

How AI will impact academic integrity in Higher Education over the next 5 years

Jotsana Roopram

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Over the next five years, generative artificial intelligence (Gen AI) is expected to evolve significantly, profoundly impacting academic integrity in higher education. Gen AI is anticipated to become more sophisticated, with enhanced capabilities in natural language processing, data analysis, and personalised learning. These advancements will enable artificial intelligence (AI) to generate complex content, simulate human-like interactions, and provide tailored educational experiences. However, this progress also raises concerns about the potential for Gen AI to be misused in academic settings.

While AI's inception can be traced back to the 1950s, its more recent 'introduction' to the world, prompted by OpenAI's Chatbot, ChatGPT in November 2022, ushered in with it concerns about the implications and risks of *Gen AI* on academic integrity. Initially met with apprehension, the higher education sector sought to understand the *new* technology, and through this, potential advantages of its use in teaching and learning activities were identified. Establishing a balance between *responsible use* and *misuse* of this technology by students and faculty is a new and ongoing challenge for academia.

The Challenge to Academic Integrity

Research on the impact of *Gen AI* on academic integrity in higher education has identified four key areas - increasing opportunities for academic misconduct, the challenges with *Gen AI* detection and prevention, a decrease in developing critical thinking and writing, and ethical considerations related to equity concerns and data privacy.

Increased Opportunities for Academic Misconduct

The enhanced capabilities of *Gen AI* tools enable students to produce assignments, essays, and projects without engaging deeply with the content. The ease of access to *Gen AI-generated* content could potentially lead to a rise in academic dishonesty, as students may be tempted to submit work generated by chatbots as their own. Most AI tools are able to rewrite existing content or paraphrase in a way that can bypass traditional plagiarism detectors, generate fake references and citations and even entire research papers that appear legitimate. Due to the high-quality work that may be generated by AI, contract cheating is easier and more accessible, as the need for hiring human ghostwriters is reduced. This undermines the learning process and devalues the credentials awarded by institutions.

Faculty are also susceptible to unethical or improper use of AI in teaching, research and administration, undermining academic integrity, distorting research outcomes and compromising educational quality. AI offers faculty members significant time-saving capability with lesson plans, assessment development, curriculum planning activities and research papers, which may present as the 'allure of AI as a shortcut' (Fleming, 2024). However, this may lead to an over-reliance on AI for such activities without the appropriate review of content and misrepresented data and findings, raising ethical violations in research and a loss of academic credibility.

Challenges in Detection and Prevention

Traditional methods of detecting plagiarism and academic misconduct may become less effective as evolving *Gen AI-generated* content becomes more sophisticated and harder to distinguish from human-produced work. This evolution necessitates the development of new detection tools and strategies to maintain academic integrity as AI detection can still be evaded despite efforts from students to modify AI output (Giray et al., 2025). However, current *Gen AI* detection tools have limited detection capabilities and have been criticised for unreliability, leading to potential false accusations.

Erosion of Critical Thinking and Writing Skills

While AI tools may enhance productivity and learning, excessive use could reduce critical thinking and writing abilities in both students and faculty. Excessive use of AI in writing could weaken writing skills or produce writing that lacks depth, originality and a personal voice; or result in reduced abilities to self-edit and express ideas in unique and engaging ways. An excessive reliance on *Gen AI* for content generation may encourage surface-level understanding and passive learning, inhibit independent thought, analytical reasoning, intellectual growth and deeper intellectual engagement; and students' abilities to develop essential academic competencies.

Equity Concerns

If not addressed adequately, AI could potentially widen existing educational inequalities rather than reduce them. As the technology becomes a more essential part of the education system, institutions must strive for inclusion and equal access to these technologies, particularly for underrepresented or low-income students. The digital divide could deepen if *Gen AI* tools remain exclusive to well-funded institutions or students from more affluent backgrounds who may have greater access to high-end devices, subscriptions to AI-powered research assistants and consistent internet access.

“By making clear what is considered appropriate use of AI, educators can demonstrate how they are prepared to embrace it in ways that enhance the student experience and their development, rather than hindering it or causing an unfair playing field.” Bowden, 2024

AI and Data Privacy

Due to the vast amounts of data collected on students' learning behaviours, progress, and preferences by Gen AI-driven platforms, the challenge is ensuring that this data is used securely, ethically and in compliance with privacy regulations.

Higher education institutions should develop and implement policies that address the ethical use of *Gen AI* in academic settings. These policies should focus on promoting *Gen AI* literacy among students and faculty, establish clear guidelines for *Gen AI* usage, and integrate *Gen AI* tools responsibly into the curriculum, with the goal of balancing the benefits of *Gen AI* in enhancing learning experiences with the need to uphold academic integrity.

