

# Final Report

Title: Portable Small Format Video  
Project Category: Professional Development  
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The goal of this project was to test the feasibility and impact of using small format digital video as an instructional tool. Twenty-five (25) 30GB video iPods were purchased and distributed, preloaded with instructional videos, to students and faculty in Chemistry and Physical Therapy. The PT students found the iPods convenient and useful, especially for exam review and when practicing in groups. In some cases the small screen size was an impediment. Overall, the ability to also view iPod videos in a larger size through iTunes was helpful.

Next year we will participate in the Apple iTunes U initiative. This will allow us to upload and password protect many of these videos for students to watch online as well as download to an iPod. The iPod however, does make the materials portable and convenient. Student did appreciate this capability I will continue to work with Dr. O'Sullivan and her Physical Therapy students. Dr. Ryan will consider whether he would like to continue distributing the information via iPod. Both faculty will load their materials on the iTunes website.

The real unintended results of this project was the discovery of how simple and easy the iPods are to use as a digital audio recorder. I will continue to explore the use of the iPod as a digital audio recorder for students producing audio and/or video projects and gathering qualitative interview data, as well as for faculty interested in audio recording their class lectures and re-purposing them into an online streaming format.

## I. Physical Therapy

Dr. Susan O'Sullivan, Professor & Chair, Physical Therapy  
University of Massachusetts Lowell

Over the years, Media Services has produced 120 two-to-five minute video clips that are used as part of two doctoral level courses by taught Dr. Susan O'Sullivan in Physical Therapy; Proprioceptive Neuromuscular Facilitation and Functional Training for Physical Rehabilitation. These videos have been available to students in one format or another since they were originally produced. For the past few years we distributed these materials to students on CD in either RealPlayer and/or Windows Media Player formats. This particular grant project offered students one further enhancement – the ability to view these digital resources on an iPod while engaged in course-related study and to determine whether the format was beneficial to their experience.

Ten video iPods were distributed last year (fall & spring, 2006/07) to Physical Therapy students with preloaded materials. With twenty students enrolled, half the class used the

video iPods for the 1<sup>st</sup> semester. The other half were given the same video clips on CD-ROMS, as was done in the past. For the second semester students swapped formats. Those who used the CDS will be given an iPod, etc. A brief survey with some open-ended questions was handed out at the end of the year followed by conversations with participating faculty.

All-in-all, Dr. O'Sullivan thought the iPods were a good new addition to what we have tried in past. The iPod was clearly more convenient. It was a good experience. The only possible negative about using an iPod to demonstrate psychomotor skills is the small screen size. While video is great way to show students how to move the body, how to be safe with patients, etc., certain parts of the instructional process, i.e., hand positions, body contact points, etc., are a bit difficult to see on such a small screen size. Two students commented to her that the screen was too small, however, once they loaded the videos onto their computer they were able to view them just fine though iTubes. Next year all videos will be loaded onto the UML iTunes site (password protected) for students to download and view on the computer. This presents a larger image than the small iPod screen. We will also offer the CD to those students who are interested.

We will continue to distribute the iPods to Physical Therapy students next year. We will schedule one or two focus sessions with students during the semester and spend a few minutes showing them how to hook the iPod up to their television. In this way they can watch the videos on a larger screen if necessary as well as how to use the iPod as an instructional device in the classroom.

**Student survey Findings:** A very short survey was handed out to students. About half the class (10 students) responded. All ten felt that the video iPods were helpful in facilitating their learning. All ten used their iPods often (5) or somewhat (5) in a variety of places: at the gym, home, school, library, at appointments, while driving in a car as a passenger, and while traveling. They were used for review and study especially before their practical and midterm exams. One student found them a good supplement to the readings. Students would often work together in small groups in the lab. It became apparent that not every student needed their own iPod. As long as one had it, it was helpful to the whole group. By and large the iPods were reliable. One was defective and immediately replaced by Apple. Students believe the iPods would also be helpful in their musculoskeletal lab. In addition, they suggested each clip be labeled by technique name rather than simply PFN #1. This change will be made

## **II. Chemistry (Analytical Chemistry II)**

Dr. David Ryan, Professor of Chemistry  
University of Massachusetts Lowell

Two years ago, with the help of a graduate student, Professor Ryan created instructional videos for students to watch before every laboratory session for Analytical Chemistry II. These videos focused on the week's lab session with an introduction or discussion about specific instrumentation required for the experiment. In the past, students would watch the videos on a TV/VCR combo unit at the beginning of each lab session. The videos

vary in length from 15:00 to 35:00 minutes in length. Dr. Ryan always felt that presenting the information in this way ate into the limited instructional time.

