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An Overview of Podcasting in Education

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Abstract

Technology has revolutionized our everyday lives and has become an integral part of how we live, work, play, and learn. Success in the 21st century requires life long learning and versatility in nearly every career and job category. Effective use of technology can help universities evolve to address the needs of the 21st century generation, redefine their educational purpose as well as the strategies and resources they use to impart education. Innovative educators and instructional designers are exploring how podcasting can be effectively used as a tool to address these challenges. In this paper, I discuss how podcasting is used by universities to enhance the teaching and learning experience. The issues faced by universities in using podcasting are discussed next. The paper concludes by examining future trends in the use of podcasting and the improvements that can help podcasting evolve as an effective tool for education.

Introduction

Technology is transforming the way education can be imparted to the networked generation of the 21st century. Effective use of technology can help universities develop the skills students need to succeed in their lives and profession. Reflecting on the recent emergence and rising popularity of podcasting, universities and educational institutions offer innovative ways to enhance the educational experience by using podcasting. Amongst other emerging technologies like social software (blogs, wikis), eportfolios, and mobile technology, podcasting has a higher impact on learning and student engagement, coupled with lower cost of implementation and threshold of adoption (Braddlee & Gail, 2006). It has thus been introduced in many universities across the world as an e-learning and teaching tool. Podcasting is used in universities to offer ubiquitous access to content, flexible learning opportunities, personalized content delivery to address students with different learning styles, self empowerment, control and autonomy to students and instructors, updated course content, improved instructor-student interaction, and professional development opportunities amongst various other pedagogical uses.

What is Podcasting?

The word "podcasting" is a combination of the name of Apple Inc's portable media player, the iPod™, and broadcasting. Podcasting is defined as the distribution of a digital media file or a series of such files over the Internet using syndication feeds for playback on portable media players and personal computers (Podcast - Wikipedia, 2007). The podcast creator publishes files to the Internet, allowing users to subscribe to a feed and receive new files automatically by subscription much like a digital audio or video magazine subscription. Podcasting combines the benefits of the broadcast nature of radio with the flexibility and personalization of recorded audio (Lee & Chan, 2007). The popularity of podcasting can be attributed to the widespread ownership of portable media players and personal computers, and the relative ease with which people can create and distribute audio and video files using the Internet. Podcasting follows a simple publish and subscribe model wherein the content creators act as publishers, and the consumers of the content act as subscribers.

The Podcasting Process

Podcasts are generally created using an audio recording program like Audacity™ or Garageband™ or a video recording device like a digital camera or a web cam, to record the content. The content is then put up for transmission to

subscribers on the Internet using an RSS 2.0 feed. RSS stands for Really Simple Syndication and is a family of web feed formats used to publish frequently updated content. Users then subscribe to the RSS 2.0 feed by using software called a "feed reader" or an "aggregator". The user subscribes to the RSS 2.0 feed by entering the feed's link into the reader or by clicking an RSS icon in a browser that initiates the subscription process (RSS - Wikipedia, 2007).

Podcasting in Education

Podcasting offers innovative ways to support teaching and learning, and impacts all areas of education from distance learning to K-12 education to adult learning. The pedagogical use of podcasting is into areas of lecturing, tutoring, and remediation (Morales & Moses, 2006). Podcasting is used in education to provide recording of lectures, class discussions, instructor feedback, dissemination of course content, sports events distribution, field recording, study support, interview with external resources, self learning opportunities, richer interactive learning environment, re-mediation of slow learners, aid to multi-lingual education, audio video development brochures for prospective students, laboratory training instructions, file storage and transfer, and assessment of learning.

Podcasting offers the advantages that students have the flexibility to learn anywhere and anytime it is convenient to them thereby providing with a flexible self-paced learning experience and addressing students with different learning styles. Podcasting helps students to do more fieldwork, provide audio feedback to peers, and reduce dependence on multimedia labs or library locations and hours (Belanger, 2005). Podcasting offers instructors opportunities to integrate more interesting and engaging content on the courses, and opportunities to interact with colleagues, administrators, staff, and students to discuss about the role of technology in education. Podcasting helps educators in the fields of language, literature, and culture by providing access to multimedia materials and contacts with experts in other institutions thus enhancing classroom interaction and student exposure to authentic language and culture (Earp, Belanger, & O'Brien, 2006). Podcasting helps in revising large amount of content easily and quickly by listening to key concepts again. Podcasting helps students who find listening and visualization better than reading. Effective use of podcasting helps promotes increased students engagement and interest in classroom discussions, labs, field research, and independent projects. Podcasting is used to address the needs of visually impaired students, students who have specific learning disabilities, and non-native speakers of English (Dale, 2007).

Podcasting is also conducive for those students who take a “bite size” instrumentalist approach to learning (Dale, 2007). The “push” nature of podcasting helps students feel connected to the learning community and creates opportunities for social networking and interaction amongst students as well as instructors.

