



## Tailored Resources to Facilitate and Enhance E-learning

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### Abstract

“The fast evolution of learning technologies has multiplied the number of decisions one must make to create an eLearning system” [1]. Tailored stimulating resources to facilitate and enhance eLearning are unique and critical to the learning experience. Resources must encourage, support and provide guidance, thus increasing engagement and motivating and inspiring students to learn. An understanding of the demographic of the student cohort specific to the individual course is critical.

When creating mathematics courses for preparatory students enrolled in the Skills for Tertiary Education Preparatory Studies (STEPS) programme at CQUniversity Australia (CQU), staff must consider the diverse social and educational backgrounds of students. Additionally, CQU caters for students across the country and given the geographical vastness of Australia, remoteness is a significant issue that eLearning is able to address, if managed effectively. Unfortunately, due to the absence of a national broadband, internet capabilities in remote locations also need to be addressed.

Visually stimulating slides, the Tablet PC and Camtasia, are used to create videos for each mathematical concept covered in the courses. The videos allow the student to see and hear an explanation of concepts and the logical progression of solutions, simulating a classroom environment. In order to overcome internet and downloading issues, these resources are provided on a DVD as well as through the online Learning Management System (LMS).

In addition to enhancing learning outcomes, the videos create a connection with students, increasing engagement and communication, which is often difficult in distance courses. Through watching the videos, the student gets to know their lecturer, which makes them more willing to contact them for help when required. In addition to the slides and videos, students are provided with weekly revision sheets with full handwritten solutions in colour to show the connections between steps, and demonstrate expectations in regard to mathematical communication for assessment.

In order to determine the effectiveness of the eLearning experience, a study was conducted asking students for feedback in regard to the resources provided and also their confidence levels prior to and on completion of their course. It was found that 88% of students felt the videos aided their mathematics comprehension and student mathematical confidence improved.

### References

- [1] Paquette, G. and I. Rosca. An ontology-based referencing of actors, operations and resources in eLearning systems. in 2nd International Workshop on Applications of Semantic Web Technologies for ELearning (SW-EL). 2004.