Using Educational Technology to Enhance Student Engagement and Retention

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Abstract

The Bachelor of Accounting course of the Northern Melbourne Institute of TAFE in Australia was recently established and has adopted educational technology (ET) in the delivery of the course. This paper is written to identify the ET tools that have been used in teaching and to evaluate the success of this tool to enhance student engagement and retention.

Keywords: student engagement and retention, educational technology

Introduction and Literature Review

Educational technology is widely adopted in higher education courses in Australia.

The socio-cultural constructivist theory of learning states that learners are self-motivated to interact with other learners and teachers (O'Donnell 2006). This has to greatly depend on the year level, and age of the learners. The higher the year level, the more learning experience the students gain, the more motivated they will be towards their study. Mature aged students are generally more independent and self-motivated.

Bigum's research (2008) showed that teachers were slow in adopting new technology, particularly when risks arose from implementation of the technology.

The education needs of learners and instructors need to be understood (Gilbert 2007). Before implementing the technology good preparation and induction program should be taken to ensure the success in introducing the technology (Owen 2008).

Young M. et al. (2010) researched into the art and science of fostering engaged learning and discovered that giving students challenging requirements with support from the instructors lead to greater engagement and higher achievement.

In empowering students, he suggested that they should be allowed to have control over what they learned. He stated that students generally learned less if being overly controlled such as in strict instructions on assignments. He said that they were engaged even on uninteresting matters if they have control over them.

Concerning autonomy over learning, he mentioned that it consisted of method autonomy, schedule autonomy and criteria autonomy.

He said that providing support to students included communication with students, giving them guidance and feedback and enough time to complete the assigned tasks.

Referring to providing challenging tasks, he found out that students should be given sufficient time and skills to complete the tasks with positive feedback from instructors.

He warned instructors to be aware of role overload which happened when students were overloaded with assignments with strict deadlines.

Several authors carried out research into providing feedback on student engagement. Nicol (2009) commented that feedback was effective in engaging students and should be provided on time for students to act on, be clear and be related to the criteria of the assessment. Weaver (2006) however said that students did not act on the feedback received. Freeman and McKenzie (2002) supported the idea of peer feedback to engage students. Hepplestone S. et al. (2011) researched on providing feedback to students without giving the grade until they planned and took action on the feedback as this could help them to focus on the feedback rather than the grade.

Palmer, R. (2011) investigated into factors improving the retention of students of colour who were underrepresented in science and engineering courses. He discovered that support by peer group improved students' academic performance and enabled them to network with each other. By participating in science and engineering extracurricular activities, they could gain practical knowledge relating to the subjects. Support and encouragement from parents, peers,

teachers, counsellors in their high school education helped students to transit smoothly from high school to universities.

The research into developing a freshman orientation survey to improve student retention within a college by Brown J. et al. (2011) showed that one third of the students dropped out from their enrolment in the colleges which also failed to maintain the 60% level of graduates targeted. The authors discovered that the students' high school performance, the result of their aptitude tests, the place they resided during their college life, their parents' education, occupation, the level of income, financial support and expectation of them had a significant positive correlation with their retention in colleges.

The remainder of this paper follows with a section on conceptual framework which discusses Bloom's six level of understanding in the application of educational technology in learning. Next, the methods used in the research are detailed. The paper is concluded with a discussion of the result.

Conceptual Framework

Bloom's taxonomy discusses six levels of understanding: knowledge, comprehension, application, analysis, synthesis and evaluation. Firstly, the student will recognize and reproduce information obtained. He then starts to look into the information to identify the relationship among them. He will use the knowledge gained to solve problems and identify different solutions to different problems, and finally develop new solutions to new problems. In the evaluation stage, he is able to assess the situation and decides whether the solutions to the problems are appropriate. ET is a useful tool to enhance the six levels of understanding and can help in the smooth transition of one level to the other.

Methodology

Observation of the teaching practices was conducted to identify the ET used in teaching and the successes and failures in designing and applying the technology.

Results

Technologies Applied

Different ET is applied in teaching including lectures, seminars, tutorials, assessments, mentoring, feedback and administrative and personal support.

LECTURES

Face-to-face lectures are conducted to present the main concepts and principles of the subjects. Activities such as discussion and doing multiple-choice questions are introduced to add varieties to the presentation.

