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Engaging students with video pedagogy



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Abstract

As new technologies continue to evolve, educators face the challenge of teaching complex software and skills within limited time frames and heavy workloads. This case study will explore a structured approach to bringing new technology (such as eye tracking) to the classroom, leveraging scaffolded sessions and video pedagogy to enhance student learning, whilst balancing direct instruction with independent learning. The result has been year-on-year project success that could inspire educators.

Keywords

Video pedagogy, video production, learner engagement

Introduction

Pedagogy can be broadly defined as 'the dynamic interplay between teaching, learning and assessment, with all their associations, contexts, processes, conditions and practices in a given space and time' (Gedera and Zalipour, 2021, p.5). Any given educator will use a variety of methods and modes to a greater or lesser extent to enhance student learning. However, the pressure on faculties constantly introducing the latest trends and advances means students can face difficulty absorbing and retaining all the information, which can compromise their learning experience (Lancelotti et al. 2016). Learners today also 'expect educational content to be widely available on multiple devices' (Gedera and Larke, 2021, p.43). Video can be one method to fulfil these demands.

Connections to Literature

Gedera and Zalipour (2021) conceptualise video pedagogies as being focused on all facets of learning that can be supported, challenged, or improved through the creation and incorporation of audiovisual materials. In the learning context, video offers an excellent method for uncovering more copious and meaningful information that people cannot communicate in spoken or written words (Oparaocha, Pokidki, Abagbon & Sutinen, 2014,).

On average, 100 minutes of online video are watched per person a day in the UK (Stoll, 2021). The potential for using video in education is therefore vast: recorded lectures, virtual field trips, demonstrations, slowed down or sped up processes/events, task capture/screen recordings, video briefings, FAQs, expert interview, case study discussion, video feedback, interactive tests, and student submissions (Gedera and Zalipour, 2021).

Studies have also demonstrated video's effectiveness: using video modules shows significant improvement in learning (Lancelloti et al. 2016), and students found videos more personable than simple reading-only materials (Gedera and Larke, 2021). Research on cognitive theory of multimedia learning (CTML) also proves that the combination of sound and images contributes directly to remembering, understanding and assimilating knowledge (Gedera and Zalipour, 2021).

Learning Theories

Using video in teaching contributes to a constructivist learning approach, giving students a high degree of agency and autonomy. <u>Jorm et al (2019)</u> note that the students more actively participate in the process of constructing pertinent knowledge through social interactions, resulting in deeper learning. Video pedagogy is also a version of flipped classroom, as the ability to pause and playback enhances the ability to follow models and procedures step-by-step, and the visuals aid in explaining complex concepts.

<u>Gedera and Zalipour (2021)</u> state key pedagogical benefits of using video include knowledge transfer and retention; learner engagement; social and academic interactivity; application of knowledge; skills development; co construction of knowledge; learner autonomy; flexibility; accessibility; cost and time efficiency.

However, the pedagogical aspects of design and video production need to be carefully considered. <u>Karppinen (2005)</u> notes 'the learning outcomes depend largely on the way videos are used as part of the overall learning environment' (p.233). Using pre-recorded video can contribute to an overall scaffold of teaching on a module, can assist modelling (<u>Sharma et al. 2007</u>), can reduce extraneous cognitive load for students and help when students are hesitant or unsure (<u>Fretz et al. 2002</u>).

Approach

In Lancaster University, Marketing staff teach supplementary software to undergraduate and postgraduate students, such as eye tracking. This Tobii screen-based software measures where and how long people are looking at a particular part of a screen, video or image. It is normally used for a range of half a dozen projects a year with teams of around 5 students, usually within the confines of one term. I use a varied combination of pre-existing external videos, such as explaining what attention is using a road awareness test video, and my own specific instruction videos demonstrating the software.

My teaching scaffold:

- 1. Seminar presentation 1: introduction to attention, **video awareness test** (how many changes to a scene), a live software demonstration, benefits and limitations.
- 2. Seminar presentation 2: technical information, recruitment strategies, survey suggestions, practical tips.
- 3. Release **prerecorded videos** on using the software timeline, designing and analysing data (post classroom support).
- 4. Experiment review/follow up: I manually inspect timelines before they collect data.

- 5. Students collect data. I am 'on call' if there are any difficulties.
- 6. Students analyse data. Referring to my analysis videos (post classroom support).
- 7. Students export/present findings. My supervisory role ends.

Here there is a mix of direct transmission and recorded instruction/modelling using video, with opportunity for independent and group work. The learning outcomes are that the students understand what attention is and become independent researchers able to design, execute and analyse eye tracking experiments.

Discussion

I have used this video-based approach for the last 3 years and thus far, my videos have been viewed by my students approximately 150 times, equating to 2248 minutes or 37 hours. I have also noticed reduced requests for further help during their projects, yet good quality work is produced, evidencing a transition from dependent to independent learning.

From a tutor's perspective, there are several major benefits of combining video with traditional teaching techniques. My videos can be paused, rewound, watched again (unlike lectures or seminars in person) and my instructions broken down into step-by-step processes, rather than cumbersome verbal instructions or lengthy written descriptions of a 'how to guide'. This is particularly useful for non-native language speakers (Gedera and Larke, 2021), or skills-based teaching e.g. medical students (Tiernan et al, 2017). Students can also view my content across devices more convenient to watch and review (Lancelotti et al. 2016) at their own pace, in their own time. The videos were free for me to record using OBS Studio, provided by our Apps Anywhere software. It also helps reduce tutor workload by not having to repeat the same process live each year.

However, there are limitations. Relying solely on video without scaffolding 'could result in a passive learning experience without blending it with more traditional teaching and learning methodologies' (Crow and Ondrusek, 2002, p.77). Karppinen (2005) agrees 'simply presenting information into a stimulating and interesting digital video format will not automatically lead to in-depth learning' (p.235). Video creation also needs dedicated time, confidence, and some technical ability (recording screens, converting to mp4s, editing, uploading). These videos still have the risk of being lost in the digital deluge of course materials, messages, posts, pdfs all jostling for our students' attention. My recordings can also become outdated with software changes, so these will need refreshers.

Practical Implications

Most universities will have apps for screen recording and editing available but there may also be existing videos online that can effectively demonstrate a key topic. Educators will need a clear reason for creating their own video, an outline/script or prompts, access to screen recording and editing software (e.g. Clipchamp), and uploading to a convenient channel. I upload my videos to YouTube 'unlisted' and is only accessible by our students with the designated link. Maynard (2021) suggests that a 3–5 minute video requires roughly 10-15 hours of production effort, but this can vary on the type of video. A simple screen recording of using software could only take a few minutes, or much longer if it has slides, added sounds and graphics. The compound advantage of this recorded video is once completed, it can be watched unlimited times, wherever, and by whoever has the link.

Conclusion

Using video as part of teaching can be a practical and time saving tool for educating students, whilst streamlining workload for tutors. For certain selected tasks, video can be a more effective method of student engagement.

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Author Profile

Lee Francis is a Teaching Fellow in Marketing at Lancaster University Management School. He teaches consultancy, eye tracking methods to measure attention, and is also a YouTube Partner. As an educator and consultant, Lee is passionate about bridging academia and practice together and optimising the most effective delivery of management education.

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