ORIGINAL RESEARCH PAPER*

Faculty Adoption of Generative Artificial Intelligence in a Canadian Higher Education Institution

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Abstract
The landscape of higher education (HE) continues to change rapidly with the incorporation of new artificial intelligence (AI) applications like generative artificial intelligence (genAI). These transformations can be attributed to the ubiquity, efficacy, and quality of genAI applications. GenAI will necessitate the need for HE instructors to adapt and use these technologies to sustain and enhance student learning. This paper reports quantitative findings influencing instructors' intentions to adopt genAI into their pedagogies. The Artificial Intelligence Acceptance Measurement Survey (AIAMS) was developed and adapted from the revised Technology Acceptance Model Survey-2 (TAMS-2) that incorporates the main constructs from the Theory of Planned Behavior (TPB). The survey was administered to a sample of instructors from different programs working in a large Canadian urban polytechnic institution (n=87). Multiple regression analysis was conducted to identify the main determinants influencing instructors' intention to adopt genAI in their teaching. Statistical findings reveal that instructors' attitudes toward genAI were the only significant factor influencing their intent to adopt it in their teaching practices. It is crucial for those in HE to understand the factors that influence instructors' intentions to integrate genAI into their teaching practices to support and realize its successful adoption. This understanding is also key for leveraging the full potential and capabilities of genAI to enhance educational outcomes.

Introduction

Artificial Intelligence (AI) encompasses technologies that support various activities across different sectors, including education. ChatGPT is a generative artificial intelligence (genAI) model that has created opportunities to streamline processes within higher education (HE) institutions. Its introduction and rapid uptake in November 2022, with over one million users in less than one week (Mollman, 2022), initiated scholarly discussion and debate about its use in teaching and learning contexts as a creative disruptor (Farrelly & Baker, 2023). Despite AI's development over more than 50 years, those working in educational institutions, including instructors, continue to lag in understanding how AI readiness can facilitate its

meaningful integration with learning in HE (Luckin et al., 2022).

It has been suggested that more deliberate and thoughtful work needs to be done to integrate AI into HE teaching efforts, research, and operations to support quality educational offerings (Ancion et al., n.d.). Internationally, students are reporting (68%: n=550) that genAI improves their understanding of information and are more likely to use it when compared to employees (n=2,000) included in the same study (Ancion et al., n.d.). Based on these findings, it has been posited that instructors and professionals in HE must prioritize the cultivation of students' relevant AI skills and literacy to support their intellectual development (Ancion et al., n.d.).

The ubiquity and pervasive adoption of genAI by students, along with the increasing acknowledgment of instructors' critical roles in shaping student learning experiences (Yim & Wegerif, 2024), make it imperative to explore instructors' intentions and strategies for integrating genAI into pedagogical practices (Bezjak, 2024; Harris, 2024). These considerations inform and shape the focus of the research presented in this paper. Although various terms describe individuals in teaching roles within HE, this paper will consistently use the term *instructor* to refer to individuals who undertake teaching responsibilities with students in HE.

Generative Artificial Intelligence

Artificial intelligence (AI) is an umbrella term encompassing a variety of applications generated through algorithms capable of completing diverse tasks. Large language models (LLM), a form of AI, function through algorithms designed to produce text, images, and code. Generative artificial intelligence (genAI) is a type of LLM that can generate new content based on the data it has gathered from a sweep of different sources. GenAI produces outputs based on user-created prompts and can classify and organize the existing information it has been trained on (Bahn & Strobel, 2023; Bordas et al., 2024). These outputs are remarkably close to human-like and present challenges for HE instructors in distinguishing between student work and machine-generated documents.

Artificial Intelligence and Canadian Higher Education (HE)

