



Policy Review: Academic Cheating in Online Examinations during the COVID-19 Pandemic

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Authors' contributions

This work was carried out in collaboration between both authors. Author TYL wrote the protocol and wrote the first draft of the manuscript. Author IA managed the literature searches. Both authors read and approved the final manuscript.

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ABSTRACT

With the liberalization policies towards the COVID-19 pandemic in various countries, in-person teaching is the mainstream currently. Many countries are more open to their border and quarantine/isolation requirements; however, this does not mean the contagious virus is gone. Various variants are still a threat to people's health. Online teaching has its essential to students. Our observation was based on the almost three-year pandemic experience towards the widely used online teaching, especially on academic cheating behaviors during examinations. We found that the online teaching during the COVID-19 pandemic facilitated students to obtain high scores through improper cheating in online examinations. Academic faculty faces a big challenge when they try to use new technologies to protect the integrity of online exams because students can develop new strategies for cheating. They not only surf the internet to find the correct answers but also get help from peers and experts. Cheating prevents students from gaining essential skills and knowledge. It is unfair to honest students who

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spend time and effort studying course materials. In this article, we explored the common ways of cheating on online exams. We also provided recommendations to prevent academic misconduct in the digital environment.

Keywords: Academic; online teaching; cheating; university students.

1. INTRODUCTION

With the advent of the internet, many things that used to be impossible have become commonplace. One example of this seen worldwide recently was the use of this technology to help us continue working and studying from home during the COVID-19 pandemic. Remote/Distance learning is not a new trend; many educational institutions have used it since before the pandemic. Various universities offer online higher education programs; some have an in-person class component, whereas others are entirely online [1]. Due to the COVID-19 pandemic, numerous countries and territories worldwide have implemented lockdown restrictions to reduce the spread of the unprecedented contagious virus since March 2020. Almost all universities in Ontario practiced a fully online mode of study when the government announced the lockdown strategies [2].

Many Canadian universities resumed in-person teaching in the Spring/Summer semester of 2022 after the government and public health authorities adjusted their vaccination and mask policies. However, due to more extensive COVID-19 infections in other countries, policies can change very quickly. The government may reintroduce the COVID-19 measures and requirements in the future. Therefore, some universities preferred using blended or hybrid teaching during this uncertain period [3]. Although face-to-face classroom learning is the primary learning style for students, online learning still has its necessity.

Online learning has benefits, such as saving commute time and a more flexible study schedule if the course is asynchronous. However, technological advances also bring new concerns to them. Many students complain that studying online makes them feel isolated and lonely, and it is harder to ask questions during online classes than before. Besides, academic integrity is another concern for university faculty. An American study explored cheating behaviors on examinations with 840 students from different college campuses and found that 32 % of them

cheated in any way on an exam [4]. Moreover, incidents of cheating have been on the rise during the pandemic. A Canadian university reported that cheating doubled during the 2019-2020 academic year, significantly higher than in the 2018-2019 academic year [5].

Cheating can be defined as the “unauthorized use of information, materials, devices, sources or practices in completing academic activities [6]”. The scope can include copying from another student during an examination, asking another student for the answers to an examination question, paying another person to write an exam, exchanging information from others, using prohibited materials during an exam, or engaging in any behavior expressly prohibited by a faculty member in the course syllabus or class discussion [6]. The online examination environment makes it much easier for students to share exam materials with one another or search information from the Internet.

Academic cheating is a serious problem. It is unfair for those students who spend time and effort studying but earn similar or lower scores than those who cheat. Several researches indicated that the factors for dishonest practices include the availability of resources online, pressures associated with academic performance, and the understanding of university policy regarding academic conduct [7]. In addition, individual gender, personality, and cultural background contribute to students' cheating and plagiarism [8,9]. Limited publications focus on this area; therefore, this article aims to report our observations and recommendations based on the more-than-two-year experience of using online academic assessments.

2. ONLINE EXAMINATIONS: OBSERVATION AND DISCUSSION

The following finding and discussion were based on our observation and experience in the classroom and online teaching during this pandemic. It is not comprehensive but provides useful advice that will help academic faculty to prevent cheating on online exams.

