

## Challenges and Solutions in Maintaining Student Academic Integrity in the Era of Artificial Intelligence

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### ABSTRACT

In recent years, international research in the field of academic integrity has turned to examine issues specifically in the use of artificial intelligence. This research aims to provide a holistic approach in dealing with violations of academic integrity among students amidst the spread of artificial intelligence practices with a systematic literature review approach. The results of this research show that there are five approaches that can be used to maintain academic integrity amidst the increasing use of artificial intelligence. Ultimately, an integrity solution that combines prevention and enforcement approaches to address future academic integrity issues.

**Keywords:** Academic Integrity, Honesty, Artificial Intelligence

### Introduction

In today's world, more than 80% of undergraduate and graduate students have admitted to some form of cheating on assignments and exams. Additionally, students may feel that the pressure to achieve high academic performance outweighs the consequences of making mistakes. Addressing academic dishonesty in education is important for reasons that go beyond the boundaries of post-secondary institutions (Stoesz & Yuditseva, 2018). Academic integrity itself stands as the foundation of professional and ethical development in education (Henning et al., 2014).

Academic integrity requires a commitment to the fundamental values of honesty, trust, fairness, respect, responsibility, and courage (Fishman, 2014). From these values, ethical academic behavior is defined, creating a community dedicated to learning and exchanging ideas. For postsecondary institutions, ensuring that students act in an academically integrated manner will strengthen the institution's reputation. In turn, individual students benefit from this reputation and from the conclusions drawn based on their academic performance. At a broader level, understanding the basic values of academic integrity held within a community—and behaving in accordance with those values embeds a shared framework in professional work, clarifying the value of mastery of knowledge, skills, and abilities (Holden et al., 2021).

Academic integrity refers to honesty and trustworthiness in all aspects of academic work. This involves a commitment to fundamental values such as honesty, trust, fairness, respect and responsibility in all academic endeavors. Various activities are classified as

academic dishonesty, and they are often categorized differently (Busch & Bilgin, 2014). Cheating on exams can take many forms, and doesn't always mean cheating on your neighbor's student. In this internet age, they can contract the work to a professional writer (ghost) who will become a professional writer. Other forms of plagiarism are also easy to do by cutting and pasting text that is freely available on the internet, with slight modifications, one of which is irresponsible (Busch & Bilgin, 2014).

Education is one of the key elements in the global strategy to improve the culture of integrity and the fight against corruption. It is difficult to think that education can contribute efficiently if the phenomenon of academic dishonesty occurs within the scope of education (Guerrero-Dib et al., 2020). Academic integrity is more than simply avoiding unfair practices such as copying on exams, plagiarizing, or cheating on contracts; it implies engagement with learning and work that is well done, complete, and focused on a good goal – learning. This also involves the use of appropriate methods, sincere effort and good skills. This primarily means diligently taking advantage of all learning experiences (Guerrero-Dib et al., 2020).

In recent years, international research in the field of academic integrity has turned to examine this issue, including looking at the nature of contract cheating, estimating the prevalence of the problem, uncovering contributing factors or reasons why a student may outsource their assignments to a third party, and exploring how higher education institutions can respond effectively by improving academic integrity policies and Educational approaches. Contract cheating is a term now widely used in the literature to refer to the 'outsourcing of student work to a third party' (Morris, 2018).

Apart from that, amidst the widespread use of artificial intelligence, there is a big dilemma in the academic world. On the one hand, AI can help ensure the authenticity of academic work by using sophisticated algorithms to identify text similarities and potential plagiarism. In addition, AI can also be used in automated assessments, providing fast and objective feedback to students. However, there are also academic integrity challenges that arise from the use of AI, such as inaccuracies in automated assessments and the potential for misuse of AI to commit academic fraud. (Sturm et al., 2011). Additionally, the use of AI in writing essays or completing assignments can make plagiarism detection more difficult, complicating efforts to ensure academic honesty (Murgai, 2018).

Therefore, academic integrity amidst the development of artificial intelligence has become very important in academic life, both for students and academics amidst the development of the artificial intelligence era. This research aims to provide a holistic approach in dealing with violations of academic integrity among students amidst the spread of artificial intelligence practices with a systematic literature review approach.

## **Literature Review**

### **Academic Integrity**

Academic integrity is defined as a commitment to six core values, namely honesty, trust, fairness, respect, responsibility and courage, in all aspects of scientific practice, even in the face of difficulties. These six core values serve to guide behavior that is aligned with these values (Lee-Post & Hapke, 2017). In the last decade, there has been a shift in focus on academic integrity from the detection and punishment of undesirable behavior to the promotion of desirable behavior (Löfström et al., 2015).

