

Research Paper



Alternative assessment practices in higher education during the COVID-19 pandemic

Shahriar Kaisar^{*✉}

^{*}Department of Information Systems and Business Analytics, RMIT University Australia.

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ABSTRACT

The COVID-19 pandemic has significantly disrupted many aspects of life including education and assessment practices in the higher education sectors. Universities worldwide had to adopt new assessment technologies as COVID-19-related restrictions made it impossible to conduct invigilated exams. Therefore, academics had to change their assessment styles, types, and formats to match the new normal. Although online education is a well-established domain where remote assessments are the usual practice, such a sudden shift made it extremely difficult to manage this within such short notice. Alternative assessments, such as online assessments, open-book exams, timed assessments, and online exams, were used as a replacement for traditional face-to-face exams. However, careful consideration and planning were necessary to ensure effectiveness, fairness, and prevention of academic misconduct. This paper examines alternative assessment practices used in different parts of the world, the historical context of invigilated exams, and the impacts of this sudden shift on academics and teaching pedagogy. Additionally, the paper provides recommended strategies to help academics plan assessment design as multi-mode delivery (i.e., hybrid approach offering both in-person and online options concurrently) and assessment practices are likely to continue in the post-COVID world. Moving forward, universities must adapt to the changing assessment practices brought about by the pandemic and develop strategies to ensure academic integrity and fair assessment practices. This includes designing assessments that are appropriate for remote delivery, incorporating new assessment technologies, and ensuring that assessments are fair and secure. Furthermore, universities must continue to explore and develop new assessment practices that meet the needs of their students in the changing landscape of higher education.

Corresponding Author:

Shahriar Kaisar

Department of Information Systems and Business Analytics, RMIT University Australia.

Email: shahriar.kaisar@rmit.edu.au

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1. INTRODUCTION

The COVID-19 pandemic has changed the way we live, travel, do business, or continue education. Since the beginning of 2020, it has impacted almost every country in the world, caused millions of deaths, and resulted in severe economic and financial hardship for the global population. Many countries closed their borders, restricted the movement of people, and adopted different levels of lockdown strategies to deal with this global pandemic. This has also resulted in the closure of university campuses worldwide and a sudden shift to remote online learning and teaching. It is reported by UNESCO that around 1.5 billion students in 165 countries have been impacted by this. Higher education institutions had to act quickly and change their learning and teaching activities from face-to-face to online classes using tools, such as Microsoft Teams, Google Classroom, Zoom, etc. [1], [2]. Academics, students, and other relevant people faced significant challenges to cope with this sudden shift due to a lack of preparation, skills, training, and available resources [1].

One of the major problems with such remote learning environments is conducting or replacing invigilated exams. Traditionally, many higher education courses involve an invigilated exam at the end of the semester as a summative assessment. Such assessment practices reduce the possibility of cheating and the temptation among students to do so [3]. Although online education or distance learning is being practiced in the higher education sector for a long time, the sudden shift to remote assessment practices faced significant difficulties as unlike the traditional online courses, this sudden shift was a temporary alternative option and educators did not get enough time, opportunity and resources to carefully plan these activities [4]. This article presents the historical context of assessment practices, highlights the alternatives used by academics around the world, discusses their impact on key stakeholders, and provides some guidance for academics and practitioners.

1.1. Historical Context

The higher education landscape has changed a lot during the last two decades with the introduction of new technology, the socio-economic background of the students, and the introduction of online learning management systems. The introduction of new technologies has changed the way learning activities are conducted in the higher education sector. However, an invigilated end-of-semester exam remains a popular summative assessment in many courses worldwide as reported by Williams and Wong in 2007 [5], and continues to do so even after a decade.

Academics in many areas prefer invigilated exams to reduce cheating and evaluate learners' ability to recall, which can help with long-term retention, motivate them to study more, effective for assessing practical skills, and they are also part of many professional accreditation procedures [5], [6]. However, several articles also argued that online open-book, open-web (OBOW) can be more effective than traditional invigilated exams [5], [7]. Williams and Wong [5] argued that traditional invigilated exams encourage cramming among students, which results in last-minute memorization of the topics without proper understanding while OBOWs attempt to engage students more in the assessment process and try to reduce dishonest practices among students. They further suggested that OBOWs provide the student with the flavor of an authentic assessment where they can readily apply their knowledge and understand its meaning in a better way. However, invigilated closed-book exams are still the preferred method of assessment in many sectors including for medical practitioners, accountants, and laboratory technicians.

