Audioblogging and Podcasting in Education

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Introduction

> *'Blog' – word of the year 2004[1]*
> *'Podcast' – word of the year 2005*

'Podcast' has been declared Word of the Year 2005 by editors of the New Oxford American Dictionary, reported the BBC News[2](BBC, 2005). The word was chosen for its rising phenomenon in the year 2005 because anyone with a digital recording device and an Internet connection can produce a podcast themselves. Blogging and podcasting are web services belonging to the Web 2.0[3] revolution which have gained popularity with people all over the world over the past two years. Based on the Web 2.0 concept mooted by O'Reilly (2005), blogging and podcasting shared certain common characteristics that are generally associated with

a Web 2.0 application. In contrast with earlier web services which took a "top down" approach to content creation and publication (i.e. standalone and static web pages that were hard to update), audioblogging and podcasting take a more "bottom-up" approach by allowing users to easily publish content without the need to write codes and hence, better exploit the network's potential to support greater social interaction and collaboration (O'Hear, 2005).

Before we present our review of the research and current views about using audioblogging and podcasting for teaching and learning, we will first define the terms, "audioblogging" and "podcasting".

What is audioblogging?

Audioblogging is formed by combining "audio" with "blogging". Audioblogging is an extension of blogging, where bloggers substitute the bulk of the text posts with voice recordings (The Guardian, 2004). Pictures, which are common in blogs, continue to accompany the voice narration in blog posts. Newly posted audioblogs entries are referred to as a 'post' (as per blog post).

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[1] Source: Merriam-Webster Online. URL: http://www.m-w.com/info/04words.htm

[2] The report is available at http://news.bbc.co.uk/2/hi/technology/4504256.stm

[3] The term Web 2.0 refers to a second generation of services available on the World Wide Web (WWW) that allows people to collaborate and share information online, and often allow for mass publishing using a host of techniques such as Asynchronous JavaScript and XML (Ajax) and web syndication (adapted from Wikipedia, 2006)

For audioblogs, the entire website used a blog server on the backend. As a result, audioblogs inherit key features of blogs. These include:

- Dating and arrangement of information in reverse chronological order
- Ease of posting new content
- Automatic archival and organisation of old posts
- Content syndication through "RSS" (stands for Really Simple Syndication) feeds[4]

For an overview of using blogs in education, you may access the paper "Weblogs in Education" by Tan, Ow & Ho (2005)[5].

What is podcasting?

Similar to audioblogging, the word "podcasting" is derived from a combination of "iPod"[6] and "broadcasting". It refers to the concept in which online audio programs (such as talk shows or hosted music programs) in digital format are downloaded for listening at the user's

convenience (Rose & Rosin, 2006). Podcasting also refers to the method of distributing multimedia files, such as audio programs or music videos, over the Internet through the use of RSS feeds (Wikipedia, 2006). These podcasts are usually automatically downloaded for playback on mobile devices and/or personal computers. Each newly posted podcast is usually referred to as an 'episode'. Thus, the many episodes in a series form a podcast 'channel', similar to that of radio and TV shows/channels.

Although "iPod" forms half of the word "podcasting", one does not have to possess an iPod to create a podcast. A podcast can be created with any digital recording device (e.g. a portable mp3 player that comes built-in with recording function). Podcasts are usually created in the mp3 file format for its compact file size but podcasts presented in other sound formats (e.g. wave, real-audio format) do exist.

The rising popularity of podcasting could be attributed to the increasingly widespread ownership of mp3 players and the relative ease with which individual podcasters can create and distribute files. In 2005, Rainie and Madden reported in a Pew Internet and American Life

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[4] RSS feeds deliver information on updated posts in XML format. To read about the technical specifications and standards of RSS, visit the RSS (file format) entry in Wikipedia at
http://en.wikipedia.org/wiki/RSS_%28file_format%29
[5] The paper can be downloaded from edu.MALL at
http://www.moe.gov.sg/edumall/rd/litreview/weblogs_in_education.pdf
[6] iPod refers to the portable digital media player produced by Apple Computer.

Project research study that an estimated 6 million Americans, who owned mp3 players, had downloaded podcasts. In 2006, an Arbitron/Edison Media Research study reported that approximately 27 million Americans were listening to podcasts. This is a great increase when compared to the more than 6 million Americans who have listened to podcasts in 2005 (Lee & Madden, 2005). Based on the Arbitron/ Edison research study, podcasting seemed to attract younger age groups. More than half of this audience are aged 35 and below, and one out of five who listened to a podcast is between 12-17 years old (Rose & Rosin, 2006).

