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Blended Learning to Fly

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Due to the
COVID-19
pandemic, our
school will be
closed starting
Friday March 20.

BLENDED LEARNING TO FLY

Thank you for your understanding.

Profound change hit Higher Education globally in Spring 2020, leaving campuses around the world closed to face-to-face teaching. Once universities reopen premises more fully, we may see a mix of more socially-distanced campuses and a wider use of online and blended learning. Could our experiences in blended synchronous learning indicate ways forward for teaching practices?

An educational earthquake

In March 2020, an earthquake hit much of global Higher Education. Unlike the tectonic rupturing of a geological earthquake, the physical ground beneath Higher Education institutions (HEIs) did not actually break up nor did buildings come down. As the COVID-19 pandemic spread around the world, large numbers of HEIs were forced to switch their teaching operations to online modes of delivery at very short notice (McCarthy, 2020). While many institutions had been exploring forms of online delivery for several years and innovations such as the Massive Open Online Course (MOOC) had long been considered as disruptive to the enduring model of Higher Education (Shirky, 2012), this lockdown seemed to have forced what we might characterise as a sudden 'Great Onlining' on a sector that has sometimes been thought of as embracing change at an almost glacial pace (Barber, 2013).

Even in the immediate face of this tectonic shift, some recognised that the pandemic would force massive changes in all aspects of human behaviour and interactions. In the early stages of the pandemic, Litchfield (2020) suggested that '[t]his isn't a temporary disruption. It's the start of a completely different way of life.' As with many other HEIs, in our institutions – University of West London (UWL) and City, University of London (City) – academics found themselves forced to shift delivery of the remainder of the academic year completely online. This meant the rapid adoption of systems and approaches that were unfamiliar to most, and even providing steep learning curves for those with some working familiarity with educational technologies. For many academics, this meant transferring existing practices into alternative and online-only formats. The Great Onlining was just as disruptive for students, many of whom found themselves having to complete their studies in profoundly compromised circumstances. Many were confronted with having to learn new systems and ways of studying online, while facing practical challenges such as appropriate access to technology or a suitable place to study. Others faced impacts on their general wellbeing, confidence or motivation, and general circumstances



of uncertainty (Jackson, 2020).

This paper, however, begins not with lockdown narratives but with a look back over the past few years to lessons learned from a particular set of educational experiments in what we are referring to as 'blended synchronous learning', in order to ask what salience these experiences might have for today and for post-pandemic teaching futures in Higher Education.

On blended synchronous learning

Between mid-2016 and late 2017, we ran a project that we named, *Learning to Fly*. On three separate occasions over this period, we brought a Subject Matter Expert (SME) guest speaker into an undergraduate seminar within a module on '*Aircraft Reliability and Safety*'. The students were located in London, while the SME appeared live in their class via web conferencing tools from Auckland, New Zealand. For this project, we took an iterative approach to designing a learning experience, with each session learning from, and building on, the previous one.

While this initiative was new for us in our own practice, we were building on what others had done before us. Hastie *et al*'s (2010) Blended Synchronous Learning Model takes five basic elements (physical and virtual classrooms, teachers, students and the

number of possible participants in a physical or a virtual space) and describes nine possible operating modes. Blended Synchronous Learning (BSL) mode 6 of this model consists of teachers participating in both physical and virtual classrooms, and students participating in physical classrooms. Hastie *et al*'s BSL mode 9 consisted of teachers and students both simultaneously participating in physical and virtual classrooms, suggesting that this was the 'most holistic mode' in their model (*ibid*, 2010, p.17) and that mode 9 had the potential to become a mainstream approach for successful universities in the future. In mode 9, also seen as the most flexible, both teachers and students were free to choose which environment they wished to participate in, and multi-institutional collaboration across the world would become possible. BSL mode 9 was considered most effective when both teachers and students had prior experience of BSL. With *Learning to Fly*, we unknowingly started with BSL mode 6 and, by the third iteration, had moved to a limited version of mode 9. As the initial lockdowns of 2020 began easing and universities found themselves grappling with what an educational offer would look like 'after the quake', we returned to *Learning to Fly* and found ourselves asking whether what we found during that project had relevance for how Higher Education could operate in a time of COVID-19.