1.2. Contemporary Justification and Prevalence

Agnew and Hickson [8] published an interesting article in 2012 comparing different methods that can be employed to replace an invigilated exam with an online assessment. They considered the

earthquake that impacted the community at Canterbury University in 2011 and resulted in the cancellation of the invigilated final exam for their ECON 105 course. The initiative taken by the university was to assign a higher weight to other components of the course in place of the final exam. However, the authors argued that such invigilated final exams can be replaced with online timed assessments. Their analysis revealed that online quizzes were better suited to replace invigilated exams where the latter is canceled with short notice. Interestingly enough, after almost a decade, the global higher education providers had to become innovative to substitute invigilated examinations.

[9] Conducted a study with 70 course coordinators from different fields at the University of Queensland and analyzed the changes adopted by academics across the university to convert their assessments to suitable for online delivery. Their research questions included (i) the changes academics adopted for a sudden shift to online assessments, and, (ii) the extent of the impact of disciplinary practices on this. Their results show that most academics did not change the composition or weight of the assignments but rather converted the on-campus assessment into a format suitable for online submission and examination evolved as a strong theme in their semantic analysis [10]. The authors also suggested that they did not observe any substantial variation across disciplines. Similar issues with the transition of the invigilated exam into alternative assessments have been reported in many other countries [11], [12]. Although COVID-19-related restrictions no longer exist in most parts of the world, a mixed delivery mode of learning and teaching activities is likely to stay that will require different assessment strategies.

1.3. Impacts on Academics

Academics consider that maintaining the quality standards in their assessment method is a core practice of the education system and most students also value the quality of their studies and safeguarding assessment methods [4]. The invigilated exam has been an assessment method for a long time and is considered effective by many academics [4]. The COVID-19-related restrictions required a sudden shift of strategies for academics to the online submission environment and assessment practices. Although distance learning education is being practiced in many organizations, such a sudden shift still caused several challenges for academics as the changes in policies were deemed temporary and only for managing a crisis. Different alternative options were chosen by academics to replace the invigilated final exams. Some of them preferred online open-book open-web exams [12], while others used written assignments and/or oral examinations [13].

A major challenge faced by academics was the time constraint. Since the pandemic required a sudden shift to online delivery, many of them were caught off guard and did not have enough preparation. The primary goal of the academics was to deliver learning resources or activities online and they got very little time to modify their assessments suitable for online submissions. Therefore, most of them preferred keeping the original assessment type and weight in most cases [9].

Another challenge faced by academics was to reduce cheating behavior during alternatives, such as online exams. With limited time and experience in online teaching, academics adopted different strategies to encounter this. Some of them involved using E-proctoring software [4], and Remote invigilation via Zoom [9]. The e-proctoring software allows remote monitoring of students' screens and invigilation through teleconferencing. It is also possible to use lockdown browsers where the students are unable to visit other websites. Although theoretically, e-proctoring software can aid in remote invigilation and has the potential of recreating face-to-face exam conditions, researchers also reported that they were not the most effective solution, and the ineffectiveness may lead to more cheating behavior among students [4]. Similar observation also holds for other remote monitoring or teleconference-based remote invigilation systems.

Academics also faced technical difficulties during online delivery. They needed to master different tools in a short time and utilize them for the delivery of their classes online as well as conducting online assessments for components such as online exams or online submissions. Although many higher education institutions arranged workshops and presentation sessions to help academics with alternative method determining suitable alternative options was very challenging.

Academics across the globe also had to manage a high level of workload for converting their

courses to suitable for online delivery and the amount of work further increased due to changing their assessment from invigilated exams to some alternative assessments. A traditional invigilated exam would have required an academic to create one/two versions of the question paper and a marking guide. However, online exams required academics to produce a pool of questions and randomization, come up with techniques to reduce cheating, and ensure everything can run smoothly.

Overall, although academics faced significant challenges during the pandemic time, it also provided them with a unique opportunity to reflect on their teaching and learning practices, improve their teaching and learning pedagogy and align their materials suitable for multi-mode delivery.

1.4. Impact on Learning and Teaching Pedagogy

The COVID-19 pandemic necessitated the online delivery of courses and the submission of assignments. Although academics and students had very little time to change their learning and teaching practices, it provided a great opportunity to rethink the assessment strategies in the higher education sector. Another important aspect observed was the shifting towards a more student-centered approach, especially for the assignments. Educators in many institutions reduced their curriculum, offered only a pass/fail option, and in some cases completely deactivated the pass/fail option altogether [11]. Assessment deadlines were extended, and students were provided with flexible extensions and alternative options for submitting their assessments. Some higher education institutions also allowed students the option of not adding their final grades for courses where they performed poorly during this time. Some students with disabilities also enjoyed the online environment more compared to traditional face-to-face options and this could work as a useful option in the future too.