Looking back, blogging and audioblogging existed way before podcasting became popular in late 2004. So having defined audioblogging and podcasting, a very common question is "In what ways are audioblogging and podcasting similar or different?" Well, let us take a look.

What are the similarities and differences between audioblogging and podcasting?

Based on our experiences working with audioblogging and podcasting, we grouped the similarities and differences in the following table:

Similarities	Differences
• **Content type – voice recordings** • **RSS feeds for content syndication** • **Appeal of the vast internet audience**	• **Nature of content** • **Modes of expression** • **Interaction with audience**

While we have identified three differences, we are mindful that the magnitude of the differences may be diminishing because of the converging nature of technology. What we hope to achieve with the following elaboration on the similarities and differences is to provide a snapshot of how audioblogging and podcasting have been used thus far.

Similarities

1. Content type – voice recordings
Voice audio files form the bulk of content for both audioblogs and podcasts. Content is delivered through the human voice(s) and music can be added to spice up the recordings.

2. RSS feeds for content syndication

Listeners of both audioblogs and podcasts are notified of new posts/episodes through subscription to RSS feeds. They do not need to revisit the websites to check for new updates.

3. Appeal of the vast internet audience

Both audioblogging and podcasting provide the motivational push for content creators to produce new content regularly because of their access to a vast Internet audience.

Differences

1. Nature of content

Audioblogs inherited the self-reflective nature of blogs, hence audioblogs tend to be reflective voice journals of bloggers who choose to use their voice for self-expression. On the other hand, many podcasters imagine themselves to be deejays broadcasting to listeners of radio stations, hence many podcasts are similar to radio shows in nature. In terms of content development, while it is not difficult to find podcasts put together by the combined efforts of more than one podcaster, audioblogs tend to retain the personal nature of blogs. As podcasting gains popularity, this difference in the nature of the content is diminishing and may soon become non-discernable.

2. Modes of expression

Audioblogs allow for other modes of expression if the audioblogger chooses to supplement his/her audio post with text, hypertext, picture/graphics, or even video clips. This is made possible with the blogging platform forming the backbone of the technology. Interestingly, audiobloggers tend to find a combination of audio and text most appealing. On the other hand, a podcast is produced by the human voice(s) and some text description may be provided to describe the podcast. However as podcasters become more savvy, the possibility of incorporating visual elements is very likely. In some tertiary institutions like Duke University and Stanford University, lecturers have posted their presentation slides along with their podcasts so that students can view the presentations while listening to the accompanying audio file.

3. Interaction with audience

Like bloggers, audiobloggers can interact with their audience through the commenting feature that is available with the blogging platform. Although comments are usually in text and not

through the use of voice recording, it still allows for meaningful interaction between the audioblogger and his audience. In addition, audioblogs can utilise the *Trackback*[7] interaction function that is unique to blogging platforms, but not available to podcasters. On the other hand, podcasters seem to have limited interaction with their audience. While subscribers of popular podcasts have been known to post their feedback on the podcasters' websites, podcasters seldom reply. Thus, this form of interaction seldom evolves into a two-way communication channel (podcaster to audience and vice-versa) that is more prominent on audioblog sites. Subscribers' feedback is, however, usually factored into subsequent episodes to maintain or increase the interest level of the podcasters' audience.

How have audioblogging and podcasting been used for teaching and learning?

Educators have begun to explore the potential of audioblogging/podcasting in their respective fields of instruction (e.g. Rowell, Corl, Johnson, & Fishman, 2006; Lim, 2006). In this section,

[7] TrackBack is a mechanism for communication between blogs which allows for conversations spanning several blogs that readers can easily follow. (adapted from *Wikipedia*)

we will present a review of how educators and researchers worldwide have been audioblogging and podcasting in teaching and learning.

