Now Hear This – Exploring Podcasting as a Tool in Geography Education

Kenneth Y T Lim

National Institute of Education, Nanyang Technological University

voyager@mac.com

Abstract

Podcasting is a relatively new technology that has come to educational prominence in the last year. It involves the authoring of, and subscription to, audio and/or video files on the internet for downloading to the user's personal computer. This paper explores the pedagogical applications of podcasting, with special emphasis on the extent to which this new technology complements the teaching and learning of geography. Engeström's (2002) neo-Vygotskyian interpretation of cultural-historical activity theory forms the theoretical context of this commentary on the state-of-the-podcast-art.

The paper begins by reviewing how podcasting is being used by teachers and their students in schools and universities. Particular attention is given to how podcasts are useful in geography education, both in the classroom and in beyond. The purpose of the paper is to challenge and encourage teachers of geography and social studies to think about how they might use a technology that is already pervasive in their learners' toolkits. Using podcasting can take advantage of Vygotsky's (1978) contention that there are strong links between cultural/social influences upon the learner and their cognitive development.

Drawing from the author's own experience as a designer and producer of both audio- and video-podcasts for a pre-service teacher-training course in geography education, the paper offers practical tips and advice about potential pitfalls when authoring and using podcasts in geography curricula.

Keywords: podcast, e-learning, audio-visual recording, teacher education, content authoring

Introduction

The worldwide web has come a long way since its origins as a monochromatic text-based collection of hyperlinked pages, with few graphics. Multimedia files and animations have been available for viewing and / or download since the mid-nineties. More than a decade prior to that, a debate was already raging as to the extent to which the medium was indeed the message (see, for example, Clark (1983) and Kozma (1991)).

Given this context, the advent of podcasting as a fairly widespread medium of content distribution online, from late 2004 and especially mid-2005, might be said to be nothing new. Indeed, given the fact that, to date, the majority of podcasts are audio recordings, it might even be argued that podcasting is a retrogressive step from the multimedia web.

It is my intention in this paper to explore some of the present and potential applications of podcasting, particularly as they relate to geography education. I do so in an earnest attempt at understanding if, and how, this relatively nascent technology might enable more effective teaching and learning, especially of geography and the social sciences.

The word 'podcast' is a portmanteau of 'iPod' (which is the portable multimedia player from Apple) and 'broadcast'. Ironically, both of these root words are misleading, with respect to understanding what a podcast is. Podcasts are generally multimedia files which are available for download on a subscription basis. Most podcast episodes do not require proprietary technologies such as the iPod for playback, and most podcasts do not enjoy such a large subscription base to be classified as being broadcast – certainly not in the sense that the major broadcast networks are able to reach a wide demographic of clients. Podcasts are also distinct from traditional online multimedia, in that they are subscribable (that is, the listener / viewer

does not need to actively seek new episodes – instead they are downloaded automatically to his personal computer as they are made available) and that they are not streamed (that is, the files are actually saved onto the listener's / viewer's personal computer, for subsequent replay and / or transfer to a portable device).

While many early podcasters, such as Adam Curry (producer and presenter of the popular podcast 'The Daily Source Code' (http://dailysourcecode.com/)), were technology enthusiasts (otherwise known as geeks), podcasting increasingly became more mainstream in 2005, with traditional media institutions such as CNN, Apple, Disney and the BBC producing their own podcasts. Teachers and students in schools and universities have also been experimenting with the technology – as of late April 2006, the iTunes Music Store (the largest source of legally-downloadable online multimedia) listed more than 3300 podcasts in its education category alone.

Theoretical Foundation

Although podcasting is a new technology, it can be framed within the neo-Vygotskyian theoretical framework of cultural-historical activity theory (Engeström, 2002). Such a framing is helpful because it helps contextualise the technology in terms of existing resources and strategies in the educator's repertoire.

