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*People, Partnerships and Pedagogies*

## Exploring alternative invigilated assessments in higher education: A work in progress

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The use of educational technologies in course development, assessment, and delivery has undergone significant transformations in higher education institutions due to the Covid-19 pandemic. With universities worldwide offering an unprecedented number of online courses, the landscape of higher education has experienced both opportunities and challenges for learning designers, academics, and students. Among the challenges faced, proctoring online examinations has emerged as a pressing concern. Focusing on the context of a school where accreditation requirements demand invigilated assessments, this paper explores and proposes alternative invigilated assessment approaches across various modes of course delivery. This work-in-progress report provides insights into different alternative invigilated assessment options, offering practical instructions for implementing these assessment methods. By exploring these options, this paper aims to contribute to the broader discussion on assessment practices in higher education and better align with the needs of our students and academic programs as well as that of the accrediting bodies.

Keywords: alternative invigilated assessments, academic integrity, oral, interactive orals.

### Background

The use of educational technologies in course development, assessment, and delivery in higher education institutions has undergone significant changes during the Covid-19 pandemic. Universities worldwide are now offering more online courses than ever before. While this shift has created opportunities, it has also posed challenges for learning designers, academics, institutions, and students. One of the key challenges has been conducting invigilated examinations in online delivery courses.

In Australasia, many degrees and programs are accredited by bodies such as Certified Practising Accountant (CPA) Australia and Chartered Accountants Australia & New Zealand (CA ANZ). These accrediting bodies require invigilated assessments as part of the accredited courses. According to CPA Australia (CPA Australia, 2023), invigilated assessment activities can include in-person or online examinations conducted under the observation of a human or online invigilator. Activities like in-person presentations, written in-class quizzes, or question and answer sessions may also count towards meeting the invigilated assessment requirement. During the Covid-19 pandemic, many universities used different types of online proctoring systems to ensure academic integrity and meet accreditation requirements. However, various issues have been experienced with the online proctoring systems in many higher education institutions in Australia and New Zealand, ranging from internet connectivity problems to performance, service issues (Sankey, 2021) to concerns due to liberty and privacy, and as potentially unfair and discriminatory to some students (Coghlan, Miller, & Paterson, 2021). ProctorU took in excess of an hour for proctors to become available for the scheduled exams.

In mathematics or accounting courses students are required to design or draw diagrams or conduct mathematical calculations, but the students can't access other applications and tools once the proctoring exam has started nor can they draw or write their answers on a piece of paper, scan it and attach it to the exam like they could do in their face to face exam (Halaweh, 2021). Numerous students missed final exams due to technical issues with the online proctoring system and had to apply for a deferred exam under special circumstances. Additionally, many academics expressed dissatisfaction with the proctoring system.

### Objective

The primary objective of this paper is to explore and propose alternative invigilated assessment approaches that can be utilized in different modes of course delivery in place of online proctoring solutions. By examining the benefits and challenges of these alternatives, the paper aims to contribute to the enhancement of assessment practices in higher education institutions while meeting the requirements of accreditation bodies. This paper presents ongoing work in this area.

## Literature review

With the advent of Covid-19 and ensuing social distancing measures, majority of the universities across the globe were challenged to transition any face to face to online (Castaño, Noeller, & Sharma, 2021; Halaweh, 2021). Many universities in higher education sector across the globe found themselves unable to conduct traditional face-to-face examinations (Halaweh, 2021; Peh, Cerimagic, & Conejos, 2021; Sankey, 2021). Consequently, these institutions need to replace some of the traditional assessments such as face to face examinations to alternative assessments or explore for alternative methods to run these assessments. The spotlight on academic dishonesty in online courses has intensified due to the significant increase in the number of online courses offered (Reisenwitz, 2020). Reisenwitz (2020) proposed having a clear definition of academic dishonesty and its consequences to justify the use of technology in detecting such dishonesty.

Online proctoring software such as ProctorU were used to invigilate the exam proceedings. There are many studies conducted on utilizing online proctoring solutions and implementations (Castaño et al., 2021). Sankey (2021) reported that institutions employed various tools to deliver online examinations based on their specific requirements. Some used non-specialist proctoring solutions like Zoom, while others adopted a more open book approach or integrated quizzes within the learning management system (LMS). Out of the 47 institutions surveyed, 24 utilized a formal proctoring solution, with ProctorU and Zoom accounting for 25% and 21% usage, respectively, while Proctorio and RPNOW were used least frequently (7%).

