

Futureproofing assessment in Business Education: Lessons from COVID-19

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The recent COVID-19 pandemic crisis required Business Schools to quickly reconsider all assessment methods, particularly the use of face to face invigilated exams. With lockdown and physical distancing requirements requiring teaching and learning activities to move to online mode, the need to consider alternate technology enabled assessments and how they could be implemented quickly and effectively became a crucial focus of universities in early 2020, affecting staff and students alike. This paper considers the experiences of a group of academics and academic developers from five ANZ Business Schools and the lessons that they learnt from these experiences.

Keywords: assessment, COVID-19, technology

BACKGROUND

The implementation of COVID-19 social distancing requirements has necessitated all workplaces, including universities, to interrogate their current or predominant practices. Most Australian and New Zealand (ANZ) Business schools entered 2020 with prior experiences of teaching online. However, a prevalence of end of term,

high stakes, in-person invigilated exams in ANZ business schools (Suri & Krishnan, 2020) posed significant challenges due to physical distancing, and then lockdown, requirements across the countries. ANZ Business schools are typically characterised by large class sizes and a significant proportion of international students. This makes certain assessment practices, common in other disciplines, less viable in business schools. Large cohorts of international students were unable to travel to Australia or New Zealand to undertake their studies and this necessitated business schools to remain more vigilant about state censorship issues (e.g. with students from China) and internet access issues. International students who were living in ANZ needed additional pastoral care as they were isolated from family and friends during this time. Issues of collusion became more of a concern with several students doing the same units whilst living in the same house or apartment building. Business schools did not experience the challenges faced by performing arts schools and laboratory-based disciplines with respect to requiring students to be able to undertake practical sessions normally performed in a face to face environment.

This paper shares learnings from the experiences of five ANZ business schools in their adoption of various technology facilitated assessment forms to respond to this challenge. The universities involved provide a broad cross-section including metropolitan based and rural/remote institutions; fully online, combined online/face-to-face cohorts and full face-to-face cohorts; as well as varying LMS (see Table 1). This paper is a co-constructed account of how we understood our school's response from the partial and perspectival views as teachers and academic developers (Ely et al., 1997). By sharing on the ground realities informed by the collective experiences from five Business schools, this paper will support business educators in making informed decisions about designing authentic and rigorous technology facilitated assessments. Co-constructing this account also empowered us in developing a more holistic understanding of the various technology facilitated assessment forms to support informed decision making in our own schools.

TABLE 1
SUMMARY OF BUSINESS SCHOOLS AND THEIR PRE-COVID-19 DEMOGRAPHICS

Institution	UniSA	Deakin	UNE	UoA	UTS
Location	Metropolitan	Metropolitan	Rural/Remote	Metropolitan	Metropolitan
Face-to-face teaching	✓	✓	✓	✓	✓
Blended online/face-to-face teaching	✓	✓	✓		✓
External teaching	✓	✓			✓
Fully online teaching	✓	✓	✓		✓
Learning Management System (LMS)	Moodle	D2L	Moodle	Canvas	Blackboard & Canvas

METHOD

Drawing upon the logic of maximum variation sampling (Patton, 2012), we believe our insights are transferable to business schools in similar contexts. Contributors to this paper initially constructed a reflective account of their own school's response. Then, the key themes emerging from our individual responses were dialogically identified and resulted in the co-construction of this collective account with the goal of highlighting commonalities and variations in how we approached assessment.

Assessment design has profound implications on how university students approach their learning, as assessment drives learning for most of them (Boud & Falchikov, 2007). A variety of assessment approaches are regularly used within business education including essay, report, individual and team assessment, as well as

exams. Before 2020, in most ANZ Business schools, end of term high stake closed book in-person invigilated exams were commonly used for the following reasons: to minimise unauthorised collusion or contract cheating; to meet the requirement of accreditation bodies for authenticating that the assessed work has been done by the relevant student; to assure learning of knowledge from all the topics taught in the unit while maintaining efficiency in marking time (Suri & Krishnan, 2020). At the same time, an increasing number of Business educators are also opting for authentic assessment tasks (Biggs & Tang, 2011) aimed at assuring development of higher order thinking and transferable skills that are essential in workplace (Succi & Canovi, 2019; McMurray, Dutton, McQuaid & Richard, 2016).

COVID-19 pushed Business schools into unprecedented times where in-person invigilated exams were no longer a viable option under the social distancing requirements. Flexibility in when and where to undertake the assessment tasks also needed to cater for students with competing commitments on their time and with special needs. It is timely for Business educators to have multiple conversations about affordances of various technology-facilitated assessment approaches that are informed by the experiences of lived realities from diverse contexts.

