Chapter 9
Listening to an Educational Podcast while Walking or Jogging: Can Students Really Multitask?

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ABSTRACT
The advent of podcasting offers opportunities for students to learn while performing another activity. While podcasting is advocated by many as helping to learn anywhere and anytime, research indicates that it is not so easy for people to do two things at the same time. Two experiments were set up to examine the effect of performing a secondary task while learning with an iPod. In the experimental groups, the participants had to combine a learning task (listening to an educational podcast) with a secondary task (walking or jogging). The control group only had to perform a learning task. Afterwards, all the participants had to complete a learning test. In the first study, there were no significant differences between the learning performances of students of the different conditions. In the second study, the students who were sitting down outperformed the students who were moving while studying.

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MOBILE LEARNING AND PODCASTING

Mobile devices and technologies such as iPods/MP3 players, mobile phones and laptops are popular and have become increasingly integrated into our daily lives (cf. the familiarity with technology of the ‘Homo Zappiens’ generation (Veen, 2009)). For example, in 2009, 91% of the Belgian population and 92% of the Dutch population used a mobile phone (Centraal Bureau voor de Statistiek, 2009; Federale Overheidsdienst Economie, 2009). Under the denominator ‘mobile learning’, the use of mobile technologies also penetrates education. Mobile devices are used to deliver content and/or to interact with classmates or the teacher, both within the classroom (cf. the notion of 1:1 (one-to-one) educational computing) and outside the classroom (mobile devices are used for example to support field trips and outdoor learning; (e.g., Chen, Kao, & Sheu, 2003, 2005; Pfeiffer, Gemballa, Jorodzka, Schieter, & Gerjets, 2009; Coens, Clarebout, & Reynvoet, 2009a.)

Podcasts are used for mobile learning. The term ‘podcasting’ is a derivative of the word ‘broadcasting’ and ‘iPod’ (the popular MP3 player from Apple Computer) (Meng, 2005). It refers to the distribution of audio/video files in digital format. These files can be downloaded to a desktop computer from the Internet and transferred to a portable media device such as an MP3 player. In recent years, podcasting has seen a significant growth in education. McGarr (2009) identified three broad types of educational use of podcasting. At the most basic level, podcasting is used to provide recordings of past lectures to students for the purposes of review and revision (substitutional use). This is the most common use of podcasting. Copley (2007) for example produced audio and video podcasts of his lectures and made them available to his students. The second most common use is in providing additional material (e.g., study guides, summary notes) to broaden and deepen students’ understanding (supplementary use). Nathan and Chan (2007) for example created podcasts in the form of discussions between the subject matter expert and a student. The third and least common use involves the creation of student generated podcasts (creative use). In a study of Frydenberg (2006) for example, students had to create their own podcasts based on the course material. In Wilson et al.’s study (2009), students used video iPods for the creation of dance performance.

One of the key benefits of podcasting (and in general of mobile learning) described in the literature is that podcasting has the ability to enhance flexibility and accessibility in learning (McGarr, 2009). Podcasting offers opportunities for education because it has the advantage of allowing learners to choose when and where they study (Evans, 2008). Learning materials can be accessed by the students in their own time and place; they are no longer bound to one place of study. They can learn anytime, anywhere and when it is convenient for them (Maag, 2006).

The increased flexibility relates to a specific feature of mobile learning in general, and podcasting in particular: students can learn while performing another activity (e.g., listening to an educational podcast while waiting for the bus, while driving a car or while doing the dishes; studying while being on the move). Students can become educational ‘multitaskers’.

Can Students Really Multitask?

Multitasking

In daily life, people often (try to) do two things at once. They do their dishes while watching their children play, they drive a car while talking to the passenger (Hunton & Rose, 2005; Strayer & Johnston, 2001), and young people want to do homework while watching television (Pool, van der Voort, Beentjes, & Koolstra, 1999). Multitasking is a ubiquitous phenomenon. Studies have shown that up to 95% of the population reports multitasking each day and that large amounts of
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