

Use of Rich-Media Resources by Engineering Undergraduates

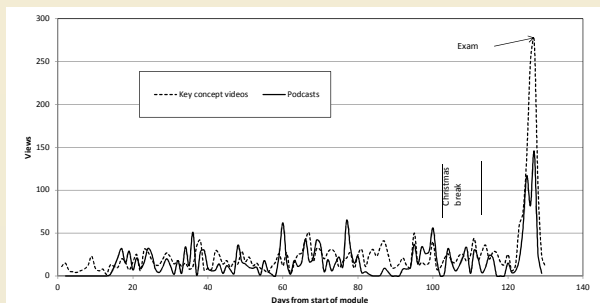
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Introduction

In recent years the possibilities for using video and related “rich-media” resources in engineering higher education have increased dramatically. Consequently, engineering education has moved from a state where using rich-media to support teaching was the exception to one where it is increasingly expected by institutions and students alike. This project used a combination of quantitative and qualitative data to answer the following questions

- To what extent and for what purposes do students use rich-media ?
- How does the provision of rich-media affect students’ use of other teaching methods?
- How should media-rich content be produced to be most helpful for learning?

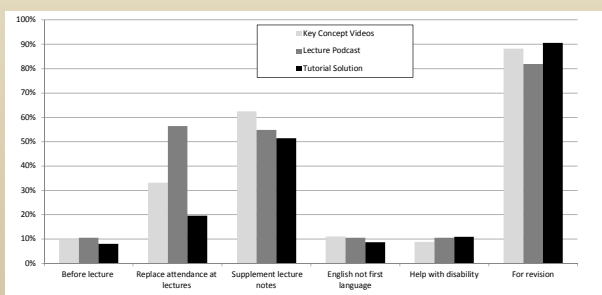
The results provide an insight into the benefits of rich-media material within higher education; information on how students use it; and pointers to how it can be best developed, both in terms of production techniques and allocation of resources.



Student use of rich-media resource over time

Method

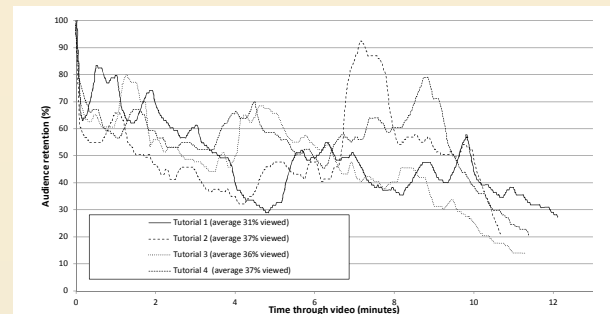
The study examined student use of rich-media resources in two first year engineering units: Structures 1 and Electrical Energy and Supply 1. Three types of resource were considered: key-concept videos; tutorial solution videos and lecture podcasts. Data was collected from student surveys, YouTube analytics data and semi-structured interviews



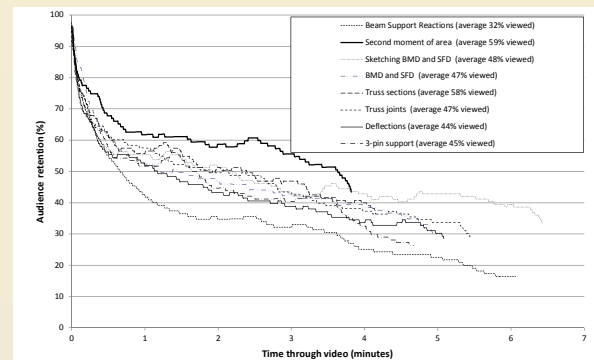
Reason for use of rich-media resources.

Results

- Varied rich-media resources are valued and used by students
- Short videos are more useful than longer ones
- Rich media particularly valued by non-native English speakers and students with certain disabilities
- Student use videos to obtain very specific information



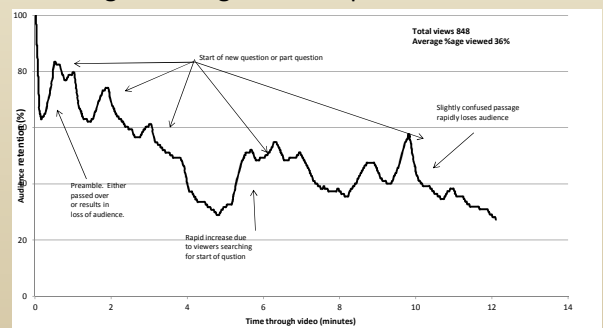
Audience retention for tutorial solution videos



Audience retention for key-concept videos

Conclusions

- Rich-media material and effective resource in a blended learning style
- Effect on lecture attendance small, and two-way. This should not be a concern.
- Balance of investment should move towards production of videos produced for online viewing over long lecture capture videos.



Audience retention analysis for tutorial-solution video