Problems of Maintaining Academic Integrity in Online Learning for University Students

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Abstract: Academic integrity is a fundamental principle that must be upheld in the educational environment, including digital learning formats. The transition to online education introduces specific challenges that require adapted solutions. One of the key methods to prevent plagiarism and other forms of academic misconduct is the application of modern technologies. Despite the significance of the educational process, many students resort to dishonest practices due to reasons such as fear of failure, time constraints, and the desire for high grades. To effectively address this issue, it is necessary to improve the quality of teaching, optimize the volume of assignments and tests, and actively implement technologies for detecting academic misconduct. Only a comprehensive approach will create conditions where academic integrity becomes a natural element of educational culture.

1 INTRODUCTION

The digitalization of the educational process plays a key role in modern universities, providing a rich toolkit for improving the quality of education and expanding access to educational resources (Borovkova, Krasnov, Nikolaeva, Grigoreva, 2022; Grigoreva, Borovkova, Grigoriev, Akimova, Aleksandrova, 2024; Tomczyk, Eger, 2020). However, academic integrity in online learning faces several challenges due to the specific characteristics of the digital environment. The main issues include plagiarism, cheating during exams, identity fraud, improper student collaboration, and other forms of academic misconduct.

Plagiarism has become more widespread in online learning due to the ease of access to various sources of information. Students can easily copy and paste text from internet resources or use the work of other students (Spasennikov, 2024). The key reasons for this phenomenon are the availability of internet resources that provide vast amounts of information, which can be easily misused (Melentiev, Gerasimova, Nikitina, Fadeeva, Dalbaraev, 2023). In addition, students' lack of proper citation skills or misunderstanding of its importance also contributes to plagiarism. Another significant factor is the pressure caused by heavy academic workloads and tight deadlines, which pushes students toward easier, but dishonest, solutions (Antonova, Shcherbakova, 2024).

Cheating during online exams poses a serious threat to academic integrity. The remote format gives students more opportunities to use dishonest methods. The main types of cheating include the use of prohibited materials, enlisting third-party help, using technologies to bypass proctoring systems, and identity fraud.

The use of unauthorized materials and illegal sources of information has become one of the most

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common forms of cheating. Students may have access to study materials, internet resources, notes, or e-textbooks during exams. For example, they may open web pages to search for answers or use traditional cheat sheets. The ease of access to information on the internet significantly simplifies this form of cheating, as students do not need to leave their workstations to obtain the necessary data (Golovina, Aleksandrova, 2024).

Third-party assistance is also widespread among students. In this case, they may turn to friends, relatives, or even professional services for help in completing exam tasks. For instance, someone off-screen may help answer questions, or students might use online platforms to find experts willing to complete assignments for them. This method becomes especially problematic as modern technologies make it easy to organize such help schemes, including video calls and chat messages.

The use of technology to deceive represents a more sophisticated form of cheating. Here, students employ various technical means to bypass proctoring systems and gain an unfair advantage. Examples include using a second monitor to display answers, hidden earbuds for receiving hints, or remote access software that allows others to control the student's computer. These technologies can be quite difficult to detect without the use of specialized equipment and software.

Identity fraud is one of the key problems in distance learning. Due to the complexity of verifying identity in a digital environment, there is a risk that assignments and exams may be completed by unregistered students. The anonymity of online platforms facilitates the concealment of true identities, making it difficult for instructors to identify students, as online courses lack the direct personal interaction typical of traditional educational settings (Prokofiev, 2024).

Cooperation among students when completing individual assignments also violates academic standards. Students may work in groups on assignments originally intended for independent completion, leading to a breach of academic integrity. Modern communication tools such as messaging apps and social media greatly facilitate information exchange between students (Borovkova, Krasnov, Nikolaeva, Grigoreva, 2022). Additionally, the desire to help friends often motivates students to collaborate, even though they may not realize that this violates academic integrity rules (Spasennikov, 2024).

The use of pre-made solutions is another common problem. Students can find already completed assignments, essays, or solutions to problems in open sources or on specialized online platforms. The appeal of this approach lies in the accessibility of many resources online and the financial ability to purchase pre-made work or outsource assignments (Dondup, Surkov, Lazaryan, 2023).

