

Podcasting for Teaching and Research in History: A Case Study

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Abstract: Scholarly opinion on the usefulness of podcasting in higher education has been mixed. Considering the variety of methods of teaching and learning, the existing scholarship on the subject in any particular one has been inadequate to measure podcasting's promise. This case study of a podcast-infused, fully-online Western Civilization survey course supports the theory that student learning can be enhanced through abridgement and recording of online lectures hitherto offered in textual form only. A comparison of student learning outcome achievement in two such sections, with three non-podcast-infused control sections, suggests that the delivery of lectures as podcast episodes improves student success rates for those students not lost to attrition. This article also explores and documents the affordability of podcasting in education, the process of episode creation and delivery, and, beyond the format of the lecture, the value for higher education of audio-enhanced learning generally.

Keywords: podcasting in higher education, online learning; audio-enhanced learning, episode creation, distribution and evaluation.

Introduction

While podcasting has not been among the tools most written about when exploring online avenues of education-- that would be discussion boards, quizzes, videos--a growing literature has highlighted some of its advantages. Podcasts are "pushed" to mobile phones, delivering educational programming far more directly and conveniently than any other virtual mode of delivery. They are available "just in time" and may be consumed almost anywhere, anytime. In the automobile culture that is America, a driver cannot peruse a learning management system or an online video while on a commute, but in the case of a podcast, she can. Video tutorials (sometimes called "vodcasts") can be delivered serially like podcasts, but their greatest strength is also their chief weakness: with their visual and audio elements they leave less to the imagination than an audio-only program. A podcast, because it is restricted to the spoken word and music, requires the student, through their imagination, to ponder the meaning of its verbal concepts, but with the singular advantage over print of being conveyed via the actual sound of the student's learning facilitator (Huttel & Gnaur, 2016).

Moreover, podcasts can double as short-form lectures (or, as we shall see herein, summaries of lectures in five to fifteen minutes each), permitting students easier review of material or "catching up" before the next class

session when one is missed. Alternatively, they could serve as the only lectures in a course, permitting class time to be devoted to more active learning, participatory activities. As helpful as an in-person lecture may be, a podcast can allow a professor to interview a colleague or specialist in the subject of the day and, when played in the classroom, break the flow (and monotony) of a continuous lecture. Podcasting is also remarkably cost-effective and quick to produce for the educator and completely free to the student. While not an exhaustive list of advantages, these are among the strengths of podcasting most widely discussed (Williams, et al., 2016).

An educator need not produce podcast episodes in order to leverage them for the benefit of students. More than 500,000 podcast programs exist today and they are available free for immediate search and access through any one of dozens of podcast aggregator programs (also free), such as Apple Podcasts, to mention just the most popular of these. Regardless of the professional discipline of the teacher, there are likely to be dozens of professional podcasts on the subject, each highlighting a different subject in the curriculum. A recording may be thought of merely as a one-way method of communication, but it could be much more by asking students to listen out of class (or in class) to a podcast episode on a subject of the course, presented by a colleague in the profession you may or may not know, you can structure a discussion with students afterward, just as instructors have been doing with textbooks for centuries. A key difference is that students do not need to purchase or remember to bring it, since it is free and electronically available (Salmon, 2008).

Scholars in teaching and learning, long slow and reluctant to embrace the educational potential of podcasting, have gradually been noticing podcasting's creative potential for student learning. For much of the early 2000s, podcasts, identified only as distributed recordings, appeared to be foreign to the concept of active learning. Simply delivering fifty- or seventy-five-minute recorded lectures in a survey course seems to replicate the worst practice of the "sage on the stage" mode of teaching, without even the consolation of having time for questions at the end. According to one study, lectures delivered as podcasts resulted in "little increase in performance in a large introductory course." More recently Thomas Goldman agreed that the availability of distributed audio versions of in-class material simply encouraged students to skip class. Yet Goldman, and others since, have acknowledged the potential for such episodes to "flip" the classroom and permit active learning to take place in class (Goldman, 2018). Danielle Vandenberg recently found that "close listening of good podcasts reveals the importance of logical and coherent thinking processes of structuring an argument. Podcasts therefore enhance students' writing and provide insights that assist in analyzing texts" (Vandenberg, 2018).