However, academic dishonesty or cheating has long been a concern in educational institutions. The Covid-19 pandemic and the emergence of Generative Artificial Intelligence (AI) have exacerbated this issue (Crawford, Cowling, & Allen, 2023; Erguvan, 2021; Peh et al., 2021). OpenAI's ChatGPT, in particular, has raised concerns about plagiarism and integrity in higher education. Many studies reported concerns or issues due to online exam supervision (Coghlan et al., 2021; Halaweh, 2021). Coghlan et al (2021) reported significant controversy and concerns due to online exam supervision. They referred them as “Big Brother -like” threat to liberty and privacy, and as potentially unfair and discriminatory to some students. In a study exploring students perceptions of e-proctoring exams, the findings reported students concern over privacy and various environmental and psychological factors (Kharbat & Abu Daabes, 2021). The study reported that the students “feel more stressed than the paper-based exam”, and that “being watched through the webcam makes me anxious and causes poor performance” as well as “not acceptable by culture and family”.

## Theoretical framework

Alternative assessment is compatible with the constructivist theory, in which learners are viewed as active constructors of knowledge (Shepard, 2000). The constructivist perspectives on learning have become increasingly influential in the past forty years and can be said to represent a paradigm shift in the epistemology of knowledge and theory of learning (Applefield, Huber, & Moallem, 2000). It is an epistemological view of knowledge acquisition, emphasising knowledge construction rather than knowledge transmission and the recording of information conveyed by others. The role of learner is conceived as one of building and transforming knowledge. Through a highly interactive process, learners both refine their own meanings and help others find meaning.

Alternative assessments provide opportunities to both teacher and students as instructional scaffolding, assessment conversations and other interactive means of helping students self-correct and improve (Janisch, Liu, & Akrofi, 2007). Alternative assessment provides positive experience for students and the ability to offer responsive instruction and personalised environment to students' needs.

This paper explores technical issues of proctoring solutions from the literature review, and discusses critical consideration of alternative invigilated assessments from constructivist theory. The paper provides analysis of the proctoring solutions and technical issues faced by both staff and students and serves as a guide on how alternative invigilated assessments can be implemented.

## Alternative invigilated assessments

Universities associated with accrediting bodies require major assessments in most courses to be invigilated due to accreditation requirements. As a result of Covid-19 pandemic, these universities implemented various online proctoring solutions such as ProctorU. However, numerous technical issues were encountered while implementing the online proctoring solutions (Sankey, 2021). Therefore, the primary objective of this paper is to explore and propose alternative invigilated assessment options applicable across all modes of delivery: face-to-face on-campus, online, and hybrid modes (a combination of face-to-face and online). This paper aims to

explain and discuss why these alternative assessment options will be better in mitigating technical issues, academic integrity issues and how these can be applied to online, hybrid and onsite situations.

### **Live oral presentations**

Oral presentations are commonly used in university courses and serve as authentic assessments that require students to articulate their knowledge and understanding of a topic using spoken language. Oral Presentations are proven to enhance students' communication skills as well as help them in workplace in real world (Darling & Dannels, 2003; Živković, 2014). These presentations can be delivered individually or as part of a group, either face-to-face or online using Microsoft Teams. Oral presentations are authentic assessment and present relatively low risk of academic integrity misconduct as they are presented synchronously and in 'live' sessions. Topics or questions for presentations can be assigned to students via LMS Groups, and presentation schedules can be managed using the Microsoft Bookings system. Oral presentations can take various formats, such as scenario-based defences of pitches, problem-based demonstrations, review work, analysis reports, or case study presentations. They can also involve co-design with Students as Partners (Harrington, Flint, & Healey, 2014). Assessment of oral presentations can encompass not only course content learning outcomes but also oral communication and technical skills.

### **Interactive oral**

An Interactive Oral is an authentic assessment that promotes skill development, employability, and prevents academic misconduct (Sotiriadou, Logan, Daly, & Guest, 2020). Interactive orals (previously known as a viva voce exam) is an opportunity for honest and unscripted interaction between a student and other students or a student and an examiner. Interactive oral assessments also develop graduate attributes such as critical thinking, professional communication and collaborative skills in students through authentic simulation of workplace scenarios (Tan, Howes, Tan, & Dancza, 2022). Synchronous Interactive Orals can be used in a scaffolded assessment design, incorporating content-related questions within a scenario or defending prior assessments. These orals can be conducted face-to-face or online using Microsoft Teams and an online booking system like Microsoft Bookings, which synchronizes with the university Outlook calendar. The one-to-one conversations can be recorded for retention purposes using tools such as Microsoft Teams for online or Camtasia Studio for face to face.

On the other hand, asynchronous Interactive orals can be a scenario based pre-recorded oral such as client interview, group work reflection, or video blog. The videos are either shared via a video link or uploaded to LMS for review and marking. Interactive oral assessment requires students to construct unique responses, personally engage in the collection of evidence and information in support of their assessments. Interactive oral assessments promote authenticity and academic integrity in assessments (Sotiriadou, Logan, Daly, & Guest, 2020), thereby reducing the risk of academic integrity misconducts.