Thus, ensuring academic integrity in the digital educational space requires a comprehensive approach. It is necessary to implement technological solutions such as plagiarism detection systems and proctoring tools, as well as develop programs aimed at educating students on the importance of academic honesty and proper citation methods. Clearly defined policies and procedures that support integrity in the educational environment play an important role in this process (Hu, 2024).

To combat this issue, comprehensive measures must be applied, including the introduction of advanced proctoring systems, the development of educational programs on academic integrity, and the creation of conditions that minimize opportunities for cheating. Modern proctoring systems may include video monitoring, screen activity tracking, sound and movement analysis, allowing instructors to observe the exam process in real-time and detect suspicious activities. It is also important to use specialized software that analyzes student behavior during exams, identifying atypical actions such as rapid eye movements or frequent window switching.

Creating an environment that promotes academic integrity requires clearly articulating rules and expectations regarding honesty and conducting educational activities on this topic. Students must understand the consequences of dishonest behavior and the importance of adhering to principles of integrity (Golovina, Aleksandrova, 2024).

Additional measures may include multi-factor authentication, the use of identity verification methods such as biometric data or two-factor authentication, and the introduction of various forms of assessment such as oral exams, projects, essays, and group tasks that are more difficult to falsify or complete dishonestly.

Cheating during online exams poses a serious threat to academic integrity and education quality. To combat this problem, it is essential to implement a comprehensive combination of technological and organizational measures. The use of advanced proctoring systems, the development of educational programs on academic integrity, and the creation of conditions that minimize the possibility of cheating are crucial. Only through these means can fairness and objectivity in student assessments be ensured in the context of distance learning (Hu, 2024).

2 RESEARCH METHODS

The following methods were employed to study academic integrity in online learning:

1. Literature Review: A thorough examination of existing scholarly literature on academic integrity in online education, including academic articles, monographs, dissertations, and reports, was conducted to understand current trends, identify major challenges, and review proposed solutions.
2. Surveys: A questionnaire was designed and administered to students to gather data on their perceptions and experiences within the educational process. The survey included questions about the frequency of various forms of cheating, the reasons behind students' dishonest behaviors, and the effectiveness of current measures to combat academic misconduct.
3. Interviews with Students: Interviews were conducted to gain deeper insights into the issues surrounding academic integrity. These interviews provided personal accounts of participants' experiences, their opinions on the causes and consequences of cheating, and their suggestions for improving the situation.
4. Analysis of Modern Technologies: A review of contemporary technologies offering solutions for monitoring online exams, such as proctoring systems like ProctorU or Respondus, was performed to evaluate their potential in enhancing academic integrity.
5. Statistical Analysis: Data collection and statistical analysis of incidents of academic misconduct, its causes, and consequences were performed to identify trends and patterns. This also allowed for the evaluation of the effectiveness of various anti-cheating measures based on quantitative data. Statistical analysis software (SPSS) was used to identify significant differences and correlations.

3 RESULTS

The study on academic integrity in the context of digital learning revealed various aspects related to students' attitudes toward the learning process, their behavior during online exams, and their perception of dishonest practices. A survey conducted among students of different age groups, faculties, and years of study provided extensive data for analysis.

A total of 403 students participated in the survey, with the majority (355) in the 18-21 age group. The 22-25 age group accounted for 48 participants. The survey sample included significantly more women (277) compared to men (126).

Most respondents were from the medical faculty (220 students). Other participants came from the faculty of computer science and engineering (142), the faculty of applied mathematics, physics, and information technology (61), and the faculty of construction (17).

The distribution by academic year was as follows: 89 first-year students, 61 second-year students, 13 third-year students, 97 fourth-year students, and 143 students in their fifth year or above.

All surveyed students (403) use digital platforms for learning, such as Moodle, Coursera, Zoom, and others. Most of them (306) always participate in online lectures and seminars, while 97 students do so frequently.

The difficulty of studying in an online format varies among students. 56 participants found it very difficult to cope with academic tasks, 133 found it difficult, 170 rated it as moderately challenging, 33 found it easy, and only 11 students said it was very easy.

Cheating on online exams is a widespread problem: 307 students admitted to using dishonest methods, while 96 participants reported never engaging in such behavior. The most popular forms of cheating included copying text from the internet without proper citation (266), using cheat sheets on mobile devices (275), and using a second monitor or device to search for answers (223). Buying pre-written assignments was also reported (46), although no one indicated using a third party to take an exam on their behalf.

