# UW Podcasting: Evaluation of Year One

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## OVERVIEW

The use of podcasting in higher education has received considerable media attention over the past year, much of it focused along a common theme: how course podcasts help universities meet students' needs. According to an article entitled "The Power of Podcasting," in *Diverse: Issues in Higher Education,* "All over the country, college faculty and administrators are plugging themselves into one of the newest—and hottest—technologies in an effort to better connect with students" (Lym 2006). A recent *USA Today* article makes a similar observation about the student focus of podcasts and other online materials: "colleges and universities are modernizing to make a student's every need available online" (Sidman 2006). In local news, an article from the *Seattle Post-Intelligencer* describes how the introduction of this technology here at the University of Washington (UW) allowed an Oceanography student to "learn about the world's oceans at home, in the gym or anywhere else on campus" (Frey 2005).  Despite frequent references to podcasting meeting the needs of students, very little data has been gathered about students' use of and opinions about course podcasts. The UW is not only an early adopter of podcasting, but also a pioneer in early efforts to gather student data and evaluate the current use and future potential of this new educational technology.

During the 2005/6 academic year, UW piloted podcasting in several large lecture-courses on the Seattle campus. Initial collaborators on the project included Classroom Support Services, Catalyst, UW Libraries, and Computing & Communications. Health Sciences Academic Services & Facilities, Education at a Distance for Growth and Excellence, and the Office of Educational Assessment later joined the project. The pilot began with a few courses in Kane Hall and expanded to reach 20 courses in 12 different facilities, 10 rooms on upper campus and two in Health Sciences, by spring 2006.  Each equipped room is configured to record participating courses automatically, so instructors do not need to learn any new technology in order to use podcasting. As of September 26, 2006, Classroom Support Services had recorded 45,823 downloads of course podcasts. Course podcasts are available at: http://www.css.washington.edu/blog/.

Hand-in-hand with this pilot project, Catalyst evaluated student use of this new technology. In February 2006, we reported preliminary findings. The report is available on the Catalyst Web site: http://catalyst.washington.edu/projects/podcasting_report.pdf. We continued gathering data from students during winter and spring quarters. In spring 2006, we expanded the scope of the student survey and introduced an instructor survey. This report discusses the cumulative findings from our 2005/6 evaluation efforts. We focus on students' listening habits, the strengths and weaknesses of podcasting, and options for using this technology in the future.

### Key Findings

- Students tended to listen to podcasts on computers rather than MP3 players, indicating that mobility may not be the driving factor behind student use.

- Students reported using podcasts in conjunction with other online resources, such as lecture notes and PowerPoint slides.

- The majority of instructors reported little or no prior exposure to podcasting. The automatic recording model allowed instructors to use this technology with no reported difficulties.

- Students and instructors both found podcasts to be useful tools for helping students catch up when they missed class.

- Both students and instructors expressed concern that the adoption of this technology could lead to higher rates of absenteeism; however, a strong majority of students reported that the availability of podcasts had no impact on their attendance.

- Both students and instructors indicated that podcasting should be incorporated in courses with 100 or more students.

**METHODS**

We conducted an online survey of students enrolled in courses using podcasting. The survey contained questions about students' listening habits and how students' used the course podcasts. It also contained open-ended questions about the strengths and weaknesses of this technology. In spring 2006, we expanded the student survey to include questions about other online resources that students accessed in relation to course podcasts and a question about future use of podcasting at the UW. During spring 2006, we also introduced an instructor survey, which contained questions about instructors' experience with podcasts, observations of student use, and perspective on the strengths and weaknesses of this technology. All surveys were created with WebQ, an online survey tool available from Catalyst. The surveys were anonymous and we offered no direct incentive for participation. We solicited instructor participation directly via email and solicited student participation by asking instructors to forward an email announcement to their students.

During autumn 2005, four courses participated in the podcasting pilot. The numbers grew to 12 courses in winter 2006 and 20 in spring, for a total of 36 courses across all three quarters. The evaluation effort reached 27 of the 36 courses. In winter, we did not send the podcasting survey to three courses that also used streaming video for content delivery. In spring quarter, we received no response to the survey from students in six courses. Since the survey distribution required instructors to forward the survey to students, it is probable that students in these courses did not receive the survey. Therefore, we calculated our sample and response rate from the 27 courses that we are able to confirm received the survey. Of the 7,003 students in these 27 courses, 388 completed the survey: we gathered data from 98 students in autumn, 123 students in winter, and 167 students in spring. Our cumulative response rate was 5.5%. In spring 2006, we sent the instructor survey to all 20 instructors that used podcasts in their courses. We received responses from 11 instructors: a 55% response rate.

