

Exploring Student Perspectives on Collaboration and Ethical Conduct in Online Exams: Insights from a Three-Year Survey

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ABSTRACT

CONTEXT

Online education has witnessed a rapid expansion in recent years, with online learning environments becoming very popular for academic assessments. While numerous studies have reported instances of academic misconduct in online settings, there has been limited research asking students directly about their perceptions and behaviours in this regard.

PURPOSE OR GOAL

The purpose of this study is to investigate and understand student perspectives on collaboration and ethical conduct in the context of online exams, with the overarching goal of informing educators and policymakers about the dynamics of online assessment environments. By investigating into students' attitudes towards collaboration and ethical behaviour in online exams, this study seeks to identify effective strategies for promoting academic integrity and fostering a culture of honesty and accountability in online learning settings.

METHODS

This study explored student perspectives through an extensive survey conducted over three years with 458 participants. The survey examined students' perspective in collaboration, perceived helpfulness of the assistance they received, their attitudes towards unethical behaviour, and their awareness of such behaviour among peers during online exams. A mixed-methods approach, incorporating both qualitative and quantitative analysis, was employed to analyse the results.

OUTCOMES

Most students self-reported that they do not engage in unethical behaviour. The majority also recognised that copying answers and providing false excuses for extensions are forms of cheating. However, ambiguity exists regarding the use of online resources during exams. Additionally, a notable minority viewed collaboration not as cheating, but as a form of reassurance and a normal practice in learning.

CONCLUSIONS/RECOMMENDATIONS/SUMMARY

The study emphasises the importance of updating institutional academic integrity policies and providing clearer guidelines on acceptable behaviours. Continuous research, education and communication are crucial for promoting academic integrity. By identifying students' motivations and needs, institutions can better support ethical academic practices and discourage misconduct.

KEYWORDS

Online Exams; Academic Integrity; Collaboration; Student Perspectives

Introduction

Over the past decades, technological advancements have enabled educational institutions to adopt online exams as a viable alternative to traditional in-person exams. Early adopters often used basic learning management systems with limited functionalities and inadequate security features, making it difficult to ensure exam integrity. Initially, the primary challenges of online exams were the reliability of internet connections and the availability of suitable platforms for administering assessments (Taşci et al., 2013). As technology advanced, the capabilities of online exam platforms improved significantly (Murugan et al., 2024). A key development in this evolution was the integration of proctoring technologies, including artificial intelligence (AI) and machine learning, which enabled more sophisticated proctoring capabilities such as behaviours analysis and pattern recognition (Hu et al., 2024; Jaisingh & Murugan, 2024).

While the transition to online assessments provided greater flexibility and accessibility for students (Newton, 2024), it posed challenges in maintaining academic integrity (Hu et al., 2024) and intensified the need for robust policies to prevent misconduct (Newton & Essex, 2024). The lack of in-person oversight in online exams makes it difficult to monitor behaviour, while varied student backgrounds lead to different interpretations of academic honesty (Amrane-Cooper et al., 2021). The online setting further facilitates misuse of technology, allowing easy access to unauthorised resources, peer communication, and devices for cheating (Eaton, 2022). Authentication is also a challenge, as identity verification during exams is difficult, and current proctoring technologies may not effectively detect all forms of cheating (Elhiny et al., 2023). Large-scale courses face further challenges with fair monitoring due to resource constraints, varying access to technology, and concerns about intrusive surveillance affecting student privacy (Jeffries et al., 2022). Exam systems are at risk of hacking, content manipulation, and student collusion via online communication (Mistry et al., 2022). Addressing these issues requires a comprehensive approach combining technology, policy, and assessment redesign to uphold academic integrity in online exams. While current research has laid the groundwork for understanding academic integrity issues, further exploration into student perspectives is needed. Understanding how students perceive and engage with academic integrity in online exams can inform strategies to promote ethical behaviours and ensure a fair academic environment.

