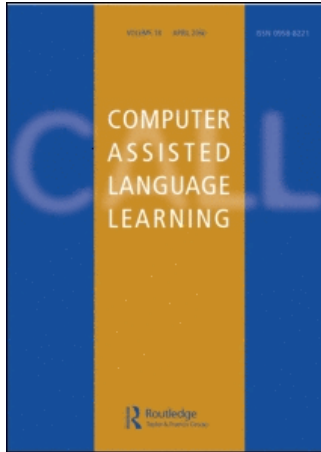


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Top of the Pods - In Search of a Podcasting "Podagogy" for Language Learning

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Top of the Pods—In Search of a Podcasting “Podagogy” for Language Learning

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The popularization of portable media players such as the *iPod*, and the delivery of audio and video content through content management software such as *iTunes* mean that there is a wealth of language learning resources freely available to users who may download them and use them anywhere at any time. These resources vary greatly in quality and follow different approaches to learning. This paper provides a taxonomy of podcast resources, reviews materials in the light of Second Language Acquisition theories, argues for better design, and outlines directions for future research.

Introduction

A cartoon in the (UK) *Times* newspaper on 5 May 2006 shows two drawings: under the heading “University lectures then” is an elderly man, in jacket and bow tie, reading from notes; next to it, under the heading “University lectures now”, a student in a t-shirt and cap is sitting, smiling, listening to his portable media player. Whilst most would agree that the depiction is currently not and may never be an accurate representation of Higher Education teaching, it does show that universities are perceived to be moving with the times and that podcasting has a place in education.

What is podcasting? The definition on *Wikipedia* (July 2006) states that a podcast is:

the method of distributing multimedia files, such as audio programs or music videos, over the Internet using either the RSS or Atom syndication formats, for playback on mobile devices and personal computers. The term podcast, like “radio”, can mean both the content and the method of delivery.

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The fact that podcasting uses RSS is what differentiates it from simple downloading or streaming. The use of RSS, or Really Simple Syndication, means that the user can subscribe to a podcast that will be downloaded automatically every time there is an update or new content is uploaded. A podcast is also different from a Webcast, which is a live feed normally accessed on the computer. The major difference with traditional Internet audio or radio broadcasts is that podcasts can be listened to when and where the user chooses to, and that they are automatically delivered to subscribers (Diem, 2005; Sloan, 2005).

The word podcast is a combination of the words *iPod*, probably the biggest selling portable media player, and *broadcast*; but as Kaplan-Leiserson (2005), Campbell (2005), and Meng (2005) indicate, the use of the stem *pod-* is misleading, since podcasts are usually in mp3 format which can be played by a number of portable media players, computers, and stereo systems and not just the *iPod*. The term *Vodcasting* (the “Vod” stands for “video-on-demand”) was used to refer to podcasts with video rather than audio content, but this is now generally referred to as *video podcast*. It was hypothesized that video content would be more likely to be played on a computer than a portable media player (Meng, 2005), but with the launch and success of video-enabled portable media players (such as the *iPod* video, Creative Zen video, Archos multimedia players, the Sony Video walkman and the *iPhone*) these are likely to become almost as accessible and popular as audio content.

Podcasts are usually made available online through the providers’ own websites or blogs where, as well as the multimedia files, a number of additional content and tools can be found. These podcasts can be easily accessed by subscription from online podcast directories (such as *Odeo*, or *Podcastalley*—a search for “podcast directory” in a search engine will bring up thousands), or by content management software (also known as aggregators or podcatchers) such as *Juice* (formerly *iPodder*). This ease of access was multiplied by the adoption by Apple of podcasting distribution via their *iTunes* store, where podcasts are arranged by topic or can be searched and can be subscribed to with a single click (see Figure 1). Before that, podcast directories were there to be found only by those actively looking for them. By making them accessible within a shop that caters to consumers of audio and video who are looking for content for their media players, Apple have delivered worldwide exposure to public podcasts and created opportunities for casual access to content to become a formal learning opportunity (the concept of “stumble and learn”; Kukulska-Hulme & Shield, 2006). Podcasting may appear to be elitist and limited to those that own a portable media player, but many western secondary and HE students have a portable player and/or access to *iTunes* (University of Michigan School of Dentistry reports that 65% of their students own an *iPod*; Blaisdell, 2006) and most podcasts can be played through a PC, a PDA or an mp3-enabled mobile phone.

Graham Davies (2005) claims that the single piece of technology that has affected language learning most is the cassette recorder. The typical personal media player is no more than a walkman with digital media files instead of cassettes (in fact, the French words for podcasting, *diffusion pour baladeur* or *baladodiffusion*, originate from the French word for walkman) and the delivery of media content online is not new

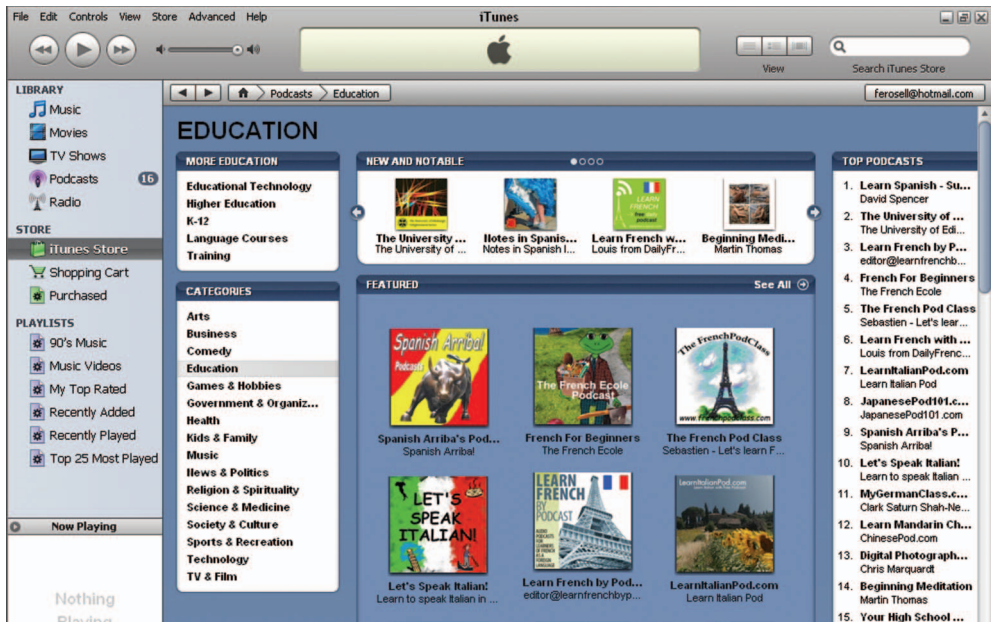


Figure 1. Podcast directory from Apple *iTunes*. Podcasts are classified by categories and can be searched. The education category lists all educational podcasts and includes a section for language courses

either: audio and video on demand, either as a download or via streaming, has been popular since the 1990s. The impact of this phenomenon is not in the device itself or in the availability of the content but in podcasting—“what’s new about podcasting is the ease of publication, ease of subscription, and ease of use across multiple environments” (Campbell, 2005, p. 34)—and its popularity. This popularity comes from the aforementioned ease of access, the increase of broadband users, and the proliferation of portable media players.

