The perceptions of undergraduate surveying students of online learning during a pandemic and their preparation as industry practitioners

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Introduction

Students on undergraduate courses in surveying are the practitioners of the future: their course must be designed to prepare them as industry professionals. As part of students' learning experience, opportunities to carry out, in the safety of the formal learning environment, activities which practitioners undertake in their everyday work are invaluable preparation for industry. However, the 2020-21 COVID-19 pandemic and accompanying lockdown resulted in an enforced shift to online delivery of courses which had originally been designed for face-to-face delivery; this represented a challenge for all concerned.

The lockdown phases (figure 1) resulted alternate periods of being entirely online or having a mixture of online and face-to-face learning. In the case of the latter, although an advantage to those who were able to participate in person, having to wear masks and sit socially distanced meant that conversations easily became stilted and tutorial discussions could be difficult.
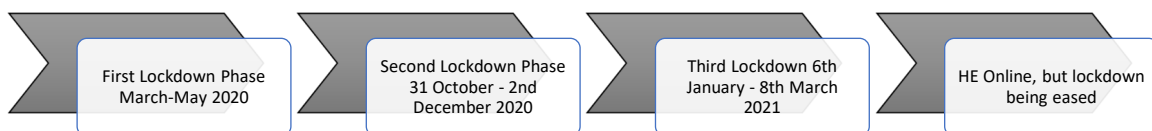

| First Lockdown Phase March-May 2020 | Second Lockdown Phase 31 October - 2nd December 2020 | Third Lockdown 6th January - 8th March 2021 | HE Online, but lockdown being eased |

Figure 1. Timeline of English Higher Education (HE) National Lockdown

These challenges required a reflective approach by tutors, who had to draw from their experience and skill to maintain an engaging learning environment (Thompson, 2013). They had to devise means of retaining authentic, real-world industry-based learning activities, which, though still a vital component of these courses, were difficult to deliver under lockdown. In some instances, though online solution did meet some needs, it could not entirely replicate all aspects of the real world. Consequently, there was concern that this enforced shift to solely online learning, combined with this problem, might impinge adversely on students learning experience.

This case study explores undergraduates surveying students' perceptions of how the online experience affected their learning; it seeks to understand their perspective of this unforeseen experience and aspects which are deemed worth retaining in a return to face-to-face teaching. As undergraduates are future industry professionals, it is important that their perspective is understood so that resources may be tailored to help support their online learning needs.

This study was undertaken at a post-1992 university and involved undergraduate students on Royal Institution of Chartered Surveyors (RICS) accredited courses. Approximately sixty-five per cent of students on these courses study either part time one day per week or via a degree apprenticeship. Almost all students on these courses are, or will become, industry practitioners, applying knowledge and skills they acquire through their formal studies; this informs the learning experience provided.

This study focused on the students' perspective and how their learning and development as industry practitioners could be maintained during the online experience; subsequent retention in course delivery of any identified positive elements of the pandemic-enforced strategies might then serve to enhance post-lockdown student learning on these courses.

Context

Vocational undergraduate degrees

Accredited courses are each designed for a specific profession and must adhere to their Professional, Statutory and Regulatory Body (PSRB) requirements. In built environment courses these requirements include acquisition of theoretical knowledge, demonstration of practice-based learning or competencies and development of soft skills. Consequently, authentic practice-based learning and assessment activities are used to develop students as practitioners.

The pandemic tested the 'choice' element of HE. Faced with the change to online learning, students could have transferred to an online provider such as the University College of Estate Management or the Open University. Equally, there was the possibility of intermitting for a year. In this crisis, although 'choice' was available, the evidence from our teaching context was that students did not exercise choice to change provider or to intermit.

Influences on learning and perceptions of online learning

The value of aligning teaching, learning and assessment (Biggs and Tang, 2011) is widely known. For surveying students, a practice-focused pedagogy and assessment contribute to their learning and development as industry practitioners and promote a deep approach to learning. Tapping into students focus on assessment as the object of their learning energies suggests that designing assessment to replicate practice-based activities could bridge theory-practice gaps. Such a deep approach to learning in assessment activities is associated with looking for meaning (Gijbels, Segers and Struyf, 2008). However, in the online learning environment such activities became challenging, with options limited to either having no such activities or devising an alternative. For example, students on one these courses undertook a building survey, but doing so online is not the same as the experience of conducting a survey in the real-world setting. Other challenges emerged in designing the online experience: for example, undertaking a schedule of dilapidations or producing a home buyer's report without going in person to a building could, for novices, limit the range and depth of their responses.

Online learning presents challenges which are not present in the face-to-face environment; engaging students and keeping them focused is vital (Angelino, Keels Williams and Natvig, 2007). Yet at the outset of lockdown students were already part way through their course,

meaning they then encountered new learning challenges, and ones for which they had not enrolled.

The enforced shift to online learning required students to develop a different approach to their learning: students had to adapt to learn in a digital environment and this, in turn, is linked with self-regulated learning (Anthonysamy, Koo and Hin, 2020). However, unlike students who choose to study online, these students had enrolled on a face-to-face course, which might suggest a degree of reluctance to engage with the online environment.

