Electronic Lecture Versus Traditional Lecture: Implications on Students’ Learning

David G. Hassell, Taylor’s University, Selangor D.E., Malaysia
Buddhika Hewakandamby, University of Nottingham United Kingdom Campus, Nottingham, UK
Lee Kok Yueh, Universiti Teknologi Brunei, Brunei Darussalam

ABSTRACT

This article presents work undertaken in the 2010-2011 academic year at two international campuses of Nottingham University. Although the data was shared after seven years, it is believed the findings have implications for the present time. The primary aim of this study was to compare the use of podcasts against traditional lectures on student learning of a course designed for Bachelors of Engineering (BEng) and Masters of Engineering (MEng) students majoring in chemical engineering, and chemical and environmental engineering. The campus based in the UK (UNUK) taught the module using a conventional “chalk-and-talk” approach whilst the other in Malaysia (UNMC) used electronic lectures (podcasts) to deliver the taught component of the module. The same assessment (exam and coursework) was used in both campuses to measure the differences in effectiveness of the two approaches. The comparison found that the mode of delivery has no obvious effect on the academic performance of the students for both coursework and exam components, however, the electronic lecture approach was found to have a negative impact on student attendance on campus.

KEYWORDS

Electronic Lectures, Student Learning, Teaching Approaches, Traditional Lectures

INTRODUCTION

The advancement of technology has transformed teaching and learning practices in classrooms over the last decades. Lecturers are increasingly looking for more effective ways to impart knowledge to students (see for instance, Rosen, 2009), and the explosion in technology, including electronic social media, has given lecturers a variety of options to achieve this (see for instance, Edirisingha & Fothergill, 2009; Liberatore, 2010; Pimmer, Mateescu, & Gröhbiel, 2016). Evans (2008) and Rosell-Aguilar (2013) highlighted that language instruction has a strong and extensive history of using audio-visual media in its delivery, and so it could be expected that the use of technology and podcasting would be adopted more extensively in the educational field than in other fields.

DOI: 10.4018/IJCALLT.2018100105

Copyright © 2018, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.
There has been a number of studies on the impact of podcasting as an effective mode of delivery in the classroom (O’Bannon et al., 2011). It has been used as a method to provide feedback to students (Palenque, 2016) or in providing revision prior to examinations. Levy (2009) described podcasting as “an audio/video file that can be ‘broadcast’ via the Internet with sound files that are “pushed” to subscribers, often at regular intervals” (p.775). The digital audio/video files can then be transferred or downloaded by users to electronic gadgets such as tablets or mobile phones.

The use of podcasts to replace the more traditional face-to-face lectures is generally called “flipping” and has gained increasing interest over the last ten years. It has also become a popular pedagogy in secondary and higher education for teaching content-based subjects such as science, mathematics, economics, as well as other more practical based courses such as those taught in the medical profession (see for instance, Hurst, 2016; Pence, 2016). Frydenberg (2013) described the flipped classroom environment as “students watch or listen to recordings of class lectures on their computers, tablets, smart phones, or personal media players outside of class, leaving class time to engage in learning activities that might otherwise be assigned as homework” (p. 63). The purpose of this study was to investigate the effectiveness of podcasts and traditional lectures on student learning.

**REVIEW OF THE LITERATURE**

Studies on podcasts have been conducted extensively over the past decade with the advancement of technological applications within classrooms. Based on diversified research findings from various higher education language classroom settings, Farangi et al. (2015) identified a number of themes in the evaluation of podcasting within language education. These themes are applicable to the learning of content courses too. This study will only discuss themes relevant to this study.

The first theme was student attitudes towards podcasting according to their background. A study on Japanese learners of English as a foreign language (EFL) found that the students were not particularly enthusiastic towards podcasting as a form of classroom learning resource and did not have a positive attitude and perception towards it. The lack of enthusiasm could be a result of an “overabundance of untargeted materials” (Monk, Ozawa, & Thomas, 2006, p.96). However, some studies revealed students demonstrating positive attitudes towards podcasting. Chan et al. (2011) in their study on students from the University of Singapore discovered that the students opted to use podcast as supplementary learning resource for language learners in two foreign languages: Chinese and Korean.

There is also some literature evaluating students’ attitude towards the replacement of content course lectures with podcasting. Stiftler, Stoten, and Cullen (2011) in their study on nursing education found that the students were not in favour of podcasting. Their students felt that podcasts were not different from the online reading materials. They either did not bother to download the podcasts or were multitasking while listening to the podcast. On the other hand, Paechter and Maier (2010) in their empirical study on Austrian universities offering online content courses reported that “students appreciated online learning for its potential in providing a clear and coherent structure of the learning materials, in supporting self-regulated learning, and in distributing information” (p.292). However, Paechter, and Maier (2010) revealed that students also favoured face-to-face learning because it promoted better communication with the lecturer that aid effective comprehension and the building of rapport with lecturers. Thus, it can be seen that the findings were mixed, similar to those from language education research.

The second theme is on the effects of podcasting on student learning. The results on this aspect were mixed. Abdous, Camarena, and Facer (2009) reported that the use of podcasting for language and literature courses at a university in the United States had positive impact on the students’ study habits and helped in improving their language skills. In an earlier study also based in the United States, Lord (2008) focused on an undergraduate Spanish phonetics class and found that the Spanish learners had
Synchronous Text-Based Computer-Mediated Communication Tasks and the Development of L2 Academic Literacy
[www.igi-global.com/article/synchronous-text-based-computer-mediated/76904?camid=4v1a](www.igi-global.com/article/synchronous-text-based-computer-mediated/76904?camid=4v1a)

Culture-Based Language Learning Objects: A CALL Approach for a Ubiquitous World
[www.igi-global.com/chapter/culture-based-language-learning-objects/25523?camid=4v1a](www.igi-global.com/chapter/culture-based-language-learning-objects/25523?camid=4v1a)