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They're Not Just the Latest Gadget: How iPods Can Transform the Teaching and Learning Experience

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Apple has sold 42 million iPods since 2001, and they are becoming one of the most ubiquitous electronic gadgets. iPods have even found their way into educational circles, and institutions such as Duke, Stanford, and Georgia College & State University have become well-known for their iPod programs. Instructors in public schools have also started to implement innovative projects. While some worry that the iPod may detract from academic goals when it is just used as a cute gimmick, as it was at Duke to increase enrollment in the early stages of their project,¹ widespread familiarity with iPods may actually enhance student interest in learning applications and create a comfort zone for them to enter into new cognitive domains. Even those students who have never touched an iPod may be drawn to an educational application simply out of a desire to learn to use the technology. Consequently, innovative use of this little device can revolutionize the teaching and learning experience when applications are directly connected to learning outcomes. The current model of iPod boasts video, photo, audio, and text capabilities, opening to instructors a wide array of possible applications for any level of the educational experience.²

AUDIO APPLICATIONS

The iPod is primarily used in popular culture to play music files, and its audio capabilities provide powerful tools for

educational purposes. Fine arts instructors can distribute music for listening quizzes and further analysis in the classroom. Foreign language instructors might distribute key phrases, vocabulary, stories, or other audio resources in the language for student review. English instructors or art historians might distribute period music illustrating the cultural epoch of a novel.

Creative instructors can also use music to generate critical thinking. For a course on People Who Changed the World, the author distributed a song by Iron Maiden on Alexander the Great's conquests and an opera by Handel illustrating Alexander's interactions with the Persians. Students enjoyed being able to critique the Iron Maiden piece by comparing its account to those found in ancient sources, and the Handel piece allowed them to see how Asiatic cultures were interpreted in various eras. Dr. Hank Edmondson, a professor of Government at GCSU, uses music to illustrate important intellectual traditions in ethics and teaches Nietzsche by reference to lyrics of well-known rock music.

Instructors might also choose to distribute famous historical speeches or assign podcasts produced by National Public Radio, Science Friday, and other well-known programs. In the author's People Who Changed the World course, students listened to Nova's podcasts on $E=mc^2$ in a unit on Einstein, which provided them with a wonderful introduction to various views on the significance of Einstein. Most major news networks offer podcasts and instructors might use these to generate interest in current events.

RECORDING AUDIO ON THE IPOD: PODCASTS AND OTHER TOOLS

The iPod can also record audio through the voice memo function, using inexpensive accessories such as the Griffin iTalk. Though the iTalk works only with iPods before the 5th generation, the new video iPods actually have enhanced capabilities for recording audio. Third party vendors have begun to release accessories to allow recordings with the video iPod, but at present they are far more expensive than the Griffin device. One can also produce audio with any computer equipped with a microphone.

Instructors can take advantage of this capability of the iPod to produce commentaries on resources that they distribute. For example, music instructors might enhance assigned pieces with embedded commentary on important compositional techniques. Similarly, foreign language instructors might have their students record their own readings to check pronunciation, grammar, and content, as does the author's colleague Dr. Tony Alcarria, Assistant Professor of Modern Foreign Languages at GCSU. Students can use audio voice memos to record notes on a text or summaries of articles. The author's graduate students used the voice memo function to record citations for future reference as they built their research papers.

Instructors might also produce their own podcasts, which are audio files distributed over a designated online channel address and accessed through iTunes. Podcasts might provide short reviews of particularly difficult concepts or be used

to develop necessary skills or knowledge. Dr. Noland White, Assistant Professor of Psychology at GCSU, has students write down their most muddy points at the end of class and then answers questions through short audio clips distributed over a class podcasting channel.

