Engaging students in online learning: technology-integrated distance learning for Chinese students at partner institutions in China

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Abstract

To mitigate the problems of lack of preparedness and lack of a sense of learning community associated with online learning, this case study illustrates how a range of technologies including online platforms and educational tools may be integrated to assist purposeful engagement with learners for active learning to ensue. This case is based on an undergraduate module delivered virtually to three TNE partner institutions in China. Zoom, Mentimeter and WeChat were adopted to help with cognitive and affective engagement by the students. While this design is focused on online delivery, there is also an important implication for classroom-based teaching in achieving purposeful engagement with students.

Keywords: Online delivery, student engagement, Chinese TNE students

Introduction

Over the past two decades, learner-centred active learning has taken precedence over traditional lecturer-centred lecturing as the preferred pedagogy. Active learning requires an educator to adopt teaching techniques which engage students in the learning process and has been reported as being more effective in increasing students' performance (Freeman *et al.*, 2014). Various forms of active learning have been developed – such as interactive engagements used in flipped-classroom teaching – all of which require classroom-based, face-to-face interactions to facilitate deep learning. When the COVID-19 pandemic restricted classroom-based teaching, it became urgently necessary to find the most effective strategies for engaging students in a virtual learning environment.

The University of Greenwich partners with Chinese universities which provide '3+1' undergraduate programmes: students on the programme study at the partner universities for the first three years and then, for their fourth year of study, join Greenwich as United Kingdom (UK) third-year students. Chinese students' learning in their own country has been recognised as relying on repetitive rote-learning and memorisation (Ballard and Clanchy, 1991), but they are modest and diligent learners (Park, 2000) who highly respect and value teachers (Watkins and Biggs, 2001). During the second and third years of their study at the partner institutions, University of Greenwich academic staff provide and deliver to them several Greenwich modules as preparation for entry into a different education system. This case study is based on one such module – in management accounting – taught virtually to three student groups at three partner universities in China.

The online delivery of the module presented two major challenges, the first of which was technological. Since the students on 3+1 programmes are not yet Greenwich University's registered students, they have access neither to Moodle nor to Teams or Panopto. The

technological challenge thus entails, as a minimum requirement, selection of 1) a suitable platform for storing and sharing module materials, 2) a form of software for recording lectures and 3) a platform for conducting live teaching, all of which the students at all three partner institutions must be able to access. The second challenge arose because, though the concept of active learning is not new in the UK, it is new to the students at the partner institutions; thus it is hard to stimulate active online learning by students who are normally passive learners even in the physical classroom. This case study is therefore focused on a technological integration to implement cognitive and affective engagement to facilitate active online learning.

Literature review

Online learning requires more self-regulated learning than do traditional learning practices. Online, students are expected to view pre-recorded lectures before attending live sessions that focus more exclusively on application-oriented learning activities (Kim *et al.*, 2014). However, research has reported that only autonomously motivated students benefit from self-regulated learning outside of class: less autonomously motivated students experience the pitfalls of online learning and are less keen to engage with resources provided online (Beenen and Arbaugh, 2018). There is little research on how those less self-motived students may be extrinsically motivated to be better prepared for online learning.

Furthermore, existing studies report that learner isolation is one of the major obstacles to successful online learning (Murdock and Williams, 2011). Some research suggests that forming a learning community can be an effective technique in online distance learning (Shrivastava,1999). A learning community can generate effective interactions between a lecturer and students and encourages engagement between students; however, it's less clear from the literature *how* a learning community may be established in an online setting.

The growth of mobile device usage has promoted the incorporation of platforms and apps as learning tools in online learning. Studies have reported that educational tools such as Kahoot, Socrative and Mentimeter could greatly encourage the participation and involvement of students. Mentimeter, subscribed to by the University of Greenwich, is regarded as an engaging and highly interactive tool (Díaz-Sainz *et al.*, 2021). So far, very little research has been carried out on the use of Mentimeter in teaching and learning. In research by Rodríguez *et al.* (2018), Mentimeter was deployed as an innovative tool for teaching the subject of process control. As a means of encouraging student interaction, presentation slides had some blanks which the students were invited to fill, via Mentimeter, during the presentation. However, neither using different questions styles provided by Mentimeter nor affective engagement was discussed in the paper.