Just as any mode of instruction will fail if not complemented by an array of other methods, each attuned with the others, podcasting alone is not a viable vehicle for teaching and learning. Moreover, to guarantee a fertile field for learning when it comes to the level of the individual podcast episode, less is definitely more. Restricting the length of an episode to less than fifteen minutes reduces cognitive overload in students. Students can pause a recording to take notes or replay sections that they only partly understood the first time that they listened. The short form of internet video and audio selections promotes metacognition. After all, it is easier to unpack a short form argument and see its argumentative scaffolding than one that is long and meandering (Vandenberg, 2018). Having to condense a fifty-minute lecture into ten minutes forces the instructor as

podcaster to improve organization and focus. The fact that a podcast can be replayed or reused in more than one semester should, at least theoretically, reward instructors for investing more time and thought in its preparation and lead inexorably to such increased commitment and focus. And podcasting is by nature a form of storytelling. According to Renee Hobbs, “As well as enhancing the opportunities for creative academic learning, digital storytelling technology can also help people become more comfortable using technology, and exemplify for them new ways of communicating ideas (Hobbs, 2017).

The use of podcasting in education need not require the reinvention of the wheel of online learning. The best practices of online teaching and learning can be combined with the pedagogical potential of podcasts to build upon modes of learning that we already use. For example, online courses typically involve fewer objective assessments such as multiple choice and more active learning discussion assignments, in role-playing to take one example. Combined with these approaches, an online course on today’s cutting edge of learning may supplement such exercises with self-tests, videos, an open educational resource textbook and access to anytime, anywhere tutoring. Ideally, each of these are integrated with the others. Podcasting too can unleash its full potential in classes only if its use is restricted to those advantages it has over other teaching modalities, and only so long as it is supplemented with resources which better meet other course needs (Salmon, 2008).

This is a case study of tentative lessons learned through teaching the linear content (aka, narratives or lectures) in an online survey course, via podcast episodes that are custom made by the instructor for his or her students. The platform was a fully online course, not a flipped classroom. The concept originated as a result of learning how to podcast in 2016 gained through my production of dozens of episodes under fifteen minutes in length on historical figures and topics relevant to contemporary events (Reiman, 2021). I wanted to try to answer four questions. First, can podcast episodes replace textual information written and embedded in an online course by the course creator or instructor, to the advantage of student learning? How can these supposed improvements be statistically validated, or at least prove to be measurable in some sense? How can they be integrated with the other elements of online courses to realize their possibilities more fully? Finally, how can instructors write and produce their own such episodes so that podcasts can quickly and affordably become a tool to enhance teaching and learning, rather just demonstrating, to some unknown degree, that such episodes have educational potential?

In order to ensure that podcast episodes did not add to the volume of existing course work, I adapted an existing course structure of six units or modules, each with five textual histories of a different subtopic in the unit. I rewrote (not simply narrated) and replaced the textual units with podcast episodes of an average length of minutes (see Table 1 below). The course was Western Civilization II (1648 to the present). Each unit covered an expansive period of time, sometimes more than a century, until covering the crowded events from the nineteenth to the twentieth centuries. The following table lists each unit, with its corresponding subtopics and links to each episode recording, by title.

Table 1. Organizational Structure of a Podcast-infused Western Civilization I survey Course