This paper explores student perspectives on collaboration and ethical conduct in online exams, focusing on what students consider to be 'academic misconduct' using data from a survey conducted at the University of South Australia. Utilising the Theory of Planned Behavior (TPB), a tool for understanding and predicting human actions, this study aims to identify gaps in academic integrity policies and practices and suggest potential improvements. The key research questions guiding this study are: 1) How do students identify collaboration and ethical conduct during online exams? 2) What behaviours do students consider to constitute academic misconduct in the context of online exams? 3) How do students' motivations and behaviours influence their decision to collaborate during online exams?

Theoretical Framework

The Theory of Planned Behaviour (TPB), developed by Ajzen (1991), is a widely used model for predicting individuals' behavioural intentions and actions in specific contexts. This study employs TPB to understand student behaviour and perceptions of collaboration and ethical conduct in online exams. According to TPB, behaviour is driven by intentions, which are influenced by attitudes toward the behaviour, subjective norms (perceived social pressure), and perceived behavioural control.

Attitudes: Students' attitudes toward collaboration and ethical conduct significantly impact their intentions to engage in these behaviours. If students view collaboration as beneficial or justify academic misconduct under certain circumstances, they are more likely to engage in these behaviours. This study assesses students' attitudes by examining their perceptions of the ethicality and effectiveness of collaboration during online exams.

Subjective norms: The perceived social pressure to perform or not perform a behaviour, influenced by peers, instructors, and institutional culture, shapes students' perceptions of acceptable behaviour. This study measures subjective norms by exploring students' beliefs about the prevalence and acceptability of collaboration and academic misconduct among their peers.

Perceived behavioural control: Perceived behavioural control refers to the individual's perception of their ability to perform a particular behaviour, considering factors such as available resources and perceived barriers. This study examines whether students feel they can easily collaborate during online exams, taking into account aspects like the online exam format, perceived ease of collaborating, and perceived monitoring and enforcement of rules.

Methodology

A survey was designed to gather data anonymously from willing participants during 2020, 2021, and 2022 at the University of South Australia. The target participants included undergraduate and postgraduate students enrolled in STEM programs. The survey was distributed to approximately 7,000 students across 65-degree programs within the STEM discipline over the three years. The survey aimed to include a diverse sample representing different years of study, age groups, and experience levels with online exams. The survey was administered online through the university's email system. The survey was open for a period of four weeks each year.

The survey consisted of several sections to address each research questions. This include: a) Demographic information (age, degree program, and number of proctored and non-proctored online exams completed), b) Perceptions of collaboration and unethical conduct (multiple-choice and Likert scale questions to gauge students' views on collaboration and ethical behaviour), c) Behaviours considered as academic misconduct (multiple-choice questions to identify behaviours students consider as academic misconduct, with follow-up open-ended questions to explore their reasoning), d) Impact of collaboration on performance (Likert scale questions, and open-ended questions to assess whether students found collaboration during online exams useful for improving their performance, and e) General feedback (an open-ended question to allow students to share additional thoughts and experiences).

Data analysis

Quantitative Analysis: Quantitative data were analysed using descriptive statistics. Percentages were calculated for multiple-choice and Likert scale questions to summarise students' perceptions, and behaviours.

Qualitative Analysis: Qualitative data from open-ended questions were analysed using 3-step thematic analysis, using Braun & Clarke (2014) method: 1) Coding: Where responses were systematically coded to identify key themes and patterns. Each response was reviewed, and recurring concepts were assigned specific codes; 2) Theme Development: Where codes were grouped into broader themes that encapsulated common ideas and insights. These themes were refined through iterative review and discussion; 3) Comparison: Where identified themes were compared to highlight gaps and areas for improvement in academic integrity policies.

Qualitative findings were then compared with quantitative results to provide a comprehensive understanding of student perceptions and behaviours.