AI's potential role in enhancing teaching and learning

AI has the potential to revolutionise teaching and learning by personalising education, generating content, promoting professional development activities and enhancing engagement. It can adapt lessons to individual student needs, provide instant feedback, and generate customised learning materials. *AI*-powered tools such as chatbots and virtual tutors offer 24/7 support, while analytics help faculty track student progress and identify areas for improvement. Additionally, *AI* can automate grading and administrative tasks, allowing faculty to focus more on instruction and mentoring. However, ethical considerations, such as data privacy and bias, must be addressed for effective implementation.

Personalised learning and adaptive tools

AI-powered systems have the ability to analyse data such as tracking students' progress and identify gaps in learning. Adaptive learning tools are able to offer customised learning experiences through tailored lessons and educational content, instructions suited to students' specific learning needs, on-demand tutoring with the ability to adjust difficult levels when required; and assess students' understanding in real-time, adjusting the content accordingly.

Generating content, lesson plans, assessments and learning materials

AI tools are able to generate essays, reports, and even creative work. These tools also offer the capability for brainstorming and generating ideas, drafting essays, and can contribute to both the creation and consumption of educational materials (Yusuf et al., 2024). While these technologies have the potential to enrich the learning experience, they also raise concerns regarding the authenticity of student-produced work.

AI is also becoming an invaluable asset for faculty, offering solutions and tools that streamline the development of comprehensive lesson plans, dynamic and interactive learning materials (Zhang & Wasie, 2023) and assessment, providing customisable grading rubrics; and offer automated grading systems enabling faculty to assess and grade student submissions faster and more consistently, significantly reducing lesson preparation and assessment grading time.

Professional Development and Collaboration

AI-powered tools have the ability to support faculty in their professional development by providing resources for lesson development and classroom management and can assist them in creating high-quality instructional materials, fostering collaboration and sharing of best practice among educators.

Enhancing engagement

AI-driven technologies such as virtual teaching assistants, interactive simulations, and gamification are already being used to enhance student engagement. AI-driven engagement technologies are constantly evolving and new developments in machine learning and natural language processing (NLP) are making interactions more personalised and immersive. Tools for language learning and virtual labs are being used for enhancing educational delivery as this branch of AI enables computers to understand, interpret, improve context understanding and generate human language, making AI more conversational and personalised.

Institutional responses to mitigating risks of AI to academic integrity

While AI, as a multifaceted tool for faculty, can enhance efficiency, foster creativity and improve the overall educational experience (Bin-Nashwan et al., 2023), it also poses risks to academic integrity. Higher education institutions must proactively address these challenges through a review of assessment strategies and policies, refocus on education and promote digital literacy (Fowler, 2023) and leverage technological innovation to strike a balance between harnessing AI's benefits and safeguarding academic honesty.

A review of assessment strategies

Evolving assessment methods such as a shift to remote proctored assessments, project-based and oral presentations and scenario-based testing is required, to reduce the risk of academic misconduct but also enhance students' learning outcomes.

Redefining Academic Integrity policies

Institutions have commenced establishing policies on the ethical use of AI tools in academic work. These policies should include guidelines that clarify what constitutes acceptable and unacceptable use of AI. Effective policies require input from faculty, students and administrators to ensure they are practical and enforceable.

Education and promoting digital literacy

Through educational campaigns for students and faculty about the ethical use of AI, the emphasis of these campaigns should be on the importance of academic integrity and guidance should be provided on the

responsible use of AI tools. Institutions should invest in faculty training to redesign assessments. Professional development programs should be implemented to assist faculty to understand the capabilities and limitations of AI and how to integrate it into their teaching.

These transformations will require ongoing collaboration between educational institutions, students, and AI developers to ensure that AI is used ethically, responsibly, and in a way that preserves the integrity of higher education. As AI becomes more integrated into education, the definition of originality and authorship may evolve. This could lead to broader discussions about the role of AI in academic work. Higher education institutions may play a key role in shaping societal norms around the ethical use of AI, fostering a culture of responsible innovation.

As the world continues to navigate this evolving technology, the higher education industry must endeavour to find a balance between upholding the values of academic integrity which should remain at the forefront of policy development and implementation, while also ensuring the consistent and timely education of students and faculty on the benefits and limitations of Gen AI tools; and garnering institution-wide support, collaboration and make more concerted efforts to embrace and explore how Gen AI can enhance teaching and learning activities (Plata et al., 2023, Stone, 2023). The increasing sophistication of AI presents both challenges and opportunities for academic integrity and will therefore continue to shape the landscape of higher education in significant ways. Over the next five years, institutions will need to adapt by updating policies, investing in detection technologies, and fostering a culture of ethical AI use. By balancing the risks and benefits of AI, higher education can maintain the integrity and value of academic credentials in an increasingly AI-driven world.

“The broader intellectual world seems to wildly overestimate how long it will take AI systems to go from ‘large impact on the world’ to ‘unrecognizably transformed world’. This is more likely to be years than decades, and there’s a real chance that it’s months.”

Paul Christiano, former member of OpenAI, March 2023

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Associate Professor Jotsana Roopram is a higher education professional (pracademic) and a PhD candidate in Sydney, Australia.