Developments in podcasting technologies provide two main potential uses: creating podcasts and using the podcast resources available. Most literature on the use of podcasting for language learning (Bankhofer, 2005; Diem, 2005; McCarty, 2005; Meng, 2005; Stanley, 2006) has focused on technical issues of creating and distributing podcasts, and not on the theoretical underpinning of teaching through the medium or an evaluation of the resources available based on SLA theories. This paper will focus on the latter, evaluating a number of podcast resources available through *iTunes*. Podcasting can provide access to a large amount of authentic input, as well as to teaching materials of varying quality that have different approaches to language learning behind them (depending on the content provider): from behaviourist to cognitive constructivist and communicative approaches, situated learning, and lifelong learning. The impact of podcasting on learning in general and language learning in particular could be similar to the impact of the arrival of the Internet in terms of giving access to language learning materials (mostly free of charge). The issues its availability presents are in many ways similar to those that

arose in the early days of the Internet, when the pioneers were enthusiastic individuals rather than institutions and the quality of the content varied enormously before a pedagogy of learning, task design, interaction and other issues was developed. The following sections will present a review of the potential of podcasting for language learning and current resources available, and discuss what the next steps are to arrive at a “podagogy” for language learning and its research potential.

Podcasting and Language Learning

Language learning has been identified as one of the disciplines likely to benefit from developments in podcasting (Kukulaska-Hulme, 2006). In this section the current practices in podcasting are presented along with theories of learning, potential for learning in general and for language learning in particular.

Current Practice in Podcasting

Podcasts are available for many different types of content from various providers or podcasters. The main content providers in no particular order are:

- broadcasters who place their radio programmes or specially recorded content online,
- performers who wish to promote their material,
- film studios who make film trailers available to promote them (both mainstream and independent studios),
- individuals with something they want to say or share, and
- educational institutions and teachers who provide learning content on many fields. Initially these were more technologically oriented.

Podcasts have evolved at a rapid pace. Whereas in 2005 podcasting was limited to audio files, in 2007 there is a range of multimedia content available. The main type of content available is still audio, usually in mp3 format files, although they are also available in other formats such as mpeg 4 audio (mp4 or m4a extensions) and ogg formats. Some podcasters produce podcasts which include images that display during play. This may be a single image which advertises the podcast provider or, in the case of enhanced podcasts, a number of images to support the audio content. Video podcasts are increasingly available. These usually come in m4v format—which can be played through *iTunes*, *Quicktime*, or some video portable media players—or the more traditional mpeg format. In addition some podcasters also provide documents in PDF format. These formats and how they are used will be discussed later.

Earlier in this paper, podcasting was divided into two main potential uses: creating podcasts and using the podcast resources available. For those that wish to create podcasts, there are two main types: podcasts created by teachers, and podcasts

created by learners. Meng (2005, p. 5) lists the following possible uses of creating podcasts:

- Record and distribute news broadcasts.
- Recorded teacher's notes.
- Recorded lectures distributed directly to student's MP3 players.
- Recorded meeting and conference notes.
- Student projects and project support interviews.
- Oral history archiving and on-demand distribution.

Available language learning podcast resources can be classified into two main groups: the first is authentic content provided by native speakers of the target language, primarily to be used by native speakers, such as news feeds or radio programming. Examples of this can be found in the webpages of major television and radio broadcasters or by searching for themes of interest (football, news . . .) in the various aggregators available. *iTunes* used to feature an international category among its podcasts which allowed users to search by language of the podcast, but that category was removed from later versions.

The second group is language courses or teaching content specifically designed for language learning. This content can be classified (like other online learning materials) into whole stand-alone courses that strive to operate as virtual classrooms or add-on activities to classroom teaching or distance education (following Felix, 2003). Therefore there are two types of resources: those that aim to provide whole stand-alone courses and those that provide supporting material. The former will be reviewed in the section on pedagogy with two examples of podcast-led course material provision. The latter are classified into two subgroups: materials designed for an established audience—such as the materials provided by teachers or institutions for their own students—and supporting materials designed for independent learners who are not enrolled on a particular course, delivered as a public broadcast.

Teaching materials for an established audience are materials that are custom-made by the instructors for the needs of their own students and support the course syllabus by providing additional material to their classroom-based tuition. Among the first institutions to implement the introduction of portable media devices to learning were Osaka Jogakuin College in Japan, which was the first educational institution to provide *iPods* for its students (McCarty, 2005), and the initiative at Duke University, in North Carolina (US), to provide all first-year students with *iPods*. Their use of the devices was based on the provision of custom-made materials to their own students. For their provision of Spanish at Duke, the teacher provided audio recordings of texts, oral quizzes, pronunciation samples, oral feedback, audio exercises, songs (with copyright clearance) and “audio flashcards” where she read out loud key vocabulary items. She also set “audio diary” assignments on a weekly basis, which consist of students' recordings on given topics (<http://cit.duke.edu/ideas/newprofiles/merschel.do>). After the success of the Duke initiative, other institutions began providing

podcast content for their students. At the time of writing, Stanford University, the University of Michigan School of Dentistry, and Berkeley University in the US use *iTunes U*, a content management software almost identical to *iTunes* but which provides content tailored to the students of those institutions and which does not promote the retail side. Another use that teachers make in their institutions is podcasting projects, in which students work individually, together in peer groups or together with their instructor to create content which is then uploaded to a podcast directory. As well as the language learning advantages of this work, its production can be motivating and stimulating (Stanley, 2006), but with some exceptions where the content is actually of use to other learners, it could be argued that this may be more a case of vanity publishing and using podcasting as a distribution method.

Supporting materials for independent learning are materials provided by institutions or individuals who have no particular fixed target audience (at least not in the sense of a particular group of students in the previous category) and are the subject of a fuller overview later in this article, where these initiatives will be examined and some of the current practices reviewed.

This taxonomy of uses of podcasting for language learning can be summarized as in Figure 2.

Due to the relative newness of podcasting and its adoption as a tool for language learning, academic literature on the subject is scarce, but the next section will present what some education bloggers, software developers, journalists, and enthusiastic individuals have written on the subject. In addition, it will present the advantages and challenges of podcasting for learning in general and for language learning in particular in the light of theories of CALL and second language acquisition (SLA).