Results and Discussion

To address the first research question and assess the frequency of unethical behaviour and student collaboration, two survey questions were used. Participants were first asked, "*Are you aware of anyone, including yourself, who has demonstrated unethical behaviour during online exams?*". Based on 458 responses, 90% of the participants responded with "No." This high percentage suggests that either unethical behaviour is not as prevalent as might be assumed, or that students are reluctant to admit such behaviour even in an anonymous survey. This is a

common issue in self-reported data on sensitive topics like academic misconduct. Then a related question was posed: "Do you or your peers collaborate with someone to help you complete an online exam?" In response, 88% of the same participants indicated that they never collaborate with others during online exams. This result indicates that the majority of students stand by their claim for not engaging in 'unethical behaviour', however, there was a 2% discrepancy. The 2% of students who admitted to collaborating with someone but did not believe this as 'unethical behaviour' indicates that some students do not view collaboration as a misconduct. This suggests that all students may not fully understand what constitutes unethical behaviour in online exams. This could reflect a need for clearer guidelines and education about what constitutes academic misconduct in the context of online exams.

What constitute of 'unethical behaviour' for student?

The second research question was to determine if participants understood what constitutes 'unethical behaviour'. As shown in Figure 1, the results were revealed that a 90% of participants identified 'copying someone else's answer' as academic misconduct. This high agreement suggests that students recognise this traditional form of cheating as unethical. About 78% of participants considered 'coming up with a false excuse to get more time' as academic misconduct. While still a significant majority, this lower percentage compared to copying answers indicates less consensus, possibly due to varying experiences or perceived severity. Only 45% of participants believed that using online applications such as search engines and online programs during exams constitutes a misconduct. This highlights a substantial gap in the understanding of what is permissible during online assessments.

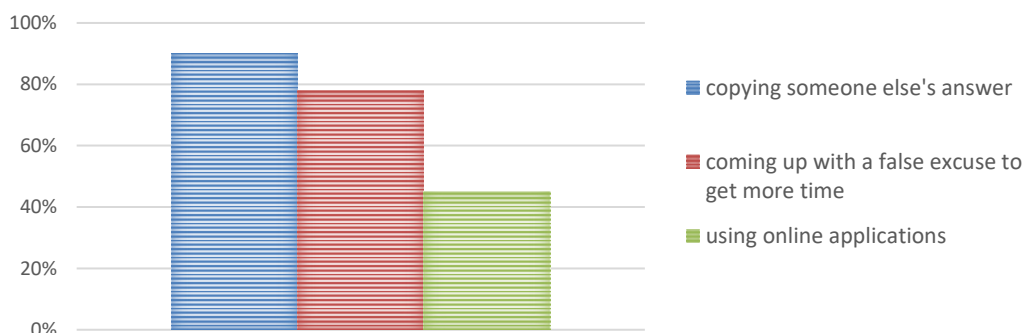


Figure 1: Students' understanding of unethical behaviour.

To gain deeper insights into student behaviour, we reframed the question and asked participants, 'what resources did you access to help complete online exams?'. As shown in Figure 2, a 42% of students admitted to using general internet searches. This behaviour, combined with the earlier finding indicates that nearly half of the participants do not believe 'general internet searches' as a misconduct. This indicates confusion or leniency towards the use of digital tools. An 8% of students admitted to discussing exam questions with a friend, indicating that direct collaboration, though not widespread, still occurs.

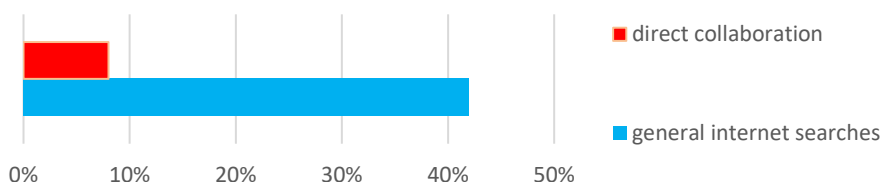


Figure 2: Resources used during online exams.

These findings indicate the mixed understanding and behaviours of students regarding academic integrity in online exams.

