Podcasting in Aviation Education: Student's Perceptions

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Abstract

Over the past several years, podcasts viewing have increased in popularity not only in mainstream America but also in higher education. This qualitative study examines students' perceptions of using podcasts for supplemental information in a college level aviation private pilot ground school course. Podcasts were created on subject matter that the professor of record determined to have given difficulties to previous classes. These podcasts were used as supplemental information for the course. Following the end of the course, surveys were distributed to collect the students' perceptions of using the podcasts. This case study examines the surveys.

Key words: podcasts, supplemental, aviation, qualitative, and higher education

Introduction

Most universities, nationwide, continue to search for ways to enhance their teaching and learning environment through technology. Collegiate aviation professors have turned to technology to replace large, impersonal lectures, supplement course materials and provide students access to course information at any time, from any location. Many of these professors have chosen podcasts as a simple, inexpensive way of satisfying this requirement. These professors have placed their podcasts pertaining to course subject matter or lectures on course websites so enrolled students will have access to this supplemental material.

Podcasting involves the creation of audio or video presentations for use on iPods, mp3 players or personal computers. They allow the user to view or listen to downloadable files wherever or whenever desired (Morris,2006). The name "podcast" is simply a compound word combining iPod and broadcasting (Brenner, 2005). However, podcasts do not involve broadcasting in that they are simply files downloaded from the web and subsequently replayed on an mp3 player or computer at the user's discretion. Apple has created the free "Quicktime" software to simplify the creation of podcasts. Originally, podcasts were capable of only audio presentations but now have the capability of incorporating film, television and a variety of other visual media.

Over the past several years podcasts have established themselves as a growing trend in today's society. In a recent survey, Americans indicating they have ever downloaded or listened to an audio podcasts grew from 11% in 2006 to 18% in 2008, while video podcasts viewing grew from 11% in 2007 to 16% in 2008 (Webster, 2008). The survey goes on to state that 23 million Americans have downloaded and listen to an audio podcast in the past month.

The growth of podcasting in higher education has been incredible. Although, one study states: creating a podcast with true academic value can be tough (Villano, 2008). Podcasting is already proving to be a valuable tool for teachers, trainers, and learners (Donnelly and Berge, 2006). In a presentation at Jacksonville University, Mark Benno, curriculum evangelist for Apple computers, stated a Google search for "podcast" in 2004 would have received 24 hits (Benno, 2006). A search today would yield more than 125 million hits (Google, 2008). Students entering our colleges and universities have clearly embraced this new technology. In 2005, over 32 million iPods were sold, which is equivalent to one per second (Castelluccio, 2006). In 2006, a survey at Jacksonville University revealed approximately 67% of the students enrolled in the college of business owned some type of mp3 player (JU survey, 2006).

In 2007, the Aeronautics Division of the Davis College of Business at Jacksonville University embarked on a study to empirically evaluate the benefits of incorporating podcasting into an Aviation Science course (JU, 2007). The professor of record in an Aviation Private Pilot Ground School Course recognized four subject matters that students had consistently scored below average on when taking the

Federal Aviation Administration standardized tests. These subject areas included: density altitude, aircraft cruise performance, cross wind components for landing, and aircraft weight and balance.

Podcasts on these four technically oriented subjects were created by a group of senior honor students who are also F.A.A. Certified Flight Instructors. Using Apple software, these podcasts condensed 50 minute course lectures into 5-10 minute podcasts lectures. These podcasts were used to supplement the standard classroom presentations covering this particular subject matter. At the end of the semester, standardized tests were given to determine the effectiveness of the supplemental (podcast) information. In conjunction with this quantitative study, a qualitative survey was administered to the students who were given access to these podcasts. The information gathered from this survey on the quality and desirability of the podcasts used during the evaluation forms the basis of this case study.

Problem

Main Problem: Do students have a favorable, neutral, or unfavorable impression of podcasting as an educational tool after participating in a course that incorporates podcasts as supplemental parts of the curriculum?

     Sub-problem 1: Why did the students use the supplemental podcast materials?
     Sub-problem 2: What did the students like about podcasts?
     Sub-problem 3: What changes would the students make to better the podcasts?
     Sub-problem 4: Will students continue to use podcasts as supplemental information for collegiate coursework in the future?
     Sub-problem 5: Do the students own their own Ipod or mp3 player compatible for podcasts?