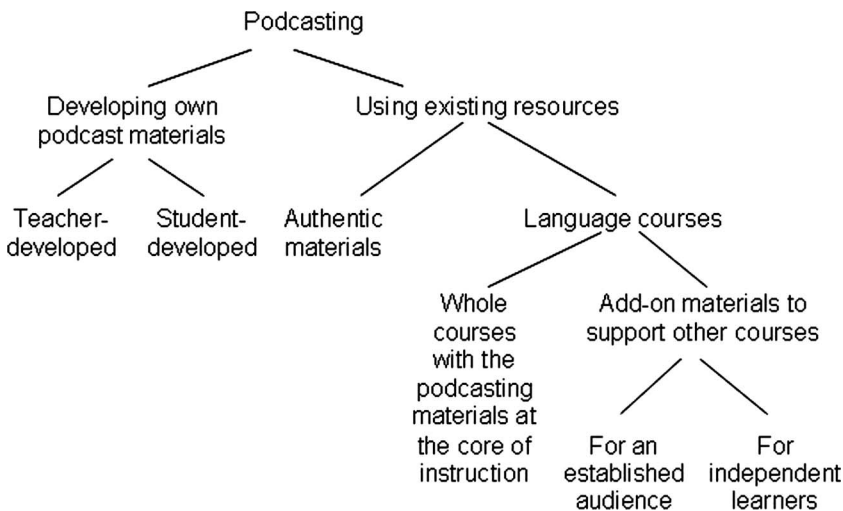


Figure 2. Taxonomy of uses of podcasting for language learning

Podcasting and Theories of Learning

A number of theories of learning can support the use of podcasting for language learning: constructivism; the use of authentic materials for language learning; informal and lifelong learning; theories on the use of learning objects for the provision of learning materials; mobile learning; as well as the practices of chunking and just in time teaching, among others.

Podcasting is consistent with a constructivist view of the learning process, where an individual representation of knowledge is constructed through active exploration, observation, processing and interpretation (Cooper, 1993). Some may argue that podcast materials on their own fall short of one of the “basic tenets” of constructivism (Dalgarno, 2001) in that there is no social context for learning to occur and interaction to take place. However, Ellis (1999) argues that whilst interaction is facilitative, it is not necessary and learners can learn from non-interactional input, which supports the use of podcasting within this framework. In addition, this only applies when the podcasts are accessed on their own. Since most podcasters give access to their material through a blog (which is also linked to from aggregators such as *iTunes*), the benefits of Web 2.0 affordances can create social environments where interaction could take place, as will be discussed later.

As stated above, podcasting provides access to authentic materials which, as well as the potential for learning about aspects such as the history, culture, and politics of the areas where the target language is spoken, provide opportunities to notice vocabulary and grammatical structures. Authentic materials thus also become sources of information about the usage of the language (Ryan, 1997) and have the potential to draw the learner into the communicative world of the target language community (Little, 1997). Authentic materials bring together language learning and use and can develop confidence in the learners, as they appreciate that learning can take place successfully even if the learner does not achieve total comprehension of the input (although the lack of comprehension can also be a source of frustration).

Theories of Informal and Lifelong Learning suggest that learning can happen all the time and, depending on the learner’s intent, be intentional or accidental. This view of learning which “takes it outside the classroom and, by default, embeds learning in everyday life” (Naismith, Lonsdale, Vavoula, & Sharples, 2005, p. 3) is appropriate to podcasting, as users may come across content more by accident than design but also consciously look for it, and learning (both accidental and intentional) is taken outside the usual learning environment and accessible anytime anywhere.

With regards to the use of podcasts as a source of language learning materials, podcasting can also be viewed as the provision of learning objects. David Wiley defines learning objects as “any digital resource that can be reused to support learning” (Wiley, 2000, p. 7). Another definition states that “the term ‘learning objects’ generally applies to educational materials designed and created in small chunks for the purpose of maximizing the number of learning situations in which the

resource can be utilized” (Kovalchick & Dawson, 2003). In fact, podcast directories could be viewed as the next step in the availability of repositories of learning objects adapted to an RSS feed, as advocated by Wiley (see Godwin-Jones, 2004).

Podcasting shares its salient characteristics with the field of mobile learning, which “can be spontaneous, personal, informal, contextual, portable, ubiquitous (available everywhere) and pervasive (so integrated with daily activities that it is hardly noticed)” (Kukulska-Hulme, 2005, p. 2). Mobile learning is defined as “taking place when the learner is not at a fixed, predetermined location, or when the learner ‘takes advantage of the learning opportunities offered by mobile technologies’” (Kukulska-Hulme, 2005, p. 1). However, literature in the field has been slow to include portable media players, which until very recently it did not seem to consider part of the expanding range of mobile learning devices. In a major review of mobile learning in 2005, many other devices were included among personal portable learning devices including mobile phones, PDAs, games consoles, tablet PCs and laptops, but not portable media players (Naismith *et al.*, 2005). This was probably not an oversight: portable media players were irrelevant to mobile learning as available learning content for such devices was non-existent or very limited. What has brought a change is not the players, which have been available for years, but the popularization and availability of the content through podcasting: later literature on mobile learning does include portable media players among mobile learning devices and highlights the fact that, unlike PDAs, mp3 players are widely owned (Kukulska-Hulme & Shield, 2006), and reports that mp3 players are “particularly conducive to creative and social uses that had not been anticipated” (Kukulska-Hulme, 2006, p. 304).

Many of the lessons learnt in the field of mobile learning apply to podcasting for language learning, such as design that takes into consideration screen size, chunking knowledge as independent learning objects to facilitate processing of information (Ally, 2004), and most importantly the distinction made between didactic and discursive learning. Didactic mobile learning is “learning from mobile educational material (...) in a way that responds to the potential and the limitations of mobile devices” (Kukulska-Hulme & Traxler, 2005, p. 26), whereas discursive mobile learning is based on the interaction among mobile learners. This is similar to Felix’s distinction between delivering content and creating interactivity and connectivity to achieve best practice in online language teaching (Felix, 2003). Among the podcast resources reviewed for this paper, the practices observed in the materials support didactic learning/delivering content. The opportunities to encourage discursive learning/creating interactivity could be provided through the associated blog environments (for those that offer them), but this is limited to use through devices that provide access to such environments (PDAs, laptops, desktop computers) and not accessible through most personal media players. Furthermore, many of these providers fail to encourage users to interact and the only tool they tend to provide is the comment facility, where many of the contributions are limited to short comments to thank the providers for the files and say how useful they are.

Potential for Learning: Advantages and disadvantages

The introduction mentioned how, as research field, the potential of podcasting is only beginning to be explored. The literature on the subject is very limited, but there has been some discussion on podcasting, its advantages, challenges, and many potential uses (Clark & Walsh, 2005; Kaplan-Leiserson, 2005; Meng, 2005; Menzies, 2005; Moody, 2006; Scinicariello, 2006; Sloan, 2005; Stanley, 2006; Thorne & Payne, 2005).

