda for Europe. While AI systems present significant opportunities, they also pose risks that may conflict with democratic and ethical principles, particularly in human autonomy, inclusion, privacy and transparency. Grassini (2023) predicted that the challenge would escalate with rapid advancements in AI technology. As AI evolves, next-gen models' capabilities will likely increase, making detecting AI-generated content more intricate. The growing sophistication of these models requires developing advanced detection tools that distinguish human-written from AI-generated text. The ongoing competition between plagiarism detectors and AI underscores the importance of promoting academic honesty and valuing original educational work.

2 | Method

The methodological approach of this study is based on a qualitative research model. The qualitative research model involves an in-depth process that examines perceptions and events in their natural environment using data collection methods such as observation, interviews and document analysis (Yıldırım and Şimşek 2018). This research was conducted within the framework of the phenomenology design. The phenomenology design focuses on phenomena that we are aware of but do not have a detailed understanding of (Yıldırım and Şimşek 2018). The interview technique, one of the data collection methods used in process-based assessment practices, was employed in this research. Additionally, the obtained data were analysed using the content analysis technique commonly used in qualitative research.

2.1 | Study Group

The study group, which refers to the set of social units investigated in this qualitative research, was comprised of 30 academicians from the Department of Educational Sciences, Education Faculty. Faculty members were actively serving at a public university in Turkey for the 2023–2024 academic year. The study group was determined using the purposive sampling method for easy accessibility. Employing the convenient sampling method aligned with the research objective facilitated the collection of diverse perspectives that were readily available and closer to the research questions. Participation in the study was voluntary, and the sampling technique used for this research was convenience sampling (Patton 2014). The demographic characteristics of the participants are presented in Table 1 below.

TABLE 1 | Demographic characteristics of participants.

Characteristic	Category	<i>n</i>
Faculty	Education Faculty (Educational Sciences Department)	30
Title	Professor	20
	Associate Professor	6
	Research Assistant	4
Professional experience	21 years and over	20
	11–20 years	8
	1–10 years	2
Gender	Female	15
	Male	15

Table 1 presents data on 30 participants from the Education Faculty within the Educational Sciences Department. The majority of participants hold the title of Professor ($n=20$), followed by Associate Professors ($n=6$) and Research Assistants ($n=4$). Notably, 20 participants have over 21 years of professional experience, 8 have 11–20 years and only 2 have between 1 and 10 years. The gender distribution is evenly balanced, with 15 female and 15 male participants, reflecting gender equity within the faculty.

2.2 | Data Collection

In the study, academicians determined to represent the universe best were contacted to collect qualitative data. This communication was carried out using e-mail, telephone and face-to-face interview methods. Necessary permissions for the interviews were obtained, and appointment dates were determined. Interview appointments were made by the faculty members, taking into account the distribution of the faculty members depending on their experience in using AI. More than half of the participants expressed their opinions via e-mail. Academicians wanted to spend an average of 30–45 min in face-to-face meetings.

2.3 | Data Analysis

Initially, all interview data were transcribed word-for-word from the participant's responses to each question. The researchers then reviewed the transcripts for accuracy and to develop coding categories and subcategories aligned with the study's objectives. For data analysis, MAXQDA 24, a qualitative data analysis software, was employed along with a descriptive analysis technique. The interview data must be transcribed as an essential step in the research process. As a result of this transcription process, the data related to the research subject are examined meticulously and made more suitable and meaningful for analysis using data reduction methods. The notes taken by the researcher during the interview process should also be included in the analysis process (Merriam 2013). The data obtained was structured by converting it into categories and themes through coding. In this study, coding was done to characterise the categories.

Presenting the analysis results using visual tools to clarify the findings is essential. For this reason, the obtained data were arranged and presented in tables. In qualitative research, various methods are used to evaluate the reliability of data collection tools. This study's data was carefully coded to ensure reliability and consensus. The agreement between the codes calculated using a formula developed by Miles and Huberman (1994) was 78%. Each participant's responses were labelled P1–P30.