Analysis and Discussion

To analyze students' perceptions of using podcasts as supplemental material in collegiate coursework, a questionnaire was implemented at the end of the experiment period (Appendix A). This instrument investigated five questions pertaining to the students' use of the podcasts over the course of the experimental period. The following is the qualitative data gathered from the 25 participating students answering the five investigative survey questions.

Survey Question 1 Did you use the supplemental podcasts materials? Why or Why not?

Twenty-three students answered yes that they used the podcasts sometime over the course of the experimental term. Two students replied they did not. Many reasons were given from the 23 students who responded they used the podcasts. After further

analysis, the researchers determined the responses fell within four categories. These numbers of responses and categories are as follows. Twelve students responded they felt podcasts were a good way to study for tests and quizzes. Eight students thought podcasts better suited their own learning styles. Two students replied they observed the podcasts because they were instructed to do so. One student gave no explanation to why.

Survey Question 2   What did you like about the podcasts?

Fourteen students replied with similar answers; stating the information distributed in the podcasts were informational and helped them to better understand the course material they covered. Six students commented they liked the podcasts because the information was presented in visual format and was easily assessable. These students believed they were visual learners and the podcasts catered to their learning style. The students also commented that having the podcasts stored on their mp3 players made it easy to retrieve material whenever they needed it. Five students did not reply to this question.

Survey Question 3   How could the podcasts be changed to make them better?

Eleven students commented the podcasts' background music need to be changed. Of these students, seven thought the background music was distracting and four stated the music needed to be lowered so the speaker in the podcasts could be better understood. Six students added they were a little too redundant and needed to be more entertaining. Two students "liked" the podcasts and thought they were very efficient. Six students did not answer this question.

Survey Question 4   Will you use supplemental podcasts in the future?

Twenty-four students answered "yes" to this question. Only a couple of students added comments to this question. Of these students, one person added "…the test I used it on I got a higher grade than my other tests." Another student stated: "Sure, I have them saved to my PC for future reference." One student did not answer this question.

Survey Question 5   Do you own an ipod or other portable mp3 device compatible with podcasts?

Thirteen students answered "yes' to this question. Eleven students answered "no" to this question. These students who did not own a mp3 device used the free download available on the instructor website to view the podcast on their computers. One student did not answer the question.

Conclusions

The researchers have determined three main conclusions from the surveys. First, the use of podcasting to facilitate the introduction of requisite knowledge and aid in quiz/test preparation has proven to be well received, based on the data collected from

students participating in our study. The researchers conclude the students had a favorable impression of the podcasts.

Second, the students also had a favorable impression of the delivery methodology. The majority surveyed enjoyed using readily available technology, providing both entertainment and educational value. This technology allows students to learn at his or hers own pace and take advantage of the random periods of free time associated with their dynamic lives.

Third, technically oriented aeronautical subject matter such as: density altitude, aircraft cruise performance, cross wind components for landing, and aircraft weight and balance, can be condensed into podcasts, which provide valuable supplemental material for the 21st Century students.

Future

Globally, podcasting may well provide Western educators and training providers a cost effective tool to help meet the escalating world wide demand for highly trained commercial pilots. Currently, English speaking countries provide the most sophisticated and robust pilot training programs available. This presents a challenge in that students coming from the countries most in need of commercial pilots are speaking English as a second language. Consequently, when foreign students attend these highly technical, English based training programs, normal course completion times have been significantly protracted due to language issues. Delays in completing these programs have resulted in many international airlines being unable to fly both their existing and new aircraft due to a lack of trained pilots.

Using podcasting, it may be possible to increase pilot production by better preparing students for formal training events. By providing students with podcasts containing course materials in their native language prior to attending formal training, language based training delays could be reduced. This application of podcasting could help students arrive better prepared to meet the challenges of classroom and simulator training events allowing them time to work on their English language skills; English being the International Civil Aviation Organization's chosen language for the conduct of international air commerce. Although the degree of affectivity of podcasting as a supplemental delivery medium in education requires additional research and analysis, our study clearly indicates its acceptability to today's student and its potential for global application.

Appendix A

Podcasting Questionnaire

Did you use the supplemental podcast materials?

    Why?

    Why not?

What did you like about the podcasts?

How could the podcasts be changed to make them better?

Will you use supplemental podcasts in the future?

Do you own an ipod or other portable mp3 device compatible with podcasts?

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