Advantages. As well as the aforementioned access to authentic and bespoke teaching materials, among the advantages of podcasts for language learning are that they are:

- Portable, convenient and easy to use format (Blaisdell, 2006; Clark & Walsh, 2005): once downloaded, the files can be taken away and listened to anywhere, as many times as necessary, at a time when it is convenient. Functionalities such as pause, forward, or skip mean that the user is in control of the pace (Sloan, 2005). This also enhances support for students with particular needs or learning preferences and contributes to reduced dependence on physical materials (Menzies, 2005). In addition, the content can also be played on a computer if the student does not have access to a portable media device.
- Attractive (Stanley, 2006): “in terms of design, marketing and consumer appeal, [*iPods*] are hard to beat” (Clark & Walsh, 2005, p. 11). The fact that portable media players are widely owned and podcasts can be obtained from a music store may both increase use (attracting a potentially very large audience and also audiences who may not otherwise access learning materials) and make listening to an educational learning object feel less like studying.
- Motivating: students are likely to be attracted to the new format, which could be motivating and help them engage with materials which they might otherwise not use.
- Easy access: content management software such as *iTunes* or *Juice* can be downloaded free of charge and navigation is simple.
- Value for money: downloads of learning materials are free, and developing materials can be done for a fraction of the cost of producing traditional materials and in hours rather than years (Moody, 2006).
- Publicity: public podcasts give visibility to the individuals and institutions that provide them and institution-wide initiatives give those institutions free publicity as well as a good reputation for using the latest technologies.
- For those providers that use podcasting within an institution to provide additional resources for their students, podcasting provides the potential to allow lectures to focus on interaction, shifting preparatory work to outside times and locations (Blaisdell, 2006) as well as integrating in-class and out-of-class activities and materials (Thorne & Payne, 2005).

Challenges. Among the challenges of using podcasting, Sloan (2005), Menzies (2005), and Blaisdell (2005) highlight the increase in teacher workload for those that create the content. Menzies mentions the fact that podcasting may be a barrier for students or

teachers who are technically challenged, and also raises other issues such as the lack of searchability of files and the potential for information overload (although sites such as *Podzinger* now allow the user to search text within podcasts and search engines can find transcripts from those podcasters that provide them). Blaisdell lists other challenges including the changes in the relationship between teachers and students,—“If the lecture is going to be available for downloading, why bother coming to class?” (Blaisdell, 2005)—the fact that the pedagogical opportunities provided may require rethinking course objectives and learning outcomes, and questions about copyright issues and lack of administrative and technical support. He wonders whether the use of *iPods* may not be “more of a gimmick than a true pedagogical tool” (Blaisdell, 2005).

Perhaps the biggest issue to arise from the use of podcasting for learning is the fact that content has so far been delivered mostly through audio. Clark and Walsh (2006) claim that as a channel for learning, hearing has a number of advantages, which include being instinctual (as opposed to reading which has to be taught), gets around issues such as illiteracy and dyslexia, frees eyes and hands for other purposes, is socially acceptable (as something to do whilst commuting, for example), is aligned with lifestyle (the cool factor of owning a trendy gadget such as an *iPod*) and that listening and learning go hand in hand. They claim that the mp3 player is “a sit back and listen, reflective device that allows you to relax, think and learn” (Clark & Walsh, 2006, p. 11) enhanced by the fact that having to listen through earphones heightens isolation and concentration. This has obvious implications for learner types: visual (as opposed to aural) learners may not find materials suitable or be able to engage with them. Another factor that is inherent to audio content is that it cannot be skimmed (Jennings, 2004) to check the content and its suitability or appropriateness for purpose, which can be very disappointing and/or time consuming after having downloaded a resource from a repository.

Potential uses. Some reports outline the potential uses of podcasting for learning. Among these uses, Sloan (2005, slide 12) lists:

- For distance learning.
- To facilitate self-paced learning.
- For remediation of slower learners.
- To allow faculty to offer advanced and or highly motivated learners extra content.
- For helping students with reading and/or other learning disabilities.
- To provide the ability for educators to feature guest speakers from remote locations.
- To allow guest speakers the ability to present once to many sections and classes.
- To offer a richer learning environment.

Kaplan-Leiserson (2005) lists the following ways that podcasting can contribute to the learning process:

- Assist auditory learners.
- Provide another channel for material review.

- Assist non-native speakers (who can listen many times, stop, rewind . . .).
- Provide feedback to learners.
- Enable instructors to review training or lectures.
- Replace full classroom or online sessions when content simply requires delivery.
- Provide supplementary content or be part of a blended solution.

The lists above are generic, not specifically for language learning, although the uses listed are particularly suited to studies of music and languages, where the audio component is most beneficial.

Review of Current Resources Available

Initiatives such as Duke's provided not only content, but also the actual portable media players for their students. However, as stated above, one of the success factors of podcasting is the fact that portable media players are commonplace devices. Many users log on to online music retailers to purchase audio or video content and only then discover the array of materials available free of charge in the form of podcasts. Other users may actively look for those materials in podcast directories. Some of these public podcasts are very successful and report monthly subscriptions of 800 (Diem, 2005) and 1000 users (Moody, 2006). The amount of free content (of varying quality) available on the Internet has led many users to expect all learning online content to be free. The amount of sites that charge for their language learning content is quite limited, and even those normally provide some free content or free subscription for a short amount of time to sample their product. Among the current providers of independent language learning podcasts, there are two clear distinctions: those that do it to generate profit and those who do not. The podcasters that wish to generate profit are those who either wish to gain publicity for their institution (language schools that want to get their name known or publicize their services by providing some free content, for example) or those that provide content (such as online exercises, feedback and support, transcripts, or flashcards that support the content of their podcasts) as an incentive to subscribe to their premium services. The podcasters that do not appear to be providing content for profit are for the most part enthusiastic individuals or organizations that wish to share their knowledge and their work or their students' work.

Having audio or video online is not new, but what is innovative is to provide it as stand-alone items for independent learning delivered direct to your computer or portable media player. Like in many cases in the past, with the arrival of new software affordances the pioneers at times appear to be producing content more because they can than because they have a product that fits or has been designed for the new medium. Most content currently available is provided by innovative teachers (rather than language learning institutions), some of whom do not seem to have learnt the lessons from the past (Levy, 1997) to inform the use of new technologies.

Describing the different materials available as podcasts would be like trying to describe all types of language learning materials available as websites: there are many

different types with many different approaches and with great differences in quality. In this section examples available from *iTunes* (as it is the most popular provider) will be examined.

One big issue about evaluating any medium or tool for language learning is fitness for purpose. Despite the fact that some materials aim to generate profit and/or publicity for the institutions that provide them, it will be assumed for this review that their main purpose is language teaching, and therefore resources will be evaluated under the light of theories of language learning. The materials available as free teaching podcasts for independent learning will be examined from two overlapping perspectives: design and pedagogy.