Due to the small response rate for students and small number of instructors that participated in this evaluation, we do not claim that our findings are representative or conclusive. What the results presented here do provide is a starting point. The consistency of student responses between quarters allows us to identify important trends in the current and future use of this technology. Since little data has been gathered at this point from students or faculty about the implementation of this technology, the perspectives of the 388 students and 11 faculty members presented here are of value for beginning a larger discussion of the best options for using podcasts in higher education.
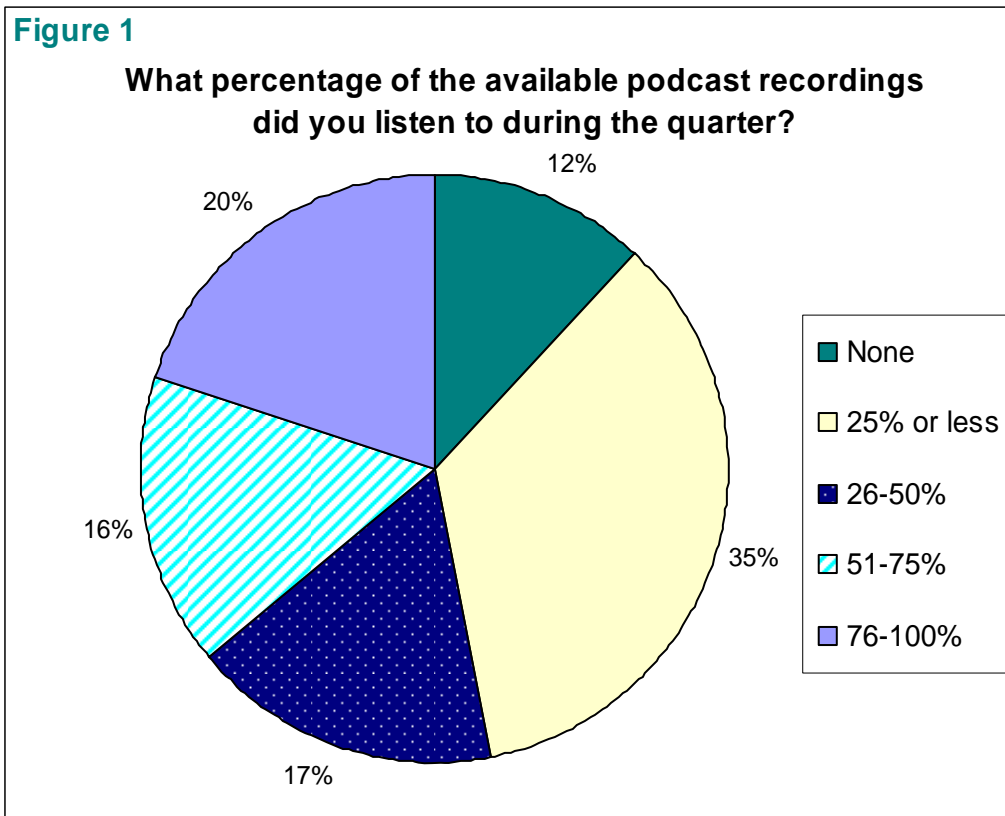
**RESULTS**