Research and writing to enhance a better understanding of the Canadian experience with genAI in HE continues to develop. Marcel and Kang (2024) identified themes, principles, and strategies through a policy review of Canadian universities (n=16). Four primary themes were characterized in the HE institutions they reviewed. These themes encompassed references to existing policies guiding conduct with acceptable use of genAI, the availability of resources to support genAI's appropriate use, considerations for decision-making on genAI use, identifying genAI's acceptable applications, and the exploration of its potential uses within learning contexts (Marcel & Kang, 2024). Governance issues related to the use of AI have been described in terms of a global strategic imperative by Attard-Frost et al. (2024). They noted that Canadian scholars continue to express concern regarding the regulation of AI, emphasizing the need for its safe and strategic application, particularly in matters of privacy and the commercialization of AI technology within the educational sector (Attard-Frost et al., 2024). However, most current AI governance work and research efforts focus on federal and provincial economic sectors creating gaps and needs within educational institutions (Attard-Frost et al., 2024). A large study with Canadian healthcare students (n=2167) reported that attitudes differed between students in different health programs, with 80% recognizing that AI will impact their future careers (Teng et al., 2022). Over half the students recognized the need for AI literacy (64.8%) and expected that it be included in their academic curriculum. Canadian educational institutions have attracted international recognition for their AI-related endeavours. Notably, Wilfrid Laurier University and Carleton University are in the process of redesigning their curriculums and assessments to incorporate AI advancements (Ancion et al., n.d.). Western University took the lead with the appointment of its inaugural Chief AI Officer to oversee the implementation of a comprehensive AI strategy across the university (Dr. Mark Daley). Such accomplishments are worthy endeavours, but the challenges of managing the use of genAI in HE institutions, coupled with the rising expectations from students for guidance on its application to their learning, continue to create significant challenges for those working in the sector. Additionally, the rapid and continuously evolving changes to genAI and its improved capabilities complicate these challenges.

Instructors' Adoption of Artificial Intelligence

The fast-paced advancements in AI, specifically genAI applications, are expected to necessitate dramatic changes

to existing pedagogical approaches in HE. While such transformation is welcomed by many, just how this technology will be successfully adopted has continued to be a point of discussion and debate (Ofosu-Ampong, 2024). The pivotal role that instructors play in the effective adoption of AI technologies warrants significant attention, particularly in how they facilitate and enhance students' ability to engage with and utilize AI tools to learn (Wang et al., 2021).

The widespread adoption of AI-driven tools has brought education to a pivotal juncture, underscoring the imperative to integrate AI literacy into academic curricula. This integration aims to equip students and instructors with the knowledge and skills necessary to navigate an era in which AI functions not merely as a digital instrument but as a collaborative agent in different domains (Shah, 2023). Instructors imagine how to harness AI's potential while addressing ethical considerations such as student learning, data privacy, algorithmic bias, environmental threats, and the implications of automation on equity in learning opportunities, to name a few. These factors represent critical considerations that can significantly impact instructors' willingness to adopt AI technologies, thereby shaping the sustained success and effectiveness of student learning. Examining what influences instructors' intentions to adopt AI, then, is important to explore (Chou et al., 2024; Shah, 2023).

The research discussed here sought to learn more about what would predict instructors' intent to adopt genAI in their teaching practices. Data were gathered through the administration of a new survey—the Artificial Intelligence Acceptance Measurement Survey (AIAMS). This survey was delivered to a sample of instructors from a large urban polytechnic institution in Canada. The survey was adapted from the Technology Acceptance Model Survey-2 (TAMS-2) and included demographic questions, components of the Theory of Planned Behaviour (TPB), and the Technology Acceptance Model Survey (TAMS). The AIAMS was piloted in a previous study to test its reliability. The AIAMS tool was used to explore instructors' experiences using genAI. In both pilots (Table 1, 2) and the larger final AIAMS survey, all four subscales used achieved a Cronbach's alpha score $\alpha > .70$, indicating good reliability (Table 3). Additionally, all the subscales' results showed corrected item-total correlations >3 (.426 - .851), indicating that individual scale items were reliable and valid to the assigned subscales (see Table 1, 2).

Table 1: Reliability Measured Using Cronbach's Alpha Coefficient (n=49) Internal Consistency

Constructs	Cronbach's Alpha (α)	Cronbach's Alpha Based on Standardized Items	Survey Items
Attitude (A)	.922	.925	8
Subjective Norm (SN)	.759	.759	4
Intent (I)	.906	.907	3
TPB Model (A, SN, I)	.872	.876	15

Table 2: Reliability Measured Using Cronbach's Alpha Coefficient (n=87) Internal Consistency

Constructs	Cronbach's Alpha (α)	Cronbach's Alpha Based on Standardized Items	Survey Items
Perceived Behavior Control (PBC)	.837	.830	5
TPB Model (PBC)	.837	.830	5

Table 3: Reliability of The Theory of Planned Behaviour Subscales Internal Consistency

