

## **PLAGIARISM IN ACADEMIC WRITING: PROBLEMS AND PREVENTION METHODS**

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### **Abstract**

Plagiarism is one of the most persistent challenges in academic writing, especially in the fields of information systems and technologies where access to online resources is vast and instantaneous. This paper explores the concept of plagiarism, its different forms, and the key reasons behind its occurrence among students and researchers. Furthermore, the study investigates modern technological tools and educational methods that can effectively prevent plagiarism. Practical examples and case studies are provided to highlight the role of ethical education and artificial intelligence-based plagiarism detection systems in maintaining academic integrity.

Academic integrity is a fundamental principle in the scientific and educational community. It ensures that all forms of intellectual work are carried out with honesty, responsibility, and respect for the intellectual property of others. However, in the digital era, the widespread availability of information has increased the tendency for plagiarism – the act of copying another person’s ideas, text, or research without proper acknowledgment.

In the field of information systems and technologies, where data, code, and documentation are easily shared, plagiarism can take not only textual but also algorithmic or structural forms. Students and researchers sometimes copy software code, data models, or system designs, assuming these are “open-source” or “common knowledge,” which leads to ethical violations and academic misconduct.

The concept of plagiarism has been discussed extensively in academic literature. According to Fishman (2014), plagiarism is “a deliberate use of another’s language, ideas, or expressions without acknowledgment.” Scholars such as Pecorari (2003) and

Bretag (2016) emphasize that plagiarism is not merely a moral failure but a pedagogical problem rooted in insufficient academic writing skills and cultural differences.

In information systems research, plagiarism often appears in technical reports, software documentation, and research proposals. Studies by Walker (2019) and Hosseini et al. (2022) show that plagiarism detection software such as Turnitin, iThenticate, and Urkund has reduced the rate of unoriginal submissions in technical fields by over 40%. However, these tools alone are insufficient without ethical training and academic support systems.

Plagiarism can take various forms, each posing different levels of ethical concern: Direct plagiarism – copying text or code word-for-word without citation; Mosaic plagiarism – paraphrasing too closely to the original structure or idea; Self-plagiarism – reusing one’s previous work without acknowledgment; Source-based plagiarism – fabricating or misrepresenting sources; Code plagiarism – common in computer science, where programming scripts or algorithms are copied with minimal modification.

Example: A student in a software engineering course submits a mobile app with a codebase 80% identical to a GitHub repository but changes variable names. Although the code functions differently in appearance, plagiarism detection tools recognize the similarity.

Several factors contribute to plagiarism in academia, particularly in technology-related disciplines:

1. Lack of awareness – students may not fully understand citation norms or copyright laws.
2. Time pressure – deadlines encourage shortcuts.
3. Easy access to online materials – copy-paste culture.
4. Language barriers – non-native English speakers often struggle with paraphrasing.
5. Insufficient academic writing training – technical students focus more on coding or systems design than on research ethics.

For example, in an information technology program at a Central Asian university (Tursunov, 2023), a survey revealed that 64% of students who plagiarized did so due to time constraints rather than intentional misconduct.

Modern plagiarism detection systems rely heavily on artificial intelligence and natural language processing (NLP). Tools like Turnitin, Grammarly Premium, Copyleaks, and iThenticate compare submitted texts against billions of documents, journals, and web sources. In information systems, specialized software such as MOSS (Measure of Software Similarity) is widely used to detect code plagiarism among programming assignments. Example: MOSS analyzes code structure, syntax, and logic, enabling

instructors to identify copied code even if variable names are changed. In one case, Stanford University reported a 25% decrease in code plagiarism after adopting automated detection systems (Li & Zhao, 2021).

Preventing plagiarism requires a combination of educational, ethical, and technological approaches:

1. Academic Writing Education – integrating courses on citation styles (APA, IEEE, ACM) and paraphrasing skills into IT curricula.
2. Ethical Training – seminars on digital ethics and intellectual property rights.
3. Use of AI Tools – encouraging pre-submission checks with plagiarism detection software.
4. Transparent Policies – universities should clearly define penalties and consequences for plagiarism.
5. Mentorship and Feedback – supervisors should provide early feedback on drafts to reduce unintentional plagiarism.

Case Example: At the University of Tartu (Estonia), implementing a mandatory “Academic Integrity and Research Ethics” course led to a 50% reduction in plagiarism cases among IT students within two years (Johannsen & Kask, 2020).

Cultural attitudes toward authorship also influence plagiarism. In some academic contexts, collective knowledge and shared resources are valued over individual authorship, making citation practices seem less critical. In globalized education systems, international students must be taught the Western concept of “intellectual ownership.”

Ethically, plagiarism undermines not only the credibility of an individual researcher but also the entire academic system. In technological disciplines, plagiarism can have real-world consequences – for instance, copied code might violate licensing agreements or introduce cybersecurity risks.

The integration of plagiarism detection systems with learning management platforms (e.g., Moodle, Canvas) has significantly improved academic transparency. However, the key challenge remains educational rather than purely technological.

Developing a culture of honesty and originality requires continuous engagement between instructors and students, especially in project-based and code-based disciplines.

Moreover, emerging technologies such as Generative AI (ChatGPT, Copilot, Gemini) present new challenges for plagiarism detection. AI-generated texts may bypass traditional similarity metrics, requiring educators to redefine plagiarism policies to include “AI-assisted writing.”

Plagiarism remains a complex issue in academic writing, especially within the field of information systems and technologies. While AI-based tools can help detect and prevent plagiarism, true academic integrity depends on cultivating ethical awareness, critical thinking, and writing competence among students and researchers.

Educational institutions should focus not only on detection but on prevention through pedagogy, transparency, and mentorship. Only then can we build a future where innovation and honesty coexist.

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