3 | Results

Regarding the academicians analysing the answers to the research questions via MAXQDA 24, a code list was generated and the codes fell under five themes. Theme 1, enhanced faculty support and student interaction through AI. Theme 2, advantages and disadvantages of AI in education. Theme 3, challenges and concerns about AI in education's future. Theme 4, changing dynamics in student-academician relations. Theme 5, steps for faculty to enhance AI's transformative potential in education. These themes and related codes are shown below in Figure 2.

The Figure 2 presents the frequency of various codes related to integrating technology and AI in academic institutions. The most prominent concerns, with the highest frequency, include personalisation (63%), data privacy and security (60%) and changing student-faculty dynamics (47%). These issues reflect the growing focus on ensuring AI-based tools can provide tailored experiences while addressing critical privacy concerns and the shifting nature of interactions between students and faculty due to technological interventions. Other significant codes include administrative task streamlining (40%), proactive faculty engagement with AI (40%) and improved efficiency (37%), which highlight the potential benefits of AI in reducing administrative burdens and enhancing institutional efficiency. However, concerns about algorithmic bias, faculty training and maintaining the human element (all 37%) indicate ongoing challenges in ensuring the ethical use of AI and preserving essential human aspects in education. Less frequently mentioned themes such as job displacement concerns (3%) and research support (7%) suggest that while these are issues, they are not as prominent as others in current discussions.

3.1 | Theme 1: Enhanced Faculty Support and Student Interaction Through AI

Table 2 gives the academicians' views regarding the first emerging theme, the related sub-themes and their frequencies.

Table 2 reveals academicians' views on how AI enhances faculty support and student interaction in three key areas. 10% of academicians highlighted AI's benefits in streamlining research processes and assisting with data analysis. 7% of academicians noted AI's role in developing educational materials and automating the creation of teaching resources. 7% of academicians emphasised AI's utility in providing quick and objective assessments and personalised feedback. Participants expressed a positive attitude towards AI's integration, recognising its potential to significantly improve these aspects of education. Regarding the first question, participants expressed their views as follows:

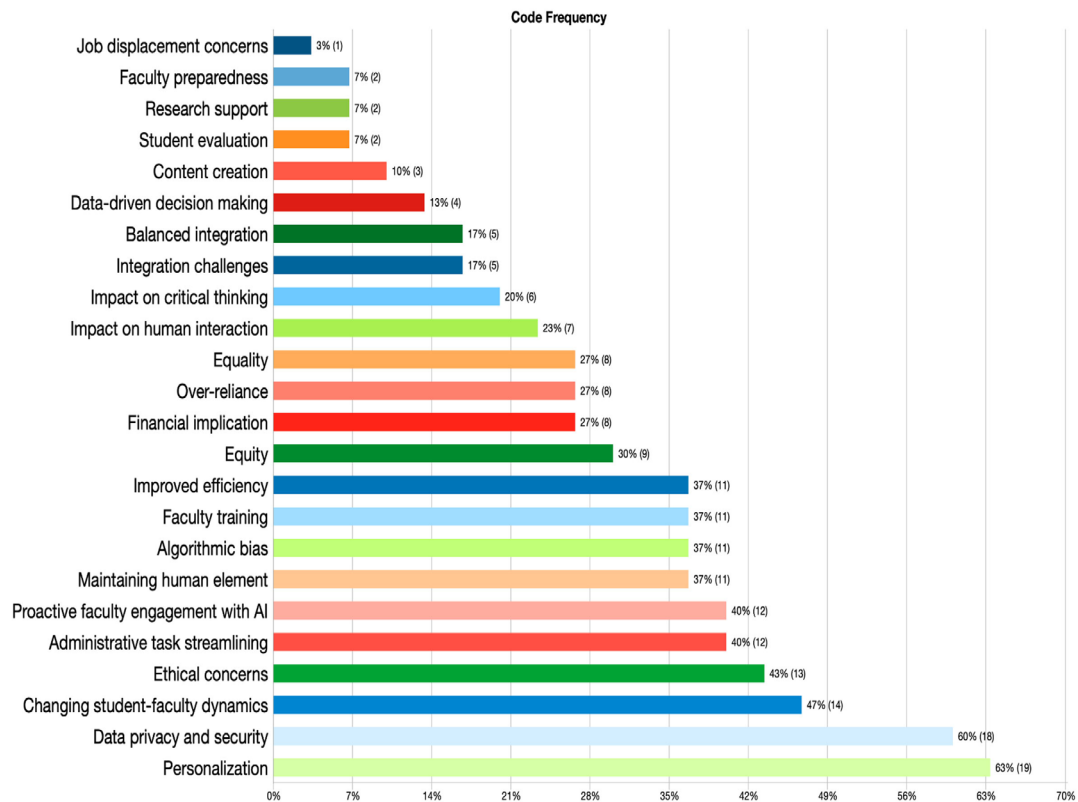


FIGURE 2 | Codes and frequencies of academicians.

TABLE 2 | Views of the participants regarding enhanced faculty support and student interaction through AI.

Views	F
Content creation	10%
Research support	7%
Student evaluation	7%

The support processes provided by artificial intelligence (AI) for faculty members are incredibly diverse and beneficial. I have found AI technology to be particularly useful in several key areas. For instance, in lesson planning and content development, AI-based tools significantly streamline the organization of course materials and the creation of new content. I regularly use AI-powered applications to develop lecture notes, presentations, and test questions, enhancing the efficiency and quality of my teaching materials.

P2

Furthermore, AI plays a crucial role in student evaluation. Automatic grading systems expedite the assessment of exams and assignments, saving valuable time and allowing for quicker student feedback. AI-based plagiarism detection tools, such as Turnitin, are also invaluable in maintaining academic integrity by ensuring students submit original work.

P10

3.2 | Theme 2: Advantages and Disadvantages of AI in Education

Table 3 gives the academicians' views regarding the second emerging theme, the related sub-themes and their frequencies.

Table 3 reveals participants' views on the advantages and disadvantages of AI in education, highlighting a nuanced perspective. The most cited advantage is AI's capacity for personalisation 63%, reflecting its potential to tailor learning experiences to individual student needs, enhancing engagement and outcomes. Participants also value AI's role in streamlining administrative tasks by 40% and improving efficiency by 37%, which reduces educator workload and optimises educational processes. Additionally, data-driven decision-making 13% is noted, though less frequently, emphasising AI's role in informed policy and curriculum decisions. On the downside, the top concern is over-reliance on AI 27%, suggesting apprehension that excessive dependence on technology could undermine traditional teaching methods. The impact on human interaction 23% is another significant worry, as AI may diminish face-to-face connections vital for developing communication and empathy. Similarly, the impact on critical thinking by 20% is noted, with concerns that AI might stifle students' independent thought. Finally, job displacement of 3% is a minor but present issue, reflecting fears of AI replacing specific educational roles. While participants appreciate AI's transformative potential, especially in personalisation and efficiency, they remain cautious about its unintended effects on human interaction, critical thinking and job security. Regarding the second question, participants expressed their views as follows:

TABLE 3 | Views of the participants regarding advantages and disadvantages of AI in education.

Views	F
Advantages	
Personalisation	63%
Administrative task streamlining	40%
Improved efficiency	37%
Data-driven decision-making	13%
Disadvantages	
Over-reliance	27%
Impact on human interaction	23%
Impact on critical thinking	20%
Job displacement concerns	3%

I believe artificial intelligence offers several significant advantages in the educational sector. Firstly, it facilitates personalized learning by delivering educational experiences tailored to each student's unique learning pace and style. This customization enhances student engagement and comprehension, leading to more effective learning outcomes. Additionally, AI tools significantly boost the efficiency and speed of various academic processes. From course preparations to evaluations, AI streamlines tasks, significantly reducing the workload of faculty members and allowing them to focus more on teaching and mentoring students. Moreover, AI is crucial in enhancing accessibility by making educational materials more readily available and overcoming language barriers, thereby bridging educational gaps.

P 8

From my perspective, while artificial intelligence (AI) brings significant benefits to education, it also introduces several notable disadvantages. One primary concern is the potential decrease in human interaction between students and teachers. As AI tools become more prevalent, there is a risk that personal connections and the nuanced understanding that comes from face-to-face interactions could diminish, impacting students' emotional and social development.