2.1 The Length of an Examination

A standard method of cheating during online assessments was to look up the correct answer on the Internet. Although cheating on an examination has risks, research has found that if participants wanted to earn high grades and had a chance to cheat, they cheated no matter the stakes [10-12]. The best method to prevent this cheating is to limit the time given to do the test. Studies by Iranian and other researchers [13-15] stated that the strict assessment time limit played an essential role in maintaining academic integrity when looking at the online open book assessments, which had tight time restrictions compared to the take-home assessment that allowed more time for a Medical Radiation Science course. Our observations showed similar results.

Before the pandemic, we gave students 1.5 minutes per question for multiple-choice questions. During the pandemic, we shortened the ratio to 1 minute per question; however, we found that students' performance was more outstanding than previous students taking the same course/questions. We then changed the format to short-answer questions. Contrary to expectations, we found that students did well for this question format; some even earned 100% for short-answer questions, which was a curious outcome that should be further explored. Was it because of the way of teaching or learning (online vs. classroom) since the students could concentrate more on studying due to the lockdown in place?

Online cheating did not just emerge during this pandemic. Before the pandemic, Stephens and colleague [16] mentioned several digital cheating behaviors, including using electronic crib notes (stored in a personal digital assistant, phone, or calculator) to cheat on a test or exam. Alternatively, using digital technology (such as text messaging) to get unpermitted help from someone during a test or exam. The advancement of technologies and social media make cheating more evolutionary. Recently, Subin [17] reported that a college in London found a significant increase in questions and answers posted to a homework help website at the beginning of the pandemic in 2020. Although teachers said there was not enough evidence to show Covid cheating was severe, an American-based university found that the sheer number of students finishing complex exam questions in less than a minute with help from the same website was sufficient proof of the matter [16].

2.2 Ways to Present Online Examination Questions

We observed that the questions presented can also contribute to students' cheating behaviors. When using online examinations with the same order for each student, the majority got more than 80% correct answers. However, using the same examination questions but randomly assigning the questions for each student (so that each student attempted a different question at one given time) and shuffling the answers within questions (so the order of the answer options was different for each student), caused the correct answer rate to drop dramatically. We suspect our students might have the same cheating behaviors described in studies by Stephens et al. [16] and Subin [17]. Furthermore, students could do a quick Google search to get answers to any question, especially if the questions are theoretical such as describing the definition of a term. For example, in the midterm examination of a research course, the question asked, "Which of the following is a threat to internal validity?" By browsing the internet for the keyword of internal validity on a separate device or web page, it is easy to find all the threats to internal validity. The whole process of looking up the correct answer may take only a few seconds.

This also brings us to the issue of time. Time is one of the factors that can allow students to cheat. In online un-proctored exams, exams become an open book. If we continue to give more than the required time to complete an exam, students will have an opportunity to communicate with each other and find the answers. The resulting grade inflation is evident in prospective students who are applying for admission to various university programs. There is a significant increase in grades attained between May 2020 to April 2022 [18,19]. It is especially startling when in case after case, prospective students have a grade average of B before the pandemic and a grade average of A or higher after the pandemic. Some students with inflated grades are being accepted into professional programs, and it will be interesting to observe their progress over the next few years.

2.3 The Use of Technology to Monitor Students during an Examination

According to a report by Protocotrack [5], students not only used WhatsApp groups and conference calls but also created many other

ways to communicate during online exams since the start of the pandemic, such as multiple screens, various high-tech smart devices (Spy eyewear, invisible smartwatch, and micro earbuds) to help them cheat during online exams. Some even used Team Viewer to ask a third party to take control of their computer remotely to take an exam on their behalf [5].

A study by Mirza and Staples [1] used a Webcam to invigilate students' behaviors during an examination. They found that many participants felt uncomfortable being continuously monitored by a webcam while writing their online examination. They also found that 45% of the participants thought webcam invigilation was less effective than onsite invigilation in preventing cheating on online examinations. Interestingly, participants in the study expressed that there is always a possibility of cheating on any examination, including those with webcam invigilation [1].