The main reasons students cited for engaging in dishonest practices were fear of failure (281), lack of preparation time (215), and the desire to achieve high grades (204). Pressure from parents or instructors was mentioned by only 6 participants.

When asked whether they believe dishonest methods are justified, 307 students responded affirmatively, 45 said no, and 51 were unsure.

Students proposed various measures to reduce the use of dishonest methods. The most popular suggestions were reducing the number of assignments and exams (219), using plagiarism detection software (164), and improving the quality of teaching and materials (103). Increasing awareness of the consequences of cheating was supported by 93 participants, while stricter penalties for cheating were favored by 57.

Only 46 students expressed a willingness to abandon dishonest methods if support and resources for studying were improved. A majority (201) were

not willing to change their behavior, and 50 participants answered "maybe."

An overwhelming majority of students (376) considered gaining knowledge and skills during the learning process to be very important. For 23, it was important, and for 4, it was moderately important; none of the participants indicated that it was unimportant or not very important.

Regarding their willingness to uphold academic integrity, 59 students rated their commitment as very high, 40 rated it as high, 209 as moderate, 57 as low, and 38 as very low.

4 CONCLUSIONS

1. Academic integrity is a fundamental principle that must be upheld in educational institutions, including online courses. In the context of digital learning, unique challenges arise that require specialized solutions. One effective approach to combat plagiarism and other forms of academic dishonesty is the use of modern technologies. Tools for plagiarism detection, such as Text.ru, Antiplagiat Fox, Glavred, Turnitin, and Grammarly, play a key role in identifying unoriginal work. These platforms are capable of analyzing texts and comparing them with vast databases, allowing instructors to quickly and effectively detect plagiarism. Regular use of such tools helps maintain high academic integrity standards and prevent violations.

2. Developing clear academic integrity policies is another important step in combating cheating. Universities must establish clear rules and procedures regarding academic integrity and actively inform students about these policies. This includes creating codes of conduct, conducting informational campaigns, and regularly updating policies to address new challenges and technologies. Transparency and consistency in the application of these rules help create a culture of honesty and responsibility among students and faculty.

3. Educating students on ethics also plays a vital role in preventing academic dishonesty. Introducing courses on academic ethics and holding seminars can significantly increase students' awareness of the importance of upholding academic integrity. These educational programs should include discussions about the consequences of cheating for both individual students and the broader academic community. Instructors can use real-life examples and case studies to illustrate the negative impacts of violations, helping students better understand the importance of ethical behavior.

4. Student authentication in online courses is another key aspect of ensuring academic integrity. Authentication methods such as biometric data or two-factor authentication can help verify student identities and prevent identity fraud. These methods may include fingerprint scans, facial recognition, as well as the use of additional codes and passwords, making the identification process more reliable and harder to bypass.

5. Shifting to formative assessment represents a strategic change in the evaluation approach that can reduce the temptation to cheat. Formative assessment involves regular feedback and incremental task completion, which helps students focus on the learning process rather than solely on the final outcomes. This approach not only reduces pressure on students but also promotes a deeper understanding and retention of the material. Instructors can employ various assessment methods, including projects, essays, group assignments, and oral exams, making the learning process more diverse and less prone to cheating.

6. Modern technologies also offer solutions for monitoring online exams. Proctoring systems like Proctoredu.ru, Softline.ru, ProctorU, and Respondus provide real-time monitoring of students using video cameras and special algorithms to detect suspicious behavior. These systems can track any violations, such as the use of unauthorized materials or the presence of third parties, which helps maintain a high level of academic integrity.

7. In conclusion, ensuring academic integrity in online learning requires a comprehensive approach, including the use of modern technologies, the development of clear policies, ethics education for students, identity authentication, and a shift to formative assessment. Only by combining all of these measures can we effectively address the challenges associated with digital learning and create conditions where academic integrity becomes an integral part of the educational process. It is crucial for educational institutions to continue refining their methods and adapting to the rapidly changing digital landscape to ensure fairness and quality education for all students.

5 CONCLUSION

Academic integrity in online learning is a complex issue that requires the attention of all participants in the educational process. Instructors, students, and university administrations must work together to foster a culture of academic honesty and implement effective measures to prevent cheating. The

integration of technological solutions, educational programs, and clear policies can significantly improve the situation and ensure a fair and honest educational environment.

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