HIST 1121 Unit Title	Unit Subtopics with Episode Links	Average Episode Duration and Ancillary Items
I: The Age of Absolutism and Enlightenment, 1648-1789	<ol style="list-style-type: none"> Overview The Nation-State The Scientific Revolution Louis XIV and the Fronde The Enlightenment 	<ol style="list-style-type: none"> 8:60 4 chapters from an OER Textbook, 1 Quiz
II The Age of Democratic Revolutions and Romanticism, 1789-1848	<ol style="list-style-type: none"> Overview Comparing the American & French Revolutions The Consequences of Revolution The Ideas of Revolution Romantic Representative: Lincoln 	<ol style="list-style-type: none"> 10:80 4 chapters from an OER Textbook, 1 Quiz
III The Age of the Industrial Revolution and its Ideas, 1750-1848	<ol style="list-style-type: none"> Overview The Preconditions of an I.R. Why the I.R. was at First Unregulated and Cruel Art and the Revolution of 1830 Ideas borne of the Revolution of 1848 	<ol style="list-style-type: none"> 16:40 4 chapters from an OER Text, 1 Quiz
IV The Age of Nationalism and the Anti-Rational, 1848-1914	<ol style="list-style-type: none"> German and Italian Unification Darwinism and its Descendants Marxism and its Impact Overthrowing Newton: Science Imperialism and the Road to 1914 	<ol style="list-style-type: none"> 16:40 4 chapters from an OER Textbook, 1 Quiz
V. Europe's Suicide: The Second Thirty Years War, 1919-1945	<ol style="list-style-type: none"> Overview Democracy under Siege Diplomacy Between Two Wars The Second World War, 1939-45 The Holocaust, 1941-1945 	<ol style="list-style-type: none"> 12:00 4 chapters from an OER Textbook, 1 Quiz
VI. Realism, Post-Modernism, Globalism, and Their Discontents: 1945-2020	<ol style="list-style-type: none"> Overview The Cold War, Part 1 The Cold War, Part 2 Whither European Integration? Unraveling the Postwar Order 	<ol style="list-style-type: none"> 11:60 4 chapters from an OER Textbook, 1 Quiz
Other Assignments	Midterm Exam Final Exam Primary Source Analysis Assignment	Episode Link

While the overview episode presented the general themes for the unit, each episode within the unit tracked back to the first in the sense of exemplifying the unifying themes of the period. Each episode has its own discussion topic, where students receive a question and post an answer in 75 to 125 words. An example (for the Scientific Revolution subtopic above) is as follows:

Description: Here we look at the role of the Scientific Revolution of the 17th century (the 1600s) in making that century the first modern century. This podcast will help you with that part of the period called the Scientific Revolution. At the end of this podcast episode, I will give you a question to try to answer in your 75-125 word post (Reiman, 2021).

The question for each is highly narrow and answered by information in the course of the podcast but not in any brief passage within it. The question for the above is “Explain the differences and similarities between the ideas of Copernicus, Galileo and Newton during the Age of Absolutism.” Students earn up to 2.5% of their course grade, or 12.5% for each unit. These discussions therefore collectively represent more than 60% of their course grade. Students must take them seriously but they are low stakes individually, with a limited degree of challenge. Once a unit is completed, students can listen again to the overview (or any other episode) to refresh their understanding of the common themes. This approach wards off “imposter syndrome” by rewarding any serious effort with a substantial possibility of success. The OER textbook and primary source analysis assignment provides them further materials to contextualize their understanding of the themes and to conduct actual historical analyses (Salmon, 2008).

In order to compile data to measure some of the promise of this approach, student performance on assignments used for learning outcome course assessment were compared across three survey sections taught by the same instructor. Two of the sections (both Western Civilization II) were “podcast-infused” as described in the previous paragraphs, and one (US History II) was not. The learning outcome assessments for the Western Civilization II sections were tests of higher-level thinking, requiring written analysis of primary sources and cause and effect relationships in history. Only one of the US History learning outcome assessments was higher level, a primary source analysis. The other two were multiple choice in format, measuring factual knowledge only. It was thought that a comparison of student performance on the single higher level assessments present in each of the three sections would provide the most reliable information as to the possible impact of podcasts on student learning (Reiman, 2021)..

