UNSW SYDNEY | Australia's Global University

SCIENTIA EDUCATION ACADEMY

PREPARING TO DELIVER IN DUAL MODE

Policy Options Paper #2

June 2020

Introduction

This paper aims to provide input from Fellows of the Scientia Education Academy (SEA) to the University's current consideration of delivering in dual mode in the context of the covid-19 pandemic.

Dual mode delivery of courses occurs when the same course is offered in both face-to-face (F2F) or blended and online learning modes; it may also provide students with flexibility to switch between modes (Soesmanto & Bonner, 2019).

Teaching-learning activities may be synchronous or asynchronous and involve a combination of synchronous on-campus and/or online classes and asynchronous activities, such as recorded lectures and online resources.

Issues Raised by Dual Mode Delivery

Dual mode delivery requires careful planning as it raises multiple issues, including:

1. Equity of learning opportunities and outcomes for students, and student perception of this.
2. Wellbeing of staff, including workload and COVID-19 considerations.
3. Feasibility, such as adequate IT support and timetabling challenges associated with physical distancing requirements etc.

This paper focuses on the first two issues identified above. Given the likely variation across disciplines, the paper suggests employment of a set of principles that may serve as a useful guide to dual mode delivery across disciplines.

Guiding Principles

1. **Dual mode delivery should be considered only when course learning outcomes can be acquired and assessed online**

Learning outcomes describe the knowledge, skills and capabilities that students are expected to develop during a course or program of study (UNSW Assessment policy). Constructive alignment is a guiding principle for program and course design, where learning outcomes are defined using active verbs and then provide the framework for determining teaching and learning activities and assessment. The UNSW Assessment policy describes the purpose of assessment as being both to facilitate and certify the achievement of specified learning outcomes including UNSW's Graduate Capabilities.

Program and course authorities need to clarify the intended learning outcomes and check that all learning outcomes are able to be met in the fully online environment. Lectures, or their equivalent, and assessments will therefore need to be available online and be sufficient to provide a satisfactory learning experience even when accessed online only. In some courses, intended learning outcomes will not be able to be acquired in and/or assessed in fully online mode, in which case, the fully face-to-face – or more likely, blended – mode will be needed.

Appendix 1 identifies common teaching-learning activities offered in the F2F environment with examples of typical intended learning outcomes, equivalent online teaching-learning activities and aligned assessment tasks.

2. Teaching-learning activities should be equitable across modes

In dual-mode, some teaching-learning activities might only be available online (eg lectures). However, other activities could be delivered in both F2F and online modes. Where that is the case, the learning activities need *not* be identical, but must be equivalent in the sense of equitable in fairly supporting students to achieve learning outcomes. During the pandemic, F2F teaching-learning activities will need to take into account requirements such as physical distancing.

F2F and online teaching-learning activities have different strengths and weaknesses. These need to be considered when designing activities across multiple delivery modes to ensure that all students are supported to acquire the intended learning outcomes. F2F teaching-learning activities readily provide opportunities for synchronous teacher-learner interactions as well as learner-learner interactions, which are beneficial for students' engagement and community building. They also provide opportunities for teachers to demonstrate skills and techniques, observe students practising those skills, and provide immediate feedback on students' performance. While some of these activities can be reproduced in the online environment, (e.g. using video demonstrations and simulations), online students might not have the same opportunities to develop the required level of performative skills through, for example, working with technical equipment in laboratory, clinical and studio classes. In these cases, dual-mode delivery should not be offered.

A major consideration is whether online learning needs to cater to those students who are not able to engage in synchronous activities. Online asynchronous learning increases flexibility for students to engage in their own time and pace and provides opportunities for on-campus students to access teaching-learning activities and resources if they miss classes or want to review them. Such activities are often the best option for students learning remotely in different time zones and for those with work and family commitments. They typically require students to be highly self-directed and self-motivated. Particular attention is needed to ensure that such activities are engaging and provide students with sufficient structure to support their learning. Asynchronous learning activities can also provide opportunities for teacher-learner and learner-learner interactions in discussion forums, blogs and wikis, and may enhance reflection because more time is available for thinking about contributions and responses.

However, if asynchronous activities are the only mode utilised, this can create real problems with motivation and engagement for both students and teachers. It is therefore recommended that all courses should incorporate some synchronous learning activities, while recognising the challenges that this imposes for international students. One solution may be to have *optional* synchronous sessions at different times of the day (e.g., 8am, 4pm).

3. Assessments should ideally be the same across modes

Whereas learning activities should be equivalent irrespective of the mode of delivery, assessments should ideally be identical for students because of the virtual impossibility of otherwise ensuring fairness for all concerned. In completing assessments, students should not be disadvantaged or feel disadvantaged because of mode differences.