### **Invigilated exam via Microsoft Teams and Teams Breakout Rooms**

Online invigilation of exams can also be conducted using other non-proctoring platforms such as Microsoft Teams, with or without Microsoft Teams Breakout Rooms (Microsoft Teams Breakout Rooms is a function of Microsoft Teams that allows students to be put in a smaller group for activities or discussions). While Microsoft Teams are recommended for small groups of fewer than 10 students, they can also be used with larger cohorts by splitting them into small groups with multiple invigilators. This approach can be particularly useful for deferred or supplementary exams, as the number of students taking these exams tends to be smaller in size. The following instructions are recommended for setting up an online exam invigilation using Microsoft Teams with or without Breakout Rooms:

1. The invigilator creates a Teams meeting and invites the students to join.
2. Students join the Teams meeting at the scheduled exam time and are required to keep their cameras on throughout the exam.
3. If there is only one student, the invigilator verifies the student, checks the surroundings, asks the student to share their screen, records the meeting for review and retention purposes, and unlocks the timed exam questions in the course site for that student.
4. If there are multiple students, the invigilator will use Microsoft Teams Breakout Rooms using these steps:
  - a. The invigilator creates a number of breakout rooms equal to the number of students (number of breakout rooms equals to the number of students) - this can be done before the meeting.
  - b. The invigilator automatically assigns one student to each breakout room (this can be done prior to the

- meeting).
- c. The invigilator starts the breakout room.
  - d. The Invigilator joins a breakout room.
  - e. In the breakout room, the invigilator verifies the student, checks the surroundings, asks the student to share their screen, records the meeting for review and retention purposes, and unlocks the timed exam questions in the course site for that student.
  - f. The invigilator repeats step 4.4 and 4.5 for each student in a breakout room. The invigilator may join any breakout room from time to time to check or decides to send message via chat. The student will let the invigilator know via chat message when the exam has been finished so that the invigilator can join the breakout room and stop the recording.

Case study, scenario or formula sheet can be provided to students prior to the exam. Exam questions can be either designed and completed using the LMS Quiz or submitted via a timed submission point for text matching purpose. Students can also write or show calculations on a paper, take a photo of their responses, and uploaded to a submission point for the marker to review. Having students in a chat room with their webcam on and their screen being shared can help invigilators to keep an eye on students remotely. This prevents students from cheating and hence, reduces academic integrity issues. The whole invigilation via Microsoft Teams can be recorded for review and retention purposes. Table 1 summarizes different assessment options, assessment types, recommended class size for each of these options, and technologies, and other things to consider for alternative invigilated assessments.

**Table 1: A summary of alternative invigilated assessments**

Assessment Option	Assessment Types	Recommended Class Size	Technologies	Consideration
Oral presentations	scenario-based defence of a pitch, a problem-based or report demonstration, a case study presentation	Unlimited	PowerPoint, Microsoft Teams, Groups in LMS	Individual/Group presentation Throughout the course PowerPoint file and notes submission for text matching
Synchronous Interactive Oral	Viva voce, content-related questions frame within a scenario, defence of prior assessment	Unlimited	Microsoft Bookings, Microsoft Teams	Require scheduling. Marking time Multiple markers for large classes
Asynchronous Interactive Oral	Scenario based, Client interview, group work reflection	Unlimited	Microsoft PowerPoint, YouTube, Studio in Canvas	Marking time Multiple markers for large classes
Invigilated exams via Teams	Online Quiz, written exam on paper (calculations) and upload to online submission point or quiz	10 or larger size split into smaller groups and managed by multiple invigilators	Quiz or submission point in LMS, Microsoft Teams	Multiple invigilators for monitoring larger classes. Multiple Pools of questions

## Discussion and conclusion

This paper discusses literature review of technical issues and academic integrity issues associated with online proctoring solutions faced by both students and academic staff in universities. While proctored assessments are important for both reducing academic misconducts and meeting the requirements of accrediting bodies, there are many other alternative invigilated assessment options and not limited to online proctoring exam solutions. This paper presents various invigilated assessment options as alternative assessments to online proctoring solutions. It is crucial to carefully consider the benefits and challenges associated with each of these options, taking into account the specific needs and nature of the course content, such as written essays or mathematical calculations, as well as the size of the student enrolment in the course.

By exploring different types of invigilated assessments beyond the use of online proctoring solution, this paper has shed light on the ongoing work in progress. In the upcoming teaching semesters, we plan to implement and evaluate some of these alternative invigilated assessment options in our hybrid mode courses, which are offered both face-to-face and online. We anticipate that this exploration will provide valuable insights into the

effectiveness and suitability of these alternative assessments. The findings from our trail run will be disseminated through future conferences and papers, aiming to contribute to the broader discussion on assessment practices in higher education. By sharing our experiences and insights, we hope to facilitate the adoption of alternative invigilated assessments that better align with the needs of our students and academic programs as well as that of the accrediting bodies.

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