One major issue that arises through all of this experience in terms of learning and teaching pedagogy is the objective and the process of assessments in the higher education sector, especially in the case of invigilated exams. [12] Wrote an interesting article where they looked at alternative opportunities to enhance assessment presented by the COVID-19 pandemic. More specifically, they focused on the why, who, when what, and how of assessment design. They suggested that online assessments can be effective if they are designed carefully and provides the students with an opportunity to apply their knowledge rather than simply memorize things. They also advised communication, flexibility, collegiality, and compassion among academics and students in the higher education sector should drive the assessment practices. On the other hand, [9] Investigated alternative assessment practices during COVID-19 in an Australian university and reported that most of the assessment was framed as a summative exercise. They also suggested that the assessments were mostly separated from the pedagogy of everyday teaching practices and that connecting assessment to pedagogy can be highly beneficial that will lead to lifelong learning and development. Overall, the changes in assessment practices provided an opportunity for the academics to rethink their strategies and some of the practices adopted during this time are likely to stay for the long run as well.

1.5. Recommended Strategies

Although invigilated exams have been a useful tool for a long time, looking at alternative assessment options should be the way forward. The online exam can be an option in this regard with the incorporation of e-proctoring software or teleconferencing sessions; cheating behavior can be discouraged. However, the open-book open-web online exam with a single attempt, a time limit, and a randomized question from a pool of questions is likely to provide further advantages to the process. For practical skill tests, such options integrated through the quiz option can reduce the motivation among students to cheat. [3] Proposed an anti-collusion approach using optimization methods to reduce collusion gain and thereby discourage students to cheat. Their optimization methods moderated the sequence of questions and their assignment to students at different times to reduce collusion gain significantly compared to traditional exams where students receive the same question simultaneously. If exam-type assessments are needed, a take-home exam can be a good option too. In this case, the students will get an opportunity to test their knowledge into practice. Overall, moving towards a different mindset from when and how the assessment should test the learners, will require some work [9]. Alternative assessments can be an excellent option in

this case.

[1] Recommended a range of options including professional presentations and demonstrations, oral interviews, annotated bibliography, fact sheets, and e-portfolio submissions can be used in terms of submission formats. The inclusion of authentic assessments based on real-life case studies can further interest the students in completing the task. This way they can see the use of their knowledge and skill into practice immediately. The learning outcomes achieved through such activities will also be at an appropriately higher level matching the requirement of the qualification framework suggested in Bloom's taxonomy and followed as a standard by education governance bodies. [14] Recommended some good strategies to make assessments more authentic and suggested that i) assessments needed to measure performance, be realistic and sufficiently complex; ii) students need to demonstrate teamwork, and the ability to reflect and defend answers; and finally, iii) grading criteria should be articulated. Adoption of such authentic assessments as an alternative option to the invigilated exam can enhance the learning experience and is likely to help the students achieve the intended learning outcomes in a better way [15].

2. CONCLUSION

The COVID-19 pandemic has impacted the global population in different ways. The higher education sector is one of the highly impacted sectors that went through tremendous challenges during this time. One of the key challenges faced by academics is to produce an alternative assessment in place of the invigilated final exam, which has been a much-liked tool across disciplines and countries. Universities with good technical facilities and well-established academics experienced in distance learning could only cope with the situation well in terms of delivery of the content, but when it came to assessment practices, educators mainly used an online format rather than an alternative option. Some alternative approaches are suggested in Section 6. A further methodological investigation using empirical data from different regions in this issue can provide more insight into how different types of assessment practices impacted educators and students in achieving their personal and professional goals will be interesting.

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Author Contributions Statement

Name of Author	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
Shahriar Kaisar	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓

C : Conceptualization

M : Methodology

So : Software

Va : Validation

Fo : Formal analysis

I : Investigation

R : Resources

D : Data Curation

O : Writing - Original Draft

E : Writing - Review & Editing

Vi : Visualization

Su : Supervision

P : Project administration

Fu : Funding acquisition

Conflict of Interest Statement

The authors declare that there are no conflicts of interest regarding the publication of this paper.

Informed Consent

All participants were informed about the purpose of the study and their voluntary consent was obtained prior to data collection.