In this section, we discuss evaluation results in four areas: students' listening habits, the strengths of podcasting, the weaknesses of podcasting, and the future of podcasting.
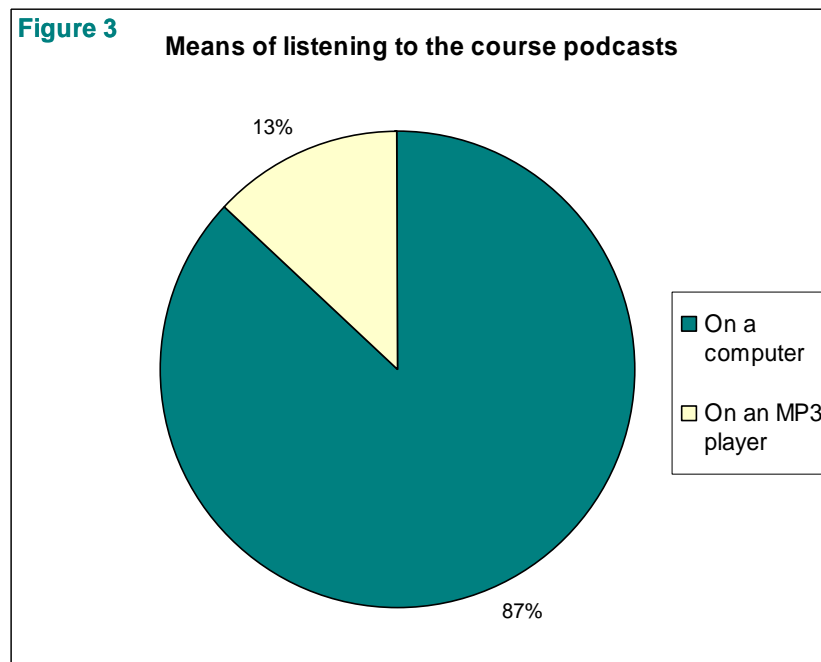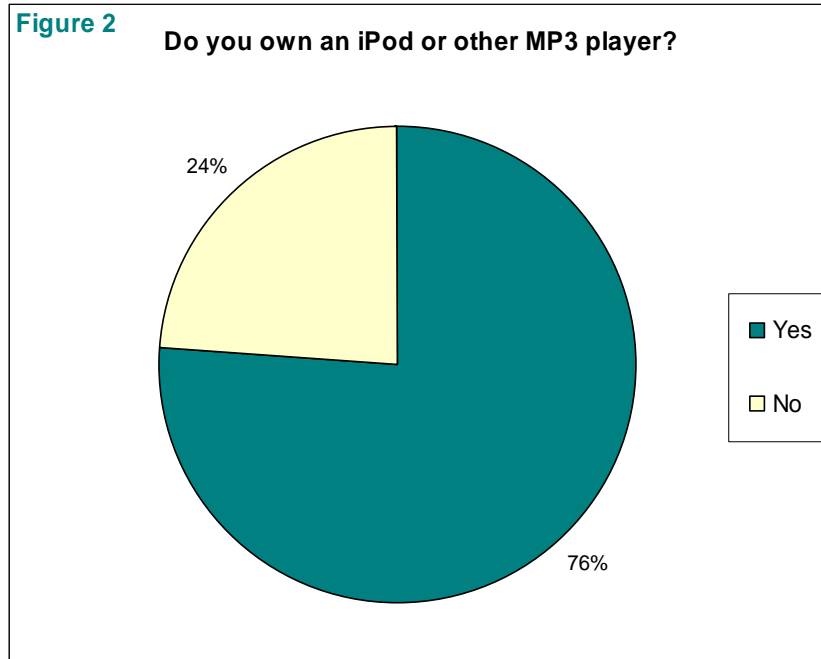
*Listening Habits*

The majority of student respondents had little previous exposure to podcasts. Only 33% of students indicated that they had listened to a podcast prior to the class. Of the 11 instructors that responded to the spring survey, four (36%) had listened to a podcast prior to offering one in their course.  Only two instructors, however, had any experience creating a podcast. Thus, the technology was relatively new to the majority of evaluation participants.

The student data revealed a broad distribution in the number of podcast recordings (i.e., recordings of individual lectures or class sessions) students listened to during a quarter. While the majority of student respondents listened to fewer than 50% of the podcast recordings, a notable number of respondents (20%) indicated that they listened to 76% or more of the recordings (see Figure 1). Similarly, although the majority of student respondents listened to entire podcast recordings, a notable number of students (28%) reported that they fast-forwarded to particular portions, rather than listening to an entire recording. Slightly over half of student respondents listened to portions of the recordings multiple times. The evaluation data suggest that there were numerous ways student interacted with the podcast recordings, rather than one typical listening pattern.

**Figure 1**

**What percentage of the available podcast recordings did you listen to during the quarter?**



Legend:
- None
- 25% or less
- 26-50%
- 51-75%
- 76-100%

In spring, we asked instructors whether or not they had listened to any of the podcast recordings created for their courses. Six of the 11 respondents indicated that they did not listen to any of the recordings. According to one instructor, "This is for students, not for me." Another wrote, "I had no need to listen myself. Also, I would have had to figure out how to do it."  The instructors that did choose to listen to the course podcasts reported listening to them out of "curiosity" or to check the quality of the recordings. These patterns demonstrate that instructors were able to teach with this technology without much familiarity with the finished product.