OUR COLLECTIVE AND VARIED EXPERIENCES

Various Technology Facilitated Assessment Approaches

Escalation of the pandemic necessitated the consideration of alternative assessments as it became obvious that any face-to-face assessment method, including in-person invigilated exams, were not going to be able to be conducted. A variety of technology facilitated assessment options were considered and used, with significant variations and levels of success, across our schools. Table 2 identifies the assessment approaches considered during this time together with the advantages and disadvantages of using each assessment approach.

TABLE 2
TECHNOLOGY FACILITATED ASSESSMENT OPTIONS

Assessment Option	Advantages	Disadvantages
Proctoring	<p>Authenticate student identity through live proctoring and AI.</p> <p>Cost-effective solution when used to replace in-person, invigilated paper-based exams, especially with geographically dispersed learners.</p> <p>Sessions recorded for future reference.</p>	<p>Students can find ways around invigilation.</p> <p>Less appropriate for answers requiring hand-drawn graphs and calculations</p> <p>Space and stable internet connection to use the proctoring tool may not always available.</p> <p>Requires students to stay within camera view throughout.</p> <p>Student and data privacy issues.</p> <p>Perceived to be expensive.</p>
Quiz tools	<p>Random allocation enables generation of a unique exam for each student to minimise potential collusion.</p> <p>Response time can be restricted for flexibility in when to take the quiz.</p> <p>Automated marking possible for questions with objective responses.</p> <p>Simultaneous marking of sections for the same set of submissions.</p> <p>Analytic data available.</p>	<p>Significant set up time for unique generation of tests.</p> <p>Designing and marking higher order questions can be time consuming.</p> <p>Some options not easily adapted to format.</p> <p>Stable internet connection required.</p> <p>Potential for copy and paste from online sources and contract cheating.</p>

LMS Dropbox	Textual responses can be run through text-matching software. Suitable for multiple software submissions. Supports multiple writing genres. Can include questions requiring higher order thinking skills. Internet connectivity required intermittently.	Potential for collusion, copy and paste from online sources and contract cheating. Designing and marking higher order questions can be time consuming.
Oral/Video Communication & presentation tools	Synchronous interviews can assess deep learning & verify individual contribution. Enable assessment of presentation skills.	Staff and students need to upskill to use new technologies.
Collaboration platforms	Provides a single hub for group communication and collaboration. Groups can be provided with individual collaboration space. Insights into communication activities.	Requires planning to setup groups. Mostly stand-alone platform without integration or minimal integration with LMS
Assessment platforms (e.g. Cadmus)	Textual responses can be run through text-matching software. Secure non-invasive online platform with cloud autosaving. Integrates with LMS. Provides analytics related to text-matching, words directed pasted, extent of editing before submission & the number of unique devices used completing assessment.	Learning curve for staff and students when using for the first time, students can input only texts and images (for assignments requiring spreadsheets, only images of the spreadsheets can be uploaded) When students are working offline, requires students to keep their internet browser open and not clear internet cache/history.
Simulations	Provide authentic assessment scenario. Able to monitor student progress. Can provide individualised data. Team or individual options. Provide specific/generic business situations.	Can be expensive. Need to allow time for orientation for both students and staff.

The universities teaching 100% online programs had proctored exam projects at varying stages of testing and this accelerated the broad implementation of these projects to ensure that students were able to complete exams necessary for professional accreditation. One university that was currently using online proctored exams for their 100% online programs chose not to use this method of assessment more broadly due to some varied experience with the technology. The use of proctored online exams was considered by all Business schools contributing to this paper, however, concerns regarding student privacy, technology access and internet reliability led to the consideration of alternate methods of examination. In some cases, staff also made the change from exam to assignment to overcome these issues and implementation logistics.

Lived Experience

The challenge for all Business schools was to consider replacement options for all forms of face-to-face assessment (e.g. in-person invigilated exams, teamwork, presentations). The following is a summary of the lived experience of the authors within their respective universities.

Logistics of rapid change

As the impact of the pandemic became evident, students and staff alike experienced a time of rapid change moving from face to face to online learning. Even though all our institutions were already in the online teaching space, making informed technology facilitated assessment choices and implementing them incurred a large investment in time from academics, academic developers and professional staff. This included the challenge of implementing large scale setting up of online exams without prior experience and detailed understanding of potential problems that could eventuate. Even the highly experienced online universities faced problems in moving from a smaller number of students doing online exam (OLX) to have almost all students completing

them. It was similar to any business experiencing rapid growth but without the systems and the trained staff to handle increased workloads. Further, the additional students added to the OLX experience were far more inclined to be those who would experience (or create) problems.

