

## EDUCATIONAL USE OF PODCAST

STAJKA RAJIC  
rajiccaca@gmail.com

**Abstract:** *The contemporary society, the fast development of the information communication technologies and the dynamics of the Internet use, have naturally imposed revolutionary changes in all the spheres of the society, including the system of education and teaching. The development of the Internet has created new ways for educators to communicate with learners. Many Higher-Education institutions have adopted the use of virtual learning environments and incorporate e-learning into their traditional teaching mechanisms as part of a blended-learning approach. Teaching materials comprising visual, audio, audio-visual and multimedia contents can be highly efficiently used in e learning process. With the development of information technologies, multimedia contents become accessible via mobile electronic devices such as PDA devices, mobile telephones of the new generation, as well as MP3-5 players. All of these devices can be efficiently used within e - learning systems, and they require specific approach in the creation and distribution of teaching materials. The new and very useful technology suitable for creating educational materials adopted for mobile devices and e – learning platforms is podcast/ pod-casting. The paper contemplates the possibilities of implementing podcast technologies suitable for creating dynamic and interactive teaching inputs. The study analyzes the use of pod-casting within education as well as proposes strategies for developing podcast to support student learning. Moreover the text provides answers to the questions such as: What is a podcast and pod-casting? What are the basic software and hardware components for preparing and implementing podcast in educational process? How teachers likewise students can use podcast in education? How to create a representative educational podcast and incorporate it in educational process? What is a benefit for using a podcast in education? Furthermore, the paper gives examples of the web sites which provides podcast technologies for creating podcast as well as a list of useful podcast for different educational areas which teachers could use in teaching process in order to make the learning process innovation and in the same time interactive for students.*

**Keywords:** *distance education, e – learning, multimedia, podcast*

### 1. INTRODUCTION

The development of the Internet has created new ways for educators to communicate with learners. Many Higher-Education institutions have adopted the use of virtual learning environments and incorporate e - learning into their traditional teaching mechanisms as part of a blended learning approach.

E learning is a wide concept, typically referring to the use computers and information systems in the process of learning and education. The choice of the communication media, teaching resources and communication channels, are all dependent on the teaching content, the choice of the teaching methods and the nature and features of the technical medium. Compared with traditional lectures, e learning has the advantage of allowing learners to choose (within constraints ) when, where, and how they study. It also allows learners to review material and gain feedback. [4]

Mobile learning (m-learning) inherits these advantages from e-learning, but extends their reach by making use of portable (hand held) wireless technologies. Suitable devices include digital media players (e. g. i Pods, MP3 players), smart phones (e. g. Blackberry, i Phone), and Personal Digital Assistants or PDA s (e. g. Palm, Pocket PC). With the proliferation of iPods and easily shared video through websites such as YouTube, learners are also

gaining digital fluency in audio and video media formats which are slowly beginning to creep into higher education through technologies such as podcasting.

Podcasting is a method for distributing digital video and audio contents over the internet. Each of these digital files is called a podcast or episode, and a podcasting service usually posts regularly-produced series of episodes. Each series is accompanied by a special file, the so-called feed that describes the contents of the podcasting service, and allows users to subscribe to the series and automatically receive new episodes. The material is delivered directly from the source Internet location to the device, rather than requiring the learner to seek it out and download it. [2] Within an educational context, pod casting offers innovative and creative opportunities for academics to further support learning.

The following chapters will deal with the podcasts (of audio and video technology) as the educational multimedia technologies that are generally available and highly useful in modern educational practices.

### 2. POD-CASTING (PODCAST)

#### 2.1. Definition of pod-casting/ podcast

Podcast is an audio or visual content that is automatically delivered over a network via free subscription. Once subscribed to, podcasts can be regularly distributed over

the Internet or within your school's network and accessed with an iPod, or any portable MP3 player, laptop, or desktop computer. Podcasts were originally audio-only but may now contain still images, video, and chapters identifying major sections or ideas.

A podcasting is a method for distributing any digital media file (podcast), or series of files, over the Internet for playback on portable media players, such as iPods, and personal computers [10]. Podcasting stands for Portable On Demand Broadcasting.

The podcasting process begins with the creation of content through the use of audio capturing and editing tools. The subscription process of podcasting relies on the use of Really Simple Syndication (RSS) technologies. The content provider acknowledges the existence of the created file by referencing it in an RSS enabled web site. The feed lists the locations of all episodes of a podcast, including episode publish dates, titles, and accompanying text descriptions. A user subscribes to a podcast by entering the permanent feed location into an aggregator program that reads RSS, such as Apple iTunes. Once subscribed, new podcast episodes are automatically delivered to the user's computer. The downloaded episodes can then be played, replayed, or archived as with any other computer file.