The majority of student respondents reported owning an iPod or other MP3 player; the combined data for fall, winter, and spring quarters is shown in Figure 2. We tracked a shift in responses to this question across quarters. In autumn 2005, 64% of student respondents owned an MP3 player, as opposed to 78% in spring 2006. Although the prevalence of MP3 players among respondents increased each quarter, the preferred means of listening to the course podcasts remained consistent. A strong majority of students— 87% of all respondents—reported listening to course podcasts on a computer, rather than an MP3 player (see Figure 3). This pattern indicates that despite news coverage of students listening to Oceanography lectures "in the gym," mobility did not appear to be the driving factor behind most students' use of course podcasts.

**Figure 2**

**Do you own an iPod or other MP3 player?**

24%

76%

Legend:
- Yes
- No

**Figure 3**

**Means of listening to the course podcasts**

13%

87%

Legend:
- On a computer
- On an MP3 player

In spring 2006, we expanded the student survey to include questions about additional online resources available in courses that offered podcasting. The motivation for this expansion was our speculation that students listened to the podcasts on computers, rather than MP3 players, because they were simultaneously accessing other resources. Comments made by students in autumn and winter quarter led us to this hypothesis. For example, an autumn quarter student wrote, "When I missed class, I put the PowerPoints and the podcast together and I caught up very quickly." Figure 4 shows available online resources for courses that participated in the podcasting pilot, as reported by spring quarter students. The data show that the majority of courses that offered podcasting had a wide array of resources available online. Instructor responses confirm this trend. Of the 11 instructors that responded to the spring survey, all indicated that course information (syllabus, assignments, etc) was available online, six posted lecture notes, and eight posted Power Point slides. Instructors who participated in the evaluation also gave students access to variety of other resources; in most cases, the course podcasts were not the only resources available.

**Figure 4**



Online resources available in courses with podcasts (Spring 2006)
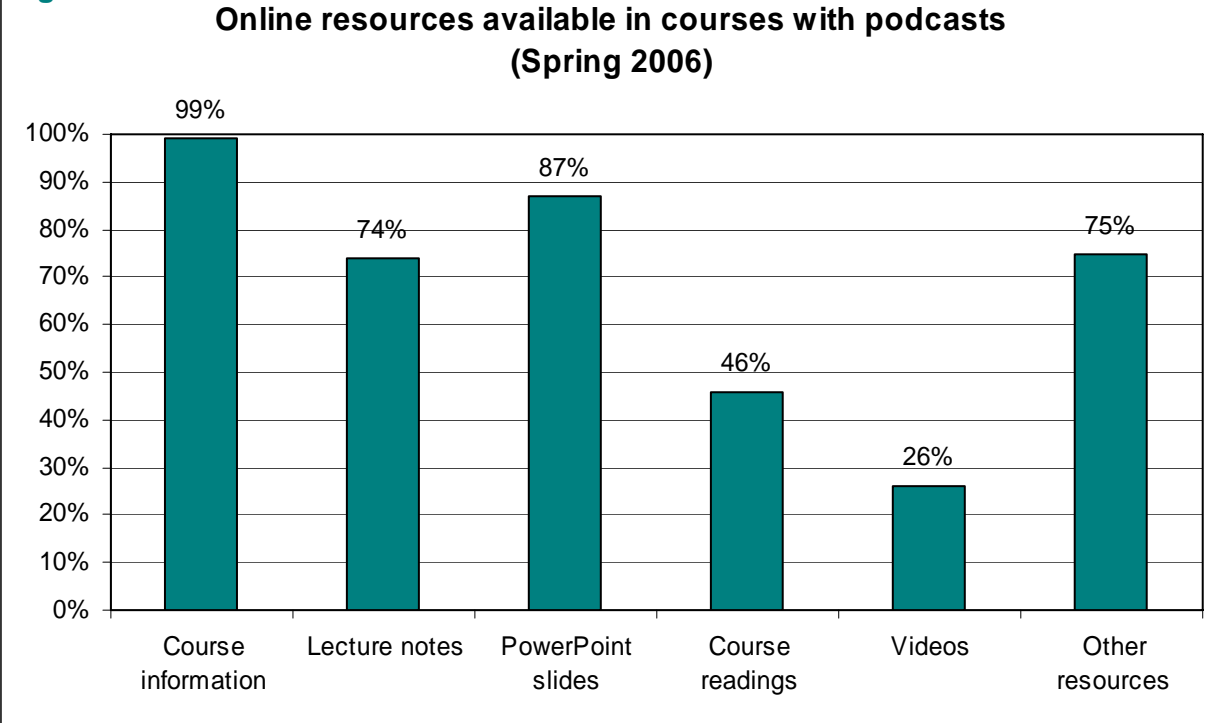
We also asked spring quarter students whether or not they accessed the various online resources available to them *while listening* to the course podcasts. In our analysis, we sorted data by whether or not students listened to any podcast recordings and whether or not students had particular resources available. In spring, 110 out of 167 students had listened to one or more podcast recordings and had access to online lecture notes. Of those students, 73% indicated that they used the lecture notes while listening to the podcasts. There were 129 students that met the criteria of being podcast listeners and having PowerPoint slides available online. Of those students, 86% reported using the online PowerPoint slides while listening to the podcast recordings. These patterns suggest that students found the course podcasts more useful in tandem with other materials than as a stand-alone resource.