In the educational context, academic integrity can be understood as the habit of studying and carrying out academic work fairly and coherently, seeking to learn and being motivated by the service that such learning can provide to others (Guerrero-Dib et al., 2020). Academic integrity is considered a fundamental quality for any academic endeavor, essential in any teaching and learning process focused on achieving the highest standards of excellence and learning, and therefore, it should represent the goal to which every academic institution, which

is seriously engaged in quality. Implementing academic integrity means taking action with responsibility, honesty, respect, trust, fairness and courage in all activities related to academic work and avoiding all forms of fraudulent or dishonest acts even when the work is very difficult (Guerrero-Dib et al., 2020).

### Artificial Intelligence

Artificial Intelligence (AI) is a field in computer science that focuses on creating systems that can perform tasks that require human intelligence, such as language understanding, speech recognition, learning, and problem solving (Sturm et al., 2011). AI focuses on intelligent agents, which are devices that perceive the environment and take actions based on it to maximize the chances of goal success. Most AI systems have the ability to learn, which allows them to improve their performance over time (Shabbir & Anwer, 2015).

Theories related to AI cover various scientific disciplines, from computer science, cognitive psychology, to the philosophy of mind. AI combines techniques such as machine learning, including deep learning, in conjunction with sensors and other computer programs to understand and act in the world, learning from experience and adapting over time (Murgai, 2018).

### Methodology

This research is a systematic literature review using the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analysis) method which is carried out systematically by following the correct stages or research protocols. A systematic review is a research method that aims to evaluate, identify, analyze all previous research results that are related and relevant to a particular topic, particular research, or the latest phenomenon of concern. The facts presented are comprehensive and balanced because systematic reviews are used to synthesize relevant research findings. The systematic literature review includes the following steps: Formulating research questions, conducting systematic literature review searches, screening and selecting suitable research articles, Conduct analysis and synthesis of qualitative findings, Implement quality control, Prepare a final report (Perry & Hammond, 2002).

A qualitative approach is used to frame, analyze, and provide comprehensive solutions in the form of strategic models for the Company in improving millennial generation performance (Berkah & Sawarjuwono, 2019). After an in-depth review of the literature for analysis, several articles were selected as the main corpus. Various scientific articles are taken from special journals that have helped build characterization of the most prominent elements that illustrate effective leadership style and the millennial generation, based on several important points explained by different authors (Moreno et al., 2017).

The procedure of this systematic review consists of several steps, namely 1) compile Background and Purpose (Background and objectives), 2) Research Question, 3) Searching for the literature 4) Selection Criteria 5) Data Extraction Strategy 6) Assess Quality of Primary Studies, 7) Data Synthesis (Vasconcelos et al., 2013; Wahono, 2015).

### Research Question on Literature Review

Table 1. Research Questions on Literature Review

ID	Research Question	Motivation
RQ1	Which journal is most significantly related to academic integrity and artificial intelligence?	Identify the most significant journals in the field of academic integrity and artificial intelligence
RQ2	Who are the most active and	Identify the most active and

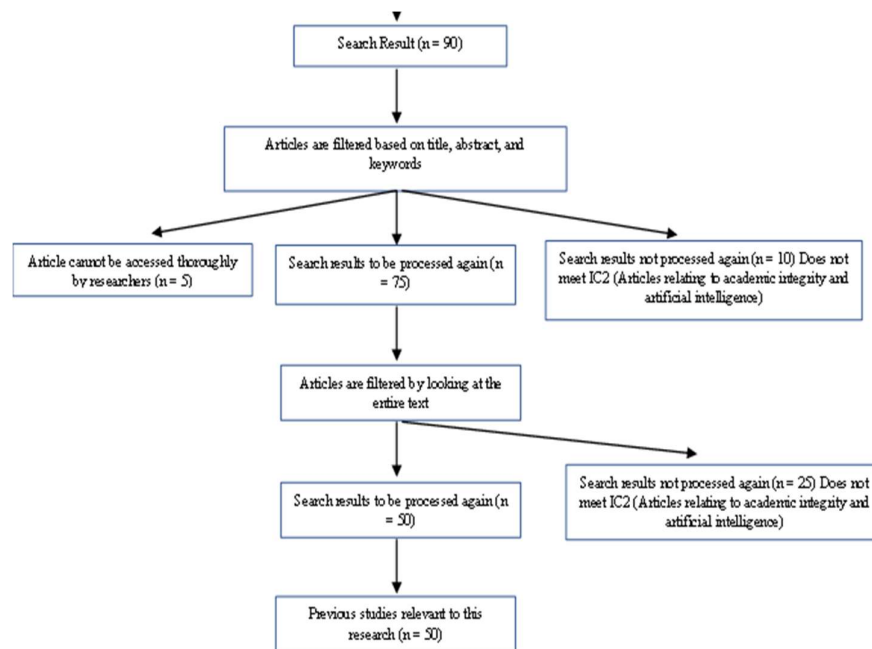
	influential researchers on academic integrity and artificial intelligence?	influential researchers who have contributed a lot to the field of academic integrity and artificial intelligence research
RQ3	What research topics do researchers choose in the field of academic integrity and artificial intelligence?	Identify research topics regarding academic integrity and artificial intelligence in the technological era