According to Lim pod-casting involves "the authoring of, and subscription to, audio and/or video files on the internet for downloading to the user's personal computer". Furthermore, pod-casting "enables users to quickly and easily download multimedia files, including audio and video, for playback on mobile devices". [11] Kaplan – Leiserson define pod-casting as an Internet-based service that allows subscription and downloading of digital audio contents (podcasts) by the means of the RSS technology, whereby these contents are transferred into an on-line repository or to a corresponding base in the computer, in the form of a data file. These can be accessed through different digital audio devices, including desktop computers. [9]

Furthermore, Meng defines pod-casting as "the process of capturing an audio event, song, speech, or mix of sounds and then posting that digital sound object to a web site or blog in a data structure called an RSS 2.0 envelope (or feed). Using specialized news readers, users can subscribe to a web page containing RSS 2.0 tagged audio files on designated web pages and automatically download these files directly into an audio management program on their personal computer. When a user synchronizes their portable audio device with their personal computer, the pod-casts are automatically transferred to that device to be listened to at the time and location most convenient for the user". [13]

Fernandez emphasizes that there are three different types of podcast:

- Firstly, a basic podcast contains only audio content and is the easiest to create and listen to
- Secondly, an enhanced podcast has both audio and video slides. The enhanced podcast is

similar to traditional pod-casts; however, this kind of podcast contains multimedia information, such as slides, pictures, images, photographs, short videos, and chapters that help users to increase their perception about the topic. [6]

- The last one is a vodcast (or video podcast) podcast which contains the both video and audio files.

## 2.2. Pod-casting process

File production, podcast publication, and delivery and playback are three general categories of activities and equipment involved in pod-casting. File production includes planning, writing, and recording content, as well as audio/video editing and file compression. Production requires recording hardware, like digital microphones and digital cameras, and software for editing audio and/or video segments. In addition to the relevant audio/video files, the creator must generate an RSS feed. A feed is a simple XML file that lists the location of podcast episodes. It also includes information about the podcast, such as publish dates, titles, and descriptions of the series and of each episode.

The audio/video file and RSS feed are then posted to a Web server. For the first podcast in a series, and for ongoing series that are always open to new subscribers, the podcast creator must notify the audience of the existence of the podcast by publicizing the location of the RSS feed. The listener is able to subscribe to the podcast series using a podcast aggregator (software that checks podcast feeds for updates at specified intervals).

When the listener adds a new RSS feed, the aggregator downloads all episodes referenced in the current RSS feed. At regular intervals thereafter, the aggregator checks the feed for updates and downloads any episodes added since the previous check. Listeners can access podcasts directly on their computers, or on their portable MP3/video device. For those who prefer to listen on portable devices, most podcast aggregators will synchronize with portable devices automatically.

## 2.3. Pod-casting software and hardware

There are many useful tools and software available to use with pod-casting. The podcast software and tools can be used to create podcast, edit podcast, and deliver podcast to end users.

Basic Hardware components for pod-casting are:

- A PC Running Windows XP or a Mac Running OS 9 or X
- 512 MB of RAM
- 2-3 GB of Free Hard Drive Space
- Sound card
- Mic Input and Headphone Output on Your Computer
- Headphones or Headset
- Optional: MP3 Player

- Optional: Pop Filter (A pop filter is a screen that blocks or filters the popping sounds that are made when you say letters like 'p' when you speak into a microphone).

Basic software components are:

- Audio Recorder & Editor – Audacity

Audacity is free, open source, cross-platform software for recording and editing sounds. Audacity can be used to record podcast, and it can also be used for recording and editing soundtracks which you might use with an animation, a movie, or a slide show.

- MP3 Encoder: LAME or iTunes

Once you create your podcast, you need to convert it to MP3 format before you upload it to the internet. LAME is a program that works with Audacity to convert your audio to MP3. You can also use iTunes to convert your audio to MP3.

- Media Player: Windows Media Player & iTunes
- File Transfer: Smart FTP (for uploading your audio files)

Once you've recorded your audio and converted it to MP3, then you need to upload it to the internet. For this you'll need a file transfer program such as Smart FTP. Smart FTP is what I use. It's free for personal, educational and non-profit use.

### 3. PODCAST IN EDUCATION

#### 3.1. Educational use of podcast

Pod-casting can offer an innovative way to support learning. Podcast can be used to provide introductory material before lectures, or, more commonly, to record lectures and allow students to listen to the lectures again, either because they were unable to attend, or to reinforce their learning. Moreover podcast can be presentations of learning material by lecturers.

Authors discuss the three different ways of educational use of pod-casts: unconstitutional use, supplementary use and creative use.

At a most basic level pod-casting can be used as a substitute to the traditional lecture where students can access an entire recording of the lecture. While there is educational value in providing recordings of lectures for the purposes of revision and review, if used exclusively as a substitute for traditional lectures, such use may further reinforce students as passive recipients of information.

