The Use of Postcasting/Vodcasting in Education

Athanasios T. Stavrianos
2nd Technical Vocational School of Xanthi, Greece

Apostolos Syropoulos
Greek Molecular Computing Group, Greece

INTRODUCTION

The terms podcasting and vodcasting refer to automatically downloadable audio and video files. Typically a podcast is an MP3 file whereas a vodcast can be any popular compressed video file. In 2004 the term podcasting was first mentioned in an article in the newspaper The Guardian (Hammersley, 2004). The term podcasting derives form iPod, the device that was first used to download and play podcasts.The inventors of the technology are Dave Winer and Adam Curry (Brown & Green, 2007). At that time, Winer was a software developer and an RSS evangelist while Curry was an MTV vj. Rich Site Summary, or just RSS, is a format for delivering regularly changing web content. Initially, podcasting was used for personal entertainment or information but soon it became clear that it could be used in education. Since its introduction the technology became very popular and this can be seen by the number of downloads. In April of 2006 ten million podcasts were downloaded while in November of the same year 17 million podcasts were downloaded.

The terms podcasting and vodcasting (the vod part comes from *Video On Demand*) refer to a process. In particular, when there is an event, one has to capture the song, the interview, etc. The result can be either an audio file or a video file. Today's video capturing devices can produce high definition video that is stored using a compressed codec so there is no need to re-encode the video, something that was quite common in the early days. Then, one had to post this audio or video file to a web site or a blog and using an RSS (Rich Site Summary) envelope (RSS is a format for delivering regularly changing web content). Obviously, the author had to inform people who might be interested in the new content. This is done automatically if people subscribe to an RSS feed. Nowadys one can use her smartphone to read the RSS feed and then to download the new content.

Today one can use a smartphone to record a video file or an audio file. Also, one can use a digital camera to record a video file. When one prepares a podcast, then it is recommended to use the "Audacity" open source software for audio editing. On the other hand, the open source project "pitivi" can be used to edit video files.

BACKGROUND

Podcasting was primary used in tertiary education to make lectures available to students in order to clarify difficult parts and emphasize important ones. Later on, podcasts were replaced by vodcasts. Currently, there are four kinds of vodcasts that are used in education: lecture-based, enhanced, supplementary, and worked examples (Kay, 2012). A lecture-based or "substitutional" vodcast is a recording of an entire lecture. Thus students can experience what happened in the lecture hall without actually being physically present. An enhanced vodcast is video footage of a slideshow (e.g., Powerpoint or Beamer presentations) that is

presented with an audio explanation. Supplementary vodcasts are designed to augment the teaching and learning of some courses and may include administrative support, real-world demonstrations, summaries of lectures or textbook chapters, or additional material designed to broaden or deepen student understanding.

There are also other ways to classify vodcasts. For example, depending on whether a vodcast is offered in segments or not, one can talk about segmented vodcasts or non-segmented vodcasts, respectively. In addition, the pedagogical strategy can be used to categorize vodcasts. In particular, there are three different teaching approaches. The first is called receptive viewing and includes vodcasts to be viewed by students in a passive manner (i.e., like watching a movie). There are problem-solving vodcasts that are designed to explain and help students in learning how to solve problems and exercises related to their courses. Naturally, such vodcasts are useful for people who study science, mathematics, or engineering. A third category includes vocasts that are created by students for students.

Although vodcasts seem to be quite popular today, there are a few questions related to their use in education. The first question is whether students are ready for this technology and the second question is whether this technology is actually useful. The first question has been tackled by (Walls, Kucsera, Walker, Acee, McVaugh, & Robinson, 2010) among others. First we need to note that today most if not all students own laptop or desktop computers and smartphones, which can be used to listen to music, to watch videos, take pictures, shoot videos, and so on. Thus many of the devices of the past (e.g., iPods, mp3 players, pocket digital cameras, and so on) have been replaced by smart-phones. This simply means that all students have the potential to create, download, and watch vodcasts. It has been suggested that vodcasting can improve student learning outcomes. This suggestion is largely based on Mayer's cognitive theory of multimedia learning (Mayer, 2001). According to this theory

"an individual's information processing system includes separate cognitive channels to process visual/pictorial and auditory/verbal stimuli; in this respect, learning is obtained by integrating information between such channels" (Walls, Kucsera, Walker, Acee, McVaugh, & Robinson, 2010). In different words, there is a limit to what a learner can achieve. Thus when a learner is presented with a large amount of pictures, images, talks, sounds, etc., hence she might fail to comprehend most of this information. Not so surprisingly, vodcasts can solve this problem! How? Each student will have the opportunity to watch vodcasts in the comfort of their room or in any other place that may suit a student. More importantly, students can control the speed and pace by which they will watch specific content.

Of course vodcasting is not a panacea and so it has certain limitations. For example, when students are already using a variety of resources in their studies (e.g., text-books, lectures notes, etc.), then adding one more kind or resource may create some sort of cognitive overload. Although students own smart-phones and other related technological "gadgets", still they use them for entertainment and not for their studies. Therefore, it is not obvious that students would consider using their smartphones in their studies, particularly in institutions that have not used vodcasts in their educational resources. It has also been argued that the use of vodacsting may provide a justification and excuse for students to skip classes. However, some studies have revealed that students do not consider a vodcast as a substitute for attending a lecture. After all, one cannot ask a vodcast questions!

According to findings provided by (Walls, Kucsera, Walker, Acee, McVaugh, & Robinson, 2010) students do not find vodacsts particularly useful in their studies. They think that supplementary vodcasts contribute something in their learning. Also, students utilize vodcasts in rather different ways and in rather different circumstances. According to this study, they might utilize vodcasts during trips, while eating or exercising, and while study-

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