***Strengths of Podcasting***

In spring 2006, instructor respondents attributed their decision to start using podcasting to a desire to aid their students and an interest in the new technology. According to one instructor, "[podcasting] seemed like the thing to do to keep up with the realities of students and their use of media." Another wrote, "With such a large class, I wanted to support as many students as possible in their various needs/ lives/ circumstances. Many students will have reasons that they will miss class and I don't want their learning to suffer because of it." Both instructors and students found the course podcasts easy to use. Instructors particularly appreciated the "zero configuration" of the tool. Students reported the podcasts were easy to access, downloaded quickly, and were easy to understand (see Figure 5).

**Figure 5**

**Ease of use**
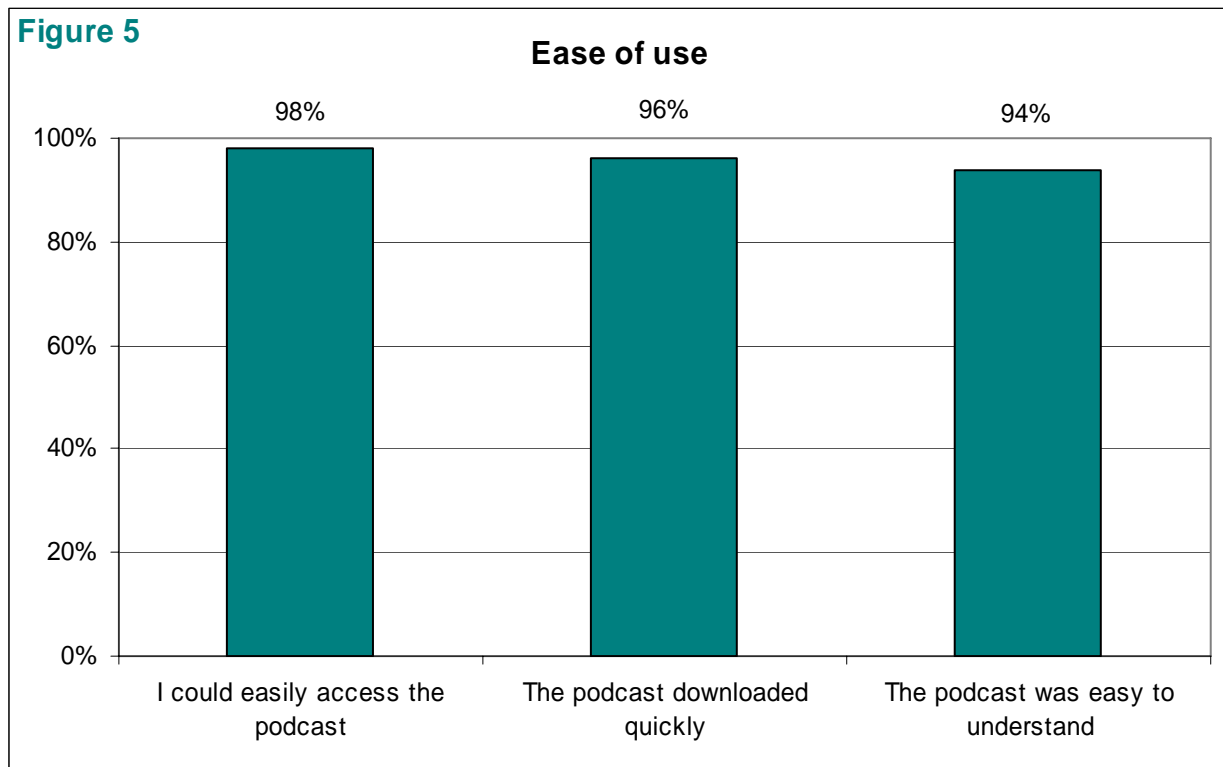


When asked to identify the strengths of podcasting, instructors most frequently mentioned the opportunity it provided for students to access lecture content, either to clarify difficult concepts or to catch up if they missed class. According to one instructor, "The greatest strength is to allow students to learn even if they have to miss class." Students agreed with instructors. In an open-ended question that asked students to identify the strengths of podcasting, over 40% of respondents listed its ability to help them catch up if they missed a class. One student remarked, "I became very sick this quarter, and the podcasts greatly helped me catch up on what I missed in class." The next most common strength of podcasting identified by students was its usefulness in clarifying concepts