Table 2 below provides the results. The first three rows measure student performance on the higher level assessments common to all three sections. The final two rows provide data on student performance on the US History II multiple choice assessments:

Table 2. Comparative success rates on SLO scores in HIST 1122 WC and HIST 2111 US

Course	Question	# of students who skipped	# of students who completed	Target	% and # of students meeting the target
HIST 1122 WC Podcast	Students will analyze primary sources	8 (higher attrition)	42	7/10 correct	35/42 (83%)
HIST 1122 WC Podcast	Students will analyze cause and effect relationships	10 (higher attrition)	40	7/10 correct	33/40 (83%)
HIST 2112 US	Students will analyze primary sources	5 (low attrition)	48	6/9 correct	36/48 (75%)
HIST 2112 US	Students answer 15 mc questions on economic history	5 (low attrition)	48	10/15 correct	43/48 (89%)
HIST 2112 US	Students answer 15 mc questions on cultural history	5 (low attrition)	48	10/15 correct	45/48 (93%)

These statistics, if they prove meaningful over time as a result of similar data, suggest that podcast-infused sections may have somewhat higher student attrition rates. However, if students remain committed to the course, their prospects for success appear to be greater as measured by the higher success rates for the assessment target outcomes in the podcast-infused sections. It will be noted that even though the success target for primary source analysis in the Western Civilization sections was more rigorous (70%) than that for its counterpart in US History (66%), the success rate of students was still higher in Western Civilization (83%) than it was in US History (75%). It is believed that the highest success rates in the table--for student achievement outcomes in the multiple choice assessments--is an outlier and statistically misleading, since these were online sections and it cannot be known for certain if the exam was not copied and shared among students (Reiman, 2021).

An indirect student assessment was also administered to the 65 students who responded in two US History online sections that were not podcast-infused. Eighty-six percent of student respondents indicated that they had listened to at least one podcast before. Ninety-eight percent reported that they would prefer a 15-minute podcast to a 50 minute face-to-face lecture. When asked if they would prefer writing a longer essay on the topic of an entire course unit to answering short-answer questions for each of the unit's five subtopics, 87.7% replied that they would prefer the short-answer format, exactly the one used in the Western Civilization II surveys (Reiman, 2021).

Contemplating the use of podcasts may itself be a deterrent to use, until the simplicity of their production is

understood. There are two modes of creation, both quite simple, but the one with more steps predictably offering more features. First, a smartphone can be used to record your voice. After uploading the file to a desktop computer, the instructor can use “Audacity,” free software, to edit out gaps and errors in just a few minutes. After exporting the recording as an .mp3 file, the instructor uploads the file to a podcasting hosting service such as “Blubbry.com.” For \$12.00 a month, Blubbry offers enough space each month for 150 megabytes of data (about five 15-minute recordings per month). Blubbry, as well as many podcasting hosts, offers unlimited bandwidth, so that the number of listeners adds nothing to the cost. For no extra charge, Blubbry also offers a free WordPress web site to publish the episodes as a subscribable podcast (in which students can automatically receive the episodes to their smartphones as they are published).

To reduce the number of steps, one can simply forego the use of the free WordPress site and insert the URLs to the Blubbry files in their Learning Management System (LMS). While the student cannot subscribe to the podcast, the instructor can provide the episodes as links in the LMS (in a Discussion board, for example) where they ultimately will likely be posted anyway. This reduces time because one need only publish the links to their LMS, not use WordPress. The result will technically not be a podcast but will have most of the advantages associated with podcasting. However, it is useful for students to have the episodes on their smartphones without searching for them, especially because they can listen to them without requiring an internet connection. Since the WordPress site is linked to all podcast aggregators, only by publishing a description of, and link to, each episode as a post in WordPress will your episodes be subscribable with automatic delivery, the definition of a podcast. In addition, learning WordPress is no more difficult than learning how to use an LMS. Both function intuitively without the need for coding of any kind. Thousands of free tutorials on using WordPress populate YouTube. Finally, both creation methods cost the same, about \$12.00 per month (Krol & Silver, 2013).

From the students’ perspective, podcast episodes offer multiple advantages with no discernable disadvantages. There is no learning curve for students. Playing a file on their smartphones is no different than playing a Youtube video. Students do not have to subscribe to the podcast since they will be linked in the instructor’s LMS. It costs students nothing to listen, download, receive and save them. Students can still benefit from all manner of readings, which are simply assigned as supplements. Podcast hosting services often automatically provide episode transcripts for no additional charge. Thus podcast episodes are easily distributed with full ADA compliance.