Method

The aim of this project was to understand student perceptions of the online environment in order that future resources and practice could be enhanced. The study gathered qualitative data regarding students' perceptions of their online learning experience through an online questionnaire and interviews. Having designed the project, we, the researchers, secured ethics approval from the University using the required documentation and followed the approval protocols throughout the research process. We were 'insiders' to this project in that we worked within the system under investigation (Checkland, 1981). We debated the possibility of personal bias in our research role (Cohen, Manion and Morrison, 2018), but considered this risk of minimal significance as we were seeking to understand the unknown 'other' perspective.

Recruitment criteria for participants were that they had to be in their final year of study on the BSc (Hons) Building Surveying or BSc (Hons) Quantity Surveying. This gave a population of approximately 210 students, whom we provided with information about this study and invited to participate.

The survey was completed in students own time and undertaken through onlinesurveys UK, which is the institutionally used platform. The number of participants was capped at ninety to remain within the ethics approval requirements. The survey was available from 1 March 2021 to 31 March 2021, and twenty-five responses were recorded. The first question was to establish students' willingness to participate; those who declined were thanked for their time and then locked out of the remaining questions. This resulted in the departure of two volunteers from the survey leaving twenty-three full responses. The survey contained three free-text response questions concerning students' perceptions of their experience. Students were invited to discuss their perceptions in more depth via an interview and three students did so, again a self-selecting group.

Interviews were conducted from 1 April 2021 to 6 April 2021. The pandemic meant that to be COVID-19 safe all interviews were conducted via MS Teams, which was used to record each interview. These recordings then provided the basis of transcripts which were generated via Microsoft Stream and placed into a standard Word document for analysis.

At the start of each interview, to help put students at their ease, it was first explained that they – not we the tutors/researchers - were experts in the subject under investigation. We also explained this study's potential value to the learning experience of subsequent students on the same courses that they were following.

Following each interview, the transcript was checked for accuracy and corrected as necessary. We chose thematic analysis as the method of data analysis since it would enable

us to identify and examine the key issues contained in the data (Braun and Clarke, 2006). Thus, we put each transcript and, separately, the survey data onto an Excel sheet, with each sentence or phrase on a separate line. Next, we examined each sentence for meaning and wrote the word or phrase which best represented the response (Braun and Clarke, 2006) in the adjacent box. Having checked for accuracy, we then set about grouping these meanings into themes, which once again, we subjected rigorous scrutiny to ensure everything was correct.

Findings

Through this research, we are concerned to understand surveying students' perceptions of those experiences and 2) to identify aspects of pedagogic practice which were perceived as valuable in supporting learning and should be retained in the return to a face-to-face environment.

We should note 1) that students reported very high levels of satisfaction with the response that tutors provided to the new situation and 2) that they expressed appreciation for the work done to provide the best possible experience under the circumstances.

Communication

In response to the questionnaire, students identified lecturers' recordings as most important as students could re-wind the recordings as they needed and were able to access them at any time. Students considered this effective as they could focus on any areas about which they were unclear. For example, one student articulated "*I've found* [recorded lectures] *really helped me a lot, and if I haven't understood something, I've been able to re-watch*". Online materials were also important. One interviewee commented "*I can* [read PowerPoints] *in my own time*".

In advance of the online classes, one tutor provided pre-recorded lectures containing demonstrations of real-world professional practice activities: for example, taking off from drawings to produce a bill of quantities. Online classes subsequently discussed the material, meaning that class time was devoted entirely to student-tutor communication. Students found this approach very helpful, as it provided opportunity to resolve queries - in particular concerning assessment. It also meant that they were able to continue developing their readiness for industry. Another tutor provided recorded building surveys with a voice-over, to explain the aspects of the survey, to highlight relevant noteworthy points for the practitioner and to show how these relate to RICS requirements.

The most pronounced learning challenge raised was about communication in the online environment, for students had the perception that being entirely online had reduced opportunity for discussion with tutors. One student commented "*if I had you in front of me and I had a problem, it'd be easier*". Ironically, although tutors were available for meetings outside scheduled classes, students seemed reluctant to take advantage of this opportunity.

Students, perhaps unsurprisingly, missed the social dimension and friendship part of university education experience. The social dimension was integral to their experience and helped students to feel a sense of belonging, something which became difficult online: "*you kept in touch with your friends … we've had a WhatsApp group chat since day one really, which we communicate through*". The social dimension of their learning experience in the

conventional sense may have become a more powerful part of their experience by its absence.

Students' role

Interestingly and perhaps counter-intuitively, the online experience led students to appreciate their role in their own learning. This was manifest in their recognising in particular the significance of time management:

> "… use your time wisely…",
> "… plan ahead as much as possible…"

With this research, we were keen to understand the student perspective of online learning. However, we didn't anticipate that students would include their own contribution to learning; nor the fact that they came to recognise their time management (as well as their ability to overcome challenges) as important.