Design

The design of bespoke language teaching materials depends on the resources and tools available. Podcast content can include audio, video, images, music, and ancillary materials.

Audio: currently, the format most used to deliver tuition through podcasting is audio in a variety of digital formats. Most teaching materials consist of a monologue or “lecture” on a specific grammar point by a teacher, or a scripted dialogue with a native speaker or a person posing as a learner. Whilst some of the teachers/presenters are very skilled at this and manage to communicate both the content and their passion for the subject in an appealing manner, some have very flat voices or styles which do not help the learning process in an environment where the auditory channel is (unless support material is accessed) the only channel for intake of information. Other materials (with some examples that can be found on *iTunes* in brackets) include: recipes (both in the target language and foreign recipes in English, such as *Cuisine from Spain*), interviews (*BBC Estudio 834*), poetry (*Easy French Poetry*), intercultural knowledge both in English and in target language (*Notes in Spanish* and *Impresiones de España*), showcases of students’ work (*French for kids by kids*), or podcasts about language learning resources and strategies (*Trying to learn Spanish*). Audio quality varies between providers. The average length of each the language learning podcasts available varies enormously. They range from a few seconds for those that provide just a useful phrase and its translation, to over 40 minutes of lengthy explanations, repetitions and examples. The issue of how long podcasts should be has been the matter of several online discussions,¹ with preferences expressed for nothing over 2 minutes to users who prefer up to 30.

Video: although at present the vast majority of materials are audio only, video podcasts are becoming more popular. Some video materials consist of a teacher talking to camera to explain a grammar point, much like the audio “lectures”, but aided by graphics or subtitles (such as the *Rolling R*’s podcast). In some cases, these are accompanied by semi-authentic video recordings (*JapaneseClass* podcast). There are also mini-documentaries with a target language track, or even a short soap opera (*Mygermanclass.com*) with video episodes subtitled in German. Some providers take into consideration the medium in which these are going to be displayed (the screen

size of a video *iPod* is 3.5") and others do not. Podcasters such as Rolling R's show subtitles with a suitable size that can be read on an *iPod* screen, but also show words on a board behind the instructors that can only be read if the video is displayed on a computer screen. Similarly *JapaneseClass* displays too many items on screen (kanji characters, their roman alphabet phonetic transcription, translations, and subtitles, all too small for the small screen) at great speed. The *FrenchPodClass* podcast delivers video files which work like audiovisual flashcards that consist of still pictures with an object and its name in French whilst an audio track comments on the words, meaning, and pronunciation.

Images: the audio tracks can have images associated to the file that display alongside the audio track. Most providers use a single image throughout the track, which is normally the same as the podcast logo they use to advertise their presence on *iTunes*. Unfortunately, many of the language providers opt for images that perpetuate the stereotypes about the cultures of the language they teach rather than trying to educate learners into breaking away from them: a bull with a Spanish flag background, a flamenco dancer, the Eiffel tower, a frog holding a baguette... (see Figure 1). Moreover, these images also seem to favour certain countries among all the many areas where the language is spoken: materials for Spanish tend to have images related to Spain and not any of the Spanish-speaking countries in Latin America, for example.

Music: Many podcasts begin and end with a snippet of music which, again, is often very stereotypical (accordion in French, guitar in Spanish...). This can be quite tiresome when doing repeated listenings and when listening to several episodes of the same podcast. Some also keep the music in the background, which is at best distracting, and in some cases impedes comprehension.

Ancillary materials: some content providers include additional materials in PDF format into their podcasts. *FrenchPodClass*, for example, delivers vocabulary sheets with translations, transcripts, and images, exercise sheets with solutions, and bilingual texts. Other providers choose to make these resources and other supplementary materials available to subscribers only.

A newer podcast format is enhanced podcasts, which have more affordances as they can be divided into chapters (which offer the opportunity to skip to the wanted section), can come with lyrics or transcripts, and more than one image can be embedded allowing for photos to be used to illustrate the point being made in the audio track. However, a problem with podcasting is that the more affordances that are provided, the more restrictions that are placed in terms of the audience that the material will reach and how it can be used. Enhanced or video podcasts, for example, can only be played on personal media players with video capabilities or on a computer with *iTunes*. Similarly, PDF materials do not display on personal media players, therefore limiting mobility, one of the identified advantages of the format.

Pedagogy

In the section on Podcasting and Language Learning it was argued that podcasting had the potential to support learning as it is understood by constructivist theories, and

was consistent with the thinking behind theories such as the use of authentic materials for language learning; informal and lifelong learning; theories on the use of learning objects for the provision of learning materials; mobile learning; as well as the practices of chunking, and just in time teaching, among others. With the current affordances listed in the previous section, materials developed for podcasting fit with SLA theories as they have the potential to:

- make use of authentic materials (Little, 1997);
- be meaningful and engaging rather than repetitive or stressful (Oxford, 1990);
- offer opportunities to hear modified comprehensible input that allows for a focus on target features of the second language (Holliday, 1999);
- be appropriate to the medium used (Furstenberg, 1997).

Whilst the potential is there, many of the materials and designs available appear to be mostly consistent with outdated theories of learning, such as a behaviourist view of language learning, where the teacher is the only source of knowledge, materials consist of lengthy grammar explanations, and knowledge is assumed to be acquired individually by a “listen and repeat” approach. Furthermore, students are not encouraged to interact with one another, therefore appearing to be more consistent with the input hypothesis than with an interactionist approach to SLA. Much of the material is not organized in any obvious way in the directories and it is only after downloading that users can check level and content. In most cases there are no available suggestions about how to use the materials, syllabi, or statements of objectives, either in general or for the individual episode. Furthermore, users are addressed mostly in English regardless of the language level, and some of the materials reinforce cultural stereotypes. The length of some of the resources makes them unmanageable and inconsistent with theories of distance learning or learning objects. Also, the aural-only approach that many providers use is limiting and sometimes frustrating, and in addition, it does not seem to take into consideration visual learners or dyslexic users (for example, when words or URLs are spelt quickly).

However, “hit and miss” pedagogies are commonplace with emerging technologies and the fact that many providers are podcasting materials that are not consistent with current thinking in the field of language learning does not mean that the potential is not there, or that the current materials are not fit for purpose. There are providers who are producing pedagogically sound materials, but a deeper look into how the materials are conceived is necessary: on *iTunes* and other directories, users can try different sources and pick and choose whatever suits their needs and style best, so in most cases the podcast materials they use will most likely not be the only source of learning, but part of a “pick and mix” of resources. It is most likely that those podcasters that provide content that does not require subscription do so with a view of their materials as peripheral to some form of formal tuition. In fact, user feedback in the form of reviews of each podcast reveals that many learners use the materials to “brush up” on languages they studied at school or as revision and additional support to their current tuition.