discussed in class. According to one student, "It really is a great thing to be able to listen again to class lectures. I've been able to gain such a better understanding of the material using them." Students also reported using podcasts to prepare for homework and exams and to fill in gaps in their notes. One student wrote, "It allowed me to be more engaged during the lecture and not just furiously taking notes. If I missed something I wanted to include in my notes I could go back to the podcast and fill in what I missed." In summary, the principal strengths identified by all evaluation participants, instructors and students, involved the ability to use the podcasts for easy access to lecture content.
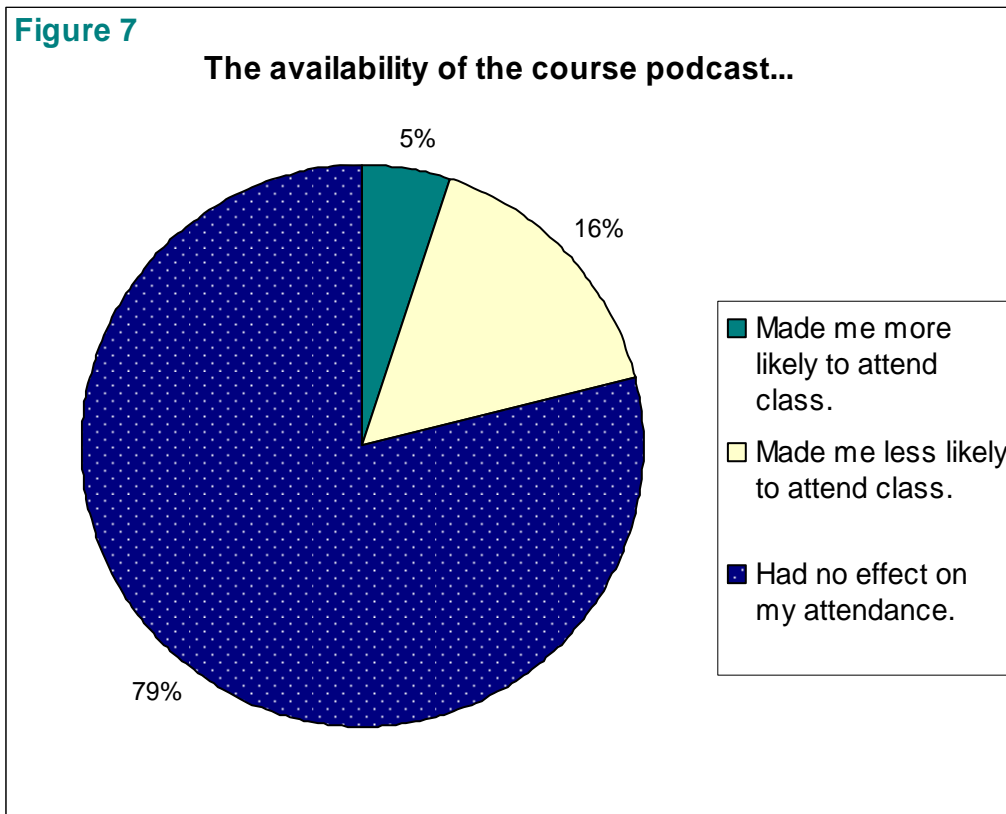
*Weakness of Podcasting*

When asked to identify the weaknesses of podcasting, the most common item listed by students was the fact that podcasts do not easily capture visual materials or class discussion. Over 36% of student respondents commented on this issue. According to one student, "sometimes it is difficult to follow the visual aides associated with the lecture." Figure 6 shows the level of student agreement with statements about the connection between the content of the recordings and other classroom activities. While over half of students reported being able to follow student discussion and connect lecture contents with visual aids, the percentages for these items are significantly lower than they were for questions about ease of use (as shown in Figure 5). Other weaknesses mentioned by students included minor technical problems (generally related to sound quality) and difficulty searching for specific information within a recording.