What attracted him most about this grant collaboration was the possibility of making the videos available to students on an iPod and/or online. Eight students were each given an iPod with the videos preloaded. They were also given a link to website where the videos could be download and/or watched online. Students were required to watch the video before coming to class, and were quizzed on it at the beginning of each lab session. The desire here was to ensure that students were adequately prepared for the lab, to raise the level of discussion, and to use limited time more effectively.

The course grades ranged from B- to A. [1B-, 2B, 3B+, 2A-, 1A]. Seven quizzes were given out of a total of 10 lab sessions. Each quiz consisted of four questions for a maximum of 28 quiz points. Quizzes counted for 5% of the overall course grade. Interestingly enough, those students who did not score well on the quizzes, and presumably did not watch the videos prior to each class, were on the lower end of the grade spread.

**Evaluation:** Everyone found the course website and the class notes in both .pdf and Powerpoint formats helpful. Most everyone found the iPods useful in some way but their actual use for viewing videos and listening to class lectures was mixed. Some of the difficulties students had downloading the .wmv files may account for their mixed reception.

Prof Ryan feels he could have promoted the use of the iPod more strongly. This was the first time he ever did this pre-lab viewing and found it useful. The videos are 2 years old and were never intended to be viewed on a small screen. There is some indication that the small format may in fact be too small for these particular videos use this remains unclear. This may explain why most students in general felt the videos were OK, but the iPods might be useful if the videos were better. Perhaps more close up shots or pre-planning for viewing on a small screen would change certain production choices.

Some students had issues with downloading. This might account for the video files having a mixed review. If the University had clearer standards and support for online streaming technology perhaps students might have a more pleasant experience. Some students complained the online videos (.wmv) did not work. It became apparent to Professor Ryan that students are at all different levels of understanding when it comes to technology. Not all students are sophisticated technology users. Many had difficulty understanding how to download the videos. One assumption often made about this generation of students is that because they grew up with technology they have a better understanding than they actually do. Also, he suggested to students that they listen to his lectures at 2x the regular speed. They did. One student thought it was the greatest thing in the world. One student wanted all lectures electronically.

These specific video/iPod questions were included on his course evaluation form.

On an informal scale of A – E, A being “Most Positive,” C being “Average” and E being “Most Negative.”

	A	B	C	D	E
19. Everyone found the course website helpful.	7A	1B			
20. Everyone found the class notes in pdf. helpful.	8A				
21. Everyone found the class notes as Powerpoint useful.	6A	2B			
22. Mixed review as to whether the .wmv are worthwhile.	2A	4B	2C		
23. Most would not like to take course online.		1B		5D	
24. Most did not pay much attention to the textbook .		2B	4C	2D	
26. Most found the iPods useful in some way.	3A	3B	1C	1D	
27. All liked iPods for prelab lectures to differing degrees.	3A	1B	4C		
28. Actual use of iPods for viewing & listening class lectures was mixed	1A	1B	2C	1D	2E
29. Most felt the videos were OK, but the iPods could be useful if the videos were better.	1A	1B	5C		1E

### III. Other. The use of an iPod as a digital audio recorder

In addition, since the inception of the grant other uses for the iPods have been found. What is unique about these video (or 5<sup>th</sup> Generation) iPods is that when a microphone is attached to them they turn into digital audio recorders with exceptionally good pick up and audio quality. Since January 2007 I have collaborated with a few faculty to explore this option. To date:

- Dr. Christopher Carlsmith, Associate Professor, History, has used iPod to audio record the last 6 classes of spring 2007 and posted audio on line for students. We experimented with using the Belkin iPod mic as well as connecting a wireless lavelier micropone. Both worked very well.

