Chapter 25
Digital Audio for Asynchronous Interactive Learning at an English University

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ABSTRACT

This chapter addresses the theme of interactive learning in higher education for distance and on-campus students. The authors focus on Asynchronous Digital Audio (ADA), which they define and place in context among media used in education. They review the literature on interaction in education and learning and discuss briefly five types: learner-content, learner-learner, learner-teacher, learner-interface, and teacher-content.

The authors examine opportunities for and outcomes from using ADA for interactive learning by distance and on-campus students at the University of Leicester, where podcasting and voice boards have been introduced into the teaching of a range of subjects. With a simple model, they discuss designing explicit interactive tasks for learners and provide evidence from two case studies of ADA, one using podcasting, the other voice boards. With the same model, they also discuss implicit interactive tasks for learners, illustrated by evidence from a case study of podcasting.

The authors recommend, based on their research and experience, further use of ADA with podcasts and voice boards for interactive learning. They discuss future research, such as: Can ADA's impact on students' performance be measured? How much extra time do students commit to using ADA? What does ADA cost? How does audio feedback spark student-tutor dialogues and what effects do these dialogues have? Can other disciplines benefit from using ADA and if so how? Are there advantages in using other voice tools such as voice e-mail and audio blogs to promote interactive learning? Further research is needed, although ADA interactive learning already offers much to learners at a distance and on-campus.

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INTRODUCTION

Our chapter addresses the theme of interactive learning in higher education, for distance students and those on campus. Students can learn from digital audio files whenever and wherever it suits them; their learning is asynchronous (‘any time’), hence the term ‘Asynchronous Digital Audio’ (ADA). We are particularly interested in how ADA may enhance students’ experience through interactive learning: this is the ‘problem’ our research has been aimed at.

Asynchronous Digital Audio, Podcasting, and Voice Boards

Our interest in ADA arises chiefly because it provides low-cost, high-impact opportunities for interactive learning. Digital audio files can be created and edited cheaply and easily by university teachers (or their students) on computers. Copies can be distributed in a flash over electronic networks to students worldwide or on campus.

Podcasting is a common example of use of ADA in higher education. Each podcast, lasting approximately 3-20 minutes, contains one or more audio files. Strictly speaking, a podcast is made up of one or more audio (or video) files delivered via RSS (Really Simple Syndication), but the term is also used more widely to include audio (or video) files delivered through other channels to computers, iPods and other personal digital audio (MP3) players.

We have plenty of research evidence of podcasts being successfully used at the University of Leicester and elsewhere in Britain for asynchronous interactive learning by on-campus and distance learners. For example, tutor-produced podcasts brought learners immediacy, engagement and stimulation (Fothergill, 2008) and enabled them to experience better quality contact with their teachers (Cox, et al., 2008). Podcasts that provided assessment guidelines and feedback were effective in conveying more personalized and individualized content (France & Ribchester, 2008) and in supporting students’ assessed work (Sutton-Brady, et al., 2009). In distance learning in Australia, podcasts succeeded in reducing students’ feelings of isolation (Lee & Chan, 2007).

We have less research evidence on using voice boards, which enable the exchange of ADA, usually in small files lasting only a few seconds or minutes, among a community of users—much as text is exchanged during computer conferencing. The research findings are not promising, so far: for example, King and Ellis (2009) used voice boards with 86 undergraduate students studying pre-medical, nursing and health science majors in a southeastern United States University and found that there was “no apparent benefit in using voice-based rather than text-based technology tools to facilitate asynchronous computer conferences in a Web-based learning environment.” Marriott (2002) trialled voice boards with 600 undergraduate students in an Australian university and found that, when given the choice, most students preferred to write in the text box rather than make voice postings on the voice board. Students in these studies said their relative lack of enthusiasm for the voice board was because they had difficulties in navigating the interface (see below under Learner-Interface Interaction), and some learners felt embarrassed to hear the recordings of their own voices.

In the light of evidence from such empirical research, we examine opportunities for and outcomes from interactive learning through ADA by students at the University of Leicester, where podcasting and voice boards have been introduced into the teaching of a range of subjects.
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