Constructs	Cronbach's Alpha (α)	Cronbach's Alpha Based on Standardized Items	Survey Items
Attitude (A)	.938	.956	8
Subjective Norm (SN)	.845	.845	4
Perceived Behaviour Control (PBC)	.771	.747	6
Intent (I)	.916	.918	3
TPB Model (A, SN, PBC, I)	.926	.930	21

The Theory of Planned Behaviour

Ajzen (1991) described a theory in which behavioural intentions are influenced by multiple factors, with intention serving as the strongest predictor of actual behaviour. He determined that attitude toward a specific behaviour (for example, the adoption of genAI in teaching practices) is shaped by behavioural beliefs. These beliefs are formed when individuals consider the anticipated outcomes or consequences associated with the behaviour in question (Ajzen, 2006 & 2020).

According to Ajzen (2006), injunctive and descriptive norms shape individual beliefs and influence their subjective norms. Injunctive norms are based on beliefs about how referent groups, like students, colleagues, or senior leadership, think an individual should behave (i.e. should instructors adopt genAI in their teaching practices). Descriptive norms are influenced by perceptions of others' behaviours and actions (i.e. are others incorporating genAI in their practices). Subjective norms help gauge an individual's motivation to comply with behaviours aligned with the targeted behaviour (i.e., adoption of genAI to teaching practices).

Ajzen (2006) further described perceived behavioural control (PBC) as an individual's perceived ability to control and perform a specific behaviour (i.e., adoption of genAI in teaching practices). PBC is influenced by both situational and internal factors, including self-efficacy and controllability. The perceived difficulty of a task, along with the individual's confidence in their ability to perform it, directly impacts PBC. These factors, in conjunction with the level of control and the elements affecting control, collectively influence PBC. Finally, intent is described as the most considerable influence in predicting actual follow-through with behaviour. It is considered the antecedent to behaviour (Ajzen, 2006).

There is a paucity of existing research that applies the TPB to explore AI use in HE. Ivanov et al. (2024) applied the TPB model in a research study that focused on HE lecturers and students' perceptions of the risks of genAI tools. They reported that the TPB constructs positively and significantly impacted both lecturers' and students' intentions to use genAI. Khathayut et al. (2022) investigated Thai undergraduate students' (n=137) understanding of plagiarism using the TPB. They reported that attitude, subjective norm, and perceived behavioural control were all significant in determining students' intentions to plagiarize. Cheon et al. (2012) investigated U.S. college students' (n=189) intention to adopt the use of mobile devices to complete coursework. The components of the model explained over 87% of the intention of students to adopt mobile devices. It is important to note that the TPB has demonstrated reliability across a variety of populations and has proved to be instrumental in explaining the intention to behave in a variety of populations and with a variety of circumstances (Armitage & Conner, 2001; Hagger & Chatzisarantis, 2010; Hagger et al., 2022).

The Technology Acceptance Model Survey-2 (TAMS-2)

Davis (1989) developed the Technology Acceptance Model Survey (TAMS) to assess the adoption of technology across various groups. TAMS has been widely and successfully utilized across diverse contexts (Feng et al., 2020). Davis proposed that both the perceived ease of use and usefulness of technology affected people's intentions to use technology (Davis, 1989). The robustness of the assessment tool was improved with the incorporation of the four components of the Theory of Planned Behavior (TPB)—attitude, subjective norm, perceived behavioural control, and intent. The adapted tool is now referred to as the TAMS-2 (Venkatesh & Davis, 2000). TAMS-2 has been used to explore people's intentions to use

technology and continues to demonstrate reliability and validity (Feng et al., 2020). Given the prevalent adoption of genAI and the growing recognition of instructors' pivotal roles in facilitating student learning, it is essential to investigate their intentions regarding the integration of genAI into their teaching practices. These considerations inform and shape the focus of the research presented in this paper. The paper also offers a unique perspective from the Canadian HE instructors' perspective.

Method

Purpose

This research project aimed to assess the intention of Canadian HE instructors toward the use of genAI in their teaching practices. These factors were measured using the Artificial Intelligence Acceptance Measurement Survey (AIAMS). The study used a mixed-method approach. This paper will address the quantitative findings from the study.

Research Questions

Two research questions guided the inquiry:

1. What predicts post-secondary instructors' intention to adopt artificial intelligence in their pedagogies?
2. What specific factors influence the integration of generative artificial intelligence in the pedagogies of post-secondary instructors?