Proctored exams

Online proctored exams were used by two schools for most of their exams to ensure authentication of student identity through live proctoring and artificial intelligence. However, both refrained from real-time proctored online exams as they are much more bandwidth intensive and students sometimes see them as being more invasive (Harwell, 2020). These institutions noted that proctoring did not automatically guarantee academic integrity. When the proctoring service did not require the student to move the camera around to show the entire space in which the student was taking the exam, a student could quite easily place large pages of notes on the wall/space behind the computer or even around the edge of the computer screen so that they could be consulted during the exam.

Enhancing exam integrity and open book exams

The institutions took different approaches to replacing face-to-face exams. The time allocated for students to take the online exams ranged from on-demand exams to scheduled 3-hour exams to 48-hour exams. Decisions were made by the unit/course coordinator based on balancing the flexibility offered to students with the longer timeframes against the increased potential for breaches of academic integrity. Consideration was also given to the number of concurrent assessments students may be required to complete at the end of the semester. In order to minimise collusion, several academics used technology effectively to generate multiple sets of assessment questions using the randomisation feature of the LMS quiz tool. The analytics of meta-data associated with individual submissions was sometimes used for detection. Without invigilation, the notion of closed book exams became questionable and open book exams were considered by many academics which required them to think differently as a number of academics had no prior experience in the design of open book exams. Additional support and encouragement from academic developers and online educational designers provided several academics the opportunity to design more complex and applied questions requiring deeper level of learning, than most standard closed book exam questions. Authentic assessment tasks similar to those that students are likely to perform in the workplace were also considered and implemented by many coordinators. However, designing and marking unique and authentic assessment tasks often involved additional workload which was not necessarily recognised by the institution.

Balancing flexibility and equitability

Conditions for assignment due dates extensions were relaxed in many cases in response to the disruptions in students' lives. Some other forms of accommodations included offering supplementary exams, upgrading of grades and the ability to remove marks from Grade Point Average (GPA) or Weighted Average Mark (WAM). All these changes resulted in increased workload for academics as well as many professional staff. Extensions were used to increase flexibility and equity; however, they were, and continue to be, a double-edged sword. Whilst they provided flexibility to students, they had a domino effect. Students who were granted extensions struggled to keep up with the content being taught in the class as they didn't have the assumed knowledge. Also, some students with extensions carried their pending work into the next term. With progressive assessment design, feedback on each assignment fed forward into the next assignment. This posed a challenge for staff in terms of releasing the feedback within the usual turnaround time for students who had submitted on time. This meant that the answers and feedback sent out was now available to those students who had received extensions. Potential academic integrity issues arose and needed to be considered when awarding these extensions. It is often the area of extensions where the pastoral care responsibilities became critical, and thus academics achieved a deeper understanding of the challenges faced by their students. Such challenges included change of power dynamic in the workplace, loss of income or total loss of employment, increased workload, more challenging study environments, and increased responsibilities in caring for children or aged parents.

HOW PRACTICE HAS CHANGED/LESSONS LEARNED

Teachers adjusted their assessment practices to design test and exam questions that assessed higher order skills such as application and analysis rather than recall questions as in the past – partly to address the possible issue of increased plagiarism. These changes in assessment had an impact on curriculum design. Others reported re- evaluating the amount of content in their courses and searching out the key concepts and nuggets that they needed their students to go away with. They knew their students could not sit through a two-hour lecture on Zoom. The adoption of a more activity-based learning approach was used to increase engagement in the pivot to online learning.

There are several key take-aways from our experiences that Business schools should consider moving forward.

Developing Skills in Using Technology Effectively

Assessment changes necessitated by COVID-19 restrictions required staff and students to hastily learn how to use various technologies, such as communicating through Zoom, collaborating through MS Teams as well as scanning and uploading files with different formats. These newly required skills highlighted the need for universities to develop efficient processes for rapidly upskilling staff and students to ensure the various forms of technologies were being used effectively.