Ethical Approval

Not Applicable.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

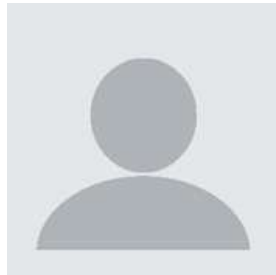
REFERENCES

- [1] F. M. Guangul, A. H. Suhail, M. I. Khalit, and B. A. Khidhir, 'Challenges of remote assessment in higher education in the context of COVID-19: a case study of Middle East College', Educational assessment, evaluation, and accountability, vol. 32, pp. 519-535, 2020. doi.org/10.1007/s11092-020-09340-w
- [2] M. E. Osman, 'Global impact of COVID-19 on education systems: the emergency remote teaching at Sultan Qaboos University', Journal of Education for Teaching, vol. 46, no. 4, pp. 463-471, 2020. doi.org/10.1080/02607476.2020.1802583
- [3] Li, M., Luo, L., Sikdar, S., Nizam, N. I., Gao, S., Shan, H., and Wang, G. (2021). Optimized collusion prevention for online exams during social distancing. NPJ science of learning, 6(1), 1-9.
- [4] P. Stavride and A. Kokkinaki, 'Transforming from face-to-face to online exams: devising a course-specific strategy to deter cheating', European Conference on Academic Integrity and Plagiarism, 2021. doi.org/10.1007/978-3-031-16976-2_7
- [5] J. B. Williams and A. Wong, 'Closed book, invigilated exams versus open book, open web exams: An empirical analysis. ICT: Providing Choices for Learners and Learning', in Proceedings Australasian Society for Computers in Learning in Tertiary Education Singapore, 2007, pp. 1079-1083. doi.org/10.65106/apubs.2007.2536
- [6] I. Zagury-Orly and S. J. Durning, 'Assessing open-book examination in medical education: The time is now', Medical teacher, pp. 1-2, 2020. doi.org/10.1080/0142159X.2020.1811214
- [7] S. J. Durning, T. Dong, T. Ratcliffe, L. Schuwirth, A. R. Artino, and J. R. Boulet, 'Comparing open-book and closed-book examinations: a systematic review', Acad Med, vol. 91, no. 4, pp. 583-599, 2016. doi.org/10.1097/ACM.0000000000000977
- [8] S. Agnew and S. Hickson, 'Using online assessment to replace invigilated assessment in times of natural disaster: Are some online assessment conditions better than others?', Flexible and Distance Learning, vol. 16, pp. 1-13, 2012. doi.org/10.61468/jofdl.v16i1.86
- [9] C. Slade, G. Lawrie, N. Taptamat, E. Browne, K. Sheppard, and K. E. Matthews, 'Insights into how academics reframed their assessment during a pandemic: disciplinary variation and assessment as afterthought', Assessment & Evaluation in Higher Education, pp. 1-18, 2021. doi.org/10.1080/02602938.2021.1933379
- [10] K. Linden and P. Gonzalez, 'Zoom invigilated exams: A protocol for rapid adoption to remote examinations', British Journal of Educational Technology, vol. 52, no. 4, pp. 1323-1337, 2021. doi.org/10.1111/bjet.13109
- [11] A. Bozkurt et al., 'A global outlook to the interruption of education due to COVID-19 pandemic: Navigating in a time of uncertainty and crisis', Asian Journal of Distance Education, vol. 15, no. 1, pp. 1-126, 2020.
- [12] R. Fuller, V. Joynes, J. Cooper, K. Boursicot, and T. Roberts, 'Could COVID-19 be our "There is no alternative"(TINA) opportunity to enhance assessment?', Medical teacher, vol. 42, no. 7, pp. 781-786, 2020. doi.org/10.1080/0142159X.2020.1779206
- [13] A. Alqurshi, 'Investigating the impact of COVID-19 lockdown on pharmaceutical education in Saudi Arabia-A call for a remote teaching contingency strategy', Saudi Pharmaceutical Journal, vol. 28, no. 9, pp. 1075-1083, 2020. doi.org/10.1016/j.jsps.2020.07.008
- [14] E. Sutadji, H. Susilo, A. P. Wibawa, N. A. M. Jabari, and S. N. Rohmad, 'Adaptation strategy of authentic assessment in online learning during the covid-19 pandemic', Journal of Physics: Conference Series, vol. 1810, Mar. 2021. doi.org/10.1088/1742-6596/1810/1/012059

- [15] D. Carrier, 'Legislation as a stimulus to innovation', Higher Education Management, no. 2, pp. 88-98, 1990.

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BIOGRAPHIES OF AUTHORS



Shahriar Kaisar, is, a researcher and academic at RMIT University in Australia within the Department of Information Systems and Business Analytics. If you ask what he works on, it's mainly artificial intelligence, machine learning and business analytics plus cybersecurity, health informatics, and data-driven support for decisions, sort of. He also puts a lot of energy into research that connects different fields, he does this through articles in peer-reviewed journals and at international conferences too. Dr. Kaisar has teamed up with both academic groups and industry partners on initiatives tied to digital transformation, intelligent systems and analytics tools that actually get used. Overall, he's really focused on moving forward with novel studies, guiding students, and encouraging how new technologies can be applied in practice to tackle tricky business problems and broader, social issues. Email: shahriar.kaisar@rmit.edu.au