An Interactive Mobile Lecturing Model: Enhancing Student Engagement with Face-To-Face Sessions

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ABSTRACT

Although use of podcasts and vodcasts are increasingly becoming popular in higher education, their use is usually unidirectional and therefore replicates the transmission mode of traditional face-to-face lectures. In this paper, the authors propose a tool, MOBILect, a mobile lecturing tool that enables users to comment on lecture vodcasts using mobile devices, and aggregated comments become an educational resource. The vodcasts are generated through Opencast Matterhorn and YouTube. The tool was evaluated at the University of Cape Town with students’ own devices. The paper reports on the architecture of the MOBILect, its framework for student-vodcast interaction, and evaluation results. The paper concludes that the MOBILect has potential for use as a supplement to the traditional face-to-face lectures especially in scenarios of large classes, or where the medium of instruction is not the students’ mother tongue.

Keywords: Deep Learning, Face-To-Face Lecture, MOBILect, Mobile Devices, Mobile Learning, Mobile Lecturing, Vodcast

INTRODUCTION

Students of higher education institutions (HEIs) in South Africa face many challenges: One of the challenges is the academic under-preparedness of students (Nzimande, 2009). Most students from disadvantaged educational backgrounds are generally under-prepared and have some areas of academic skill deficit (Dzubak, 2005; Dzubak, 2009; Hardman & Ng’ambi, 2003). Academic under-preparedness refers to a student whose academic skills fall below those needed to be successful in higher education (Dzubak, 2005). The major causes of academic under-preparedness in higher education students can be a product of several combined variables;
societal and cultural influence, poor economic background, previous academic experience, geographical location and huge differences in race and age (Dzubak, 2005). The challenge of dealing with under-prepared students is further complicated when combined with a large class population (Nicol & Boyle, 2003; Jaffer et al., 2007). Another major challenge is that most higher education institutions (HEIs) in South Africa adopt English language as a medium of instruction which makes it difficult for students who speak and write English as a second or third language to cope with face-to-face (f2f) lectures (Haddad, 2006; Jaffer et al., 2007; Spiegel et al., 2003). The students face the problem of not being able to cope with the face-to-face (f2f) lectures which are didactic, unidirectional and lack persistence; when students fail to understand the f2f lectures during the once off f2f sessions, there is no opportunity to playback the lecture. Many solutions have come up in the form of recording f2f lectures i.e. Podcasts, Opencast Matterhorn (Ketterl et al., 2010), Virtual presenter (Ketterl et al., 2006), OpenEya (OpenEya, 2012), E-Chalk project (Friedland et al., 2004) and Tele-task (Wolf et al., 2010); these solutions solved the problem of lack of persistence (inability to replay the lecture) inherent in f2f lectures, but the problem of unidirectional communication still persist. Students still engage with lecture recordings in a unidirectional manner (one way communication) i.e. speaker to listener, there is no actual interaction and engagement of the students with f2f lectures to foster a deep and meaningful learning experience.

Lecture recordings and dissemination seek to impact delivery of teaching and learning resources in HEIs in South Africa, where some HEIs are already exploring the potential of podcasting and vodcasting as a way of widening access to learning resources and improving learning among their students (Boyinbode et al., 2012; Evans, 2008, Lee & Chan, 2007; Ngambi, 2008b). A podcast is simply a collection of digital media files (audio) distributed over the internet using Really Simple Syndication (RSS) technology or Atom feeds (RSS, 2002). In vodcasting VOD stands for “video-on-demand”; the difference from podcasting is that the content is video and not audio (Brown & Green, 2006; Copley, 2007). Many scholars have shown that the use of podcasts and vodcasts have potential to alleviate the problem of lack of persistence of face-to-face (f2f) lectures (Edirisingha et al., 2010; Heilesen, 2010; Mcgarr, 2009; Ngambi, 2008a; Walls et al., 2010). However, the challenges of using podcasts and vodcasts in higher education are the educator’s time to record, edit and upload files to a podcast server and the artefacts are unidirectional, providing no ways of ‘interacting’ or ‘engaging’ with what students are listening to or watching. Thus, podcasts and vodcasts suffer the risk of reinforcing didactic teaching approaches. Opencast Matterhorn has been adopted as a recording technique at University of Cape Town, South Africa (UCT). Opencast Matterhorn an open-source platform is used to produce lecture recordings, manage existing video and serve designated distribution channels. It has the advantage that it offers all the relevant processing functionalities as an integrated whole; which reduces the amount of manual work needed to process media across different sub-systems, thus increasing productivity, reliability and time saving (Ketterl et al., 2010).

Most students are ready to adopt m-learning (Traxler, 2007). In South Africa, the mobile device is the only technology most students have, and only have access to computers when they come to university campuses. In most HEIs South Africa, students already own a mobile phone; a recent survey of mobile devices usage among University of Cape Town (UCT) students indicated that 85% of the students possessed smart phones (UCT Student Survey, 2011). Mobile devices offer numerous benefits for students in higher education (Crawford, 2007; Motiwalla, 2005). Also m-learning will reinforce f2f lectures in that students are always with their devices and can re-play the f2f lecture, add comments or read other student comments on their mobile devices after the f2f lectures at their convenience. Ng’ambi (2008a) states that although social usage of mobile devices is very common among students, there has been little
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