P19

3.3 | Theme 3: Challenges and Concerns About AI in Education's Future

Table 4 gives the academicians' views regarding the third emerging theme, the related sub-themes and their frequencies.

Table 4 reveals participants' concerns about the future of AI in education, with data privacy and security being the

TABLE 4 | Views of the participants regarding concerns about AI in education's future.

Views	F
Data privacy and security	60%
Ethical concerns	43%
Algorithmic bias	37%
Equity	30%
Equality	27%
Financial implication	27%
Integration challenges	17%

most significant worry, 60%. This indicates widespread apprehension about the potential risks of AI systems handling sensitive student and institutional data, reflecting the broader global concerns around cybersecurity. Ethical concerns 43% rank second, highlighting fears about the ethical implications of using AI, such as the appropriate use of data, transparency and accountability in AI-driven decisions. Closely related to ethics, algorithmic bias 37% is a prominent concern, as biased AI algorithms could perpetuate or exacerbate educational inequalities. Equity 30% and equality 27% also stand out, emphasising participants' worries about fair access to AI tools and their impact on creating an inclusive educational environment. Additionally, 27% of the financial implications are cited as concerns, likely referring to the costs associated with adopting and maintaining AI technologies in education, which may not be equally accessible to all institutions. Finally, integration challenges 17% indicate difficulties in smoothly incorporating AI into existing educational systems, reflecting concerns over potential disruptions or inefficiencies during implementation. Overall, participants are cautious about AI's impact on privacy, fairness, ethics and financial accessibility in the future of education. These views emphasise the need for careful and responsible integration of AI in education to address these multifaceted challenges. Regarding the third question, participants expressed their views as follows:

I foresee a future where artificial intelligence plays an increasingly integral role in education, yet this evolution comes with significant challenges and considerations. Firstly, integrating AI technologies into education systems requires a substantial investment of time and resources, posing challenges in implementation. Both faculty members and students will need adequate training to effectively utilize AI tools, which introduces a learning curve and necessitates ongoing adaptation. Ethical concerns also loom large, particularly regarding the fairness and transparency of AI-driven educational decision-making processes. Establishing clear policies and guidelines to address these ethical dilemmas and ensure impartiality and justice is crucial.

P28

The security and privacy of student data remain paramount. Safeguarding AI systems against potential vulnerabilities and ensuring the confidentiality of student information are essential priorities moving forward. Addressing these challenges proactively will be essential in harnessing AI's full potential while responsibly navigating its complexities in educational settings.

P30

3.4 | Theme 4: Changing Dynamics in Student-Academic Relations

Table 5 gives the academicians' views regarding the fourth emerging theme, the related sub-themes and their frequencies.

Table 5 reveals participants' views on the shifting dynamics in student-academic relationships due to AI's increasing role in education. The most significant concern is changing student-faculty dynamics 47%, reflecting apprehension that AI could alter the traditional interactions between students and educators. This could be due to the increasing use of AI tools in teaching and administrative tasks, potentially reducing direct engagement. However, maintaining the human element 37% remains a priority for many participants, underscoring the belief that human interaction is essential for effective education, particularly in mentoring, communication and emotional support. Lastly, balanced integration 17% points to the importance of carefully integrating AI into education, ensuring that while AI can enhance specific processes, it should not replace the crucial human aspects of teaching. Overall, participants know the evolving relationship between students and faculty and emphasise the need to preserve meaningful human connections even as AI becomes more prominent in educational settings. Academicians believe this approach can leverage the benefits of AI while preserving the human aspects of education that foster personal growth and strong student-faculty relationships. Academicians recognise AI's potential benefits and challenges in transforming student-academic relations, advocating for a balanced and mindful integration that maintains the human touch in education. Regarding the fourth question, participants expressed their views as follows:

The rise of artificial intelligence applications in education has the potential to bring about both positive and negative changes in student-academic relations. On the positive side, AI can alleviate academics' administrative workload, freeing up valuable time that can be redirected towards more personalized student support and teaching activities. AI-powered tools also enable more effective monitoring of students' academic progress, facilitating timely interventions and personalized guidance to enhance learning outcomes.