Materials

Artificial Intelligence Acceptance Measurement Survey (AIAMS)

The AIAMS survey, adapted from the TAMS-2 survey (Venkatesh & Davis, 2000), was piloted through two previous pilot studies to establish its reliability and validity for use. The AIAMS was then subsequently used in this larger study and administered through Qualtrics to explore instructors' perspectives on the use of genAI in their teaching practices. An invitation for instructor participation was disseminated through the institution's newsletter and Senior Deans' regular faculty communications. The average completion time for the survey was 15-20 minutes. Upon completion of the survey, participants were then offered a second invitation to engage in a guided interview with a research assistant. This follow-up interview aimed to further investigate instructor perspectives on the integration of generative artificial intelligence (genAI) in their educational roles. The follow-up interviews ranged from 30-60 minutes. As stated earlier, this article aims to address findings from the quantitative portion of this research study and does not include data from the interview phase of the research.

The survey consisted of nine demographic items and 21 items that covered inquiries for four subscales (attitude n=8), subjective norm (n=4), perceived behavioural control (n=6), and intent (n=3). Items were presented with a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree) (Nunnally, 1994). The survey was administered from March 2024 to April 2024.

Participants

A convenience sample of 87 instructors responded from across six faculties: Media Creative Arts & Design; Health Sciences & Wellness; Business; Liberal Arts & Sciences; Applied Sciences & Technology; Social & Community Services. Instructors were free to withdraw at any time with no risk of penalty. If a respondent chose to withdraw, their responses up to and including their withdrawal were included in the findings. The respondents' information was recorded in compliance with the Research Ethics Board (REB) data protection and privacy regulations (REB #0360). The survey was completed by respondents over the age of 18 years. All respondents were required to read and understand English.

Limitations

It is important to note two limitations to the study. First, respondents (n=87) may not provide a large enough sample that represents the total available number of instructors in the HE institution, and therefore, the findings may not be generalizable. Second, the respondents were limited to those who could read and understand English. This issue arose due to the researchers' restrictions to read and communicate in English.

Results

Most of the sample who completed the demographic portion of the survey (n=69) identified as female (50.7%) compared to male (44.9%) (n=69). Most participants were 51 years and older, followed by the 41-50 age group (see Table 4). The majority were full-time faculty members with over six years of experience, whose primary roles were based in traditional classroom settings (see Table 2). Almost 45 percent of instructors (n=67) reported some experience in using AI in their teaching practices (M = 1.42, SD = .497). Some respondents (42.5%) reported using genAI applications like

Table 4: Demographic Statistics (n=69)
Statistics Sample Responses from Survey (n=69)

Demographic Item	Item	Frequency (n)	Percentage (%)
Work Status	Full-time	43.0	62.3
Work Status	Part-time	8.0	11.6
Work Status	Sessional	2.0	2.9
Work Status	Other	16.0	23.2
Experience	Less 1 year	6.0	8.7
Experience	1-5 years	21.0	30.4
Experience	6+ years	41.0	59.4
Primary Role	Classroom	49.0	71.0
Primary Role	Online	1.0	1.4
Primary Role	Hybrid	16.0	23.2
Primary Role	Work Integrated Learning	1.0	1.4
Primary Role	Other	1.0	1.4
Gender	Woman	35.0	50.7
Gender	Man	31.0	44.9
Gender	Other identity	2.0	2.9
Age	20-30 years	4.0	5.8
Age	31-40 years	14.0	20.3
Age	41-50 years	15.0	21.7
Age	51+ years	35.0	50.7

ChatGPT, Perplexity, Jasper, Midjourney, and Dall-E. A smaller percentage (18.4%) reported using AI productivity tools such as Grammarly, Otter, and Notion, as well as AI communication tools such as Microsoft Translate, Microsoft PowerPoint, Speaker Coach, Grammarly, and Google Assistant.

Data Analysis

The data collected were analyzed using the Statistical Package for the Social Sciences software version 29 (SPSS). Hierarchical multiple regression was used to assess the assigned demographics and sub-scales for the TPP to predict levels of instructors' intention to adopt genAI in their teaching practices. Preliminary analyses were completed to ensure there were no violations of the assumptions of normality, linearity, multicollinearity, and homoscedasticity. The first model included the block of demographic questions and accounted for 12.8% of the total variance of the model for intention ($R^2 = 0.002$), $F(7, 47 = 0.99)$. The instructors' prior experience with the use of genAI in their teaching practices was the only demographic factor that demonstrated statistical significance ($B = 2.183$, $p < 0.047$).