While instructors can distribute a wide array of resources on an iPod, the danger is that one may create a passive viewing or listening experience rather than one that encourages active learning. Consequently, this author designed projects that included more than just an instructor component, but also demanded that students produce creative responses to course materials in the form of their own podcasts. Graduate students in the author's historical methods and interpretations course recorded presentations on famous historians. Students listened to these materials outside of class, freeing up valuable class time for discussion. Students remarked that they had to spend far more time producing a podcast than on a traditional in-class presentation, and that they often recorded their presentations over and over until they were perfected, resulting in far better work.³

Another particularly valuable project was the oral history project. Students conducted interviews with Cuban immigrants and recorded the interviews with their iPods and iTalks. The instructor then distributed them via the course podcasting channel. One of the author's graduate students in this course, Ms. Kathleen Fox, teaches in the public schools and brought the interviews into her classroom, with the result that the school is planning an entire curriculum unit around the materials for the next academic year. Ms. Fox also used the iPod to have her students record their own stories. Her elementary students were simply delighted to hear their own voices emerge from the iPod. Students derive great satisfaction from completing projects that they can distribute to other students, and classroom discussions are brought to a higher level by allowing students time to think about materials before class.

ENHANCED PODCASTS: AUDIO WITH IMAGES

Audio podcasts can also be easily

enhanced with images using Garageband (part of the iLife Suite for Mac) or Chaptertoolme (freeware for the Mac) and there are now applications for Windows, though they are more difficult to use. Chaptertoolme allows one to import audio simply by dragging the file over to the program, and then to drag and drop images. From that point, one has only to click a button to have an image displayed at the proper point in the audio track. Images can also be hyperlinked to the Web. This instructor created enhanced podcasts to train students to use various databases for historical research. The author illustrated

“The fact that you can listen to a podcast in your car, at the library, etc., makes it much easier to become immersed in the subject. And that, I feel, is an essential part of learning - being constantly engaged with the subject. The iPod almost functions like a traveling classroom...”

Colin Benton
graduate student -MAT program
GCSU

online collections of materials with hyperlinks to specific sections of the databases. In effect, the podcasts were interactive exercise modules that taught particular research skills and gave them broad familiarity with available primary sources in the chronological and geographical areas of history. Instructors can then devote classroom time to a discussion of research problems

encountered in the actual exercise, rather than to provide basic training.

Instructors might develop enhanced podcasts for tours of battlefields, museum or art exhibit tours, as faculty do here on the GCSU campus. Students could download the podcasts and then carry the iPod into the venue where the resources might be used. For study abroad courses, this capability is particularly valuable. When the author taught in England, the expectation was that teaching would occur on-site. The author discovered early on that this was very difficult, due to crowds and tight schedules or other restrictions that sites might place on outside tour guides. Instructors can produce these resources ahead of time and distribute them to students to take with them while on tour, as does the author's colleague Hank Edmondson, creating a very powerful experience. Instructors in public schools who take students on field trips will find this feature of the iPod particularly valuable. Students might also record their experiences while on the trip directly to the iPod to produce their own commentaries, as detailed below.

IMAGE APPLICATIONS

Instructors can also distribute a database of images on the iPod, which is very useful for fine arts and other courses where the analysis of images may be important. History instructors can use images to convey important interpretive traditions. Napoleon, for example, often commissioned portraits to convey the image of himself that he wanted the public to embrace. Masterworks of fine art often convey changing interpretations of historical events over time, and this author distributed a collection of art on particular topics to history students to enable them to understand the shifting nature of historical interpretations. Students also compared the imagery in these paintings to evidence from primary source texts. Diagrams of battles are also useful resources to distribute. In this instructor's interdisciplinary Fine Arts class, students compared an artist's use of visual line to a composer's use of melodic line, for

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example, to discover which techniques tend to produce tension or a calming affect. Students often find integrative analysis difficult, and being able to review as many cross-disciplinary exercises as possible helped the students to apply abstract concepts to concrete examples.