Audioblogging is essentially blogging with the use of voice for expression. Vygotskian theories of social meaning making (Ferdig & Trammell, 2004) can be used to ground the pedagogic use of blogging. Vygotsky, a Russian psychologist, believed that children learn through social interactions (Vygotsky, 1978). Blog is classified as a social software (Mejias, 2006), through which conversational interaction and feedback among individuals and groups are made possible (Boyd, 2003). Through the blog posts, students' thoughts are reified in the form of text, speech, graphics and/or video. Social construction of knowledge and meaning making can take place when students interact with the artefacts placed in this social plane. Through commenting, teachers can scaffold students' meaning making process; likewise peers can offer their views and opinions. Educators also see the potential of blogs in motivating students' learning by:

- allowing students to post their creative artwork and responses to learning scenarios created by their instructors (Magg, 2004);

- affording online interactions through blogs and students' ownership of the blogs and its content (Tan, Teo, Aw and Lim, 2005);
- fostering engagement in collaborative learning and higher order thinking (Chong, 2006).

In a pilot study involving the instruction of Chinese language oral skills, Tan, Ow and Tan (2006) found out that audioblogs provided students with agency over their own learning. With audioblogs, not only do students benefited from the social interaction afforded by the technology, the teachers too are able to change the way they teach the oral skills. With the audio performances captured in audioblogs, teachers can better supervise and guide individual students which would otherwise not be possible in a traditional classroom settings.

Perhaps due to the emergent nature of podcasting, primary research on the use of podcasting has been few and far between. In a research study conducted at a tertiary university, podcasting was used to address preconceptions and alleviate pre-class anxiety amongst undergraduate information technology students (Chan & Lee, 2005). Given the high popularity of mp3 players

amongst undergraduate students, the researchers made available a series of informal, talkback radio-style podcasts that delivered course information to help allay student concerns about issues such as assessment. It was found that the use of podcasting did help to alleviate some of the pre-class anxiety more effectively as compared to traditional methods of using subject websites and handouts.

Other than this research study, much of the surveyed literature focused on how podcasting had been used by educators worldwide. The most common use of podcasting is for the dissemination of information, especially at the post-secondary level. Some specific examples include:

- Middlebury College uses podcasting in second language classrooms to capture authentic language use and podcast language lessons (Chapin, 2005)
- Stanford University has partnered Apple iTunes to make available faculty lectures, learning materials, music and sports information (Stanford Report, 2005)
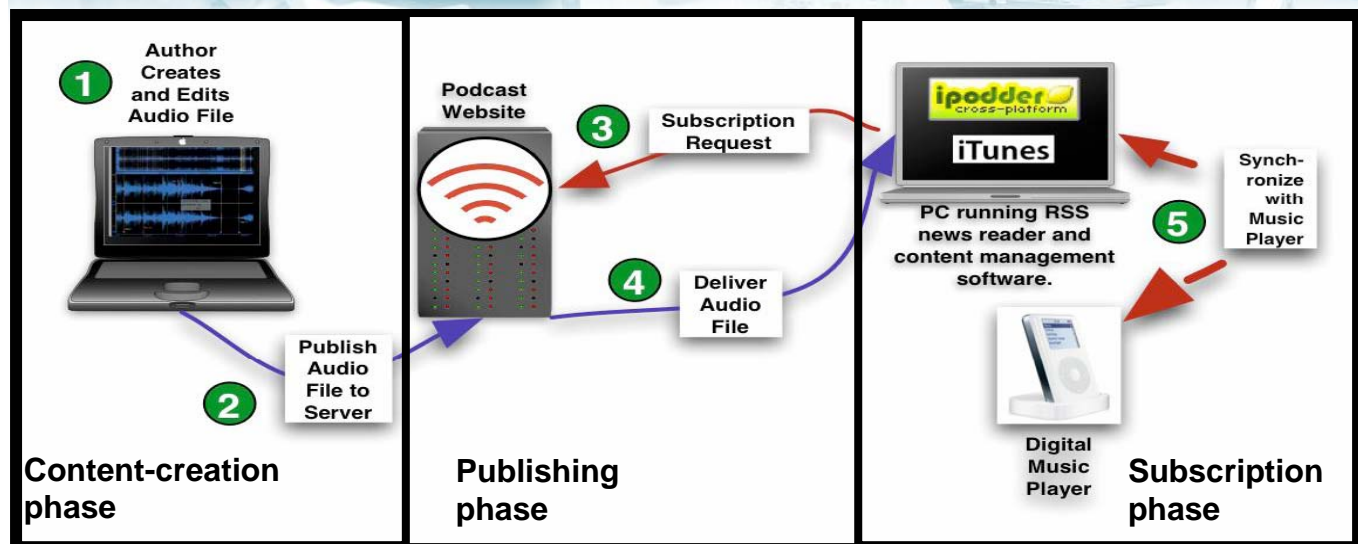
Figure 1. The three-phase podcasting process (adapted from Podcasting and Vodcasting (Meng, P., 2005))