Planning, design and delivery

Beyond the technical facilitation of the idea, our primary aim was to be able to create a set of conditions that would allow the students to be as fully engaged in the learning experience as possible, rather than being distracted by the means through which their guest speaker was brought into their class. This meant attempting to lower or remove any of the barriers to participation, whether they were in physical or virtual space, and to therefore allow the session to have its own sense of flow.

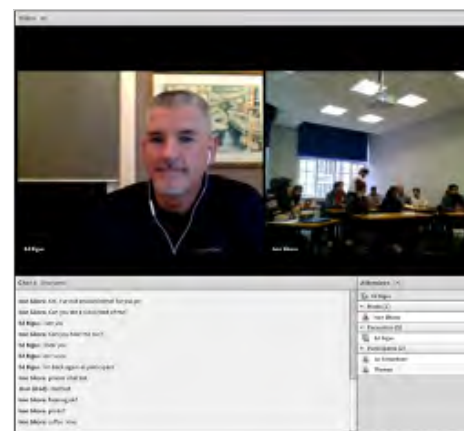
Csikszentmihalyi (1990) theorised that people are at their happiest when they are in what he described as 'a state of flow', where through intense focus and full engagement, an individual is fully immersed in an activity. Akin to feeling as if one is 'in the zone', Csikszentmihalyi's flow state includes such elements as clear goals every step of the way, a balance between challenges and skills, distractions being subconsciously excluded, and the activity becoming an end in itself. In order to achieve it, there must be a balance between the skill of the performer and the challenge of the task. Engendering a sense of flow can, of course, be considered from a range of different perspectives in a teaching and learning context, including pedagogical, spatial and technical aspects. Attempting to attain a degree of flow state for participation in these sessions was a key design goal for *Learning to Fly*.

In our experience, an effective BSL session was more likely to achieve a degree of flow when a moderator/producer was present during the delivery. We find a fitting parallel here with aviation where having a person to manage power and fuel flow is essential for the flight but will likely go unnoticed by the end user of the service. A 'spotter'

or 'wingman' in a BSL session takes tasks such as monitoring the chat channel and selecting questions, or advancing pre-designed layouts of a web conferencing system, allowing the main presenter to focus on the primary task in the same way that a flight engineer would once have supported a pilot in the cockpit while they navigate the flight path and communicate with ground staff.

Learning to Fly was run another two times after the first iteration, with each session building on the previous one. For the second iteration, we reviewed the session plan and divided the lecture into two parts, both to aid with student attention and to incorporate a group task in the middle of the talk. We booked a flexible learning space, which contained moulded plastic chairs on castors that enabled students to easily reconfigure the room layout themselves in order to fit into the webcam field of vision rather than be constrained by fixed seating or furniture that was difficult to move. We also incorporated the Adobe Connect mobile app, so that students were provided with an additional channel for asking text-based questions as they thought of them rather than saving them up till the end of a talk. For the third iteration, we gave the students a set of pre-tasks in advance, to get them thinking on-task prior to the session and we themed all activities around employability (a key performance indicator for many universities). We also introduced a CatchBox, a throwable wireless mic contained in a foam cube that was used by both in-class-teacher and all students for picking up their voices. This was the first session where one of the students also joined us online rather than in the room, thus serving as an example of BSL mode 9.

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Evaluation and reflections

With each iteration, we gathered primary data on the effectiveness of the session. For the first and second ones, our SME completed a short survey that asked a standard set of questions, gathered free text responses from the students during the sessions using the Poll Everywhere mobile response app, and solicited written feedback from the Educational Technologists who viewed the sessions online. We reviewed the third session via a focus group with participating students.

For sessions one and two, our SME felt fully prepared, found the stages of the session and the on-screen layout of each stage clear, well-designed and in an appropriate order. He found the experience positive each time with the technical provision easy to use, but was less certain about how engaged he felt with the students, even though a camera feed from the room in London to pick up his student audience was included in the onscreen layout of the online platform. He also noted the challenge of the significant time difference, which was a fairly early morning for the students and a late evening for him. This was a constraint that we had little choice but to work with given the large time difference but we used his written feedback to design in more interaction with the students, including breaking up the presentation into stages.