Online assessments may influence the nature of assessment tasks, how they are enacted and submitted. Some assessment tasks will be the same for both F2F and online modes, in particular written assessments, such as reports and essays. Some assessments have relatively equitable alternatives in F2F and online modes, such as oral presentations which can be delivered F2F or remotely by video recording, although individual students may perceive one as easier than the other. Video recording presentations has advantages that may make it preferable for all students. These include enhanced learning outcomes, such as digital literacy, and providing a record of the performance for moderation of assessment grading.

Adjustments may help reduce inequity of assessment between F2F and online modes. Exams in which invigilation is needed to ensure academic integrity are more difficult to conduct in the online environment. In view of concerns related to students' privacy, UNSW has chosen not to pursue online invigilation or proctoring as a potential solution. Several approaches are suggested to deal with problems posed by online exams. These include employing alternative assessment tasks that assess the same learning outcomes; designing exam questions to focus on analysis and interpretation; and utilising time limits and randomisation of questions to reduce the potential for collusion. Assessment activities such as demonstration of clinical and laboratory skills may need to focus on specific skills, such as reasoning, analysis and interpretation of data, which can be demonstrated in both modes.

Some forms of assessment may not be possible in dual mode. This may be the case where, for example, an intended learning outcome is the demonstration of a complex clinical skill, including for professional accreditation.

4. Students should be consulted and their experiences valued and monitored

Students are critically interested parties in the courses we provide. Students are strongly invested in their education and have important insights and creative ideas which can benefit the quality of

courses as well as forestalling perceptions of inequity. Where there are alternatives available it is essential that the students perceive these as equitable.

Students should be genuinely consulted in the planning, delivery, and post-mortem review of multi-mode courses, new educational activities, changes in course delivery, and changes to assessment. Such consultation should not be limited to student leaders and a small set of class representatives but involve as wide a range of students as possible.

The feedback and insights provided by students, and the changes in design which arise from it, should be made publicly available so students feel we have genuinely listened to them, and to encourage further and deeper engagement with them going forward.

5. The boundaries of flexibility in dual delivery should be acknowledged

There are significant trade-offs in enhancing flexibility versus increased complexity, risk, and manageability. It is therefore recommended that a distinction be made between decisions taken for the purpose of managing the pandemic circumstances and for any other times.

During pandemic circumstances it may be that the University prioritises flexibility, with planning designed to facilitate students and staff moving between the modes as necessitated by their personal or external circumstances. On-campus classes will likely need to be smaller to allow for social distancing, and hence may need to be repeated. The default position for delivery will need to be fully online so that the course can be completed no matter if there is full shut-down, with on-campus delivery envisaged more as a supplementary or alternative, where possible.

6. Workload should be manageable

Any advantages in providing options for students need to be weighed against the manageability of staff workloads. This paper cannot do justice to all the potential workload ramifications.

Dual mode delivery will require more work overall and requires staff to engage in multiple forums for communication, interaction and feedback. Online delivery requires staff to master new technologies and develop new skills for teaching and engaging and assessing students. Delivering to F2F and online students in the same course may require providing two sets of synchronous classes for on-campus and online students, or to use technologies for remote synchronous delivery that could detract from the simultaneous F2F learning experience. The situation is even more complex if provision is to be made for three modes: F2F, off-campus synchronous, and off-campus asynchronous learning and assessment activities.

Preparing high-quality learning resources beyond recorded lectures, such as short videos, online scenarios, case studies and problem-based learning, takes considerable time, and staff may need assurance of how such resources can be used across multiple sessions to demonstrate that the benefit is greater than the cost. Even if adequate IT and support services are provided for staff, it needs to be recognised that accessing such support services can itself be time-consuming.

A decision to introduce dual mode course delivery is therefore perhaps best seen as an investment that is warranted if it is not a one-off option. Indeed, as with any change, particularly in the short-term, student feedback on courses and teaching may suffer as a result of staff adapting to the demands of the new teaching context and workload. Alternatively, with the concurrent opportunity to involve students more closely in the planning and strategic design of their learning experiences the change may offer the possibility of more a profound change in our general educational practices which, if seized, has the potential to improve our students' experience of learning at UNSW.

References and Resources

Soesmanto, Tommy and Suzanne Bonner, `Dual Mode Delivery in an Introductory Statistics Course: Design and Evaluation' *Journal of Statistics Education* 27: 2 (2019), 90-98.

UNSW Teaching & Learning https://teaching.unsw.edu.au/teaching-approaches-and-strategies
Outlines strategies and approaches for F2F teaching that can be adapted for online learning

Scenario-based learning
Scenario based learning in the online classroom https://www.facultyfocus.com/articles/online-education/scenario-based-learning-in-the-online-classroom/

SBLi Scenario based learning Interactive https://www.sblinteractive.org/home.aspx
Scenario based learning Massey Guide
https://www.massey.ac.nz/massey/fms/AVC%20Academic/Teaching%20and%20Learning%20Cenrtres/Scenario-based-learning.pdf

Problem-based learning
Docherty C., Hoy D, Topp H & Trinder K. (2005). eLearning techniques supporting problem-based learning in clinical simulation. Int J Med Inform. 2005 Aug;74(7-8):527-33.