The class size is small so that interaction between lecturers and students is effective.

In the subject of professional practice, students are taught on skills of job searching and look for jobs to work for two weeks. They agree that it is a good opportunity to network with potential employers, but feel that the work period should be lengthened.

SEMINARS

In the subject Contemporary Issues in Business/Accounting, guest speakers are invited to present in seminars on contemporary issues in business and accounting organised by students. Presentation, writing journal and research essay related to the seminars are given as the assessment tasks. The subject has a high score in students' evaluation which may be due to the fact that students have control over what to learn and the materials covered in the seminars are practical.

TUTORIALS

Exercises on solving problems related to the real life practices of the subjects are used to help students to develop their analytical skills, consolidate and integrate their knowledge.

Case studies are introduced to enhance interaction between teachers and students and among students themselves. The drawback is that a few students may dominate and deprive the other students the chance to contribute. Some students complain that too much reading is involved and lose interest in the activity.

Debate and presentation are used to engage students to actively research into the issues covered in class and share their findings with peer students. The activities can help them to develop coordination and communications skills which are essential elements required of an employee in the workplace.

Field trips are organised to enable students to have onsite experience of the application of theories delivered in class. Students express great interest in these activities as they can see the association of the concepts acquired with the practice involved.

ASSESSMENTS

Different forms of assessments including presentations, tests, assignments and examinations are conducted. Some teachers offer flexibility to students by allowing them to take home the examination paper to complete. Other teachers allow students to choose their topic in assignments. In some subjects, small assessments are conducted early to ensure students are on track and big assessments are broken into small ones to ease the pressure of having heavy weighting of one assessment on students.

MENTORING

In the subject introduction to business law which has a high failure rate, the mentoring program is introduced to improve the retention rate of first year students. Students getting distinction and high distinction are trained and paid to mentor the students who fail in the subject. The feedback from the program is good. The mentors say they benefit from the experience of helping fellow students, get paid and have a good reference from the teachers. Mentees welcome the activity as they can get help free of charge from fellow students other than from teachers.

A support unit is established to provide counselling and study skills service to students in need.

FEEDBACK

Immediate feedback is provided to students' queries including draft of assignments. Students appreciate teachers' quick response. An open door policy is implemented where students

can see teachers any time without appointment. Students are given second trial of assignment or test after receiving feedback from teachers if they fail in these assessments.

ADMINISTRATIVE AND PERSONAL SUPPORT

Time-tabling is tailored to meet the needs of students so that they can attend classes for two or three days to allow them to work part-time to support their living.

At risk students whose attendance in classes fall below 50% at the first stage and whose performance fail to meet the standard in the first assessment at the second stage are interviewed to find out the reasons for the failure and the help that can be extended to them.

Personal support such as advice concerning their family issues is extended to students who have a close relationship with teachers.

STUDENT LIFE AND MEDIA (SLAM)

SLAM is a section established within the institute to help students to meet new friends and engage in on and off campus events including competition in sports, trips and tours. All on campus activities are free. Assistance is also given to students to set up their own clubs.

Evidence from Student Enrolment and Subject Evaluation Questionnaire

The enrolment for the course was very strong over the last few years with the number of students enrolled at 60 in 2012 compared to 6 enrolled in 2008 when the course started. This indicates that the department is on the right track of engaging and retaining students. The improvement of the subject evaluation result from credit grade in 2011 to distinction grade in 2012 in table 1 further supports this conclusion.

TABLE 1: RESULT OF SUBJECT EVALUATION QUESTIONNAIRE OF BACHELOR OF ACCOUNTING

	SEM 2 2011	SEM 2 2012
Achieve learning outcome	69.7%	77.7%
Appropriate assessment	67.1%	81.0%
Helpful and timely feedback	57.9%	76.9%
Manageable workload	65.8%	77.3%
Appropriate learning resources	69.7%	82.6%
Relevance to future career	77.6%	81.4%
Professionally relevant skills development	56.6%	68.6%
Learning stimulation	63.2%	72.3%
Overall, well taught	61.8%	76.4%
Overall, quality of subject	65.8%	74.8%

Conclusion

Educational technology is used in the delivery of the Bachelor of Accounting course in the institute. Teachers generally find the technology can enhance students' engagement and retention. Further research can be carried out on the demographics of the students affecting their retention at the college.

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