In the second model, the block entry of the four Ajzen's sub-scales, the Theory of Planned Behavior (TPB) (attitude, subjective norm, perceived behavioural control, and intention) (Ajzen, 2006 & 2020) were included along with the demographic findings, and reported the total variance of the model at 59.1% ($R^2 = 0.566$), $F(3,49) = 23.64$, $p<.001$. The attitude was the only significant predictor ($B = 0.284$, $p<.001$), which suggested that instructors' attitudes towards genAI significantly influenced the instructors' intentions towards the use and adoption of genAI in their pedagogies (see Table 5). Experience with the use of genAI in teaching practices was no longer statistically significant to the final model.

Discussion

In this study, instructors' attitude toward integrating genAI into their teaching practices was a statistically significant predictor of their intention to incorporate it in their instructional efforts. Ajzen proposes that the strongest predictor of follow-through with behaviours is intention, so understanding what positively influences intention is

Table 5: Regression Model #2 Predictor of Theory of Planned Behaviour Subscales + Demographics

Predictors of Instructors' Intentions	B	t	sig
Attitude	0.284	6.050	0.00
Subjective Norm	0.050	0.582	0.563
PBC	-0.015	-0.221	0.826
Demographics	-0.137	-1.142	0.259

of paramount importance. Ajzen suggests that attitudes are "dispositions to respond favourably or unfavourably" (2005) and are shaped by cognitive (beliefs), affect (feelings and emotions), and conation (behavioural intentions). Behavioural intentions include past behaviour (Haddock & Maio, 2004). The past behaviour of instructors' use of genAI in their teaching practices (M = 1.42, SD = .497) in this study contributed significantly to the variance in the first model, suggesting that this kind of experience influenced their intent to adopt genAI in their future teaching practices. While this finding was not significant in the second model, it is worth considering. Such experience may have alleviated some of the unease in using genAI so that instructors were more inclined to continue exploring the opportunities genAI provided to their teaching practices. This finding is consistent with others who report that instructors in HE with experience using AI exhibit greater positivity toward its integration and demonstrate higher adoption rates for use with teaching practices (Abdelmoneim et al., 2024; Cojean et al., 2023; Galindo-Domínquez et al., 2024; Priya & Preeti, 2020; Shi et al., 2024; Yim & Wegerif, 2024). As well, Uyanik et al. (2024) reported differences between STEM versus non-STEM pre-service teachers (n=520) with more experienced STEM teachers reporting more positive attitudes towards AI use in their teaching ($p<.02$). Galindo-Domínquez et al. (2024) noted that regardless of age or educational stage, higher levels of digital competence were associated with positive attitudes towards AI use in education with instructors across kindergarten to grade 12 and HE (n=445). Those in STEM positions had stronger positive attitudes when compared to their colleagues teaching in Social Sciences, Arts, or Physical Education ($\beta = 0.301$; $p < .001$). These studies indicate that when teachers use and explore AI tools, they recognize their potential to support pedagogical innovation to meet diverse student learning needs. Such past experiences may foster an appreciation for genAI's role as both a collaborator and enhancer in the learning process. While we cannot state that those instructors with more experience had greater digital competence in this current study, it is interesting that prior experience did account for the variance in Model 1. Creating experiences where instructors have opportunities to explore and work with genAI in a guided manner could encourage their successful use of it in their teaching practices. Institutional departments that support faculty development should focus expertise and resources within this specialty so that they can offer such guided instruction in a consistent and comprehensive manner. Supporting instructors with the practical use of genAI will leverage instructor expertise and could positively impact curriculum development as well as instruction.

Understanding the impact of instructors' attitudes on their intention to adopt AI is crucial as they play pivotal roles in enhancing students' AI literacy and influencing educational systems through curricula and policy development. Model 2 findings suggest that attitudes toward genAI significantly affect instructors' approaches to teaching methods. This, in turn, may influence the student experience in developing AI literacy as well as overall learning (Yue et al., 2024). In the current study, attitude was the only sub-scale demonstrating significance in the variance of instructors' intent to adopt genAI. Nazaretsky et al. (2021) found that the attitudes and perceptions of science teachers (n=20) influenced their adoption of AI-based technology. Key factors shaping these attitudes included instructors' trust in their abilities to adopt AI, distrust in AI analysis compared to their intuition, and perceived imperfections of AI tools. AI literacy could play a key role in influencing instructor attitudes, so that resources and efforts should be considered by institutional leaders to invest in developing instructors with their literacy skills. Creating networks within institutions that engage experts from across different departments and locations like the library, information technology, and centres for teaching and learning could offer important infrastructure and practical resources that support instructor development.

