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Using anonymous student feedback to enhance digital teaching and learning practices in IT modules

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Using anonymous student feedback to enhance digital teaching and learning practices in IT modules.

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Abstract

This case study outlines the use of four digital tools to enhance student learning across several Information Technology modules (Level 7 and 8 in the Irish National Framework of Qualifications). Survey feedback on the use of these digital tools was positive, particularly towards the use of in-class polling and the supplementary instructor-made videos.

Introduction

Nowadays, digital technology plays a pivotal role in mediating the student-teacher experience, hence much attention has been given to how we can use it constructively to improve the student's experience of learning. Given the ever-increasing number of digital tools available, it has become essential to be familiar with the most effective methods for using technology to enhance the learning experience of all students.

There is a wealth of research to show that there is a positive perception of the learner towards technological modes of instruction (Kensigner Rose, 2009; Pera et al., 2017; Evans, 2008). For example, a study by Rose (2009) showed that the use of instructor-made videos in online and face-to-face classes have a profoundly positive impact on the students' perceived learning experience. Other advantages of using videos include flexible access, where they can choose when and where to watch the videos, and learner control over playback to watch the content at their own pace (Ghavifekr & Rosdy, 2015).

Ireland's National Digital Experience (INDEx) survey (2020) reported that students found the use of the VLE and provision of lecture recordings a major contributor to improving their experience of digital teaching and learning. Regarding digital activities for collaboration and interaction, the survey reported that tools such as polling/quizzing are seen as beneficial by students. Polling/Audience Response systems (ASR) can be used to integrate active learning environments in large lecture classrooms. Its use has been shown to increase the student's perception of engagement (Kapper & Cutler, 2015) and to improve the students' understanding of the subject content (Mequid & Collins, 2017).

Inspired by their own learning experiences, the aim of this study is for the lecturers to challenge themselves as educators and use technology effectively to facilitate student-centred teaching and enrich the learning experience of the student.

Approach

This study explores the use of online polling software (Poll Everywhere), feedback forms (Google Forms), instant messaging (Slack) and instructor-made videos (hosted on YouTube). As displayed in Figure 2, these tools were used in combination to increase levels of engagement, improve understanding of the subject content, to regulate class pace of the course as a group, and to facilitate self-paced and self-directed learning (Pan et al., 2012).

The feedback received from the students on the use of these tools was profoundly positive"
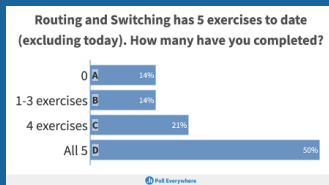

Figure 1: a Poll taken during class to enable the lecturer to see where their students are and to gauge how students are coping with the material.
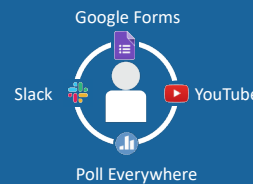

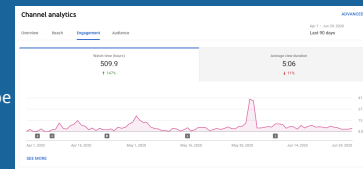Figure 2: Digital activities with student-centred learning

Figure 3: the average view duration for one of the lecturer's YouTube channel, between April 1st – June 29, 2020.

	Positives ✔	Negatives ✘
Google Forms	Using forms gave early feedback to lecturers to help improve teaching.	Open-ended feedback created opportunities for feedback that wasn't necessarily relevant to the module.
Poll Everywhere	Polling before classes informed class direction and pace of subsequent lectures.	Lecturer workload increased as polls needed to be prepared and technology needed to be tested in advance.
Slack	Provided instant messaging capabilities between lecturers and students and facilitated collaboration.	With instant messaging it was difficult to establish clear boundaries of the lecturer's availability.
YouTube videos	Creating technical content allowed for self-paced learning and gave students flexible access, which mitigated the need for repetitive demonstration.	Due to the ever-changing IT landscape, it is difficult to ensure the quality and currency of software demonstrations, so videos need to be updated regularly.

Table 1 detailing a list of positive and negative experiences from the lecturers' perspective of using the tools.

Using a student-centred approach, the lecturers reviewed module learning outcomes to ensure pedagogy leads technology. They focused on their ability to enhance the quality of teaching and learning experience by:

- Ascertaining students' progress and level of understanding through instant and continuous **anonymous student feedback.**

- Enabling students to communicate with the lecturer and collaborate and share resources with each other (**peer learning**).

- Utilizing formative assessment with regular low stakes Moodle quizzes and novel online practical assessments to provide authentic real-world experiences (**Assessment for Learning**)

- Providing instructor-made videos for scaffolding in an asynchronous learning environment (**flipped classroom**)

The tools that were used to consider the aforementioned were:

- **Google Forms:** is a survey app that was used to capture continuous feedback throughout the duration of the module. A link to this form was provided on the modules Moodle page, whereby students could provide anonymous feedback at any given point.

- **Poll Everywhere**: is an e-polling software that was used to capture instant and anonymous feedback during class time and prior to a class.

- **Slack:** is a communication platform that was used as a collaboration hub for the lecturer and students. Messages were segmented into channels of various topic. Moreover, the platform allowed for one-to-one direct messaging for the needs of private messaging between the students themselves or between the lecturer and a student.

- **YouTube videos:** were used to promote asynchronous learning. Instructor-made videos (Snel, 2019; South, 2019) were created to allow students to learn technical concepts at their preferred pace.

Preliminary findings

Over one semester (12 weeks), the lecturers received 44 anonymous responses through Google Forms from students provided on a continuous basis. The responses included requests about matters on course materials, pace and self-reports on areas of weaknesses/strengths. Poll Everywhere was primarily used for instant feedback, formative assessment, and to determine student progress on previously assigned tasks (see Figure 1 for an example). In addition to using forms and polls, Slack was used to allow for direct messaging during and outside of class times. The lecturers provided a combined total of around 100 videos that included both lectures and practical demonstrations. The statistics between the lecturers' channels had notable differences, which appeared to be due to videos being either published as public or unlisted. Over a period of 90 days, Figure 3 gives an example of one of the lecturer's statistics (set as public) on engagement displaying the average viewing duration of 5 minutes and 6 seconds and a total of 509.9 hours watch time. On the other hand, the other lecturer's channel had a watch time of 111.8 hours and an average time of 2 minutes and 49 seconds over a 90-day period. In Table 1, a list of positive and negative experiences is given from the lecturers' perspective of using the tools.

Conclusions

The feedback received from the students on the use of these tools was profoundly positive. Both lecturers received requests at the onset of the semester to continue with the provision of instructor-made video content. Poll Everywhere also indicated a positive experience and enhanced feelings of engagement. The observations in this study are in line with the findings of the National Forum for the Enhancement of Teaching and Learning in Higher Education (2020). Despite the benefits to student-learning, it can be challenging for the lecturer to use technology for pedagogic purposes, just as Younie, S., & Leask, M. (2013) recognized, as this approach comes with additional complexities that may require extra professional development.

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