Case Study Template

Improving Student Engagement using Virtual Technology

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Video: https://lboro.cloud.panopto.eu/Panopto/Pages/Viewer.aspx?id=b688e05b-2430-42ce-965a-ad4900f95fd7

Abstract

Using a virtual space to provide an immersive experience for module materials and improved student engagement. Latest example found here https://framevr.io/bspa15-intro. Allows the presentation of material, either synchronously or asynchronously, in a novel, engaging and structured way, supporting a narrative flow with real world context to module content. Subject material also linked to exercises involving personal reflection.

1. Background

Borne out of frustration at getting the attention of students, both full time and part time, on post graduate education and the general engagement of undergraduates, particularly during the "pandemic" and the need for on-line delivery. The modules in question were looking at the topics of digital technologies, analytics and information management"; it seemed appropriate to make use of the technologies and techniques that would be studied on the modules - a "physician heal thyself" moment!

After initial trials, the project focussed on a virtual room providing, asynchronously, the pre-course introduction, context and scene setting of an Apprenticeship Masters Module – "Information Management" (20BSPA15). The virtual medium also allowed for an improved narrative between the materials displayed, which facilitated further opportunity for student self-reflection – a key requirement for Apprenticeship Standards.

2. Methodology

After research, the software chosen involved a "free trial" available with the application Frame : Virtual Meetings, Classes, and Events (framevr.io), having established with the developers they were happy for its use in the way intended. Initially it was used synchronously to attempt to improve engagement in an on-line delivery of a lecture on the full time Masters Module – "Managing Big Data" (20BSP413). The experiment proved successful for the full-time international audience with noticeably more student engagement and discussion within the virtual environment than had been occurring when using Microsoft Teams software.

This initial success prompted a further trial to use the virtual medium asynchronously as a pre-module introduction for a final year undergraduate module. Whilst the take up of students prepared to have a look into the virtual space was disappointing, those that did commented on how much they enjoyed the experience and suggested more material should be presented in this way on the course.

These trials with the software provided further ideas for the "art of the possible" and how the asynchronous design could be improved. Consequently, the final and most complete trial involved the design and production of a virtual space for the pre-course introduction, context and scene setting of an Apprenticeship Masters Module – "Information Management" (20BSPA15). Using the materials produced for the module pre-work, and recognising the further opportunities identified with the two previous trials, the content was extended to include an improved narrative with further virtual engagement. On completion the URL link was sent to several people who had not seen or heard of this virtual environment to ensure that access instructions were accurate and that the

application itself was available using a number of sources (Android, iOS, P.C. etc). Once this was confirmed, the link was sent to the students along with an opening letter one month before the module start date.

Direct feedback was sought from the students on the module on its practicality, suitability and relevance.

3. Issues

Using the free version of the software meant an audience limit of 15 people (now improved to 20) in the virtual room at any one time. Whilst it unlikely that everyone would access at the same time this did mean restricting to a small cohort – hence the choice of the Apprenticeship Masters module for the main and final trial. Some connectivity issues were experienced by some students, moving from tablet to PC largely overcame them. Reaction times on older equipment could be a problem and further work would need to be carried out to establish its suitability on mobile phones.

(Key materials were posted on LEARN in a traditional format should any individual feel disadvantaged though not being able to access the virtual environment.)

4. Benefits

Something different (from LEARN) and topical (latest technology) from a student perspective that meant they would use the link out of curiosity.
The visitor "flow" around the room encourages a narrative/story line which cannot be achieved from simply posting individual documents and films onto LEARN.
Using a QR code a Microsoft forms "quiz" was included which allowed students to check their understanding of some of the materials within the room.
Further questions were posted, in the room, for stimulating student reflection which were then "picked up" once the module had started allowing for further in-depth discussions.

5. Evidence of Success *(if available)*

Feedback from students (all part-timers and busy businesspeople) was very positive. They felt that they were able to cover more material more quickly than had it just been presented as a series of individual documents and, most importantly, they enjoyed the experience prompting several return visits when time was initially constrained ("*the chunking effect"*). The majority of the cohort spent some time, pre-course, in the room, previously pre-course work provided had largely been ignored.

6. How Can Other Academics Reproduce This?

It would need a University licensed product to ensure product stability and also to increase potential numbers allowed to enter the room. As for loading content, the process is extremely easy and user friendly (certainly no worse and probably easier than LEARN). As with all of these tools the limiting issue is the creativity used and being prepared to spend the time in producing materials which take advantage of the medium.
This would be suitable for many different subjects.

7. Reflections

No obvious literature available for this type of educational delivery so design and layout was influenced by the research and knowledge gained regarding designing and delivering materials on-line during the pandemic lockdown. This provided a good basis for understanding "chunking" – having materials that can be viewed in 10–15-minute sections. The real advantage (a surprise!) was the ability to form a narrative flow and make the subject matter easier to follow for the audience.

Somehow this seems to be not only a psychological thing but also linked to the physical movement (albeit virtually) required in the room when moving from one section (wall) to another.