Podcasting can be viewed as a learning process comprising of three phases namely, content-creation, publishing, and subscription with opportunities to engage students in meaningful learning activities in all three phases (Huann & Thong, 2006). In the first phase of content creation students can be asked to create a podcast thus learning the skills of communication, collaboration, time management, and problem solving (Borja, 2005). The publishing phase can be used to create a learning portfolio for instructors to assess the learning skills of the students. The subscription phase is currently the most valued one for the purpose of teaching and learning by exploiting the time-shifting capability of podcasting to provide anywhere, anytime access to educational content. Podcasting can be used to deepen students’ content knowledge by exposing them to high quality visual and aural representations, hone students’ critical thinking and information literacy, and provide instructors with opportunities to promote media literacy (Paskin, 2007).

Many universities and schools have now introduced podcasting as part of their teaching and learning experience. Duke University first introduced iPods™ and podcasting for all its first year students in 2004. Podcasting was used to achieve and promote innovative and effective teaching, curriculum enhancement, infrastructure development, and knowledge sharing (Earp, et al., 2006). Middlebury College uses podcasting in second language classrooms to capture authentic language use and language lessons (Chapin, 2007). Many K-12 elementary, middle, and high schools use podcasting for history topics like the Constitution, Native Americans, science topics like electricity, arts topics like musical works to make the courses interesting and engaging to students. Stanford University has partnered with Apple Inc's iTunes™ to make available faculty lectures, learning materials, and music and sport information (Stanford on iTunes U, 2007). Brandeis University uses podcasting to have students in anthropology classes produce museum audio guides (Hartigan et al., 2006). Georgia College and State University uses iPods™ and podcasting to have students create, and share oral presentations in literature and history classes (Apple iTunes U, 2007). Apple Inc's iTunes U™ is a free, hosted service for higher education schools and universities that provides easy access to audio and video content such as lectures, web demonstrations, and language lessons (Apple iTunes U, 2007). Podcast directories that enlist

podcast content and programming relevant to educators, instructors, and students in one place, such as "educate" (RECAP Limited, 2007) and "Education Podcast Network" (EPN - The Education Podcast Network, 2007) also exists to help schools and universities introduce podcasting.

Issues in using Podcasting in Education

In spite of the growing popularity and the rapid adoption of podcasting in education, schools and universities are faced with certain technical and pedagogical challenges and issues in incorporating podcasting. Use of instructional strategies like engaging the users, introducing theory gradually, using chapters or bit sized chunks to guide the user, and developing deeper learning experiences need to be used for effective podcasting (Dale, 2007). Universities need to establish standardized guidelines for production and editing of podcast in order to ensure sufficiently high aural and visual quality for academic use. Braddlee and Gail (2006) mention that one of the pedagogical issues faced by universities is concern over in-class student attendance and participation if lectures are made available online using podcasting. However, a study conducted by Mayer and Masters (2006) concluded by stating that there was no significant difference to the in-class attendance. Earp et al. (2006) found that lack of awareness or accurate knowledge of podcasting and academic applications among faculty and students

and the need to transition instructional practices to incorporate multimedia content were the key challenges in incorporating podcasting. Matthews (2006) states that since incorporating podcasting is more beneficial to certain subjects than others, universities might need to favor selected departments and students to introduce podcasting possibly due to budgetary constraints thus creating a sort of discrimination which can be against university policies. Issues related to consumption, tracking, verification, and bulk purchase of copyright content for academic use and difficulties in obtaining licenses for content from publishers in appropriate formats are additional challenges faced by universities (Belanger, 2005; Meng, 2005). Podcasting transforms students and instructors into content creators thus exposing issues of content ownership, appropriate use, security, and monetization amongst the university, student, instructor, and the user. Podcasting places additional demands on the network infrastructure of universities in areas of bandwidth consumption, storage needs, additional hardware and software requirements (Meng, 2005). Integration of podcasting into existing learning management systems like WebCT™, and Blackboard™ introduces significant challenges due to the need to integrate and manage multiple systems for content storage, access, sharing, and distribution with different subscription models (Belanger, 2005; Morales & Moses, 2006).

Additional technical documentation and training needs to be provided to instructors, students, administrators, and staff to effectively use podcasting.

Emerging Trends of Podcasting in Education

Podcasting is continuously being enhanced and evolved to cater to the specialized needs of education. The ability to search within a podcast and for podcasts catering to a relevant topic is one area that can transform podcasts into learning objects for inclusion and integration into learning management systems. Speech to text conversion, transcription of podcasts, video search, and speech search can make podcasts searchable (podscope, 2007; EVERYZING, 2007). Secure podcasting can help solve the problems of digital rights management and access control needed for using podcasting in education (Sloan, 2005). Development of education specific tools like assessment tools would accelerate adoption of podcasting. The development of integrated educational podcasting software like iTunes U™ presents opportunities to universities for authentic and varied evaluations, assessments; student centered responsibility, and informed collaboration (Gall & Pritchard, 2007). New teaching models, theoretical pedagogical frameworks, and instructional strategies that incorporate and integrate podcasting in their design will have far-reaching impact and implications on teaching and learning (Beldarrain, 2006).

Conclusion

In this paper, I briefly discussed the role podcasting can play in affecting the teaching and learning experience. The adoption of podcasting in education is a natural evolution from its use for entertainment purposes to teaching and learning. Podcasts introduced in the context of an overall technology plan designed in consultation with all the stake holders can transform the educational experience. Podcasting can help universities evolve to cater to the educational needs of the 21st century.

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