

# STUDENT PERCEPTIONS OF THE USE OF ONLINE VIDEO CLIPS IN A MATHEMATICS ENABLING COURSE

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## Background

Enrolment in the Australian higher education sector is expanding, and participation is widening. Kennedy (1997) defines widening participation as 'increasing access to learning and providing opportunities for success and progression to a much wider cross-section of the population than now'. Consequently, non-traditional students, who would not have qualified to enter university studies previously, are now enrolling in enabling programs to meet university entry requirements. As reported by Norton and Cherastidhan (2014), a portion of the 25% of students who were admitted to bachelor degrees based on previous higher education study were non-traditional pathway students. The change of student demographics presents a diverse cohort of students to universities. These students of the enabling programs with very different mathematics skills, knowledge and background pose various pedagogical challenges. To meet the needs of these students, various methods were explored, including the use of online videos. Digital videos allow viewers to take control of the presentation, and they can select a video and view a particular segment of their choice with ease, thus study at their pace. Studies show that learning with videos increases problem-solving skills (Choi & Johnson, 2005) and are useful to improve learning (Kay & Kletschin, 2012). This study explores the effectiveness and perceived usefulness of short videos to teach mathematics for students of diverse mathematics abilities in an enabling program.

## Aims

The primary aims of this study are to describe the development of short video-based mathematics lessons that were integrated into a technology-rich environment and to assess preliminary students' perceptions of the video clips used for mathematics in an enabling university course.

## Description of intervention

Video clips were developed in a math enabling course using a pedagogical design methodology by a project team consisting of an academic, an academic developer and an audio-visual technician. Recorded videos were developed using *Camtasia*. The videos were integrated into the mathematics course accessible in an online environment.

## Design and methods

An exploratory case study to explore students' initial feedback on the use of video to support learning the basics of algebra was carried out. It consists of a student survey with both open-ended qualitative and quantitative questions about students' perceptions of the use of online video clips which was completed voluntarily.

## Results

The analysed data indicates that enabling program students held strong positive attitudes toward a technology-enhanced learning environment. The use of online videos assisted their learning in mathematics. Most students like the overall concept of online videos and felt that they contributed to their improved understanding of mathematical concepts and working through mathematics problems. However, the data also suggests that students found the length of some of the video clips to be an obstacle to their learning.

## Conclusions

The results of this exploratory study suggest that online video clips are a useful approach to connecting students to mathematics. The results also suggest that enabling program students find short video clips more effective. However, this exploratory case study is an early evaluation and the findings that provided the initial evidence should be confirmed with a larger sample group.

## References

- Choi, H. J., & Johnson, S. D. (2005). The effect of context-based video instruction on learning and motivation in online courses. *The American Journal of Distance Education, 19*(4), 215-227.
- Kay, R., & Kletschin, I. (2012). Evaluating the use of problem-based video podcasts to teach mathematics in higher education. *Computers & Education, 59*(2), 619-627.
- Kennedy, H. (1997) Learning works: Widening participation in further education. Coventry: Further Education Funding Council.
- Norton, A., & Cherastidham, I. (2014). Mapping Australian higher education, 2014–15. Melbourne: Grattan Institute.

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