- At Duke University, first year students are provided with Apple iPods (Associated Press, 2004) and the following uses (Belanger, 2005) are reported:
    o dissemination/retrieval of course-related content and materials
    o recording of lectures, class discussions and verbal feedback
    o capturing of field notes and recording of interviews etc. outside the classroom context
    o repeated playback of recordings, audiobooks, vocabulary list etc
    o storage and transfer of files

Considerations for using podcasting for teaching and learning

Based on our survey of literature and our on-going research work with the use of podcasting, we would like to propose some considerations for teachers who are keen to harness the potential of using this technology to engage their students in active learning.

By viewing the podcasting process through a pedagogic lens, podcasting can be meaningfully viewed as a learning process comprising three phases namely, content-creation, publishing and subscription. Each phase affords opportunities that could be harnessed by educators for classroom learning. The three-phase podcasting process is illustrated in Figure 1.

Similar to audioblogs, Vygotskian theories of social meaning making are applicable to the content creation phase of podcasting. While the conversation and meaning making in audioblogging usually takes place online between individual audiobloggers and their audience, podcasting affords the same form of learning offline when students work together collaboratively to produce a podcast. When students are involved in producing a podcast, they could also learn skills valuable in the working world such as communication, time management, and problem solving (Borja, 2005).

The publishing phase of podcasting serves to motivate students to improve on their own performances before an episode is uploaded onto the Internet. When students are aware that their audio artefacts will be made available to an audience, this provides the intrinsic push for them to reflect on their initial audio recordings and improve on their oral performance during the content creation phase. This reflective practice could also take place in audioblogging. In addition, when students have published a series of podcasts over a period of time, the archived episodes essentially create a learning portfolio, which can be used by students to reflect on their own learning and by teachers to formatively assess their students' learning.

The subscription phase has thus far been the most exploited for the purpose of teaching and learning. The common perception of podcasting held by many people has largely been shaped by this phase. Podcasting leverages on habitual behaviour: many students already owned portable mp3 players and routinely download content that they listen to during downtime or transition between activities (Thorne & Payne, 2005). Thus, it is no surprise that the subscription phase of podcasting is valued, especially at the tertiary level and in the commercial world, as a means for "content pushing". The time-shifting capability of podcasting means that students can download and listen to lectures and tutorials podcasted by their teachers over and over again at any time and any place. By doing so, it can help students to ruminate over what they have heard and potentially encourages critical and analytical thinking (Thomas, 2006).

Evaluating the potential of podcasting, Jobbings (2005) suggested that teachers can design some cross-curricular activity to incorporate

podcasting into education. Teachers can also incorporate podcasting to experiment with new teaching approaches. As podcasting evolves to include not just audio, but video podcasts (also known as vodcast or vidcast), this also brings about new possibilities available for teaching and learning.

Where can I find examples of schools using audioblogging/podcasting?

Podcast directories are initiated to serve as one-stop collection of podcast links related to education. The "RECAP Podcast directory for educators, schools and colleges"[8] and the "Education Podcast Network"[9] website are two examples of such directories. Podcast.net[10] and some other podcast directories have sections for education-related podcasts too.

How do I start? What do I need?

Let's look at the hardware and/or software that you will need to begin audioblogging or podcasting:

1. A digital voice recording device
A microphone attached to a computer may be used. However, a portable mp3 recorder/player will allow you to record a podcast without the need for a computer.

2. A voice recording software
This is required if you are recording your podcast using a microphone attached to your computer. One of the most popular software is *Audacity*[11]. It is a free open source software application. You will need to download and configure the *LAME MP3 encoder*[12] if you want to export your podcast in mp3 format.

3. Server space
A server with ample space to upload and store your audio files is required. Audio files occupy relatively more space than the usual text and web graphics. Depending on the format and quality selected, one minute of audio recording may occupy up to one megabyte of server space. This server space may either come from the school server, or a subscription to some Internet shared

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[8] The URL is http://recap.ltd.uk/podcasting/index.php
[9] The URL is http://epnweb.org
[10] The URL is http://www.podcast.net/cat/10

[11] The URL is http://audacity.sourceforge.net/
[12] The instructions are available at http://audacity.sourceforge.net/help/faq?s=install&i=lame-mp3

hosting services. Internet websites [13] offering free server space for podcasts are appearing and they offer quick adoption of audioblogging and podcasting at virtually no cost.