From that perspective, the materials available can work to support language learners with a variety of learning styles, and listening to grammar explanations, drilling grammar points, repeating useful expressions and vocabulary, and practising listening and pronunciation, as well as learning about the cultures of the target language, are very valid and worthwhile activities to do whilst commuting, or whenever the listener accesses the podcasts on their portable media player. Most distance language teachers would probably agree that despite the efforts to provide activities that engage the learner in communicative social acts, what the students always request is more grammar drilling. User reviews support this point as most of the materials used for this review (including those whose approach may not be considered pedagogically sound in the light of SLA theories) have achieved a star rating of four and above out of a possible five-star rating by listeners.

That is not to say that all content meets the minimum quality standards. Another downside of publishing available to all is the well-meaning content provider who not only knows little about teaching, but also knows little about the subject. A podcast called *Spanish Phrase of the Day* exemplifies that. This podcast, created by a Californian magician, claims to provide “at least one useful and practical Spanish phrase every day from someone who loves the language”. In practice, listeners get phrases that are often grammatically incorrect, badly spelt, and of doubtful value to the learner, such as “He has committed a crime and now he is in prison”, “He refused to give a speech”, and “In the next four days I will do four magic shows”. The files are of varying audio quality and the explanations by the author include lines such as “I think this means . . .”. The podcast has been online longer than many others but had not received any positive feedback at the time of writing.

Top of the Pods

There are two main examples of best practice in podcasting: Chinese Pod and Japanese101. Their providers follow a podcast-based language tuition model where the podcast materials form the main basis for teaching. Their strategy includes the following.

- Clearly identified levels and content. Japanesepod101 divides materials into survival phrases, beginner or intermediate; Chinese Pod into newbie, elementary, intermediate, upper intermediate and advanced. They also specify the type of content: audio magazine, culture, traditions, news or language points.
- Use of a variety of native speakers with different voices, styles and of different ages.
- Engaging, charismatic presenters.
- Podcasts that last about 15 minutes on average, a length that feels neither too long nor too short.
- Where appropriate, slowed down pronunciation, repeated carefully, taking beginners into consideration.
- Cultural information that ranges from politics or sport to pop music.

- News programmes.
- Clear methodology and outcomes: Chinese Pod's first podcast explains the aims of the materials (to teach spoken Chinese), delivery strategy, levels, and support materials available.
- A vast selection of support materials online (available to subscribers only) which include video content, grammar explanations and exercises, flashcards, transcripts, glossary, a comment tool, and online forums for peer support and opportunities for interaction within a developing community.

Their model is already being adopted by other podcasters such as *Learnfrenchby-podcast.com*. As these are commercial providers, they spend the time, effort and money to provide pedagogically sound materials and support. Therefore they produce resources that are worth buying as a distance learning course (although the actual audio materials are still free) and which are consistent with current SLA, Mobile learning, and Open and Distance Learning theories and practices as presented in the section on Podcasting and Language Learning.

Conclusion

The previous sections have described and presented an overview of the different types of materials available to language learners. While there is potential for a pedagogically sound approach, many of the resources available do not follow one. This paper has argued that the effectiveness of podcast materials depends on purpose. As a support tool, there are many opportunities to enhance language learning, be it through materials designed for a specific audience, teaching materials made available for a general audience, or authentic materials aimed primarily at native speakers. This paper also described how creating podcasts can be a worthwhile task for learners, motivating and engaging for the students who create them. Finally good practice in podcasting as a potential main stimulus for language learning was described.

The first obvious conclusion of this review is that the technical know-how does not imply a pedagogic know-how. As in the early days of CALL, many providers have focused on the technological and neglected the pedagogical issues. Other issues include upcoming technological and content developments and their implications for teachers, students, and language teaching material providers.

Both podcasting and mobile devices capable of playing audio and video content are increasingly popular, and this popularity, together with the expanding capabilities of those devices "will create a flood of multimedia content" (Meng, 2005, p. 10). This language learning content will be accessed by students and become commonplace and there are calls to act upon this: "those of us in higher education owe it to our students to bring podcasting and other rich media into our courses so that they can lift their learning to a whole new level" (Campbell, 2005, p. 44). The drive, however, should come not only from enthusiastic individuals, but also from institutions adopting the technology, accepting the implications of its use in the curriculum, and providing necessary training for all involved in its development and use.

Although a few may appear in a “featured” section and there are podcast download charts, all materials have the same status on podcast directories. They are one of many on a list, and a prospective user has to fully download at least one podcast episode to be able to evaluate it for their individual needs. Studies of online information literacy show that users should be aware of a number of issues regarding online content (who says what, when, why, how); similarly, podcasts should be evaluated in the same way. Students will have to further develop their online information literacy and use cues such as the descriptions provided, peer reviews, statements of aim and level to identify those materials that are suitable to their learning needs.

Next Steps: Design and research

Design

Just as writing online is different from writing for print, when writing or designing materials for podcasting, authors should be aware of some rules of task design for distance language learning and CALL with regards to, among others issues, length, content, style, approach, supporting materials and media format.

The development of materials so far seems to have been left to enthusiastic enterprising individuals and, although some academic institutions have adopted podcasting as a medium of delivery for their own students, there are very few professional language learning material developers producing content for independent learners as a viable course. This may not last long: “as the technology grows in popularity so too will the desire and demand to associate revenue with the content” (Meng, 2005, p. 8).

There is more potential to be developed in task design for podcasting material within the scope of current affordances: audio is already being linked to images by some providers, and text is being presented in PDF format, which is very convenient for web delivery and supports visual learners but cannot be displayed on most portable media players (although it can on PDAs). As the *iPod*, for example, is able to display .txt text formats, and synchronize them to audio files, the potential to read whilst listening is enormous: from the use of transcripts for comprehension, shadow reading, or pronunciation work, to comprehension activities related to the audio.

As mentioned above, the more affordances that the formats allow, the more restrictions that are placed in terms of the audience that the materials can reach and the mobility that they allow. By providing materials that limit the mobility aspect of the medium, podcasters compromise the flexibility of the delivery, one of its main perceived benefits. Should providers compromise and sacrifice the excellent opportunity for ancillary materials to provide a service that is universal (mp3 only) or make a choice to alienate some but offer a richer product that affords more? Given that there are millions of users of *iTunes*, which allows the use (for example) of video and enhanced podcasts, would they actually be compromising their product? As far as the benefits of mobile learning are concerned yes, as only those users that have personal media players with video and enhanced podcast capabilities could take full

advantage of the materials (and even then only some of the ancillary materials as PDFs, for example, would not display). PDAs or similar devices may provide a solution to this, as most can display the ancillary materials and different formats discussed and allow the user to take notes on the go, for example. But since these are devices that are more expensive and less widely owned than portable media players, they do not support the main original idea of providing content to the mass audience that use personal media players.