Unexpectedly, a small number of students reported their fears: "… *fear of being alone at home doing it*…" One respondent alluded to the experience of initially finding the dissertation difficult, as "*a new way of working*…" Fear may also account for the fact that, in spite of encouragement to do so, students did not turn on their cameras during online classes. One comment from the survey "… *don't be scared to ask for help*…" also drew our attention to the fact that students could be deterred from asking questions to resolve uncertainties because they were 'scared' to do so.

Students alluded to the practical challenges or the luxuries of working from home, according to the extent of space or resources to do so effectively:

> "… no set up or individual working area to concentrate."
> "… create a space that is workable for whatever you're doing. And kind of make it as nice as possible…"

The online delivery had thus introduced a degree of inequality and had also caused students to reflect on their environment as important for their learning experience.

Discussion

Communication was the greatest challenge presented in the online environment. Most obvious was the reduced opportunity for students to have discussion with tutors to clarify points. Without this, students relied more on finding their own understanding via electronic resources provided. Communication is recognised as an important part of the teaching-learning process (Witt, 2016), but the enforced online environment reduced the efficacy of this process. Consequently, students found themselves having to adapt mid-way through their studies. Opportunities to discuss with tutors became highly prized as this was an important means to clarify points of subject matter or assessment requirements. This suggests that widening opportunities for dialogue is important and should be given consideration in the online environment. It was interesting that some students had set up their own lines of communication via a WhatsApp group. As a communication route between students, such an informal channel may have provided support, as well as opportunity for

discussion of the subject, and been a way to avoid the fear of formal online sessions. Educators' encouragement of such informal lines of communication could well help to resolve challenges of communication.

That communication was central to students concerns suggests that using online time for discussion offers scope for deeper learning, since, out of necessity, students engage with the subject. Students were of the view that prior online provision of pre-recorded lectures and/or demonstrations would enable face-to-face class time to be devoted to such interactive learning activities as workshops and discussion. This surprised us since we had previously perceived that students seldom attended lectures having engaged beforehand with the learning material provided. However, this flipped approach, offering real-world activities in the pre-class material and more interactive engagement in class does seem to offer possibilities for enhancements to pedagogy in the future.

It was clear that tutors were able to reproduce online resources to support students learning and preparation as practitioners: for example, use of 1) GoPro recordings which could form the basis of the learning experience, or 2) the flipped classroom to focus students on professional practice activities embedded in assessment. Such activities were valued by students. They also removed an element of fear as they could be used by students outside the classroom yet contained real-world simulation.

Students recognised that it was important to take control of their own learning and environment. Self-regulation has been acknowledged as important in students learning and correlates with the learner able to seek help as and when required (Nicol and Macfarlane-Dick, 2006). Possibly students were suddenly confronted with 'self' as central to the learning experience rather than passively relying on the scheduled classes. Vygotsky's zone of proximal development emphasizes the significant role of teacher providing support for learning (Long, *et al*., 2011); online this represents a dilemma for students. Overcoming this challenge during the pandemic could be regarded as a triumph. Interestingly, during the pandemic, online learners valued the flipped classroom which matches findings of Izagirre-Olaizola and Morandeira-Arca (2020).

It was interesting that the negative emotion of fear emerged as a facet of the online experience and, in particular, fear in relation to asking questions and becoming 'visible' to others in a group. This was a new experience for tutors, as students apparently sought often to remain invisible, frequently remaining silent during online classes with their cameras switched off. Findings of this work are similar to those of Lemay, Bazelais, and Doleck (2021), in terms of the adaptability of pedagogy to meet students' needs, communication challenges and a degree of student emotional distress (which in their study was represented as 'stress').

It was interesting, too, that students made no reference to professional practice and skills they were developing. It may be that the real-world focus remained central to tutors' pedagogy and that, consequently, students experience, although online, remained directed towards industry. Re-creating the real-world as far as possible, in whatever way deemed appropriate, meant students continued to have a practice-based learning experience.

It is recognised here that a limitation of this study was the small number of participants; findings should be treated with caution. However, these findings do offer insight into issues in the online environment and suggest means of enhancing pedagogy.

Conclusions

We were concerned that this paper should identify those online learning resources and activities which surveying undergraduates find valuable for their online learning and which might be useful in the post-lockdown era. It was evident that there were key elements of the enforced online experience which might successfully be deployed in a face-to-face learning environment. Use of online resources to underpin a flipped classroom and online simulation were aspects of delivery which students felt valuable and worth keeping in the face-to-face environment. Such devices provide significant support for students as novices engaging with professional practice activities and their preparation as effective industry practitioners.

Exclusive use of online delivery of courses presented new challenges. Remote delivery of learning and assessment activities was perceived as the best which could be provided under the circumstances. Evidently, students felt that tutors were providing the best service they could in what were difficult times.

Considering these findings, it is clearly important that, if we are to support student learning better in the return to the face-to-face environment, we use online resources differently.

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