Practical/laboratory skills

Journal of Visual Experimentation (JOVE) https://www.jove.com/ (Free access until June 15)

Studio teaching
Studio teaching project http://www.studioteaching.org/

HyFlex Delivery Mode
https://insidehighered.com/digital-learning/article/2020/05/13/one-option-delivering-instruction-if-campuses-open-fall-hyflex

Appendix 1: Example F2F teaching-learning activities and equivalent online teaching & learning activities and assessments

F2F Teaching-learning activities and example intended learning outcomes	**Online Teaching-learning activities**	**Online Assessments**
Lectures Students will be able to: Convey basic & necessary information Give a big picture understanding of course & discipline Provide overview of course topics Describe relevance and applications Check for understanding Model practices such as experiments, problem solving and analysis skills Interactive discussion with students	Lecture delivery with F2F and online students (eg Blackboard Collaborate) Recorded F2F lectures (eg ECHO) Recorded F2F lectures with embedded activities (H5P & Kahoots quizzes) Short videos (eg 10-15 mins) focusing on key information Minute papers/ Muddiest point for checking understanding	Online exams (eg Proctorio type tools; questions that focus on analysis and interpretation, random ordering of questions) Automated online quizzes with randomized questions (Smart Sparrow, RealizeIT) Essays Project reports Video recordings of online presentations Voice-over PowerPoint presentations
Tutorials Collaborative learning, social interactions Discussion, interpretation Problem solving Regular engagement/participation Peer to peer feedback	Synchronous online classes for teacher and social presence, such as discussion/ questions/problems (breakout rooms, chat, quizzes) Document cameras for close-up demonstrations and problem solving Discussion forums for asynchronous participation	Participation in online forums (with rubrics) Problem worksheets

Workshopping of assessments		
Practical/ Laboratory sessions Linking theory & practice Developing practical skills/techniques Collecting & Interpreting data Report writing	Online classes demonstrating lab techniques Video demonstrations of experiments and lab techniques (Journal of Visual Experimentation- JOVE) Simulations Provide students with raw data to interpret and write up `At-home' labs	Prac reports Students photograph or video themselves doing practical exercises at home, where appropriate
Clinical skills Interview skills Examination skills	Video demonstrations Online problem-based learning Online role plays / interviews (with other students or simulated patients / clients etc.) Online scenario-based learning Interrupted case study Workplace learning (post-COVID option)	Written reports of scenario/ case study analysis Students video themselves doing clinical examinations in role plays or workplace, where possible (formative and summative) Online communication skills / medical history-taking with Simulated Patients – see OSPIA Students video themselves taking legal instructions etc Journals/ ePortfolios – reflective debriefs of learning processes and outcomes after clinical examinations/role plays
Studio teaching Creative and/or design process, performance or product Drama	Online classes with demonstrations Video demonstrations	Students video themselves doing performances/ techniques (formative and summative)

Performance techniques/skills Built environment/ engineering Design process & product Video production	Structured peer feedback activities (synchronous and asynchronous) Collaborative workshop meetings for group work	Draft & final project reports describing design process and products Journals/ ePortfolios – reflective accounts of learning processes and outcomes Video page-through of analogue visual process journals Video of curated exhibition of work insitu (eg to include sound, light, moving image) Individual or collaborative video projects
Workplace learning	Online role plays (with other students) Online scenario-based learning Interrupted case study	

Appendix 2: The UNSW Scientia Education Academy (SEA) and its Policy Options Papers Series

The Academy was established in October 2016. It recognizes our most outstanding educators for their leadership and contributions to enriching education at UNSW. There are similar numbers of Fellows in all faculties, so the Academy represents both breadth and depth of expertise. The SEA includes education-focused staff and some in leadership roles in the University but is not part of the management structure. This gives it a unique voice on educational issues of the day.

SEA Fellows who contributed to this paper*:

Lead authors:
Professor Shirley Scott and Dr Pamela Roberts,** UNSW Canberra

Art & Social Sciences
Professor Jacquelyn Cranney
Associate Professor Terry Cumming
Dr Michelle Langford

Engineering
Professor Richard Buckland
Dr May Lim

Law
Associate Professor Cathy Sherry
Dr Marina Nehme
Professor Prue Vines

Medicine
Professor Gary Velan, Co-Director, SEA

Science
Associate Professor Elizabeth Angstmann
Associate Professor Louise Lutze-Mann

UNSW Canberra
Dr Kate Wilson
Dr Leesa Sidhu

* This does not mean that any individual contributor necessarily agrees with everything contained in the final version. ** Dr Roberts, Chair of the ACT Branch of HERDSA, is employed on a sessional basis in the School of Humanities and Social Sciences at UNSW Canberra and undertook the research on which this paper is based. She is not a SEA Fellow.