Podcasting in the classroom: A case study

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The world is changing. Many students now fill their world with mobile phones, text messaging, MP3 players and computers that they use for social networking. They have really become the iPod generation. Due to the ubiquitous nature of iPods, and other mp3 players, digital music is everywhere and podcasting has become a mainstream activity of the web 2.0 age.

Introduction

The term 'podcast' is a combination of the words broadcasting and iPod (Newberry, 2006). For the uninitiated, a podcast is an audio or video file that is usually made available on the internet for users to download. Many different programs can be downloaded as podcasts. Any television or radio program can be transmitted as a podcast, as can any class, lecture, performance, or event. The extensive nature of podcasting today may be exposed by a search on Google of the word podcast. This search recently returned 152,000,000 hits. Apple claims that there are thousands of free podcasts available on iTunes.

As an educational tool the use of podcasts in the classroom is similar to other computer-based technologies. Podcasts can be used as a resource created by others, a resource created by the teacher, or as a project created by students (Preston, 2008).

But can podcasts be used to implement quality learning experiences in the classroom?

Current research shows the single most important determinant of student achievement at school is quality teaching (Whelan, 2005). In considering quality teaching and learning it is important to stress that educational effectiveness for all students is dependent on the provision of quality teaching by competent teachers who utilize effective teaching strategies (Rowe, 2006).

The effectiveness of using technologies like podcasting in the classroom does not rely so much on the technology itself but on the ways it can be used to deliver a quality learning experience. The NSW Quality Teaching Model details "generic qualities of pedagogy that have been successfully applied in a range of school contexts and are shown to lead to improved student learning" (NSW DET, 2003, 4-5). These qualities are categorised into the three dimensions of intellectual quality, quality learning environment, and significance for the student.

One way that these dimensions can be operationalised is through the use of constructivist learning activities. Constructivism is the dominant paradigm in education today (Rowe, 2007). Most constructivists would agree that all knowledge is actively constructed and organised in networks that are increasingly more complex and abstract, and that constructed knowledge is under an almost continuous state of reorganisation and restructuring. The main pedagogic implication of a personal constructivist perspective is that learning can be facilitated by teachers who challenge student conceptions and involve them actively in the teaching-learning process by providing stimulating and motivating experiences. This type of pedagogy emphasises that learners need to be actively involved, to reflect on their learning and make inferences, and to experience cognitive conflict.

The question that now arises is how to best implement a constructivist approach to teaching and learning in the classroom? Marc Prensky (2001) suggests that today's students are digital natives due to their exposure and immersion in the digital media of the day. For these students, significance, a key aspect of the NSW Quality Teaching Model, is often related to the digital age and the use of digital media. The use of computer technologies in the classroom, therefore, may provide the answer as they have been shown to be an effective way to implement constructivist pedagogies and enhance student learning (Drennan, Kennedy, & Pisarki, 2005; Preston, 2008). The creation of a podcast is a valuable task because it is a real world skill; it provides an authentic task for students; it is an ideal means to immerse students in the process of inquiry; and it gives students the opportunity to research,

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Students collaborated to research a topic and develop it into an actual podcast

develop their understanding, create and present their findings. Students are encouraged to "actively manipulate information in a variety of contexts from a number of different resources in order to solve meaningful and relevant problems" (Hopson, Simms & Knezek, 2002, 116-117).

In particular, the power of the world wide web and the emergence of web 2.0 technologies such as podcasting means that anyone can now be part of the knowledge-access, knowledge-building, and information-exchanging culture (Loving et al., 2007). But many teachers lack the skills necessary to introduce podcasting activities in the classroom. One solution is to partner teachers with pre-service teachers with the requisite skills to implement podcasting activities in the classroom. The Partnerships in ICT Learning project (PICTL) explored the way that partnerships between universities and schools could provide a way to enable pre-service teachers and teachers to use ICTs with students. The PICTL program provided some successes and explored ways that pre-service teachers could lead out in technology learning activities in schools.

The current study

The current case study followed the path of the PICTL project. A classroom teacher, pre-service teacher, and university formed a partnership to implement a constructivist podcasting project in the classroom.

Podcasting was utilised as a learning tool in a classroom of 30 year nine students. Although there was variation in levels of use, 100% of participants in the case study indicated that they use the internet at home. Prior to having completed the podcast

at school, 73% of students specified that they had engaged in web 2.0 uses of the internet through the uploading of content they had created.

The students were divided into groups that contained between four and eight students. Each group worked in collaboration with the teacher to choose an appropriate topic within their present history unit. The students then began to develop their podcast by researching the topic and creating the actual podcast. This was completed in class over a three week period.

Throughout the podcast project, student data was collected using three different data collection measures. Students were given a knowledge pre-test prior to the start of the podcast activity, a knowledge post-test after the completion of the podcast activity, and an attitudinal survey.
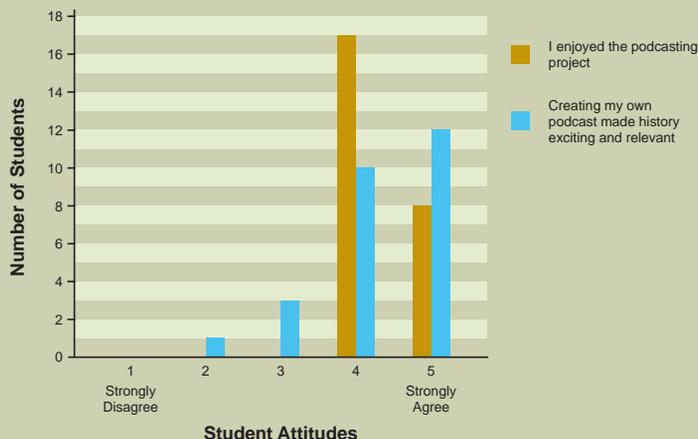
Overall the student groups performed well during the podcast activity. The attitudinal data collected during the study showed that students generally enjoyed the podcasting experience. 86% of students indicated that creating their own podcast made history seem exciting and relevant (see Figure1).

There was a significant increase ($p < 0.01$) in the students' content knowledge after the groups had produced their podcast. Although this finding is encouraging, it must be viewed in the context of the small sample size.

Whilst producing their podcasts students were enthusiastic about learning, were actively involved in the construction and analysis of their own data and were demonstrating a range of creative skills. The results of this study support the current literature that recognises that constructivist podcasting projects can enhance student learning in the classroom (Preston, 2008).

Figure 1: Student attitudes to podcasting

Legend:
- I enjoyed the podcasting project
- Creating my own podcast made history exciting and relevant

Y-axis: Number of Students (0–18)
X-axis: Student Attitudes (1 Strongly Disagree — 5 Strongly Agree)

Conclusions

Overall, the results of using podcasting in the classroom were positive. Generally, students in the podcasting class benefitted from a quality learning experience through the use of web 2.0 technologies. In addition, the pre-service teacher formed a good partnership with the teachers at the school. This was illustrated when he was asked to run a professional development session for all the staff at the school.

The podcasting project helped students to acquire knowledge in the area in which they were working.

Students also had an overall positive attitude to the use of technology in the classroom and many saw it as increasing the relevance of their learning experience. This case study supports the suggestion that web 2.0 use in the classroom enhances student learning, and that it can be used by teachers as they implement the NSW quality teacher model in their classrooms. TEACH

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" Many students saw the use of technology in the classroom as increasing the relevance of their learning experience "