

ENHANCING TEACHING PRACTICE

The role of video aids in online teaching; using engineering design as a case study

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The use of video aids has long been the subject of argument in pedagogic research [Hamel et al 2019], with the recent shift from face to face to blended mode of teaching due to COVID, it is clear that video aids should be an inevitable part of any effective blended learning strategy. Also, with online video sharing websites such as YouTube and TikTok having daily audience numbers in the millions worldwide, it is logical that these platforms could positively impact learning.

Research has shown the many advantages of using video aids in teaching (Atkins 2002), Also, (Bijnens, N.D.) in his research on the use of video aids in teaching concluded that whilst this technique is insightful, it also helped students to obtain other skills like collaborative working, organisational and problem-solving skills amongst others.

Engineering design as a subject is solution driven and requires that students learn from failure, studies show that conceptualising failure scenarios are the most difficult aspect of this subject (Cllice etal 2005). Hence it is important that any effective teaching approach in this field of engineering must be stimulating and engaging to students. This project therefore examines the role that video aids play as a tool for teaching design engineering.

Studies were carried on the use of video aid as a teaching tool in different design modules using questionnaires; questionnaires were open key anonymous and completed by engineering students on a design module. Student performance and satisfaction were used as indicators for comparison; these evaluations were made for the same course for the three preceding years before the study was carried out.

The results suggest that the use of video aids in administering design courses was quite effective; 90% of the students agreed that the video aids provided in the studies helped them with conceptualising innovative solutions to the challenges they were charged with.

Overall, the implementation of the proposed strategy led to an 80% average score and a 100% student satisfaction against 60% and 66% average scores and student satisfaction in the previous year's respectively.

The presentation will provide an insight into the methodology and an analysis of the result metrics, pros and cons of the tool and will conclude on the algorithms required for the effective implementation of this tool in teaching and learning.

Hamel, C. and Viau-Guay, A., 2019. Using video to support teachers' reflective practice: A literature review. *Cogent Education*, 6(1), p.1673689

Atkins, M. and Brown, G., 2002. *Effective teaching in higher education*. Routledge.

Bijnens, M., Vanbuel, M., Verstegen, S., & Young C. (2006). *Handbook on Digital Video and Audio in Education, Creating and using audio and video material for educational purposes*.

Dym, C.L., 2007. Engineering design: So much to learn. *International Journal of Engineering Education*, 22(3), p.422.