Thus, in this case study, I consider the application of an integrative approach to targeting the two online-learning problems identified above: lack of a sense of community and lack of student preparedness.

Module participants

The module participants were third-year students studying on 3+1 programmes at three different partner universities in China: Hunan Agricultural University (HAU), Guangxi University of Economics and Finance (GUEF) and Anhui University (AU). The students had

the same ethnic background and studied the same module in a second language. After completing the first three years of studies at Chinese universities, most of the students would come to the UK as third-year direct-entry students and were therefore without UK higher education experience. Given the differences between the two educational systems, the academic team at the University of Greenwich often observed that direct-entry Chinese students were not active in tutorial discussions and group work and so it was important to prepare them with active-learning experiences before they joined the UK university.

Table 1 presents some basic information about the three student groups in this case study. The module was delivered at HAU in May 2020, at GUFE in September 2020 and at Anhui University in December 2020.

Group	Number	Gender	
		F	M
1 (05/20, HAU)	77	37	40
2 (09/20, GUFE)	98	67	31
3 (12/20, AU)	75	35	40

Table 1.

Approach

The module was delivered over a period of two weeks at each institution. To tackle the two problems identified and to assist the students' active learning, the chosen strategy comprised three inter-related components: curriculum adaptation, teaching techniques and technology integration (figure 1).

For curriculum adaptation, the original module materials for face-to-face classroom-based teaching were systematically revised, each topic was broken down around the key concepts and then two or three short videos were produced, the better to meet anticipated learner attention span in an online setting. In addition, tutorial questions were selected based on questions used in face-to-face tutorials to underpin a forward-feeding learning process.

For teaching techniques, cognitive engagement and affective engagement were purposefully implemented, aimed at students' learning of subject knowledge and relationship-building in virtual learning.

A set of subject-specific questions were designed and used in the first ten minutes of each live session to engage and assist with the students' learning of subject knowledge. This cognitive engagement aimed to test students' preparedness prior to a class. (Such questions are not only helpful in finding out whether students are ready for live interactive sessions; they also show where students are struggling and need more focused explanations. Moreover, using them provides an opportunity for adding more complex, stimulating questions to challenge those students who are strong in independent learning.)

Another set of questions relating to the students themselves was used to engage the students affectively during the first few sessions of online delivery. This involved a variety of in-class and outside-class activities designed to increase social rapport among students in addition to facilitating exchanges of personal information among students (Roblyer and Ekhaml, 2000). The questions included why they were interested in the subject, what their hobbies were, who their role models were etc. (figure 2). Such questions help instructors to know their students better and students in a large group to get to know each other. In addition, group discussions and formative group work were applied to facilitate the sense of a learning community.
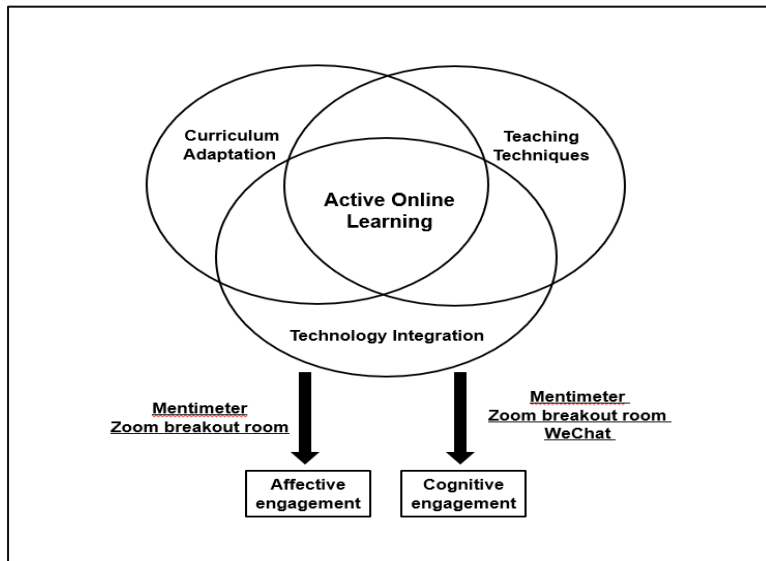

Figure 1: The instructional strategy employed

For technology integration, various technologies were integrated as follows. First, WeChat, the most-used app in China, was adopted as the platform to store all teaching materials. The students could access these materials at any time via the app, but a WeChat group was also created to facilitate communications in and outside the classes.

