Instructional Note

PowerPoint with Audio:
A Breeze to Enhance the Student Learning Experience

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Abstract

The aim of using technology as an aid to teaching is to provide an effective and efficient means for disseminating information in a way that supports learning. The widespread adoption of PowerPoint as an aid to the lecturing process has been a major step towards greater use of technology. Rapid advancements in technology have lead to software packages which can be integrated with PowerPoint that allow for innovative approaches to teaching. This paper provides an introduction to one such software package Breeze and its potential for enhancing the student learning experience.

Key words: *Education technology; Student engagement; Multimodal learning.*

Introduction

Advances in educational and communications technology, combined with the changing needs of today's technology-savvy students, a greater appreciation of various learning styles and modal preferences, and increasing competition in the distance education market have rendered traditional print-based or 'correspondence' models of pedagogy obsolete (Bates, 2006; Taylor, 2004). Many distance learners are working full-time while studying part-time, and require more inclusive, flexible, mobile and convenient learning options (see for example the work of Buckingham & Willett, 2006; Hartman, Moskal & Dzuiban, 2005; Jafari, McGee & Carmean, 2006; Oliver & Goerke, 2007).

New educational technologies for instance video-conferencing which employ applications such as Elluminate Live and Wimba as well as virtual education tools such as Second Life have provided educators with a means for producing a more engaging, interactive, inclusive and flexible curriculum.

One technology that has proved particularly popular with both academics and students is the use of recorded lecture presentations (PowerPoint with audio). These recorded lectures have been created with the aid of software programs such as Breeze, Adobe Presenter and Camtasia Recorder.

Educational benefits

One of the major benefits of these programs is the ability to present material in a variety of presentation modes (i.e., text, visual, aural and kinesthetic modes). Multimodality involves the provision of multiple representations of content with the aim of targeting and appealing to a variety of learning styles or modalities (Birch, 2006; Sankey & St Hill, 2005; Solvie & Kloek, 2007). Multimodal content such as can be delivered via a Breeze lecture recording facilitates student learning by allowing 'multiple representations' of content in more than one sensory mode (i.e., dual-coding) (Ainsworth & Van Labeke, 2002; Clark & Paivio, 1991; Mayer, 2003; Moreno & Mayer, 2007). Fleming's (2001) VARK typology proposes that students have a preferred learning modality (visual, aural, read/write or kinaesthetic) with some learners being multimodal. Hence, multimodal learning elements provide a more diverse and inclusive curriculum and cater for different learning styles and modal preferences (Grensing-Pophal, 1998; Karakaya, Ainscough, & Chopoorian, 2001; Roth, 2002; St Hill, 2000).

Multimodal content also provides a more engaging and interactive learning environment, thus facilitating improved student learning outcomes (Capobianco & Lehman, 2004; Eastman & Owens Swift, 2001; Ebersole & Vorndam, 2003; Sankey & St Hill, 2005; Zwyno, 2003). In a study of 117 undergraduate marketing students, Birch and Gardiner (2005) found that students enjoyed engaging with multimodal course content and agreed that multimodal formats assist their learning performance. When content is delivered in different modes, learners may perceive that it is easier to learn and pay greater attention to the content which ultimately leads to improved learning performance, particularly for lower achieving students (Chen & Fu, 2003; Fletcher & Tobias, 2005; Moreno & Mayer, 2007; Zywno 2003). In particular, aural explanations of more difficult concepts or assessment items appear to be valued by students with an auditory modality.

In addition to catering for different learning styles and modalities, multimodal learning elements such a recorded lecture presentations have been found to be particularly beneficial for Generation Y students, English Second Language (ESL) students and students with a disability. Generation Y have grown up in, and are comfortable learning in, a highly visual digital world. Hence, material presented in multimodal format matches their learning style. ESL students comprehend content more successfully from both hearing and seeing the subject matter (Flowerdew, 1994). With

recorded lectures using Breeze, ESL students can listen to the audio as many times as they need to and can hear how unfamiliar terms are pronounced and used within a particular context. Visually impaired students enjoy the advantages of aural explanations, while hearing impaired students value the visual elements when accompanied with transcripts of audio elements.

