



Using podcasts to support communication skills development: A case study for content format preferences among postgraduate research students

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ARTICLE INFO

Article history:

Received 14 July 2009

Received in revised form 18 September 2009

Accepted 22 September 2009

Keywords:

Podcast
Communication skills
Generic skills
Postgraduate research

ABSTRACT

The need for the integration of generic skills training into structured PhD programmes is widely accepted. However, effective integration of such training requires flexible delivery mechanisms which facilitate self-paced and independent learning. A video recording was made of an eminent speaker delivering a 1-h live presentation to a group of 15 first-year science and engineering PhD research students. The topic of the presentation was inter-disciplinary professional communication skills. Following the presentation, the video recording was post-processed into seven alternative podcast formats. These podcast formats included a typed transcription, a full audio recording, a full video recording, presentation slides with embedded speech etc. The choice of podcast formats was based on ease-of-production by a typical computer-literate academic and ease-of-use by a typical computer-literate student. At a subsequent session, the seven podcast formats were shown to the 15 students and a survey to assess their reactions to the various formats was carried out. The survey results (quantitative and qualitative) were analysed to provide useful insight into the student preferences in relation to podcast formats. The students expressed a clear preference for summary key-point slides with explanatory voice-over by the original speaker.

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1. Introduction

Recent years have seen a growing recognition and general acceptance of the need for the introduction of structured generic skills training into postgraduate research programmes (often referred to as 4th level education) in Ireland, see for example Forfas (2007), HEA (2006), IUA (2005, 2008), IUQB (2005), NUIM (2007). This recognition and acceptance is consistent with international practice in fourth level education development, see for example, Carnegie (2007), EUA (2007), Manathunga (2008), Rifkin and McLoughlin (2004), Roberts (2002), Spinks, Silburn, and Burchill (2006), UKGRAD (2001, 2004, 2008a, 2008b), UniSA (2008). Despite such a widespread development, effectively embedding and integrating generic skills training into postgraduate research programmes remains a challenge for a number of reasons such as

- Each student's research programme is unique to the student and ideally generic skills training should be available at a time most appropriate to the student's needs, DeViney and Lewis (2006), IUQB (2005).
- Time pressure to complete the research workload can result in little or no time for generic skills training.
- Despite the widely recognised importance of the generic skills training, the primary objective of a PhD research programme is the creation of new knowledge. The generic skills training is seen by some students and faculty as secondary rather than complimentary to their primary research goal.
- Depending on the career aspirations of each individual student, different students will require different generic skills modules and these modules will require some level of customisation, UKGRAD (2004).
- The development of many generic skills are more conducive to experiential learning than formal training courses, e.g. teamwork.

A number of researchers have looked towards the use of online learning resources to help alleviate the problem, for example, by enabling self-paced access to generic skills training resources, NewRoutePhD (2008), SkillCity (2008), Vicent et al. (2006), UKGRAD (2008),

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McKinney, Dyck, and Lubert (2009), McLoughlin and Luca (2002), Peat, Taylor, and Franklin (2005), Hong, Lai, and Holton (2003), Bennett (2007), Russell (2007). As is common throughout the literature, we use the term 'podcast' rather loosely to refer to any text/audio/video content which can be made available on the Web or on an intranet such as a university virtual learning environment (VLE). An accurate definition of the term 'podcast' is presented in Deal (2007, p. 2) which explains that a podcast consists of an audio/video file which is posted on a Web server along with an RSS feed. Would-be recipients of the podcast file(s) need to subscribe online via the URL of this RSS feed. Deal (2007, p. 2) notes that 'generating appropriate and compelling content for a podcast is typically the most time- and labor-intensive part of the process'. Posting the podcast file(s) to a Web server and setting up the RSS feed is often automated whereby registered students will automatically receive any material posted to the module space within the VLE. The aim of this work is to help optimise the 'time- and labor-intensive part of the process' and generate podcast content in a format which the target students deem best suits their learning needs.

2. Research question and objective

Reinforcement has been identified as the most effective learning intervention (Coffield et al., 2004b, Table 14 p. 52). However, the most effective means of reinforcing a learning object (Wiley, 2000) is unclear and is likely to remain so until the pedagogical impact of each such means can be estimated. The problem is further compounded by the variety of known learning styles (Coffield et al., 2004a). This is an enormous task which will require a concerted team effort from across the community to undertake effectively. Whatever reinforcement mechanism(s) eventually wins out, its choice should at least take account of general student subjective preferences in relation to a variety of such reinforcement mechanisms. The primary aim of this study is to gain insight into these subjective preferences. A secondary aim is to motivate the community to work together on this enormous task.

In light of the varied and often conflicting findings throughout the literature as to the effectiveness of online learning resources and the many calls for further research in this area, it was decided to focus this research on one specific aspect of a very broad and multifaceted issue and to frame the research question accordingly: do postgraduate research students in the faculty of science and engineering have a preferred podcast content format which they feel best suits their communication skills development needs and if so, what is this preferred content format? It should be made clear that it was beyond the scope of the study to estimate the pedagogical impact of all seven podcast formats. Such an ambitious undertaking would require a significantly increased student cohort size such that the many known learning styles (Coffield et al., 2004a) are sufficiently represented across the cohort and further that the pre-dominant learning style of each individual student within the cohort would need to be measured to facilitate effective pedagogical impact analysis. Although our modest research question was aimed purely at estimating student preference, the research literature suggests that the answer to this question will help to inform future research on the much broader and more complex pedagogical impact question.

3. Background

3.1. Postgraduate researcher generic skills training

The Irish Universities Association (IUA) graduate skills statement, IUA (2008), lists the following seven generic skills categories:

- Research skills and awareness.
- Ethics and social understanding.
- Communication skills.
- Personal effectiveness/development.
- Team-working and leadership.
- Career management.
- Entrepreneurship and innovation.

Within each of the seven categories, specific skills are listed. These skill sets are largely in line with similar overseas graduate skills statements, Carnegie (2007), UKGRAD (2001), UniSA (2008). In relation to the IUA graduate skills statement, one point to note is the fact that there are significant elements of communication skills in all seven categories, e.g. "synthesise new and complex information" under research skills and awareness; "avoidance of plagiarism" under ethics and social understanding; "persuade others of a viewpoint's merits, demonstrating and communicating credible suggestions to achieve one's aims" under personal effectiveness/development, to list but a few. This over-arching nature of communication skills affirms their importance. The relative importance of communication skills over other generic skills is further evidenced in Spinks et al. (2006) who surveyed three cohorts of engineering graduates on the relative importance of a selection of generic skills. For this reason, the focus of this work is primarily on communication skills development. However, the over-arching nature of communication skills as evidenced in the IUA graduate skills statement and related graduate skills statements, suggests that the findings may be readily adaptable to other areas beyond communication skills.

3.2. Podcasting (communication skills development and online resources)

Many university students today have grown up surrounded by multimedia instructional content and are totally comfortable with such learning resources. Mayer (2001) investigated the potential of multimedia content (specifically simultaneous pictures and associated speech) for helping learners. He presented seven principles for the design of multimedia messages, namely, multimedia, spatial contiguity, temporal contiguity, coherence, modality, redundancy and individual differences, Mayer (2001, p. 183).

Recently, Middleton (2009) has presented the findings of a university-wide pilot study to encourage academics to creatively explore learner-centred applications for digital audio. The study was 'initiated to promote learner-centred approaches to a blended curriculum'

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