P26

TABLE 5 | Views of the participants regarding changing dynamics in student-academic relations.

Views	F
Changing student-faculty dynamics	47%
Maintaining human element	37%
Balanced integration	17%

As academicians, we also have concerns about negative impacts. Increased reliance on AI may diminish face-to-face interaction between students and academics, crucial in mentoring and fostering personal development. This reduction in direct human engagement could limit opportunities for nuanced understanding, emotional support, and mentorship, essential components of a holistic educational experience. Balancing the benefits of AI-driven efficiency with the importance of interpersonal connections will be essential in shaping future student-academic relationships in an increasingly AI-enhanced educational landscape.

P14

3.5 | Theme 5: Steps for Faculty to Enhance AI's Transformative Potential in Education

Table 6 gives the academicians' views regarding the fifth emerging theme, the related sub-themes and their frequencies.

Table 6 reveals the participants' perspectives on how faculty should maximise AI's transformative potential in education. The highest priority is on proactive faculty engagement with AI 40%, highlighting the need for educators to explore and integrate AI tools into their teaching practices actively. This suggests that faculty must take the initiative to understand and harness AI's capabilities to enhance student learning and streamline educational processes. Faculty training 37% is also emphasised, recognising that proper training is essential for educators to use AI in the classroom effectively. Without adequate training, faculty may struggle to leverage AI's full potential. Finally, faculty preparedness of 7% is mentioned, indicating concerns about whether educators are sufficiently prepared to deal with the rapid advancements of AI in education. Participants stress the importance of faculty engagement, continuous training and preparedness to ensure AI's successful and transformative integration into educational systems. Regarding the fifth question, participants expressed their views as follows:

From my perspective, integrating artificial intelligence (AI) in education requires a proactive and multifaceted approach. Faculty members should engage in regular training and continuous professional development to stay abreast of AI technologies and their evolving applications in teaching and learning. Collaboration among academics is crucial for sharing best practices

TABLE 6 | Views of the participants regarding steps for faculty to enhance AI's transformative potential in education.

Views	F
Proactive faculty engagement with AI	40%
Faculty training	37%
Faculty preparedness	7%

and collectively exploring the most effective ways to leverage AI for educational enhancement.

P3

I think that careful planning and implementation are essential when integrating AI tools into curricula and educational processes, ensuring alignment with learning objectives and student needs. Ethical considerations, including privacy concerns, must be prioritized, with clear policies established to govern the ethical use of AI and safeguard student data. AI implementation should maintain a student-centred approach, aiming to enhance personalized learning experiences while preserving the crucial role of human interaction in education. By embracing these principles, educators can harness the transformative potential of AI to cultivate a more adaptive and effective educational environment.

P 23

Figure 3 shows a word cloud created using data from the MAXQDA 24 software program to reflect faculty members' perspectives.

The word cloud effectively defined academicians' views and concerns regarding integrating AI into education. The prominence of terms like personalisation, data privacy and security, and improved efficiency underscores the perceived benefits of AI, particularly in enhancing learning experiences and operational efficiency. However, the noticeable presence of terms such as ethical concerns, algorithmic bias and impact on human interaction highlights the apprehensions surrounding AI's implementation. Academicians also emphasised the need for faculty training and proactive faculty engagement, indicating that successful AI integration relies heavily on well-prepared and engaged educators. The concerns about equity, equality and financial implications suggest that while AI holds great potential, it must be implemented thoughtfully to ensure it benefits all students and does not exacerbate existing disparities. In this regard, the word cloud provides a clear and comprehensive overview of the main themes and issues related to AI in education, reflecting its transformative potential and the challenges that must be addressed.

