Application of advanced technologies (VLE) in teaching, assessment, and techno-cultural barriers in learning outcome (Abstract only)

KABIR, Feroz <http://orcid.org/0000-0002-3121-9086>

Published version

Copyright and re-use policy

Application of advanced technologies (VLE) in teaching, assessment, and techno-cultural barriers in learning outcome

Feroz Kabir
Associate Professor
Chemical and Environmental Engineering Department
The University of Nottingham Malaysia Campus

Abstract

The objective of the present studies is to look into the application of advanced technologies (VLE) in teaching, assessment, and techno-cultural barriers in learning outcome. The integration of technology in enhanced teaching and learning process is not new. The carousel slide projector was first commercially used in the 1950s which undoubtedly enhanced the quality of lectures by incorporating high-quality graphics and still pictures. Overhead projector, in the classroom, is another example of the application of technology in enhanced teaching at relatively cheaper costs. These technologies help teachers delivering high-quality lecture materials in a logical sequence over a short period. An additional advantage of these technologies is that the materials are re-useable and easy to update thus reduces cost in the long term. Students often use an audio recorder to record lectures of difficult topics and they replay during revision which helps their learning outcome substantially. All these technologies are typically used in classroom-based teaching-learning settings. The VLE, particularly podcast technology records lectures that combine audio, video and slide shows (PowerPoint) in a synchronized manner, so, these recorded materials can be replayed during revision with a better learning outcome, and also, in theory, can be used by a distant learner (as a replacement of classroom-based teaching-learning settings) at his/her flexible time table from his/her home town ("anytime, anywhere"). Technologist and academia believe that VLE will be the future method of teaching and learning through which education cost can be reduced without compromising quality and learning outcome, thus the education institutions be able to function despite increasing government budget cuts. However, there are debates about the effectiveness of the VLE and culture on students learning outcome. The present study is meant to understand the limitations of the technology; student's learning culture, and ways to overcome the barriers.

The present study includes two groups of year 4 students of Chemical and Environmental Engineering Department (same level students) and exposed to Advanced Reaction Engineering Module lectures (a heavy and difficult module at an advanced level). One group of the students was located at the University of Nottingham Malaysia Campus and the other group over in the UK campus. Each group had nearly 35 students. Malaysia campus students received lectures in the classroom settings with access to podcast materials for their revision, whereas the UK campus students received podcast materials and PowerPoint slides on WebCT, UK students also had access to tutorial and consultation provided by a part-time lecturer at the UK campus, and one week (last week) of classroom-based lectures (by module convener) at UK campus. The learning experience of each group of students was different, however, the performance of distant

learning group (UK campus students) is found to be slightly better. The average marks for UK and Malaysia campus students were 63% and 61% respectively. One student in each group was absent from their final exam, and one in Malaysia campus failed the module. The present study shows that the current level of technology alone and the vendor's support is not adequate for distant learners. With the help of student feedback (both groups), a list of barriers is identified. These issues will be resolved over the summer 2011 and be implemented in our next session in spring 2011-2012. Overall, the VLE approach was a success.