

# Artificial Intelligence (AI) and the threat to academic integrity in higher education: Raising students' awareness of ethical academic conduct and responsible use of AI in their studies

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**Abstract:** Breakthroughs in Artificial Intelligence (AI) have brought about great changes in human life. In the panorama of rapid technological advancement, AI-powered technologies are in the academia's intense spotlight as they bring great prospects to learning, but also threats to academic integrity. This paper aims to explore the key concepts of AI, academic integrity, and the potential benefits and risks of students' use of AI-powered tools in higher education settings. It outlines the fundamental values of academic integrity, including honesty, trust, fairness, respect, responsibility, and courage which are essential for preserving the credibility and quality of higher education. The paper also emphasizes the need for higher education institutions to take proactive steps in raising students' awareness of academic integrity and the appropriate use of AI-powered tools in their studies. By cultivating a shared understanding and commitment to academic integrity, institutions can empower students and staff to uphold the highest standards of ethical conduct and contribute to the advancement of knowledge with integrity.

**Keywords:** Artificial Intelligence (AI), academic integrity, awareness of academic integrity, responsible use of AI

## 1. Introduction

The great and rapid advancements in AI have brought complicated challenges to maintaining academic integrity in higher education. As AI-powered tools, such as language models and automated essay generators, become increasingly sophisticated and accessible to students, there is a growing concern that they may inappropriately use the tools to bypass academic integrity principles (Floridi & Chiriatti, 2020).

To address the threat of AI students' misuse in academic settings, higher education institutions must take proactive steps to raise students' awareness of academic integrity and the responsible use of AI in their studies. This paper aims to explore key concepts of AI, academic integrity, the potential as well as risks of using AI-powered tools by students in higher education. On that basis, it will point out the need to bridge the gap between students' understanding of academic integrity and the line between using AI to seek assistance for their learning and misuse of AI as academic misconduct.

## 2. Contents

### 2.1. Artificial intelligence (AI)

#### 2.1.1. What is Artificial Intelligence

One commonly accepted view of Artificial Intelligence (AI) is that it is the study and development of computer systems that can perform tasks which would typically require human intelligence and cognition (Poole et al., 2017), such as the ability to learn, reason, perceive, communicate, and solve problems in a way that is similar to how humans process and carry out these tasks.

According to Russell and Norvig (2021), AI-powered systems are designed in a way that they are almost human-like intelligent and capable of performing tasks including natural language processing, decision making, and speech recognition, etc. Systems powered by AI are programmed to analyze data, learn from the data, and based on the learning, they can make predictions or decisions.

#### 2.1.2. What teachers and students at higher education can get from using AI

The application of AI into higher education has brought significant impacts on teaching and learning. Recent rapid advancements in AI tools have introduced a wide range of opportunities to enhance teaching and learning practices.

Regarding teachers, AI technologies can greatly help lessen their heavy workload, allowing them to allocate more time to providing personalized feedback and engaging in meaningful discussions with students. According to Ren et al. (2021), AI algorithms can automate the grading of certain types of assignments, such as multiple-choice tests or short-answer questions. Besides, AI-powered learning analytics can provide valuable insights into student performance, attendance, and engagement patterns, allowing teachers to identify at-risk students and implement targeted interventions (Ifenthaler & Yau, 2020).

For students, research informs that AI shows its benefits in adaptive learning. AI-powered systems can analyze individual student performance, learning styles, and engagement levels to provide personalized content, feedback, and support (Zawacki- Richter et al., 2019). This personalization allows students to learn at their own pace, addressing their unique strengths and weaknesses, leading to better learning outcomes. Generally, the booming of AI technologies have brought transformative impact on teaching and learning practices in higher education. However, the use of AI in academic settings also raises concerns about academic ethical issues, especially academic integrity, which will be discussed in the next section.

## **2.2. Academic integrity**

### **2.2.1. What is academic integrity?**

The International Center for Academic Integrity defines academic integrity as a commitment to five fundamental pillar values: honesty, trust, fairness, respect, and responsibility (Fishman, 2016). Fishman also states that the sixth one should be added, which is the courage to act on them even in the face of adversity.