Academic Integrity

Secondly, the shift of all assessments online also raised difficult questions around academic integrity. Many academics noted significantly increased instances of academic integrity breaches whilst other academics chose to be more lenient with one commenting that it was “a rock most academics chose not to look under during the semester”. Regardless of the type of assessment – low stakes online LMS quiz, written assignment/report, high stakes LMS exams (proctored or unproctored) – conducting assessments online creates more opportunities for students to engage in academic misconduct. The removal of exam invigilation was seen by some students as quasi-approval to cheat in assessments as some students commented that if the institution was serious about preventing cheating on an online quiz or test, that they would have provided invigilation. Commonly authentic assessment has been noted an alternative to invigilated exams in order to reduce the potential for academic misconduct, however, the evidence indicates that contract cheating, and misconduct still occurs in many forms of authentic assessment (Ellis et. al, 2020). It is essential that educators consider assessment design as well as student education on when providing assessment tasks with integrity. To ensure academic standards are maintained, educators need to be supported in identifying and reporting suspected breaches of academic integrity to the relevant university authority.

Weighing on academics during this time are also the financial pressures faced by the university sector. There are concerns that types of assessment which improve academic integrity may not be approved for use because they are expensive to implement. Clearly this discussion will continue as universities continue to face financial issues due to the continuation of the pandemic and the requirement for physical distancing.

Accessibility

The third key take away is around accessibility. Accessibility issues were experienced by students in remote and international settings where bandwidth was low/variable, or censorship of the internet meant students/institutions had to find alternative ways to deliver the content. This was also an issue for students who relied on university facilities to study. An example of this is that some students did not have adequate internet and/or computer access to complete their studies and assessment. Some universities responded to this by arranging for laptops to be provided or loaned for the semester. With the ongoing goal of most universities to widen participation and enrolment, institutions must consider how to provide opportunities and facilities to assist disadvantaged students to learn online.

Duty of Care

Over the course of these unprecedented times it has become clearer to each institution that a ‘duty of care’ was needed to support staff and students. In particular, universities had a duty of care to support international students on campus as well as many of those left in ‘limbo’ as borders closed and flights were cancelled overseas. As Lipka (2019) stated that “a great teacher with a strong connection to a student makes all the difference” (p.12). COVID-19 brought about a major shift in higher education with so much disruption the ramifications were widespread and potentially could be long-lasting. As identified in the discussion above relating to flexibility, it is in the assessment, especially related to extensions, where students’ personal circumstances became visible and our duty of care responsibilities were heightened. While moving to online or remote learning, a key concern was not just content delivery but the development of a trusting relationship between students, peers, instructors and institutions.

The COVID-19 disruption changed the way institutions, academics and students will engage, now and into the future. Looking back to the previous century we can take heed of the research by Valenzuela (1999) who defined two forms of caring in the educational sector. Firstly, aesthetic caring which is focused on the instructional relationship between the teacher and the students. Secondly, authentic caring which fosters a reciprocal relationship that goes above the formal role of education and looks at the holistic needs of the student. For many educational institutions, the ramifications of adapting to a changing tertiary landscape, included a shift in the concept of care from aesthetic to authentic (Valenzuela,1999).

Naturally, this led to an increase in workload for academics who bore the additional responsibility of connecting with their students in a meaningful way, to provide even greater pastoral care than pre-COVID. Staff encountered novel situations during this time that required innovative solutions. Most institutions in this ANZ business schools group responded by creating institution wide structures and processes to engender more trust and engagement. Institutional responses included the creation of a stronger network of support for international students in their home countries and personalised support for students who had courses and programmes deferred. Examples of these initiatives included the creation of centres where students could move to locations closer to their homes for the semester and receive high speed internet access and academic support; and ‘no-fees’ courses and financial bursaries were established to retain and engage students. Nonetheless, these changes were not adopted by all ANZ business schools and this is an area that needs further improvement in the form of stronger structures for international on campus students, especially those in first study period and were still finding their way around.

FUTURE OPPORTUNITIES

The disruptions caused by COVID-19 have given us an opportunity to more seriously explore affordances of various forms of technology facilitated assessment and critically evaluate our practices. Moving forward post-COVID 19, we can either go back to our old practices premised on assessment of assessment with a prevalence of end of term high-stake, in person, invigilated exams. Or, we can critically interrogate our current practices and harness the affordances of technologies for adopting practices premised on assessment as learning (Wiggins, 1998).

The term “new normal” has been prominent in recent months, not only in academia but in all areas of our lives. What we have seen is not new but potentially a “reimagined normal” with necessity being the mother of invention. Academics, support staff and students have worked together to ensure that the learning, no matter how it is achieved, is the most important thing. How we assess the learning in the coming months and years will change and potentially the reliance on high stakes invigilated exams may be reduced with the introduction of more authentic business-like assessment, preparing our students for their future work lives. As educators we now have a much deeper understanding of student issues/challenges faced. With this in mind a trend towards designing assessment with the students as partners should be carefully considered.

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