

Developing and using animations and simulations to teach computer science courses: the case of University of Dar es Salaam

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Abstract

Concepts in computer science courses are among the most complicated to teach in developing countries institutions. This is because majority of developing countries' institutions are faced with large class sizes while teaching facilities are few. Although several solutions have been proposed to alleviate these problems such as increasing student-computer ratio, improving teaching pedagogy and increasing number of teaching staff, the problem still exist. Therefore we conducted a pilot study at UDSM determine if the use of animations and simulations can enable students to learn difficult concepts and master course contents. The study has revealed that 67% of respondents (of 108 students) indicated that animations and simulations in courses enabled them to grasp difficult concepts more easily. The study also found that the process of developing animations and simulations improves the quality of course design. However, it is essential that the pedagogical and instructional design principles be incorporated in the whole process of course development to realize the benefit and usefulness of the developed animations.

KeyWords: Animations, Computer Science, Simulations, animated courses, eLearning