In his representation of activity theory, Engeström saw the subject as referring to the individual (or sub-group) whose agency is chosen as the unit of analysis. The object refers to the problem space at which the activity is directed, and which is transformed into outcomes, with the help of physical and symbolic instruments. As for the community, this comprises multiple sub-groups who share the same general object and who define themselves as distinct from other communities. The community exercises a division of labour, which refers to both horizontal and vertical division of tasks, as circumscribed by a system of rules (which are the explicit and implict regulations, norms and conventions which constrain actions within the system).

In terms of activity theory, then, podcasting can be seen as one of the tools which a group of learners use in order to make sense of, and interact with, their environment and / or problem task. Conceived of in this way, future work in subsequent research could possibly be directed towards investigating the extent to which podcasts can be used as effective mediators in the learning process, and under what circumstances and in which particular subject disciplines. Some of the work done by teachers and students in podcasting is described in the following section.

Educational Applications of Podcasting

There are sound theoretical arguments for at least investigating the extent to which podcasting can be an effective pedagogical tool. For example, Vygotsky (1978) drew attention to the strong links between the culture and social influences upon the learner, and their relationship with the learner's cognitive development. That is to say, given the fact that many students in schools today already have access to a portable music player, it would appear to make sense (at least from a motivational point-of-view) that the potential of using such players for goals which are more explicitly linked to the curriculum be at least explored.

Broadly speaking, educators are using podcasts in two main ways – namely, consumption and production. The learning curve is, of course, less steep from a consumption perspective. That is, it is relatively easier to search for, and use, existing podcasts in one's lessons, than it is to actually design learning tasks around the production of podcasts themselves. Thus the teacher who just wants to get a feel for 'what's out there' has recourse to any number of podcast directories – many of them having specific categories focusing on education-themed podcasts (such as the afore-mentioned iTunes Music Store), and a handful of such directories even focus exclusively on education alone (for example, the Education Podcast Network, at http://epnweb.org/). At a basic level, for example, a teacher might require his geography

class to subscribe to the 'Very Spatial' podcast (http://veryspatial.com/) and might structure a series of worksheets around the topics raised during the weekly episodes.

Authoring Podcasts

As teachers grow in confidence and become more comfortable with the technology, some might wish to try their hand at authoring podcasts. Depending on the desired learning outcomes, authoring can either be structured as primarily teacher-driven, or learner-driven. An example of the former is Langhorst's 'Speaking of History' podcast (http://speakingofhistory.blogspot.com/), in which an Eighth Grade American History teacher in Missouri publishes regular episodes on history and social studies, as a means not only of extending the learning experience for his students beyond the temporal and spatial bounds of traditional curricular structures (as represented by the timetable and the classroom respectively), but also as a means of outreach to the students' parents.

As for podcasts which are authored and produced primarily by the learners themselves, Moller's '21st Century Educator' podcast (http://blog.brettmoller.com/) is an exemplar of the genre, in which he structures entire language units around the design, editing and production of the episodes for Seventh Grade learners.

Podcasting and Geography Education

Apart from the question of agency, a second way of conceptualising the issue of planning for the authoring of podcasts is in terms of the type of episodes to be produced. For example, audio episodes would require different hardware and software from video episodes.

From the perspective of geography education, it might appear obvious that the nature of the discipline lends itself far better to the use and / or authoring of video podcasts than audio ones. That is to say, the very spatial nature of geography would appear to predicate a visual medium of communication.

While this may generally be true, it would be premature to rule out the production of audio episodes in a geography-themed podcast entirely. The afore-mentioned 'Very Spatial' podcast is a case in point. Produced by two doctoral students, the podcast mainly focuses on making explicit the links between geography and events in the news. In this way, one goal of the podcast seems to be to evangelize geography to the person-in-the-street, and to make topical geographical events (such as natural disasters) sensible to the lay-person.

Geography teachers might also do well to bear in mind that the way in which learners playback audio episodes differs from that for video episodes. This statement might at first seem self-evident, but it is worth making. To elaborate, audio episodes can be played back to the learner without requiring him or her to be engaged visually or kinaesthetically. In other words, the learner can listen to the audio episode on geography while doing other things, such as jogging, working out at the gym, or simply relaxing in bed.