**Figure 6**



Figure 6: Podcast contents
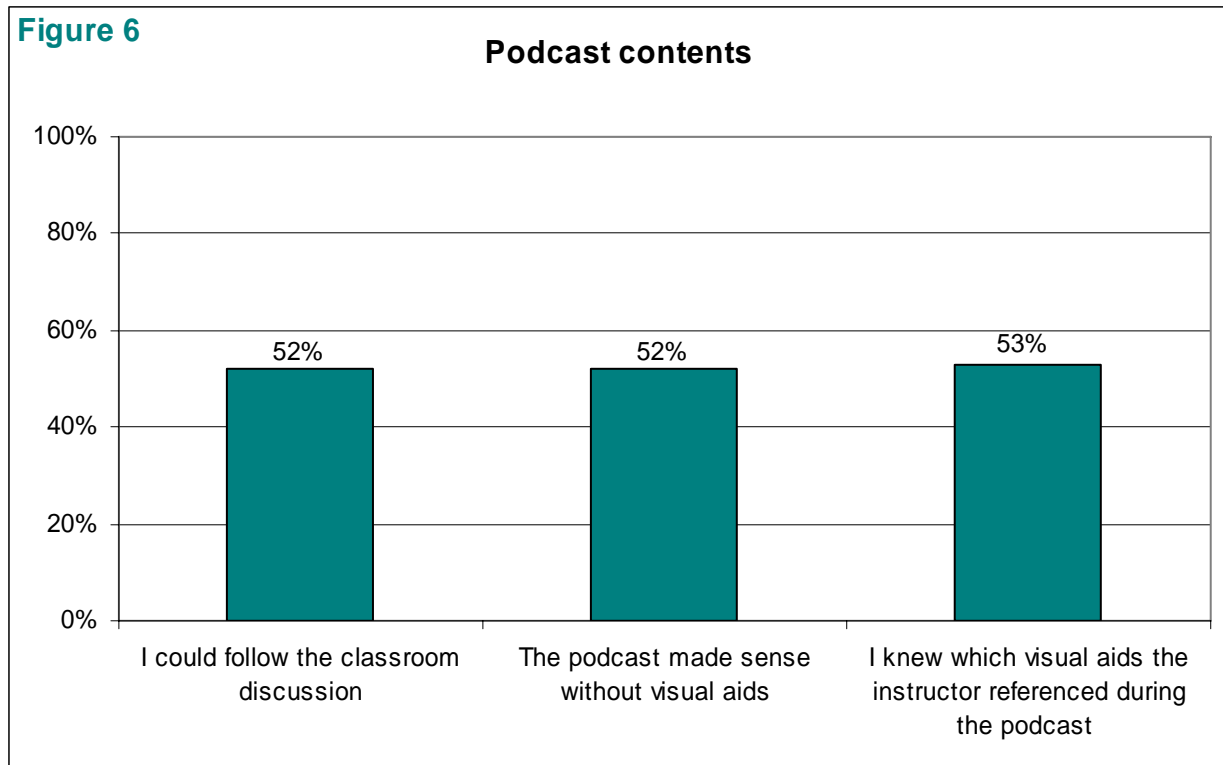
The most common weakness mentioned my instructors was concern that podcasting led to higher rates of student absenteeism. Students shared this concern. According to one student, "some students take advantage of the podcasting and use it as an excuse to skip class." On the student survey, we asked participants about the impact that podcasting had on their attendance. Figure 7 shows their response.

While 79% of student respondents indicated that podcasting had no impact on their attendance, 16%, a smaller but statistically significant group ($p < .001$), indicated that availability of this technology made them less likely to attend class. These numbers suggest that for the majority of students, podcasting does not negatively impact attendance. However, the small response rate for our survey does not allow us to determine whether or not these numbers are representative. Several instructors reported observing a drop in attendance in courses with podcasting. When asked whether or not the availability of podcasting had an impact on student attendance, seven instructors indicated that the presence of podcasts made students less likely to attend class, four indicated that it had no effect on student attendance, and no instructors claimed that podcasting made students more likely to attend class. However, not all instructors

saw a possible decline in student attendance as a problem. According to one instructor, "The MP3 recordings encourage slackers to cut class. However, giving such students an opportunity to cut is not entirely a bad thing for the rest of the class. Sometimes only 50% of my students were in attendance—far lower than without podcasts—but those who were there were truly present." Obviously, more research is necessary to understand the correlation between podcasting and student attendance. In our evaluation none of the instructors indicated that they were likely to stop teaching with podcasting because of attendance concerns.

**Figure 7**

### The availability of the course podcast...



- Made me more likely to attend class.
- Made me less likely to attend class.
- Had no effect on my attendance.