Outside the curriculum as well, instructors can break down existing boundaries of learning through podcasting, particularly in online courses. A true learning community requires that the learning experience be humanized, which can be accomplished by periodic efforts to help students understand the instructor as a person and how that person came to find learning infectious herself. In my experience it is incredibly useful to provide students optional recordings to communicate the instructor’s hobby, which may be of interest to the student but will certainly convey the humanity of the instructor. Since my hobby is audio narration, I provide students an excerpt from my reading of *A Tale of Two Cities* for Librivox.org. (Reiman, 2021) Mathew Rubery remarks “that sound has a powerful relationship to affect and that the voice has ‘deep laid associations . . . with various

kinds of corporeal intensity, with suffering, love, and pleasure.” Students have an opportunity to experience a diversionary break as well as to get to know something about the instructor. In most online courses, the instructor is not even a disembodied voice, but instead a disembodied text. A podcast in which the instructor’s personality is communicated restores the voice, mind and therefore body to the online instructor (Rubery, 2011).

Table 3. Relative Advantages of Alternative Podcast Delivery Modes

Podcast Delivery Mode	Cost	Subscribable	Unlimited Bandwidth	Auto-Distribution	Ease of Use
4-Step Procedure					
1. Record with a smartphone or desktop microphone	Free*				
2. Edit file with “Audacity” software and export as .mp3 file	Free	No	Yes	No	Easiest
3. Upload .mp3 to podcast hosting service	\$12.00/ month				
4. Enter description and link to file in LMS Discussion post	Free				
5-Step Procedure					
1. Record with a smartphone or desktop microphone	Free*				
2. Edit file with “Audacity” software and export as .mp3 file	Free	Yes	Yes	Yes	Easy
3. Upload .mp3 to podcast hosting service	\$12.00/ month				
4. Enter description and link to file in LMS Discussion post	Free	Yes	Yes	Yes	Easy
5. Publish Discussion posts to WordPress site to create the podcast					

*Requires smartphone or microphone

While this last example highlights the communication of one instructor's eclectic enjoyment of audio, the instructor's gift to her students of a diversion in sound can and should represent any personal subject of interest to the instructor outside of the digital classroom. One can imagine the positive impact on the construction of a learning community of a recording in which an instructor discussed his interest in skydiving, for example, or deep-sea fishing. K. Ann Renninger and Wesley Shumar wrote of the importance of "value" in forging community and it is clear that they defined value in the linkages between human to human in the circle of course learners: "The mix of community and value is not only heady but also mutually dependent. It is when value is measured primarily in terms of capital that the mix becomes unstable. The communities that seem to thrive best are the ones that allow multiple values, set by members 'between the lines' of the words that are expressed, and not the ones that quantify value (Renninger & Shumar, 2002)." The very act of communicating through the instructor's own voice, with or without the value-added feature of recorded examples of the instructor's outside interest, can add this essential form on "value."

Podcasting has been a possibility now for almost a generation. For nearly as long, it has been a tool used by some instructors, particularly in survey courses. Scholarly research into its pedagogical possibilities has been intermittent, however, and mixed in terms of evaluation and conclusions. While only a small percentage of instructors have tried them, those examples themselves have been in such different settings (flipped classrooms, non-flipped face to face courses, fully online courses, podcast-infused, or non-podcast, linked recordings) that no definite conclusion as to the intrinsic or categorical utility of podcasts for education can yet be statistically demonstrated. If podcasting is useless for teaching and learning, it is clear that it is certainly not because it is expensive or difficult to deploy. This case study suggests that podcasting is an inexpensive, easily learned and intuitive process for providing anywhere, anytime learning opportunities precisely in the environments in which student live. This article is proposed not as a conclusion to the educators' question, "of what value is podcasting," but as a spur to greater research in a technology about which more will surely be heard.

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