Second, Zoom meetings were used for recording lectures, which were uploaded to WeChat before every live session to assist asynchronous learning. They were also used for live teaching for synchronous learning. Furthermore, in order to generate small-group discussion to facilitate collaborative team-based learning (Burgess *et al*., 2019), Zoom breakout rooms were used to allocate the students into small groups with pre-designed tasks.

Third, Mentimeter, with its various styles of questions, was used to enhance live teaching interactions with students in a large group. Subject-specific questions in the form of quizzes, true-or-false and open-ended questions were applied to test students' preparedness. Questions that related to students themselves in forms of word-cloud style were applied, aiming at affective engagement and relationship-building within the student group. (Asking questions on Mentimeter enables individual learners in the large group to have an equal chance of responding to the questions. The leader-board function for quizzes encourages competitiveness amongst students.) Via Mentimeter, immediate feedback was provided to the students from the results tabulated at the end of each question; it was also used to check students' progress and adapt the level of difficulty in teaching content.
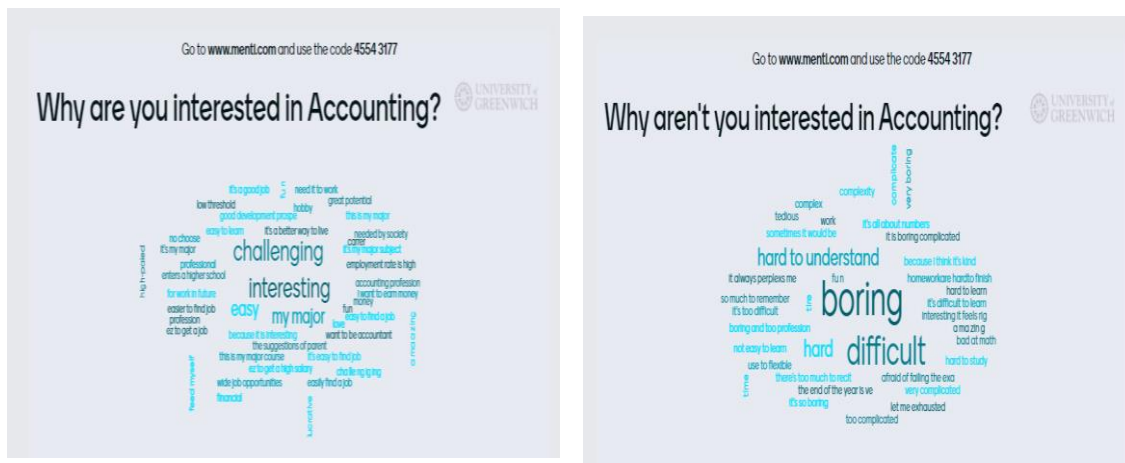
Figure 2: A sample of student responses on Mentimeter

Evaluation of online engagement

In this case study, the focus of interest is to explore how an integrated approach may be implemented to mitigate the identified challenges associated with online delivery: lack of students' preparedness and lack of sense of community.

Students' preparedness prior to joining live sessions

To help the students to be better prepared for live sessions, a set of subject-specific questions was used at the beginning of each live session. These were based on the key knowledge delivered the day before. Over the delivery period of this module, the students showed an increasing engagement with this activity across all three groups. Participation proved to be most successful when quizzes were applied, possibly because of the element of competition created by the leader board function. For individual students, it was apparent that competition enhanced self-esteem and desire to win. (To be at the top of the leader board, a student not only must answer a question correctly; s/he must also submit the answer before anyone else.) One student commented: "*I thought online learning would be dull, but the lecturer made it interesting. It was fun when we were invited to join Menti to answer questions*". It was obvious that quizzes on Mentimeter succeeded in increasing students' participation in online learning, though some students unfortunately prioritised answer speed over quality of response, which discouraged their deeper reflection upon knowledge.