A key benefit of recorded lectures using products such as Breeze is that the academic can leverage existing PowerPoint presentations and add various elements including audio and video content and interactive diagrams can be embedded within the presentation. Recorded lecture presentations encourage higher interactivity as students are able to control the learning environment by determining the pace and order of presentation of the material (Moreno & Mayer 2007). Students can access these resources in their own time and at their own pace, and interact with the various elements housed within the recorded lecture (Buchan, Black, Howard & Macklin, 2005). The navigation bar allows student to move around the presentation to either revisit or skip slides as they choose. Depending upon the students' predominant learning style, students may self-select those learning objects or representations within the multimodal learning resource that best suit their modal preference (Sankey & St Hill, 2005). In addition to appealing to different student learning styles and modal preferences, technology-mediated delivery allows the provision of an information rich learning environment through embedding of links to useful websites and hyperlinked examples and activities.

Figure 1.
Overview of Embedding of Breeze
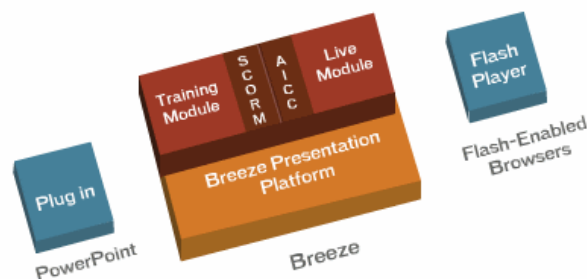
Recorded lecture presentations are effective in gaining and retaining the learner's attention span and lecturers have the ability to emphasise content that is more important. Hypermedia instruction has been found to benefit lower achieving students (Zwyno, 2003). Solvie and Kloek (2007) found that lower achieving students tend to have a strong learning preference, whereas high-achieving students do not, and thus this may explain differences of performance with multimodal content, which caters for a wider range of learning styles.

Educational technologies such as Breeze overcome the limitations of the traditional print-based distance education package by allowing the educator to replicate, at least to some extent, aspects of the on-campus experience and thus provide a more equitable learning experience to distance learners. For example, by including a photograph of the course leader and the ability to add voiceover, recorded lecture presentations allow for greater personalisation of the learning experience for distance learners, and thus may facilitate high-quality instructor to student interactions (Buchan, et al., 2005; Waddoups & Howell, 2002). Educational technology, such as Breeze, can be used to develop a social presence, which is especially important in

creating a sense of connectedness and reducing the feelings of isolation that distance education students often feel (Birch & Volkov, 2007; Oliver & Goerke, 2007).

Strategies for engaging students and making learning more enjoyable and exciting included the use of humour, variety and colour. Recorded lecture presentations provide an avenue for using humour. Humorous elements make the course more enjoyable, maintain engagement and thus assist with retention of information. The ability to embed multimedia elements allows for greater variety which helps to student's interest.

Strategy/Approach

The recorded lecture includes an audio explanation of the PowerPoint slides. The table of contents in the left hand column allows students to navigate back and forward through the presentation. This is especially useful for students with an aural modality and ESL students who appear to benefit from both listening and reading the content and can repeat the slide if required. Interactive hyperlinks can be inserted on the slide to allow students to view "real-world" examples. Videos and interactive diagrams can also be embedded within the PowerPoint allowing for a more engaging and interactive learning experience.

In addition to lecture presentations, the software can be used to create presentations on assessment items. The educator can include links to useful resources to assist students with the preparation of the assignment. Aural explanations of assessment items can improve comprehension of assessment requirements and reduce anxiety.

Recorded lecture presentations should be kept brief – about 10 to 15 minutes to cater for limited attention spans and to avoid student boredom. It is important to make the presentation as dynamic as possible which can be difficult to achieve when seated in front of the computer screen. Use of tone, pitch, modulation and light and shade are important aspects to retain attention. The ability to use tone to emphasise important points is also a key point to keep in mind.

Figure 2.
Breeze Screen with PowerPoint Slide

Summary

The use of the Breeze software was a valuable experience as it provided the opportunity to reflect on the key learning objectives of each topic. This lead to the breaking down of the lecture into modules and required deeper consideration of how best to explain the key issues.   When considering the adoption and implementation of any new synchronous products it is important to seek the advice of the Information Technology department of your university and to know your audience, that is be clear about their learning needs. There are many products available in the market and Breeze has now been replaced by Adobe Acrobat Connect Pro.

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