Other factors positively influencing instructors' cognitive and affective domains and their attitudes toward AI have been explored and validated through past research. Ofosu-Ampong (2024) reported that social and cultural environments affected HE lecturers' (n=94) attitudes toward using AI in teaching. These environments included collaborative, supportive leaders who promoted innovation and created strong technology infrastructures and opportunities for learning about AI. Ajzen would describe these factors within the subjective norm domain, which did not report as statistically significant within this study. Wang et al. (2021) identified the perceived usefulness of AI and attitude as significant factors positively influencing HE instructors' adoption of the technology (n=311). These factors include the perceived usefulness of AI technology, instructor teaching and self-efficacies, performance and effort expectancies, social influences, and facilitating conditions such as institutions' technical infrastructure and leadership support (Alhwaiti, 2023; Galindo-Domínquez et al., 2024; Gupta et al., 2020). Ajzen would include self-efficacies, performance and effort expectancies within the perceived behavioural control domain, which did not report significance in this study. While positive attitudes toward genAI use accounted for the intention to use it in teaching practices, it is important to consider that enthusiasm does not preclude feelings of worry (Bezjak, 2024). In fact, past interviews with instructors warn that positive attitudes may be tempered with legitimate concerns about their abilities to work with the different applications preventing them from successfully integrating it so students continue to learn (Bezjak, 2024). Additionally, worries about privacy, confidentiality, bias, and other topics weigh on instructors' minds as they negotiate this new educational landscape (Bezjak, 2024). These concerns exemplify the socio-technological challenges associated with the successful integration of genAI. These challenges encompass not only technological skills but also ethical, social, and pedagogical considerations (Bezjak, 2024). Considering the socio-technological aspects that may affect attitude, it may be prudent to create institutional advisory teams that include members from across departments to consider potential issues that will impact the successful integration of genAI into educational environments. Such a team could prove to be an important asset, especially since AI will continue to evolve and will continue to require thoughtful discussions to ensure it is incorporated in a way that supports student learning.

Impact

If attitude is a predictor of instructors' intent to use genAI in their teaching practices, it becomes important that those in roles of influence within HE institutions work toward establishing processes and supports that will promote positive attitudes. The quantitative findings from this study provide valuable insights into the Canadian HE context. Considering past research, we know that attitudes are shaped in diverse ways. A more comprehensive understanding of instructors' perspectives will be achieved through the analysis of the qualitative component of this study, which will be reported later. To ensure that students benefit from the meaningful integration of AI in their learning, it is imperative that those in positions of influence within HE take proactive measures to understand what influences positive attitudes about AI use with instructors. Furthermore, evidence-informed insights offered through this research should guide HE leaders to facilitate a smoother transition to the adoption of AI, thereby supporting students in their continuous learning and development to be career-ready graduates who are able to use AI ethically and effectively.

Conclusion

Given the presence and growing influence of AI in higher education, it is imperative to persist with research and development in this field. Ongoing studies are essential to comprehending and optimizing AI's impact on student learning and assisting instructors in adapting their roles and pedagogical approaches to integrate AI technologies in HE effectively. Furthermore, generative AI holds potential for instructors and administrators to achieve efficiencies in their work, thereby continuing to support student learning and success.

Asynchronous learning materials, feedback, and resources that can be accessed and reviewed outside the classroom are invaluable. Improved and fairer processes for admissions and other procedural tasks, which are currently labour- and time-intensive, can become more efficient with generative AI applications. Nevertheless, it remains crucial to consider the roles of instructors and other human participants in HE. The immediate availability of knowledge does not guarantee students' critical and thoughtful engagement with curriculum content, which is essential for guiding students so they are career-ready as they move forward into various professions.

The necessity to re-evaluate how teaching and learning will evolve in the digital and AI age is important. This evolution will require collaborative and meaningful reflection by all members of HE learning communities.

Conflict of Interest

Statements and Declarations

The authors of this paper have no financial or non-financial interests that are directly or indirectly related to the work submitted for publication.

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