Proctotrack was introduced to our university to be used in invigilating students during a remote examination; however, students had many complaints about its usage, and faculty also found it was hard to use. Nowadays, several other proctoring systems can track students' activities during an online exam, such as Honorlock, Respondus and ProctorU [1,20]. However, many students expressed that using the proctoring systems would aggregate their stress, especially when innocent behavior was misinterpreted as cheating. For example, eye movement detected as looking away from the screen could be interpreted as cheating. Besides, proctoring systems are not unbeatable; there are many creative ways to work around the systems. Students can place a phone on the desk or screen, fill notes on the computer keyboard, or write notes on their arms [20].

2.4 The Request for Academic Accommodations Increasing

Another observation we found during the COVID-19 pandemic was the increased request for academic accommodations. Accommodations can remove barriers faced by students with disabilities to promote their ability to fulfill the academic standards of their courses and participate fully in the learning environment [21]. Students can request extra reading, writing, and math time for tests or assignments. We found that the number of students who requested accommodation increased, and the amount of

accommodation was also higher. Many students requested a 100% increase in reading, writing, and math, which was not seen before the pandemic. For example, if an examination lasts 1.5 hours, those who requested 100% accommodation can have 3 hours to complete their examination. Due to confidentiality, we could not know the reasons for the accommodation because it is mainly determined by the counselor of the Student Accessibility Services. However, faculty can meet with the students and counselor to discuss further if they have any concerns.

3. CONCLUSION

Technological advancement has its flexibility and convenience; it makes online learning possible but also causes new problems, such as producing new cheating methods and strategies from students. In the current article, ways to promote and prevent students' cheating behaviors during the pandemic were illustrated.

Given that the pandemic is still a threat to our daily life, academic faculty must adopt efficient and successful ways and policies to manage the challenging online examination. Faculty need to be aware of the methods their students use for cheating and review the university's policies. Therefore, they can develop appropriate policies to maintain integrity in the digital environment.

4. RECOMMENDATIONS

Cheating for any student is a wrongful act. However, many students will cheat if they have a chance to do so. For nursing students, cheating is especially a severe misbehavior considering such behavior may affect their future nursing practice [1,22].

With the vaccine in place and the COVID-19 pandemic subsiding, many universities have gradually returned to campus, and in-person examinations have resumed. However, it is still necessary to research methods to effectively invigilate online tests in case of future lockdowns or other circumstances requiring online examinations. The following are our suggestions, and we hope this information can provide university faculty and educational institutions with helpful and practical strategies for invigilating online examinations.

- a. Time is one of the few tools that educators have at their disposal to ensure exam

integrity. Shorten the examination time, so there is not enough time to search for answers on the Internet or ask their friends. If the questions are multiple-choice, keeping the wording concise and simple and giving 45 - 75 seconds per question seems to maintain a balance between students having enough time to answer the question while not having too much time to look around or consult with others.

- b. If the exam is being administered online, it is useful to shuffle or select "randomize" option, as this would enable random sorting of questions and answers. This helps prevent test takers from being on the same question at the same time.
- c. Develop new questions. If existing questions are being used, the wording should be altered. For example, the question mentioned earlier could be "Which of the following is not a threat to internal validity?" Or changing a specific keyword to a more popular term; for example, "How will you make sure that research was done right?" Instead of using "internal validity." Students may need more time to determine the meaning of "done right." With the shortening time limit, only those who studied the course content could answer the question efficiently.
- d. Use proctoring systems. There are many pitfalls of using the systems, so this might pose a challenge to implement.
- e. Strict Accommodation policy. We need a more rigorous process to determine if students require extra time for exams and assignments. A simple note from a physician may be a good start but should not be the only criterium in determining what accommodations are needed.
- f. Respond appropriately when cheating occurs. Let students understand that dishonesty is never acceptable behaviours during any examinations. Teachers need to respond with consistency when enforcing policies.
- g. When possible, have an in-classroom examination to prevent cheating behaviours.
- h. If multiple sections are being taught, it would be ideal to administer the exam at the same time for all sections.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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