The same cannot be said for video episodes, because these predicate a certain posture on the part of the learner (at the very least, one hand must hold the playback device at eye level), as well as, of course, the visual attention of the learner. This means that audio episodes are potentially more insinuative than video episodes, in that if strategically used, the teacher could actually use audio episodes to introduce concepts and ideas on geography to the learner, at times and in places to which the teacher is not normally privy.

In light of these differences between audio episodes and video episodes, geography teachers might also wish to consider how these differences complement, or stand opposed to, the various strands of physical and human geography. That is to say, are there particular themes within human geography which lend themselves well to dissemination or discussion through audio podcasts, and vice versa. Chang (personal communication, August 4, 2005), for example, has suggested that audio podcasts might be effectively used in environmental education.

A final note on the subject of audio episodes in a podcast is that they do not necessarily have to be confined solely as audio files. For example, Portable Document Format (PDF) files can be associated with individual episodes. Further, so-called enhanced podcasts can be authored by teachers, which can incorporate web-links, chapter-divisions and pictures, all synchronized to particular points in the audio narrative. The addition of pictures would, of course, be especially useful in a geography-themed podcast. Enhanced podcasts have the additional advantage of smaller file sizes, as compared to regular mp3-encoded episodes.

Notwithstanding the preceding discussion, it has been this author's experience that it has been relatively easier to conceptualise and design geographically-themed video episodes than audio ones. This has been particularly so in depicting the many and varied processes which characterize almost all strands of both physical and human geography, from fluvial erosion to agricultural cycles. Further, video is generally able to communicate a sense of space and scale far more easily than audio. Geography teachers thinking of producing video podcasts should, however, bear in mind the greater file sizes, with consequent implications on downloading times, convenience, and thereby motivation. Larger files would also mean the greater probability of running up against bandwidth limits imposed by many internet service providers.

Podcasting in Teacher-Education

This author has used podcasting as a tool in a pre-service course for postgraduate geography teacher trainees. The enhanced audio episodes were recorded and produced between August and October 2005. In all, eleven episodes were produced, nine of which were recordings of tutorial discussions. The average duration of these nine episodes was 75 minutes; because of their length, some of the episodes were split into two parts to facilitate downloading over less reliable internet connections. The other two episodes, lasting 61 minutes in total, were of recordings of discussions facilitated by guest speakers. The trainee-teachers appreciated the opportunity afforded by the podcast to replay and reflect upon the issues discussed in class, at times and places of their own choosing. On the rare occasions that individual trainees could not attend the tutorials, the podcast allowed them a valuable means to catch up on what was discussed in their absence. Further, trainees from other classes could also benefit from the discussions, as the podcast is freely accessible for subscription on the internet at http://voyager.blogs.com.

The trainees were also invited to consider authoring podcasts of their own. The views represented by their unsolicited comments to this challenge form an appropriate way to conclude the present paper: [Trainee A] "for a techno-idiot who usually doesn't embrace new stuff too early on in the tech cycle... this is like WOOHOOooo!! Hee. Actually I'm really quite excited about it... I just pray that we do come up with a bright idea of incorporating Geog and boosting pedagogy in this field. (Cos Geog to me was always more visual than audio.... hmmm...) It's just exciting having a chance to experiment with this";

[Trainee B] "since the opportunity has been given to us, I really do wanna learn and make myself a little more tech-savvy. I absolutely feel IT captures the attention of pupils in a way that the whiteboard and OHP never could! Using podcast in classes would be completely new, coz' as said before, we are the first bunch of trainees to learn this new technology.";