Perceived usefulness of collaboration / misconduct during Online Exams:

To address the third research question, participants who admitted to collaborating during an exam (i.e. 8% of the total participants) were asked, 'when you received help from someone during an online exam, how helpful were they in assisting you to do better?' The responses provided further understanding of the effectiveness and impact of such collaborations. As illustrated in Figure 3, only a small percentage, a 7% of students found the help they received to be 'very helpful'. This suggests that while some collaborations may significantly improve performance, they are relatively rare. A modest percentage (13%) of students found the assistance 'moderately helpful'. These students likely received some benefit, but it was not substantial enough to make a significant difference in their exam performance. Nearly half of the respondents (47%) indicated that the help they received was only 'slightly helpful'. This suggests that while collaboration may provide some minor advantages, it often does not lead to a significant improvement in exam outcomes. Over a quarter of the students (27%) found the assistance they received to be not helpful at all. This indicates that in many cases, collaboration does not contribute positively to exam performance.

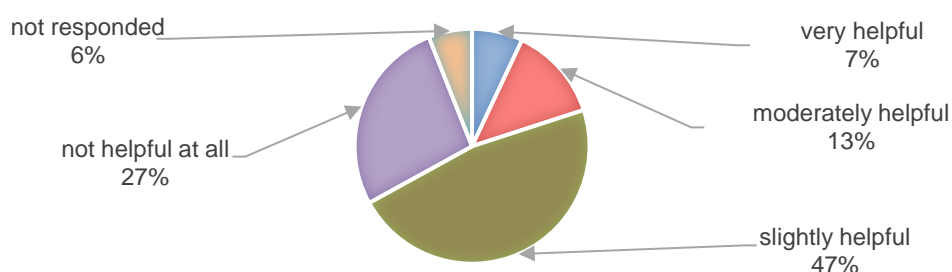


Figure 3: Perceived usefulness of collaboration/misconduct during online exams.

The quantitative analysis indicates limited effectiveness of collaboration. To gain a deeper understanding of why students choose to collaborate, they were posed a question, 'please comment on why you collaborate when doing online exams?' The qualitative responses received provided valuable context to the quantitative findings and revealed the motivations behind this behaviour and the reasons for limited usefulness of the collaboration. They reported that the assistance received through collaboration was often irrelevant or incorrect, and there were difficulties in communicating effectively during an exam. Despite this, students perceived collaboration as a safety net, offering some degree of comfort even if it did not lead to substantial academic benefits. Those who found collaboration slightly or moderately helpful mainly used it to reduce anxiety rather than to improve performance. The negative effect of collaboration was due to miscommunication or misunderstanding of the exam content. Therefore, students should be made aware that unauthorised collaboration is not only unethical but also often unproductive.

Below are some of the key themes and representative quotes from qualitative analysis.

Theme 1: Knowledge exchange:

It's good to discuss what we know about the questions and how we would answer them, as some of the exam might be unknown to some of the people and we can help each other out in that way by explaining how to do it.

Twenty comments indicate a desire for mutual support and knowledge sharing among students. Collaboration is seen as a way to fill gaps in understanding and ensure that all peer groups can handle the exam questions effectively.

Theme 2: Team based learning practices:

We worked in teams of two to complete our practical demonstrations this year.

My course require[d] collaboration in all sectors, so why not in an exam. Typically in the construction industry, you are rarely required to work by yourself. Therefore, I believe it is good to problem solve together, regardless of the 'task'.

Twelve comments highlighted that structured collaboration is essential to both coursework and industry practices. Team-based assignments can normalise this practice, potentially leading students to carry it into exams. Institutions must clearly distinguish acceptable collaboration in coursework from exam misconduct, as exams assess individual knowledge, problem-solving, and mastery under controlled conditions to ensure fairness. While collaboration enhances learning during coursework, applying it in exams compromises the authenticity of the assessment process by misleading the measurement of individual capabilities (Dahl & Kolmos, 2015). Further research is needed to explore why it is crucial to maintain this distinction and how institutions can better outline these boundaries to prevent the misapplication of collaborative practices in exams.