TEXT APPLICATIONS

One of the most exciting things about the iPod is the ability to integrate various applications. The iPod allows instructors to distribute short texts of no more than 4K in length, but using standard HTML, instructors can hyperlink texts to the images and music they have included for students on the iPod. Instructors might require students to write annotations for images on their iPods, that they can distributed to the class as text notes by setting the iPod to function as an external hard drive and then transferring the notes from one computer to another. Students in the author's fine arts classes wrote annotations for artistic images they studied, and eventually this instructor hopes to be able to distribute the database of images with a complete set of annotations. This assignment is an interesting research project for students that develops important skills emphasized in the course and integrates materials across units. Pre-packaged software is also available that links images, text, and audio. Psychologist Dr. Noland White uses a program developed by Silvius, which provides audio, text, and image descriptions of the brain, and distributes this resource via iPods available in the library.

Instructors can also distribute plain text. This author distributed bibliographies listing the major sources available in different areas of history to students in the historical methods and interpretations course. Students were able to take these bibliographies into the library on their iPods and to use them to guide their search for sources. Instructors might also create assignments for use in a library or other location off-campus, in effect extending one's classroom presence through the portability of the iPod.

VIDEO APPLICATIONS

In a course on People Who Changed the World, designed for sophomores, the author distributed several masterpieces of world video to students on iPods that focus on different historiographical interpretations of figures involved. For example, students watched three Chinese films on Shi Huang Ti, the first emperor of China, which highlighted changing Chinese views on the significance of their first emperor and a developing sense of empathy for a figure increasingly seen as a tragic hero rather than merely as a brutal dictator who laid the foundation for modern China. Several other groups of films featured diverse interpretations of Luther, Muhammad, Buddha, and other figures studied. Ordinarily, there is not enough time to show films such as these in class. While it is

“Talking about the material (and knowing that everyone would hear it) was much more challenging than just thinking about or writing about the material.”

Ainsley Clements
graduate student - history
GCSU

often true that clips can convey a point adequately, students are much more enriched by an exploration of the full film. When the class studied Alexander the Great, for example, students had seen Oliver Stone's film and could critique its historical accuracy. Being able to watch Stone's dramatized battle scene at Gaugamela after studying primary sources from antiquity gave students insights into historical issues that otherwise they might not have had. Film tends to be a very popular way to teach history with students, and students tend to probe the actual scholarly issues more deeply and to engage the primary

texts more readily through film than they do through standard lecture courses. The author also distributed film guides using the notes feature to help students frame their viewing experience within the course context. Providing some guidance to students while they are viewing the films outside of class also helped energize the classroom discussion.

STUDENT iMOVIE VODCASTING PROJECTS

The projects in the People Who Changed the World course, however, took the use of the iPod one step further. Studies of multimedia environments show that most point-and-click applications tend to reinforce rote learning, but those that embed the possibility of student agency, where students can choose the directions to take and where their choices influence the outcome of the activities, tend to be more effective when it comes to promoting deep learning. Apple not only makes the iPod and other hardware, but also markets the iLife suite of applications. Using iMovie, students can actually create their own documentaries. Students can easily create video and import it using an Apple iSight camera, which retails for considerably less than a digital camcorder. These applications are very easy to learn and produce professional results. Within an hour students can learn to create a dazzling multimedia display that takes their research to new levels.

The author required that students create iMovies in conjunction with full-length scholarly monographs or other assigned readings. For example, in a unit on Alexander, students produced documentary studies of the battles of Alexander, the cities he founded, his path through Asia, and a biographical study of his parents. While the project posed a number of technological challenges for students and the instructor, the results were far superior to the standard research paper assignment. Students had to produce a script and, to ensure the quality of it, the author required them to write it as a formal paper with citations to sources. Students recorded their audio narration and illustrated it with maps or other visuals imported from their database on the iPod.