Questions asked in other styles on Mentimeter demonstrated better participation than those asked via the chat function on Zoom. When questions were asked in Zoom's chat box, a few high-performing students always responded to the questions quickly, which left little chance for other students. In classroom-based teaching, an instructor can easily direct questions to any students who may not be participating well, but it is harder to do this online. By means of Mentimeter, I saw an increasing number of students responding to questions, since the interactive tool offers every student equal access. One student stated: "*We normally won't be asked to answer questions in a class, now I am used to answering questions in*

Mentimeter, these questions have helped me to learn." Another said, "*I enjoy learning the module online. The class is interactive and we have access to everything needed online.*"

Creating a sense of community in online delivery

While the preparedness of students may be tested and observed during live sessions, there isn't a ready measurement to examine whether a sense of community has been formed among online learners. Our assessment of a learning community is therefore based on the students' feedback as well as their academic performance.

The process of creating a learning community was carried out in two ways, one by asking questions about students themselves using word-cloud questions on Mentimeter, another by organising small-group discussions to facilitate collaborative learning.

The students were active in responding to the questions about themselves. The responses revealed personal characteristics of the students, which were very helpful for building a sense of community since the students did not necessarily know their fellow students in the group. Individual responses on Mentimeter were shared in Zoom meeting where all students could see others' responses, so helping to bring them into a closer relationship. One student commented: "*some people are really interesting. I feel that I know them better now from their answers to the questions about their hobbies and role models.*"

I used the breakout rooms function on Zoom to split the students into small groups. By doing so, I expected to mimic the group discussion in normal classroom-based teaching and I hoped to be able to hear individual students' opinions and the simultaneous group-discussion dynamic.

Students were randomly allocated into groups of five or six students. This allocation method was chosen as the students would otherwise have chosen (under a self-selection method for grouping) to team up only with those who lived in the same dorm room. The random allocation created opportunities for the students to team up with new acquaintances and work together on the tasks assigned. Groupwork is one of the most common means of fostering student engagement, as working in small groups enables them to move beyond learning as individuals and to participate in collaborative learning activities that are engaging (Davidson *et al.*, 2014).) However, evident here was a lack of meaningful group conversation relevant to the subject knowledge. Students later reported that they had never had group discussions before and speaking in English made it even more difficult to contribute to the task. One student stated: "*I don't understand the group work, I don't know what to do I don't think group work suits us.*"

Even though online group discussions were not very promising, the average marks across the three groups demonstrated a good understanding of the module learning outcomes and the ability to apply the knowledge to exam questions. The average marks of the students from HAU, GUFE and AU were 52.2%, 65.7% and 56.3%, respectively. Such performance indicates that learning communities might have been created. The average mark from GUFE was better, perhaps because a higher entry mark was set by this university than by the other two.

Limitations

When the pandemic made face-to-face learning impossible, technology helped to overcome the challenges and enabled teaching and learning to take place virtually. A range of platforms and online tools have since been applied to check students' preparedness for live sessions and to help them to build relationships with other learners in large groups. Two limitations arise in this case study. First, given the intensive delivery style of the online module, the students were tested by means of a formative approach for preparedness and progress in learning the subject knowledge, as it was not feasible to test them formally by providing grades during a two-week block of teaching; however, formally marked tests may be more effective in motivating students to learn. Second, although the integrated approach increased student engagement in large groups for synchronous learning, it didn't create opportunities for asynchronous group learning. Asynchronous group learning may have greater potential for facilitating learning and provides the time that is needed for developing relationships.

Conclusion

The case study is based on an online delivery to three student groups at three Chinese partner universities and explores whether purposeful interactions supported by technology integration can help to enhance students' engagement in online learning. In order to provide a more effective learning experience, the study proposes leveraging as many suitable learning platforms and tools as possible for online teaching and adopting the mindset to engage students both cognitively on subject knowledge and affectively for relationship-building. To improve students' preparation and progress with subject knowledge, tests – either formal or informal – via interactive educational tools should be implemented in live teaching. To help with creating a learning community among students, synchronous group discussions as well as asynchronous learning groups outside the class should be initiated with pre-assigned learning tasks.

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