Theme 3: Reassurance and guidance:

Because of the extreme fear and anxiety caused by this method of examination.

Mainly just a sense of comfort knowing someone can possibly assist even if they are not helpful at all.

Eighteen students have sought reassurance and clarity on concepts from their peers. This highlights the role of collaboration in reducing anxiety and providing confidence, especially when students face challenging or unclear questions. This highlights the importance of providing adequate support and resources so that students feel prepared and confident without resorting to unethical collaboration.

Theme 4: Resource utilisation:

I believe it's a gift when you do an online exam as I can check out any materials, Google, classmate help on difficulties[,] which are very helpful.

This theme included 15 comments highlighting the perceived advantage of online exams regarding resource accessibility. Students view the ability to use various resources, including help from classmates, as a significant benefit of the online format.

The thematic analysis revealed a range of perspectives on collaboration in online exams. Some students expressed confusion over the boundaries between collaboration and misconduct. While the university policies strictly prohibit collaboration during the exams, some students often see working with peers during online exams as a form of support rather than misconduct. Additionally, there is a notable misunderstanding about the use of online resources. Some students believe accessing online materials is acceptable if they are not explicitly prohibited, indicating a gap in policy communication.

The findings are organised around the TPB's three main components:

Attitudes toward collaboration and ethical conduct: Students' attitudes emerged as a significant predictor of their intentions to engage in collaboration during online exams. Those who viewed collaboration as beneficial justified it under certain conditions (e.g. support peers) were more likely to engage in such behaviour. A small proportion of students perceived collaboration as an effective strategy for improving exam performance, even when it breached exam rules, suggesting that positive attitudes toward the perceived benefits of collaboration are linked to a higher likelihood of engaging in this behaviour.

Subjective norms and social influences: The results indicated that subjective norms strongly influenced students' intentions to collaborate. Students who perceived that their peers were collaborating or engaging in academic misconduct were more likely to justify and engage in similar behaviours. Additionally, the perceived lack of emphasis on academic integrity in some online exams further contributed to the normalisation of collaboration and fake excuses during online exams.

Perceived behavioural control over misconduct: Perceived behavioural control was found to be a factor in whether students felt capable of collaborating during online exams. Those who perceived fewer barriers to collaborating (e.g., minimal monitoring during exams or ease of sharing information online) demonstrated a higher intention to engage in collaborative behaviours. This suggests that the perceived ease or difficulty of engaging in the behaviour has a strong impact on students' decision to collaborate during online exams.

Overall, the results indicate that students' attitudes toward collaboration, their perceptions of peer and institutional norms, and their perceived control over the ability to collaborate, all significantly influence their behaviour and intentions during online exams. Institutions aiming to reduce misconduct should consider addressing each of these components. Strategies may include fostering a culture that emphasises the ethical implications of collaboration (attitudes), promoting positive peer influences and clear standards of conduct (subjective norms), and ensuring robust exam protocols that reduce opportunities and perceived ease of misconduct (perceived behavioural control). Research shows that understanding student collaboration motives helps universities develop strategies that uphold academic integrity while supporting student success. (Sholikhah et al., 2024). Universities should reinforce the importance of independent work and self-reliance in online exams. Clear communication about the limited benefits and potential pitfalls of unauthorised collaboration can help students understand why it is discouraged. Offering robust support resources, such as tutoring, study groups, and preparatory materials, can reduce the perceived need for unauthorised help (Conway-Klaassen & Keil, 2010). Students should be encouraged to utilise these resources before exams. Institutions should also provide training on effective study strategies and time management, helping students to prepare more efficiently and reduce the temptation to seek help during exams (Conway-Klaassen & Keil, 2010; Hamrick et al., 2019). Continuous education on academic integrity, including the consequences of misconduct and the ethical implications of collaboration, can help cultivate a culture of honesty and fairness.