### Searching for the literature

This research was conducted in February-March 2024 in the city of Jakarta. Search for relevant research articles with the topic of this research conducted using keywords: Academic Integrity, Honesty, and Artificial Intelligence. To select articles we use the following databases: Scopus, DOAJ, Proquest, Ebsco. Adjustments were made in the strategy used to find the article, the inclusion criteria were predetermined, to maintain consistency in finding the article and avoiding possible bias.

### Selection Criteria

Inclusion criteria used to guide the search and selection of articles are research in English (IC1), complete articles published in national and international journals in the 2013-2024 period, indexed in the database used, focused on Academic Integrity and Artificial Intelligence (IC2). (Fig1). After getting a sample, the selected article is then analyzed for the collection of relevant information. Analysis and synthesis of data extracted from the article are made descriptively to observe, describe, and classify data to gather knowledge generated on the themes explored in the meta-synthesis. Therefore, meta-analysis can produce new concepts through a synthesis of study content surveyed to transform some qualitative studies into new studies and contribute to the dissemination of scientific knowledge (Vasconcelos et al., 2013).



**Fig. 1.** Prisma Flow Diagram Systematic Review

### Data Extraction, Assess Quality of Primary Studies, and Data Synthesis

The main study chosen is then extracted to collect data that contributes to answering research questions. Assessment of research quality can be used to guide the interpretation of the synthesis findings and to determine the conclusions described. The purpose of data synthesis is to gather evidence from selected studies to answer research questions.

### Discussion

The integrity approach can be carried out in several ways. First, a preventive approach is a proactive strategy that prevents violations from occurring. Lee-Post & Hapke recommends the use of honor codes and statements of authenticity to ensure students understand and are committed to institutional values of character and integrity. The honor code provides a clear definition of academic integrity and the consequences of non-compliance, while the statement of authenticity is a statement signed by the student acknowledging that the work is truly his or her own. (Lee-Post & Hapke, 2017). Second, educators are encouraged to create authentic, meaningful, and engaging assessments to ensure that students do not want to cheat (Ellis et al., 2020).

Third, higher education institutions need to ensure a 'systems approach', where academic integrity is an integral part of the effort. It is important for institutions to consider deeply how they can integrate and improve their institutional strategies or approaches regarding all forms of student academic misconduct, including the submission of assessments to third parties (Morris, 2018). Fourth, punishment and consequences for actions that violate academic integrity (Tatum & Schwartz, 2017). Educational institutions need to make regulations regarding dishonesty transparent and clear, and the impact of engaging in dishonest behavior needs to be aligned with clear serious consequences. actions such as punishment and warning.

In addition, teachers need to ensure that students have clear and unambiguous learning objectives that will lead students to a commitment to constructive learning and minimize the risk of dishonest involvement (Henning et al., 2014).

Fifth, solutions to the impact of artificial intelligence on academic integrity include the development and implementation of clear policies regarding the use of AI in education, including guidelines for automatic assessment and plagiarism detection. Education and training for students and educators regarding the ethical use of AI and how to identify and prevent academic cheating is also important. Additionally, the development of more sophisticated AI technology to more accurately detect and prevent cheating, as well as ensure fairness and objectivity in academic assessments, could also be part of the solution (Sturm et al., 2011). Lastly, regardless of the specific strategy or activity implemented, there is research evidence showing that a positive classroom climate and instructor enthusiasm can dramatically increase student engagement and intrinsic motivation, positively influence learning outcomes, and reduce cheating behavior (Stoesz & Yudintseva, 2018)

### Conclusion

These findings may contribute to the development of effective policies and strategies to address academic dishonesty. By focusing on integrity, whether at the institutional or classroom level, faculty can implement strategies to change students' decisions not to commit violations of academic integrity. Helping students understand what is meant by academic honesty is key. Setting clear expectations about integrity, demonstrating trust and respect for students, and handling cheating consistently and fairly will send the message that you value academic integrity. Additionally, instructors must provide students with an understanding of how integrity-related decisions are relevant to behavior in the classroom as well as outside the academic environment. Ultimately, an integrity solution that combines prevention and enforcement approaches to address future academic integrity issues.

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