Historian David Staley has challenged historians to think of the computer as a visualization tool, and points out that organization of visualizations, like maps, images, and other more complex three-dimensional multimedia resources may result in a new kind of historical record.⁴ Students who create iMovies or other documentary projects are forced to consider the power of the visual images and verbal expressions they use, as well as many other aspects of historical commentary over and above that found in the standard linear text. Students are then more live to ways professional documentaries may use sequences of images or particular background music to create a particular interpretation or make a statement. From this point of view, the iPod and iMovie projects become very powerful tools to develop awareness of the power of words, sounds, and images.

While this instructor often requires students to do group presentations in class, the iMovies far surpassed these presentations in creativity. They were far more compelling to listen to than standard oral group presentations given in the classroom with PowerPoint, and the students had a sense of satisfaction one rarely sees after a standard classroom presentation. They felt they had achieved something that they could keep and look back on years from now – a living testament to what they had learned. Too, instructors can use projects such as this to build a database of resources for future classes. Students can export iMovies in a form suitable for distribution as a vodcast (video podcast) that the class can download into iTunes and then sync to video iPods. Future classes might make further contributions to topics not covered in any particular term, and instructors can develop a database of resources that later students could build upon.

Producing video documentaries involves considerable time and effort. Classes that incorporate multimedia projects may have to move away from a coverage model more towards a focus on in-depth learning experiences on particular topics. Students and the instructor must get comfortable with new software and often also learn to use a MAC, when many

are more familiar with the PC. The payoff in terms of greater mastery of materials and the development of more self-sufficient learners is more than worth the extra effort involved.

DISTRIBUTION AND OTHER ISSUES

Instructors have to be prepared to commit enormous amounts of time to collecting and developing the audio, visual, video, and text resources they may want to distribute via the iPod or podcasting channels. Some instructors distribute these resources according to a mother-ship model, where the resources reside on a central computer and the instructor syncs all the iPods to that computer through iTunes 4.9 or later versions. Syncing enough iPods for an entire class can be very time consuming and, depending on the amount of resources involved, it might take either a few hours or several days. Alternatively, some iPods with resources pre-loaded in this manner might be made available in a library or other central location for several students to share. The trouble with this distribution mode is that students cannot load other resources such as their own music and images onto their iPods after they are synced without erasing the instructor's materials.

Most institutions of higher learning are moving towards podcasting as the preferred mode of delivery, as resources can be uploaded to a podcasting channel and then downloaded into iTunes. Students can then add anything else they want to iTunes and sync everything to their individual iPods. They can continue to update their resources without worrying about erasing preloaded materials. With this option, however, copyright restrictions become more of an issue. Distribution by synced iPods owned by an institution is generally covered by the fair use/TEACH act. At GCSU, students return the iPods once the class is over and staff erase the resources on the iPod. However, distributing these resources over a podcasting channel, which is accessible to the general public, is not protected, unless the address to the channel

“The iMovie Project that I have been exposed to in Dr. Vess’ class has allowed me, as a student, to not only implement a creative approach to my learning process but has also allowed me to grasp more steadily the information that we are learning. Writing a paper is in many ways just a regurgitation of information, whereas the iMovie project forces me, the student, to not only understand the information so as to write a script and provide visuals, but also put it together in a way so as to teach it to the other students in the class. The importance of a student’s creative process when learning is often overlooked; it is nice to see teachers who try to implement programs of study that allow for students to have a little fun with the information they are learning.”

Tiffany Hall
history major
GCSU

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is known only to students involved. At Georgia College & State University, instructors distribute podcasting channel addresses either on a syllabus or behind a password-protected online course package like WebCT. Instructors then remove their materials at the end of every semester and require students to return their iPods with the materials erased, indicating that they have taken the materials from iTunes as well. This author also imposes point penalties on final averages for students who do not comply with the requirements for returning iPods.