4. Blog server software
You will require this only if you are attempting audioblogging. The software needs to be installed if you are managing your own server. Suggested blog servers include MovableType[14] and WordPress[15], which are free for personal use.

5. RSS feed creator and FTP software
You will require this only if you are attempting podcasting. Podifier[16] is a software application which incorporates both the feed creator and the uploading of audio files to your server.

6. Podcast playback software
For users of the Microsoft Windows operating system, it is configured by default to play different audio formats (e.g. wav, mp3) with the Windows Media Player. Hence, no additional

software is required to listen to the podcasts. Some users may however prefer alternate software (e.g. iTunes) which can help to manage the podcast subscriptions.

Obtaining the necessary hardware and software as highlighted above will enable you to start audioblogging and/or podcasting. If you intend to engage your students in audioblogging and/or podcasting as part of their learning tasks, you will need to look into providing the necessary hardware and software for each individual as well.

What are some issues that I need to consider when embarking on audioblogging/podcasting

Here are some issues you may wish to consider before embarking on audioblogging/podcasting, especially if you intend to engage students in the audioblogging and/or podcasting process.

1. Respect for copyright
The Internet has made information available at your fingertips. However, not all information available on the web is freely available and can be duplicated for use. Copyright existed in different forms and we have to educate our

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[13] Some examples include http://PodOmatic.com, http://www.PodBeans.com/ etc.
[14] The URL is http://www.movabletype.org
[15] The URL is http://wordpress.org/ . WordPress has a multiple user version which can be downloaded at http://mu.wordpress.org/
[16] The URL is http://www.podifier.com/

students to understand the rights made available to them by the copyright holders. Teachers should also educate them on the ways to obtain permission from copyright owners at times when they need to use copyrighted materials. Where audioblogging/podcasting is concerned, music and sound effects are the most probable media where copyright may be infringed. We can highlight the availability of royalty free music as a channel for students to obtain music for use without infringing copyright. With the proper guidance, the copyright issue can be overcome.

2. Plagiarism

Plagiarism refers to the use of material without acknowledging the source and claiming it to be one's own original creation. Teachers can waste a lot of precious time trying to track down such 'copy-n-paste' acts. Plagiarism in audioblogging/podcasting may not exist in the usual form as each person's voice is unique and 'copy-n-paste' does not exactly apply here. However, the copying of others' ideas wholesale and claiming the ideas to be one's own can still occur. To solve this problem, plagiarism has to be addressed as a topic when students are taught to respect other's intellectual properties.

3. Internet bandwidth

Voice audio files are relatively large when compared to text files. The amount of bandwidth consumed can be considerably large when files are uploaded and/or downloaded. Teachers subscribing to servers which have limited bandwidth should take note of the impending needs for large amount of bandwidth. Teachers may also need to look into the needs of students who do not have broadband Internet connection at home.

4. Voice-recording equipment

Unlike blogging, audioblogging and podcasting require an additional voice recording device to record voice files. The use of portable recorders is advantageous as it allows students to record their reflections and thoughts anywhere, anytime. In the event that equipping students with portable players is difficult, microphones attached to or built into computers will suffice for the purpose. However, the mobility advantage of portable recorders is lost.

Conclusion

Audioblogging and podcasting offer great potential for teaching and learning as they allow students to create, publish and subscribe to audio content easily. Each stage of the audioblogging and podcasting processes offers many learning opportunities that could be harnessed for teaching and learning. Like the numerous educational institutions worldwide, many local schools have started to explore how audioblogging and podcasting could engage their students in learning, particularly through the audio domain.

However, the decision to utilise audioblogging or podcasting for teaching and learning depends on how teachers plan to integrate the technology into their teaching activities. Careful consideration should be given to the learning outcomes that teachers would like to achieve and the learning needs of their students before deciding which platform to adopt.

Appendix 1

List of podcast directories

1	RECAP Podcast directory for educators, schools and colleges URL: http://recap.ltd.uk/podcasting/index.php
2	Education Podcast Network URL: http://epnweb.org
3	Podcast.net URL: http://www.podcast.net/cat/10

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