Recommendations

To bridge the understanding gap and ensure students have a clear and comprehensive grasp of what constitutes unethical behaviour, the following steps are recommended:

- a) Enhanced policy communication through clear definitions and communication: Institutions should ensure that their academic integrity policies explicitly cover the use of online tools and digital resources during exams (Noorbehbahani et al., 2022). This can be achieved through detailed guidelines, FAQs, and illustrative examples of both acceptable and unacceptable behaviours. This study found that behaviours like 'copying answers' are clearly defined and communicated in university policy. However, the lower agreement on the 'use of online applications' and 'making false excuses' indicates a need for clearer guidelines and well-defined penalties.
- b) Regular training to change norms: Universities should conduct regular workshops and training sessions focused on academic integrity (Conway-Klaassen & Keil, 2010). These sessions should not only cover traditional forms of cheating but also address the ethical use of technology and online resources. These training modules can include scenarios and quizzes to test students' understanding of academic misconduct, especially in the context of online assessments (Garg & Goel, 2022). The confusion around the use of online tools might be due to the rapidly changing technological landscape and the increasing integration of digital resources in education. Students might not view the use of search engines or generative AI tools as unethical, especially if these tools are commonly used in their learning process outside of exams.
- c) Anonymous reporting systems and Feedback: Institutions should seek regular feedback from students about their understanding of academic integrity policies and continuously update and improve their communication strategies based on this feedback. Implementing systems that allow students to anonymously report observed misconduct without fear of consequences can help institutions better understand the prevalence of unethical behaviour and address it more effectively.

d) Clear exam instructions: During online exams, clear instructions should be provided about what is allowed and what is not. For example, if the use of search engines or certain online tools are prohibited, this should be stated explicitly at the start of the exam.

Limitations of the study

While the survey and analysis provide valuable insights into student perspectives on academic integrity in online exams, several limitations must be acknowledged: 1) The survey relied on self-reported data, which can be influenced by social desirability bias. Despite assurances of anonymity, some students may still fear repercussions or distrust the anonymity of the survey, leading to underreporting of unethical behaviours or overreporting adherence to academic integrity. 2) The survey was conducted at the University of South Australia, and while it included a diverse sample of students from various disciplines and academic levels, the findings may not be fully generalisable to other universities locally or internationally. 3) Students might have different interpretations of what constitutes 'unethical behaviour' and 'collaboration'. Without a standard definition provided in the survey, responses could vary based on individual understanding, potentially skewing the results. 4) The survey focused on specific behaviours (e.g. collaboration, using online materials and giving false excuses) and did not cover all possible forms of academic misconduct. Other unethical behaviours, such as contract cheating (Lancaster & Cotarlan, 2021), or unauthorised use of technology (e.g. cheating websites such as Chegg) might also be prevalent but were not addressed in this study.

Conclusion

The findings of this study reveal a complex landscape of student behaviour and perceptions regarding academic integrity in online exams. While the majority of students report adherence to ethical standards, a notable minority admit to behaviours such as collaboration and the use of online resources, which they may not perceive as misconduct. A significant ambiguity exists surrounding the use of general internet searches. Students recognise traditional forms of cheating, such as copying answers, but are less clear about the ethical boundaries involving newer forms of misconduct, such as using online tools.

This study suggests a need for universities to continuously review and update their academic integrity policies to reflect the changing technological landscape. They must also provide more comprehensive education on what constitutes academic misconduct. Enhanced policy communication, regular workshops, and targeted educational interventions that clearly define acceptable and unacceptable behaviours during online exams are essential. Clear communication about the limited benefits and potential pitfalls of unauthorised collaboration can help students understand why academic misconduct is discouraged.

Other institutions can learn from this study by recognising the importance of continuous education and communication in promoting academic integrity. By understanding the motivations behind student collaboration and addressing underlying needs, universities can develop strategies that support academic integrity while providing the necessary support for student success. Ensuring academic integrity is a shared responsibility that requires ongoing effort, adaptation, and clear communication to keep pace with evolving educational technologies.

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Ethics Approval

This research was approved by the Human Ethic Committee, University of South Australia under reference number 203560.

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