Of course, it could be argued that a possible model for delivery of learning materials with a mobile strategy, where the multimedia materials are presented as mobile learning objects that are part of the mobile strategy and the ancillary support materials what the learners do at their computers. Online exercises related to the audio and video content are already available in some podcasters' sites. Pedagogically, though, the more you integrate the peripheral materials with the main audiovisual material, the better. By opting for a more pedagogically sound approach, the providers run the risk of alienating some of their audience or removing the mobility and flexibility. A compromise that some providers are opting for is to provide both options: *Coffeebreak Spanish*, for example, occasionally offer the same episode of their programme both as standard audio-only and as an enhanced podcast.

This paper has argued that most current podcasting practices support didactic learning, but do not, as yet, fully encourage discursive learning. Although interaction may not be necessary for learning to take place (Ellis, 1999), the medium of learning should provide learners with opportunities for interaction to negotiate meaning and opportunities to produce or write modified comprehensible output (Holliday, 1999). In addition, a wide range of theories in the field of SLA propose that language learning tasks should:

- be collaborative, interesting, rewarding, and challenging (Meskill, 1999),
- provide opportunities to produce target language (Chapelle, 1998),
- be interactive and include reporting back of the communicative outcome (Skehan, 2003).

Some podcasters already incorporate contributions from listeners into their podcast materials, but these are few. Learners could be encouraged to send in or podcast their audio contributions in the target language (introductions, exercises, thoughts on a given topic) and a general feedback recording could address major issues of presentation, style, pronunciation or important grammatical points to be aware of. With web 2.0 support capabilities, this could also be done through blogs and forums by teachers or peers, as exemplified by Chinese Pod and similar enterprises. This way, learners would have the opportunity both to produce output and monitor their performance.

The adoption of audio and or video conferencing through synchronous communication tools such as Messenger, Netmeeting, Skype or similar software could be the next step in the efforts to encourage production and facilitate interaction with others. This would promote communicative competence and further develop community building.

Within those affordances and with that potential in mind, materials for podcasting should therefore:

- provide exposure to the language and its characteristics;
- use a range of materials, including authentic materials;
- provide explicit learning outcomes with clear objectives within a defined syllabus;
- provide exposure to the culture of the areas where the target language is spoken;
- be engaging and of adequate length;
- have a clear consideration of the medium: including portability and screen size.

In addition, podcasters should provide environments that generate opportunities to produce output and interact with other learners and are supported by additional resources, such as transcripts, grammar explanations, glossaries, interactive online exercises, and forums for learners to form communities of support and to engage in communicative acts with others.

Research

The field of podcasting for language learning goes beyond the distribution of language learning materials and there are many issues that need to be researched to gain an understanding of the implications of the availability of this content and the best way to develop and make use of the existing resources before arriving at a sound “podagogy” for language learning. The research agenda for mobile learning includes questioning the differences between face-to-face learning, learning supported by online technologies and learning supported by mobile technologies; the differences between the different technologies and their impact; and the types of learning, learner, subjects and situations that mobile learning can support effectively (Kukulska-Hulme & Traxler, 2005). These apply to learning through podcasting as well. Kukulska-Hulme and Shield (2006) hypothesize that the arrival of new activities through new devices may change the learning experience by possibly widening participation, giving more flexible access, shifting focus to aural learning, stimulating informal learning and making it easier for learners to contribute to, and build on, course content.

Before the impact on the learning experience can be researched, data is needed on the actual use of the resources. Duke University published a report which found that the *iPods* they distributed were used by faculty to disseminate course content, and by students as a recording tool for the classroom and outside it (although this is not a functionality that comes with the *iPod*—an additional accessory needs to be incorporated), and as a study support tool (listening to the content provided or recorded) (Kaplan-Leiserson, 2005). But the affordances of the tool stretch beyond the initiative at Duke and questions that need to be asked include:

- How many users own a portable media player?
- How many of those have video capabilities?
- How are the resources accessed?

- When are they accessed?
- Are they played through the computer or on mobile devices?
- Do users utilize the resources as support for formal tuition only?
- How do different learner types use the resources available?
- How do students feel about the use of podcast resources? Does it feel like learning? How do they compare it to formal learning opportunities?
- Is there any evidence of effective learning through a podcast-based course based on feedback or assessment?

The answers to these questions would help inform design. Knowing whether learners watch videos mostly at the computer as opposed to their portable media players, for example, would have an impact on designing materials taking a 17" rather than a 3.5" screen size into consideration. So far design has informed usage (if the materials are designed for a bigger screen or come in format unsupported by personal media players such as PDF, there is no choice but to use the computer), but information on usage could turn this around. With the right information about usage, design and pedagogy would be aimed correctly at the different types of user.

An initial criticism of web-based language learning resources was that materials were mostly useful only to develop reading skills, and even that was questionable due to the varying quality of online resources. Similarly, it would be easy to assume that the possibilities of podcasting are limited to developing listening skills; but it has potential to be much more than that, some of it already realized (and at the rate advancements are happening by the time this paper is published surely even more). With the right supplementary materials and environments, podcasting has the potential to bring us one step closer to fully delivering online language learning that can really take place anytime anywhere.

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Note

1. Such as the one at: <http://www.ericmackonline.com/ica/blogs/emonline.nsf/dx/whats-your-ideal-podcast-length> or the discussion at: http://www.businessweek.com/the_thread/blogspotting/archives/2006/06/whats_the_best.html

References

- Ally, M. (2004). Using learning theories to design instruction for mobile learning devices. In J. Attewell & C. Savill-Smith (Eds), *Mobile learning anytime, anywhere: A book of papers from MLEARN 2004*. Retrieved May 23rd, 2006 from: http://www.mobilearn.org/download/events/mlearn_2004/MLEARN_%202004_book_of_conference_papers.pdf.