Copyright issues are not the only items to be concerned about. Podcasting requires RSS feeds, with which many instructors are not familiar. At GCSU, faculty members are fortunate in that the campus podcasting server writes the RSS feed and updates it every time one uploads a new episode. While there are many free applications available on the market to write RSS feeds, instructors may find learning to write RSS a challenge. Even audio files may take up considerable amounts of space, so an institution that considers a podcasting project must be prepared to make sufficient space available to faculty to upload episodes. As well, when students produce their own episodes, they have to be able to transport them to the instructor. This can be accomplished through setting the iPod as an external drive and copying the files

over to a central computer, but if students attempt to transmit their files electronically, most institutional email networks will block the files as too large to transmit.

CONCLUSION

Podcasting projects and iPod resources provide an exciting way for instructors to stimulate higher order learning and interest in materials. Implementation of these projects demands that learning outcomes be clear and that the iPod project be well-designed to achieve specific objectives. Simple distribution of resources on an iPod or a podcasting channel may spark class discussion and have other important learning outcomes, but student-generated projects tend to produce deeper levels of learning. Assigning agency to students with the iPod and Apple iLife suite of applications may change a student's overall approach to learning, producing more inquisitive and independent learners. While iPod projects may also help students to learn technological skills useful for the future, the most important thing they may accomplish is to stimulate students to become more reflective thinkers in a context that stimulates their creativity. When the iPod is used as an individual, portable classroom that is a launching ground for transformative learning, it becomes something more than the latest fad on the market. It may become the educator's best friend, a way to maintain contact with students outside the classroom and to inspire continuous interaction with course content.

About Dr. Vess . . .

Deborah Vess holds the Ph.D. in medieval history from the University of North Texas. She co-founded and edited *Magistra: a Journal of Women's Spirituality*, served as Joint Editor for *Vox benedictina: A journal of women's and monastic studies*, and as Internet Review Editor for *The History Computer Review*. Dr. Vess has won numerous awards, including an international exemplary course award from WebCT for an online U.S. history course now used in the University System of Georgia. In 1996 the University System of Georgia Board of Regents named Vess a Distinguished Professor of Teaching and Learning while at Georgia Perimeter College and in 2001 she received the University System's Board of Regents Research in Undergraduate Education Award. In addition to numerous local awards, including one from Georgia College & State University in 2007, she has twice received an Excellence in Teaching Award from the National Institute of Staff and Organizational Development and, in 1999, she was named a Carnegie Scholar with the Carnegie Foundation for the Advancement of Teaching. She regularly conducts faculty development workshops at universities around the nation, and has published articles in *Inventio*, *The History Teacher*, *Teaching History*, *The American Benedictine Review*, *Proteus*, *Mystics Quarterly*, *Word and Spirit*, *The Modern Schoolman*, *Communication Education*, *The Journal of the Association of History and Computing*, and other journals. She is the author of several book chapters on medieval and modern religious issues and two world civilization prep textbooks for the AP and SAT II exams.

FOOTNOTES

¹ Brock Read, "Seriously, iPods are Educational," *Chronicle of Higher Education: Information Technology* (March 18, 2005); available online [<http://ipod.gcsu.edu/pdf/chronicle031805.pdf>]; last accessed December 15, 2005.

² Readers may read about the author's iPod projects in greater detail in "History to Go: Why iTeach with iPods," in *The History Teacher* Vol. 39, Issue 4 (August 2006: 479-492). Further details on GCSU's iPod projects are available through <http://ipod.gcsu.edu>, which includes links to stories in national newspapers and magazines on the projects.

³ See the author's "History to Go" article for discussion of the learning theory in support of these projects. Research suggests that there is an intimate connection between reading, orality, and writing skills. Reading aloud may improve writing as well as silent reading skills, and podcasting projects may, therefore, be useful in many different contexts.

⁴ David Staley, *Computers, Visualization, and History: How New Technology Will Transform Our Understanding of the Past* (Armonk, New York: M.E. Sharpe, 2003) and "Designing and Displaying Historical Information in the Electronic Age," in the *Journal for the Association of History and Computing* Vol. 1, No. 1 (June 1998), available online [<http://mcel.pacificu.edu/history/jahc11/Staley/design.htm>], last accessed November 30, 2005.