[Trainee C] "like some of my classmates, we think that it is difficult (rather challenging) to incorporate the use of podcast in our geography lesson because we believe that to teach geography, we need visual aids such as videos, pictures, maps etc and we have seldom thought of using an audio aid. after hearing the recorded discussion the second time, i find that the podcast is less distracting than a video clip in the sense that we can concentrate better on listening to what had been said and hence reflect. a video clip of our micro teaching would help more in noticing what is our behaviour in class and how should we improve or change our body language when teaching. i thought this is how we may incorporate the use of podcast in our lesson. instead of thinking how can we make use of it to teach geography, why not ask: how can students use it to learn from one another? i remember during my jc2

geography lessons, my teacher made us prepare the past years A-level geography questions and every student will take turn to present his/her answers to the class followed by a class discussion, which is kind of similar to our microteaching. if he had used some mode of recording then, i think we would have benefited more than just the class discussion. we could have share and learn from the points that were brought up in other classes too. perhaps, this is how we can help the students with the use of podcasting?";

[Trainee D] "i have thus far, only been listening to podcasts ever since iTunes integrated it in its latest version 4.9. but now that i know how to create and share it, this is gonna be bloody brilliant. honestly, i cannot even start to see the un-usefulness of the podcasting. to me, it is all good. the fact that students can listen to it on the go, simply shows how powerful this tool is. it's like a "take-away" lesson compared to the usual "eat-ins" that we are all used to. yesterday's recording of the microteaching by chan ying easily proves my point. normally, you'd go back not remembering what has been shared in class, unless of course, you dictate the entire conversation that was taking place! i just finished listening to the podcast by kenneth and even though there's some noise in the background, you still get the gist of the discussion. best of all, i can listen to it on my iPod while travelling when i can't afford to do so at home.";

[Trainee E] "I was just bouncing this idea in my mind abt the use of podcast in Geography lessons... maybe a bit far-fetched but what the hell. 1) as a verbal guide for students during field-trips. Teacher records certain explanations about certain features and uploads file for students to download. When the students (preferably more mature students) embark on their own fieldtrip, they can play the recording whenever they reach a certain landmark/landform. It might be structured like the Listening Comprehension recordings (eg. "... if you look above you just after you emerge from the Jungle Trail, you can see the canopy. The canopy is the layer which forms the roof of the forest and which blocks off most of the sunlight. Pause tape here and refer to section 2 when you reach the foot of the Rock Trail." or it could be issued in the instructions, like flip the page when you hear the "beep" sound.) 2) GeoTrail style: GeoTrail is the segment of the Singapore Press Holding's Geography Challenge held for secondary schools during their May/June holidays. This could be held as a cohort-wide thing. Checkpoints are placed at different parts of Singapore and students are required to seek places based on verbal clues (podcast). Clues could also be in the form of pictures tagged to the podcast. Alternatively, students can record interviews with the public (for eg. on issues on tourism), as a part of their task at each checkpoint, and upload into their blogs to be shared with others."

Concluding remarks

With any technology as nascent as podcasting, it would be foolish to draw too premature conclusions, even in such an exploratory paper as this. What is clearly evident is that podcasting, framed in the lenses of activity theory, has the potential to arouse enthusiasm among teachers and learners as they use it as a tool to achieve a broad variety of outcomes, from environmental education to promoting metacognition. This potential can only grow, as the technology becomes increasingly mainstream. The afore-mentioned podcast directory at the iTunes Music Store (which went online as recently as June 2005), for example, has seen a jump in the number of podcasts listed in its education category from 900 to 3300 in the space of just five months (at time of publication). The gauntlet has clearly been thrown to geography educators to discover and refine ways in which to include the technology into our existing pedagogical repertoires.

Bibliography

Clark, R.E. (1983). Reconsidering research on learning from media. *Review of Educational Research*, 53(4). 445-459.

Engeström, Y. (2002). *Cultural Historical Activity Theory*. Retrieved January 4,

2002, from http://www.helsinki.fi/~jengestr/activity/6a.htm

Kozma, R.B. (1991). Learning with media. *Review of Educational Research*. 61(2). 179-211.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.