The students in these two sessions commented positively on the multi-modal design of the learning experience, on the ability to question and get first-hand information from an active practitioner in the field, and on gaining insights into how the industry worked; thus, connecting the theory of their lectures to practice. They provided constructive feedback on the need for some kind of on-screen 'laser' pointer for the SME to indicate which parts of a photograph or diagram he was referring to, and were similarly challenged by the early start of the sessions. Insights

generated from the focus group after the third session included the following comments:

I felt confident enough to ... interrupt with my points.

It was quite easy to follow and also for the Q&A, the [throwable] microphone helped a lot because that's one of the biggest concerns.

Obviously, it's better to have a live lecture, but sometimes people are around the world. Using these technologies, basically it's the closest thing to a live lecture.

An Educational Technologist colleague picked up on a moment when the mic wasn't used in the physical classroom and so couldn't be heard by any remote participants, and made a recommendation for an early opening of the text chat channel, in order for the remote participant(s) to be able to provide feedback on sound levels to the facilitators. The quality of the balance of audio levels was also picked up in colleague feedback from the second session, along with praise for the consideration of the on-screen layout templates that marked different stages and the addition of a camera feed from the room. He also recommended providing some basic instructions for online participants on the welcome slide, but stated that, 'it felt much more personal than a usual webinar'.

Higher Education teaching in a time of COVID-19

Three years after we introduced *Learning to Fly*, COVID-19 led to Higher Education campus lockdowns. City went into lockdown with Connect as the incumbent video conference platform, but subsequently found much synchronous teaching and learning activity moving towards newer platforms such as Microsoft Teams and Zoom. Although

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Teams/Zoom were clearly not designed for primarily educational contexts, they at least appeared to be technically robust and mobile friendly – a major factor for providing educational continuity in emergency circumstances. UWL used Blackboard Collaborate Ultra, which may have made the institution slightly better placed for coping with the immediate shift of teaching activity to a synchronous platform.

The London Higher umbrella body of universities and colleges in London lists over 40 institutions as members or partners, including City and UWL, and therefore clearly represents a significant number of academic staff and students. In July 2020, London Higher (2020) released the 'COVID-19 Secure Charter', which set out ten key principles that institutions were working on in order to show how HEIs in London were implementing safety measures for the coming academic year beyond the Spring 2020 lockdown phase. Aside from pandemic-related health and safety measures, examples of these principles included supporting staff and students with access to 'online provisions to enable them to perform to their best abilities and enjoy a richer digital experience' and committing HEIs to offering 'a combination of online and face-to-face solutions to working and learning' (ibid).

How can this large population conduct 'business as usual' in a transformed world, where close human contact is routinely and systematically avoided? As we anticipated and have observed in our own institutions now that a new academic year is underway, two key components of the pandemic-driven continuity of Higher Education have been 'the socially-distanced campus' and far greater online activity than would once have been the case. A 'socially-distanced campus' is clearly unlike the pre-pandemic buzz of an active term-time university.



Guidelines of one or two metres distance from others significantly reduce seating capacity in learning spaces such as lecture theatres. For those staff and students located within 'COVID-19 Secure' spaces, measures in addition to physical distancing include perspex face visors, face masks, large quantities of hand sanitiser, armies of cleaners, one-way systems, staggered timetables to avoid any kind of clustering of people, and lecturers being issued with individual microphones to avoid sharing resources. Such sterile environments might be COVID-secure, but they do not appear particularly conducive to active learning practices, and it is harder to provide a standard approach for the spatial needs of particular degrees, such as City's aeronautics laboratory or UWL's kitchens.

As the initial months of teaching under lockdown demonstrated, sudden changes to established practices might be achievable under emergency circumstances, but ensuring a high quality educational experience without precedents to draw on or without thoroughly evaluating such changes makes it very difficult to judge the effectiveness or impact of changes made. What is clear, however, is that the enforced lockdown has had a significant impact on traditional face-to-face teaching practices.