Without them, everything that we do in our capacities as teachers, learners, and researchers loses value and becomes suspect. When the fundamental values are embraced, utilized, and put into practice they become touchstones for scholarly communities of integrity. Rather than thinking of them merely as abstract principles, we advocate using the fundamental values to inform and improve ethical decision-making capacities and behavior.

### **2.2.2. Behaviors that support or breach academic integrity**

Australian Government's Tertiary Education Quality and Standards Agency (TEQSA) defines behaviors that can support or undermine academic

integrity. Accordingly, students uphold academic integrity by (1) acknowledging where the information they use comes from, clearly citing or referencing the sources, (2) sitting their own exams and submitting their own original work, (3) accurately reporting research findings and complying to established research policies, (4) appropriately using information, in line with copyright and privacy laws, and (5) acting ethically or doing the 'right thing', even when faced challenges. These standards are crucial for maintaining the credibility and integrity of the academic process within the higher education system.

On the contrary, the Agency also lists behaviors considered academic misconduct including plagiarism (submitting work that was created by someone else without properly acknowledging the original source), recycling or re-submitting work (submitting work that has already been assessed, without teacher's permission), fabricating information (the practice of inventing or falsifying information for research-based academic tasks), collusion (engaging in illegitimate cooperation with one or more other students to complete assessable work), exam cheating (doing things that are against established regulations), and contract cheating & impersonation (getting someone else to complete part or all of your work and then submitting the work as if students had completed it themselves).

Upholding academic integrity is essential for the credibility and quality of higher education. However, in the time of AI booming, AI-powered technologies such as chatbot or ChatGPT have made academic integrity breach more complicated.

## **2.3. AI and the threat to academic integrity**

Apart from the benefits of using AI in educational settings, the rapid AI advancements have also raised concerns about the preservation of academic integrity in higher education. As AI technologies become increasingly sophisticated, they pose a growing threat to the fundamental values that underpin the educational system (Moya et al., 2023).

One of the major concerns is the potential for AI-generated content to be misused for academic dishonesty by students. Language models, such as GPT-3, have demonstrated the ability to produce highly convincing and coherent texts that can be difficult to be distinguished from human-written work (Floridi & Chiriatti, 2020). Students may be tempted to use these AI-powered tools to create

essays, assignments, or even entire research papers, copy and paste the computer-generated content as if it was their own original work. Moya et al. (2023) suggested that many educators might not be ready to address the challenges brought forward by AI technologies in higher education settings. They also state the need to understand the difference between humans and AI, and separate the uses of AI as a support tool from those intended for cheating, or the line between students seeking assistance from AI technologies and students cheating using such technologies should be identified.

Raising students' awareness of academic integrity and responsible use of AI in their studies

Since AI technologies continue to grow rapidly, higher education institutions are facing challenges of preserving academic integrity in the face of new and evolving threats. One of the most important strategies in addressing this challenge is to raise students' awareness of the importance of academic integrity and the potential risks posed by inappropriate use of AI.

Eaton and Edino (2018) pointed out that a great number of students in higher education lack a comprehensive understanding of academic integrity and the consequences of committing academic misconduct. This gap can truly worry educators as AI-powered tools, such as language models and automated essay generators, become more readily available and accessible to students. Therefore, there is a necessity to inform students of academic integrity and raise their awareness of upholding academic integrity values to maintain higher education credibility and integrity. This paper is part of a study that will be carried out to explore students' understanding of academic integrity and their use of AI-powered tools in their studies.

### 3. Conclusion

Higher education plays a crucial role in fostering a culture of academic integrity. This needs a combination of many strategies, of which raising students' awareness of academic integrity and the significance of maintaining it are of great importance. By cultivating a shared understanding and commitment to academic integrity, higher education institutions can empower their students and staff to uphold the highest standards of ethical conduct and contribute to the advancement of knowledge with integrity.

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