- Bankhofer, A. (2005). *Understanding the podcasting revolution*. iLounge. Retrieved April 18th, 2006 from <http://www.ilounge.com/index.php/articles/comments/understanding-the-podcasting-revolution/>
- Blaisdell, M. (2006). *Academic MP3s » Is it Time Yet? Campus Technology*. Retrieved June 21st, 2006 from <http://www.campus-technology.com/print.asp?ID=18001>
- Campbell, G. (2005). There's something in the air: Podcasting in education. *Educause Review*, November/December, 32–46. Retrieved May 23rd, 2006 from <http://www.educause.edu/ir/library/pdf/erm0561.pdf>
- Chapelle, C. (1998). Multimedia CALL: lessons to be learned from research on instructed SLA. *Language Learning and Technology*, 2(1), 22–34. Retrieved March 14th, 1999 from <http://polyglot.cal.msu.edu/lt/vol2num1/article1/index.html> now at <http://lt.msu.edu>
- Clark, D., & Walsh, S. (2006). *iPod-learning*. Epic White paper. Retrieved May 3rd, 2006 from http://www.epic.co.uk/content/resources/white_papers/iPod.htm
- Cooper, D. P. (1993). Paradigm shifts in designing instruction: from behaviourism to cognitivism. *Educational Technology*, 33(5), 12–19.
- Dalgarno, B. (2001). Interpretations of constructivism and consequences for Computer Assisted Learning. *British Journal of Educational Technology*, 32(2), 183–194.
- Davies, G. (2005). Computer Assisted Language Learning: Where are we now and where are we going? Keynote speech at the University of Ulster Centre for Research in Applied Languages UCALL conference: “Developing a pedagogy for CALL”, 13–15 June 2005, University of Ulster at Coleraine.
- Diem, R. (2005). Podcasting: a new way to reach students. *The Language Teacher*, 29(8), 45–46.
- Ellis, R. (1999). *Learning a second language through interaction* (pp. 238–239). Amsterdam/Philadelphia: John Benjamins.
- Felix, U. (2003). An orchestrated vision of language learning online. In U. Felix (Ed.), *Language learning online: Towards best practice* (pp. 7–18). Lisse: Swets & Zeitlinger.
- Furstenberg, G. (1997). Teaching with technology: What is at stake? *ADFL Bulletin*, 28(3), 21–25. Retrieved January 14th, 2005 from <http://www.mla.org/adfl/bulletin/v28n3/283021.htm>
- Godwin-Jones, R. (2004). Learning objects: Scorn or SCORM? *Language Learning & Technology*, 8(2). Retrieved June 15, 2006 from <http://lt.msu.edu/vol8num2/pdf/emerging.pdf>
- Holliday, L. (1999). Theory and research: Input, interaction, and CALL. In J. Egbert & E. Hanson-Smith (Eds), *CALL environments: Research, practice, and critical issues* (pp. 181–188). Alexandria, VA: TESOL.
- Jennings, D. (2004). *iPods, Podcasting and Learning*. Contribution posted on the Edupod blog. Retrieved March 21st, 2006 from http://alchemi.co.uk/archives/ele/iPods_podcastin.html
- Kaplan-Leiserson, E. (2005). *Trend: Podcasting in academic and corporate learning*. Retrieved June 15th, 2006 from http://www.learningcircuits.org/2005/jun2005/0506_trends
- Kovalchick, A., & Dawson, K. (2003). Learning objects—a definition. In A. Kovalchick & K. Dawson (Eds), *Educational technology: An encyclopedia*. Santa Barbara, CA: ABC-CLIO. Definition retrieved June 15, 2006 from <http://opencontent.org/docs/encyc.pdf>
- Kukulska-Hulme, A. (2005). Introduction. In A. Kukulska-Hulme & J. Traxler (Eds), *Mobile learning: A handbook for educators and trainers*. London: Routledge.
- Kukulska-Hulme, A. (2006). Mobile language learning now and in the future. In P. Svensson, (Ed.), *Från vision till praktik: Språkutbildning och IT* (pp. 295–310). Härnösand: Myndigheten för nätverk och samarbete inom högre utbildning. Swedish Net University.
- Kukulska-Hulme, A., & Shield, L. (2006). Researching new and emerging technologies in language education. Paper presented at the Intellect Research Forum, The Open University, 21 February 2006.
- Kukulska-Hulme, A., & Traxler, J. (2005). Mobile teaching and learning. In A. Kukulska-Hulme & J. Traxler (Eds), *Mobile learning: A handbook for educators and trainers*. London: Routledge.
- Levy, M. (1997). *CALL: context and conceptualisation*. Oxford: Oxford University Press.

- Little, D. (1997). Responding authentically to authentic texts: A problem for self-access language learning? In P. Benson & P. Volley (Eds), *Autonomy and Independence in language learning* (pp. 225–236). London: Longman.
- McCarty, S. (2005). Spoken Internet to go: Popularization through podcasting. *JALT CALL Journal*, 1(2), 67–74.
- Meng, P. (2005). *Podcasting & Vodcasting: a white paper, Definitions, discussions & implications*. University of Missouri IAT services. Retrieved June 15th, 2006 from http://edmarketing.apple.com/adcinstitute/wp-content/Missouri_Podcasting_White_Paper.pdf
- Menzies, D. (2005). *Duke University iPod First-Year Experience Final Evaluation Report*. Duke Center for Instructional Technology. Retrieved June 15th, 2006 from http://cit.duke.edu/pdf/iPod_initiative_04_05.pdf
- Meskill, C. (1999). Computers as tools for sociocollaborative language learning. In K. Cameron (Ed.), *CALL: Media, design and applications*. The Netherlands: Swets & Zeitlinger. Retrieved December 7th, 2004 from <http://www.albany.edu/etap/Faculty/CarlaMeskill/publication/cameron.pdf>
- Moody, G. (2006). Now you're speaking my language. Guardian Unlimited (online). Retrieved 5 May 2006 from <http://www.guardian.co.uk/technology/2006/may/04/newmedia.tefl>
- Naismith, L., Lonsdale, P., Vavoula, G., & Sharples, M. (2005). *Literature Review in Mobile Technologies and Learning. A Report for NESTA Futurelab*. Retrieved April 27th, 2006 from http://www.futurelab.org.uk/download/pdfs/research/lit_reviews/futurelab_review_11.pdf
- Oxford, R. (1990). *Language learning strategies: What every teacher should know*. New York: Newbury House.
- Ryan, S. M. (1997). Preparing learners for independence: Resources beyond the classroom. In P. Benson & P. Volley (Eds), *Autonomy and independence in language learning* (pp. 215–224). London: Longman.
- Scinicariello, S. (2006). *Podcasts in the Language Curriculum: integrating language, content, and technology*. Paper presented at the EuroCALL 2006 conference: "Integrating CALL into Study Programmes", 4–7 September 2006, University of Granada, Spain.
- Skehan, P. (2003). Focus on form, tasks, and technology. *Computer Assisted Language Learning*, 16(5), 391–411.
- Sloan, S. (2005). Podcasting: An Exciting New Technology for Higher Education. Paper presented at CATS 2005: March 25, 2005. Retrieved June 19th, 2006 from <http://www.edupodder.com/conferences/index.html>
- Stanley, G. (2006). Podcasting: Audio on the internet comes of age. *TESL-EJ*, 9(4). Retrieved June 15th, 2006 from <http://www-writing.berkeley.edu/TESL-EJ/ej36/int.pdf>
- Thorne, S. L., & Payne, J. S. (2005). Evolutionary trajectories, internet-mediated expression, and language education. *CALICO Journal*, 22(3), 371–397.
- Wiley, D. (2000). Connecting learning objects to instructional design theory: A definition, a metaphor, and a taxonomy. In D. Wiley (Ed.), *The instructional use of learning objects*. Bloomington: Association for Educational Communications and Technology. Retrieved June 15th, 2006 from <http://www.reusability.org/read/chapters/wiley>