4 | Discussion

This study examined the views of academicians regarding the potential and actual impact of AI on higher education. The findings reveal that academicians perceive AI as a positive force



FIGURE 3 | Regarding the perspective of faculty member's word cloud.

in enhancing faculty support and student engagement. They emphasised AI's role in streamlining research processes, automating the creation of teaching materials and providing personalised feedback to students. These findings paralleled Kamalov, Santandreu Calonge, and Gurrib (2023), who noted that AI reshapes education by offering personalised learning experiences, automating administrative tasks and providing real-time feedback. These advancements are viewed as critical to fostering a more inclusive and efficient educational environment.

Academicians recognise AI's capacity to address significant educational challenges, such as predicting student performance, reducing dropout rates and analysing group behaviours through big data, statistics and machine learning. AI's ability to transcend traditional barriers of time and location has contributed to a more globally connected and dynamic educational landscape. However, while the potential benefits are substantial, the integration of AI also raises concerns, particularly about its possible overuse and the resulting negative impacts on human interaction and critical thinking skills (Bates et al. 2020).

AI has changed teaching methods by enabling personalised learning experiences through interactive tools like Chatbots (Kuleto et al. 2021). This has allowed universities to become more adaptable to diverse student needs. However, the study underscores the importance of managing these innovations carefully to avoid undermining the human element in education. Academicians caution against an over-reliance on AI, which could erode critical thinking skills and diminish the value of human interaction in the learning process.

AI has proven effective in helping students acquire skills and develop general competencies, especially in digital literacy. While AI-driven tools can enhance the learning process, students may encounter challenges that, if not addressed, could hinder the development of these skills. This suggests that institutions must carefully plan the implementation of AI technologies to ensure equitable access and support for all students (Maznev, Stützer, and Gaaw 2024).

Ethical concerns, such as data privacy, algorithmic bias and the financial implications of AI adoption, were also prominent in academicians' views. These challenges highlight the need for responsible and transparent AI integration in education. In this

context, AI advancements present opportunities and challenges for teaching and learning in higher education. As AI continues to influence various aspects of life, there is growing recognition of its potential to impact the world and individual lives in unprecedented ways. This acknowledgment raises numerous questions about AI's ethical, legal, societal and economic implications (Giannini 2023; Dignum 2023). The study by Moya et al. (2024) stresses the importance of understanding AI's impact on academic integrity and the ethical considerations surrounding its use. Moreover, Pisica et al. (2023) emphasise the importance of accountability for AI's decisions and actions, raising concerns about data privacy and the ethical responsibilities of AI creators and operators.

Lastly, academicians advocate for a balanced approach to AI integration in higher education. While AI offers valuable tools for improving efficiency and personalisation, they stress the importance of preserving human-centric education that prioritises social interaction and traditional teaching methods. The need for ongoing training and support for faculty is crucial to harness AI's transformative potential effectively. Preparedness and adaptability will be vital in ensuring that AI complements rather than replaces the essential human aspects of education.

5 | Conclusion

This study highlights the transformative potential of AI in higher education, as perceived by academicians. AI's positive impacts include enhanced faculty support, streamlined administrative processes and personalised learning experiences, which contribute to a more inclusive and efficient educational environment. AI's ability to offer real-time feedback, automate tasks and provide tailored educational experiences aligns with the evolving needs of students and educational institutions.

However, the study also reveals concerns regarding the ethical implications of AI integration, such as data privacy, algorithmic bias and the potential erosion of human interaction and critical thinking skills. Academicians stress the importance of managing these concerns to maintain the human element of education and ensure that AI complements rather than replaces traditional teaching methods. Effective implementation of AI requires a balanced approach that incorporates ongoing training and support for faculty, as well as thoughtful integration strategies that prioritise educational quality and equity.

Given the study's reliance on a small sample from a single public university in Turkey, there is a need for broader research. Future studies should employ diverse methodologies, including both qualitative and quantitative approaches, and involve larger sample sizes across multiple institutions to enhance the reliability of findings. Additionally, investigating the long-term effects of AI on student learning outcomes, addressing algorithmic bias and exploring AI's influence on student-faculty relationships will be crucial for fully understanding and leveraging AI's potential in education. Ongoing research and dialogue are essential for navigating the complexities of AI integration in higher education. By addressing these challenges proactively, educational stakeholders can maximise AI's benefits while safeguarding the educational experience's integrity and quality.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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