Embedding the 'Great Onlining'

Salmon (2020) discussed strategic 'design then deliver' stages of a curricula planning process, noting that multi-stakeholder co-design teams are effective for covering the first design stage, but that the delivery stage, in the example of teaching fully online, requires quite a different skillset from lecturing. Salmon also suggests that successful online learning experiences are mainly asynchronous, and for delivery, a mindset shift from academic 'contact hours' to students' 'total study hours' is necessary. White (2020) preferred the notion of 'presence' over contact hours, which redefines teaching activity towards the extent that a member of teaching staff is or feels present and in what mode – a helpful concept as we reconsider notions of engagement. Lefevre (2020) also considered strategic stages, defining them as stabilise, enhance and innovate for supporting moves towards more online practices. Stabilise consisted of the immediate pivot to online methods in the face of challenges such as lockdown. Enhance is the challenge that Salmon also referred to, the rapid design, development and implementation of online courses to make the move 'beyond video conferencing' (ibid, 2020). Innovate recommended institutions have teams that can think ahead, about how the values

and mission of a university can be effectively expressed online for inspiring and empowering students in the years to come.

Czerniewicz (2020) recounted lessons learned when South Africa's Higher Education sector experienced periods of university shutdowns that resulted in enforced moves to teaching online. Their lessons from the significant upscaling of online delivery were manifold, and remind us that there are also considerable political dimensions to large scale and permanent moves towards online education that must be addressed in parallel with other challenges around learning design, digital capabilities for staff and students, and institutional capacities

Blended synchronous learning and the new HE

Given the wholesale increase in online teaching and learning, we revisited our recommendations from *Learning to Fly* for any value they might bring to those new to attempting forms of BSL. These recommendations appear to be as fitting for post-lockdown environments as they were in the pre-COVID age:

1. **Test, test and test again.** There are many components to a BSL session, and teachers, with support staff, testing all aspects of these approaches, particularly for those new to the practice, is vital to develop working familiarity with the separate components.
2. **Raise the student voice in the mix.** While lower-quality video experiences can generally be forgiven in synchronous online learning environments, poor or intermittent audio is less-easily forgiven. Find a means of effectively bringing the student voice into the mix, with spoken voice as the priority, but written input via text chat as well.
3. **Don't let the technology become the focus.** To achieve better flow in a session, teachers should try to make whatever technologies used seem as close to invisible as possible.
4. **Build rapport between participants.** This is a key role for the facilitator (who may not be the teacher), and includes ensuring platform familiarisation for all participants, and connecting remote speakers with students.
5. **Break long presentations up into chunks.** This allows speakers a break and students time to digest any lecture material.
6. **Record the event.** This is for post-session review by students that attended and access for those that couldn't attend at the time.
7. **Have a 'co-pilot' in the main room.** A facilitator enables the teacher to focus on their primary teaching activities and keeps the session on track.



8. **Enable students to submit text-based comments and questions.** This provides a means for students to submit questions via text, such as a chat function, at any point during presentation.

9. **Make the event as interactive as possible.** Interactivity is a key component of active learning, and BSL works best when it is learner-centred.

10. **Get feedback from all participants.** This helps find out how it went and how it could be improved.

Blended Synchronous Learning can be a complex and challenging way of teaching and learning that is time and resource intensive and it can be cognitively demanding for both teacher and student. Easy access to digital tools such as video conferencing platforms does not necessarily make this an easy educational approach to take. However, as our experiences have shown and our guidelines indicate, with sufficient preparation, equipment and an appropriate setting of expectations, BSL can bring significant advantages to a variety of educational contexts. In a time of ongoing uncertainty for Higher Education, BSL also suggests opportunities and possibilities for post-pandemic teaching and learning practices. This paper recounts our experiences in working together at one institution, which demonstrated the potential of this approach. We aim to follow this project by collecting more primary data from others who have experienced forms of BSL, in order to widen the understanding of the potential and challenges of this approach in Higher Education. Perhaps BSL could afford more resilience in our sector before the next earthquake hits.

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