“In Spring 2007 I used a digital IPod for my survey class in the History Dept, 43.105, 'Western Civilization' as part of a pilot project. Guided by Mitch Shuldman, I used the IPod to record the audio portions of my classroom lectures, which were subsequently transformed into podcasts that students could download at their convenience. Prior to using the IPod, I used a Marantz Digital Recorder to record lectures. With both the IPod and the Marantz Recorder, sometimes I used a wireless microphone, and sometimes I recorded directly into the machine. The IPod had the advantage of being more portable, and I could have placed it in my hand (or possibly my shirt pocket) if I had chosen to do so. However, it uses a lot of power to record audio lectures, so this would have worked for a one-hour class but not for an extended period of time.

I liked using the IPod very much for this purpose. It was easy to manipulate, and the sound quality was superb. The Griffin ITalk Microphone that came with the IPod made it very easy to record classroom conversation; even when students were 15 feet away, their voices are still discernible. The students were impressed that I was using the IPod for classroom teaching, and several commented that they listened to the lectures at night because it was associated with a technology that they enjoyed. When I saw my students on campus outside of class, and they were wearing their ear buds, I would tease them by asking if they were reviewing for class! An end-of-semester evaluation indicated that 75% of my students consulted either the audio podcast or the PowerPoint slides, or both, during the month of the pilot project.

I also loaded my PowerPoint slides into PDF files, and I had mixed responses from

students and colleagues about whether it is possible to download and view such slides on a video iPod. My sense is that it is possible, but that there may be some limitations in terms of how they can be viewed, how visible the text/images on a slide might be, whether URL's on the slide are "clickable", etc. One colleague uses his iPod as a portable hard drive from which he can project his slides directly--I did not try to do this. Overall, I was pleased with the iPod and hope to adopt it again in the Fall 2007 semester for regular usage."

- Dr. Diana Archibald, Associate Professor, English, is currently using the iPod to record interviews and personal audio research notes for a book during the summer and next semesters sabbatical. In addition, I have taught her to import audio notes into iMovie for editing.
- Loaned 2 iPods to Center for Family, Work, and Community (Patty Coffey, Dr. Bob Farrant) project (Summer, 2007). Graduate RESD students are working with HS students to collect audio oral history interviews. These students will be using media facilities to edit their final summer projects.
- Loaned 2 iPods to Dr. Yash Puri (Professor, College of Management)  
"We are using them to preview and evaluate podcasts of my lectures that integrate voice and power point into the podcast. We are spending some time over the summer, with TA support from Dean Carter, to prepare these materials.

Over the next semester, we plan to continue to develop these materials and make them available to students in 61.301 201. This is a required course in the College's core curriculum and I teach it in a megasection format. Typical enrollment is about 130 students. In the Fall semester I will seek student volunteers to assess our materials and develop a revision plan. We will then try and seek funding to make the revisions.

- Loaned 1 iPod to Dr. Steve Tello to experiment with for audio recording to be used in online course and web enhanced for content creation and course review. He is exploring the possibility and feasibility of creating rich online content created using Camtasia and delivered via both iTunes and the iPod.

"Prof. Tello has begun the integration of Video Podcasts into his undergraduate Business Ethics course. Video Podcast Exam Reviews were created for his mid-term exam as well as to highlight various ethics case studies during the semester. Students were provided the options of downloading the mid-term exam review as a video podcast or viewing the lecture as a Flash file in WebCT Vista. Several video vignettes discussing various ethical dilemmas were also prepared and shared with students in the class.

In addition, iTunes was used in conjunction with the iPod to collect regular BusinessWeek podcast of both the weekly magazine and behind the scenes features. These podcasts were integrated into both Prof. Tello's undergraduate Business Ethics course and his Leadership Processes course. He plans to expand the use of this technology into a new course on titled

Managing Innovation, a course examining the management and development of innovative technologies within companies.

Anecdotal feedback from students who used the exam review video podcasts indicated that they found the materials very helpful. Students reported that the video podcasts allowed them to listen to the exam review while commuting to classes, while preparing dinner and even during commercials while watching television. Overall students indicated the video and audio podcasts introduced a "real-world" dimension to the course that is not necessarily highlighted by traditional text books."