*Future of Podcasting*

At the end of both surveys, we left space for participants to provide general comments about podcasting. The most common refrain within students' comments was that podcasting should be available in more courses. In the spring 2006 surveys we asked students and instructors what type of classes, if any, should incorporate podcasting. Student response to this question is shown in Figure 8. The data show a positive correlation between larger class sizes and student desire for podcasting.

Instructor results were similar: all 11 instructors felt classes with 100 or more students should incorporate podcasting, seven felt the technology should be used in courses with 51-100 students, five expressed the same for courses with 30-50 students, and four saw value in using podcasting in classes with fewer than 30 students. No instructors and very few students (1%) felt that podcasting should not be offered in any courses. Additionally, we asked instructors whether or not they would be interested in using podcasting in future classes. Of the 10 instructors that replied to this question (one skipped the question), all indicated that they would be interested in using podcasting in the future. These patterns indicate that among evaluation participants, both students and instructors, podcasting was perceived to be a valuable tool for large-lecture courses.

**Figure 8**

### In your opinion, what type of classes, if any, should incorporate podcasting?
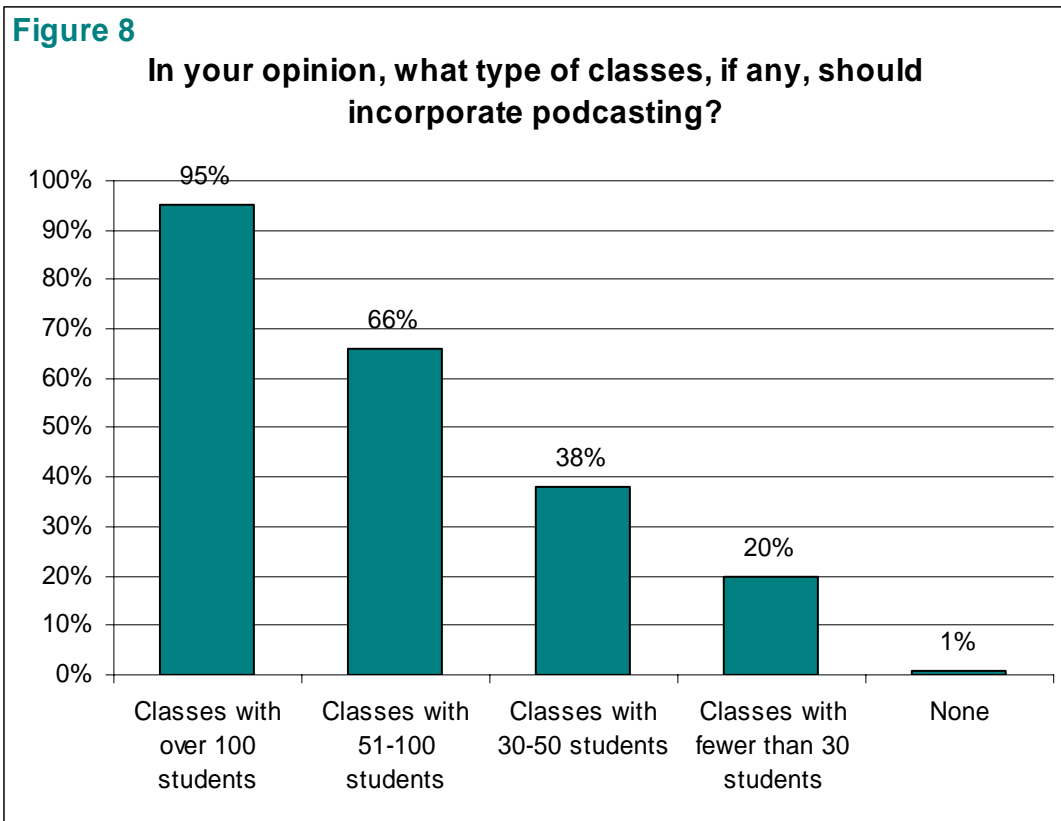


## NEXT STEPS

During the 2006/7 academic year the project partners plan to expand the number of rooms that are equipped for podcasting. Classroom Support Services is using $10,000 from a classroom improvement budget awarded by the Academic Technology Advisory Committee (ATAC) in spring 2006 to implement these changes. In addition, the partners are working with faculty technology councils to establish UW policies for the use of this technology. We are also working with the Office of Educational Assessment (OEA) to expand the evaluation effort. During the 2006/7 academic year OEA will continue to investigate the trends identified in this report, while also looking more closely at the ways in which podcasting may impact student learning.

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