Pod-casting can also be used to provide supplementary material to assist learning. Supplementary material can be in two very different forms. The first, and most common form, is their use in providing summaries or syntheses of course material. As well as providing revision and summary material, supplementary material can also be in the form of additional material which may broaden or deepen the student's understanding.

The final and least frequently mentioned use of pod-casts in education, is what could be described as creative use, where students become more engaged in the learning through constructing knowledge rather than simply receiving it. Students can create their own podcast to share their learning experiences with each other and also with other students from other schools. The student is required to have a deep level of knowledge of the subject matter if they are to successfully construct a suitable podcast, and therefore this type of uses challenges the student to critically examine the material they have been exposed to previously. This type of use can also develop students' ICT skills through the creation and manipulation of digital media. When provided as a group task, other important social skills, such as the student's ability to collaborate and participate effectively in a group, can be developed. [15] Furthermore creating podcast allows students to develop skills such as researching, writing, speaking effectively, solving problems, managing time, grabbing attention and improving their vocabulary.

Educational Pod-casting can be used to extend class time, provide review activities, record student work, and much more. Pod-casting could be very useful teaching tool because it provide:

- The ability to listen to a lecture multiple times

Students can also stop the lecture, "rewind" to a previous part, and start again.

- Increased interaction with the instructor

Instead of focusing on note taking during class, students would have taken notes during the podcast (before the class) and will be ready to participate in the in-class activity.

- Supplement to traditional class notes

When instructors post in-class lectures shortly after class time students can go back over the lecture at home and fill in points that they missed in their written notes.

- Portability/Multitasking

Student will be able to listen to lecture at any time or place when they download podcast to their personal media player.

- Multitasking

Students can listen to lectures while doing other tasks such driving, exercising, or walking between classes.

- Benefit to auditory learners

Online (distance education) students who learn best by hearing may learn course content more quickly when they listen to your podcast rather than when they read your lecture content.

Audio and video podcasts can "provide students with the ability to learn ondemand based on their own learning styles" and can also provide a mechanism that motivates students to "actively engage in the course content" [7]

#### 3.2. Strategies for good educational podcast

For pod-casting to be effective in student learning it is important that a number of strategies are considered.

- It is important to engage the listener with the material included as part of the podcast. The

speech needs to incorporate examples and subjects of interest to the listener and that they can relate to

- A good podcast has a clear structure with an introduction outlining the content, the presenters and the aims followed by the main section. The conclusion should highlight the key points and introduce the main aim of the next podcast in the series
- The beginning of the podcast should be longer but less in-depth. The pod-casts took a standard format: firstly introducing the topic and content of the material on the podcast; secondly, briefly explaining the significance of understanding the particular subject matter; thirdly, moving onto the more complex theoretical material; and finally summarizing the key issues
- The use of visuals embedded within the podcast also enables the recipients to further understand the subject matter
- The use of 'thinking pauses' in the podcast where the tutor asks the student to stop and think about a particular point, enables students to reflect on the subject matter being broadcast
- The use of questions placed at the end of the podcast, which students can answer in preparation for the next taught session, also acts as a means of developing reflective and critical thinking skills
- Teachers have to determine their educational aim and purpose for each podcast they create
- It's better if teachers produce their pod-casts in a personal and informal way
- Teachers have to explain their contents through interviews, dialogues or monologues A talk/radio monologue, requires variety in the pitch and inclination of the speaker. The listener should get the sense that they are being spoken to directly. The dialogue format can involve two or more presenters in a discussion which offers the listener variety compared to the single speaker. The interview takes the form of question and answer and offers the opportunity to talk to an expert in your area of study or allow students to question each other on a particular issue. With any of these formats it is helpful to have an outline script to guide the participants, which may avoid large amounts of editing at the end.

#### **4. USEFUL WEB LOCATIONS FOR SELECTING EDUCATIONAL PODCASTS**

The Internet offers a large number of Websites with quality podcasts in the domain of learning and education. In order to provide guidelines for further research, several important Web addresses and Websites are given here . These can be successfully used by teachers in their teaching activities, as well as to provide assistance and support to students in their acquisition of the teaching contents.

- The <http://www.podcast.com/> Website offers a collection of podcasts in the area of education, music, technology and entertainment.
- A large choice of podcasts is offered by the on-line podcast service PodOmatic (<http://www.podomatic.com/login>), which at the same time offers a possibility to design and create one's own on-line podcasts.
- LearnOutLoud.com ([www.learnoutloud.com/](http://www.learnoutloud.com/)) is a directory where users can find video sequences and audio files providing explanations regarding the use of podcasts in education.
- NASA Science Casts: These video podcasts are short, fun, and bring unusual science topics to light. Podcasts are based on historical space missions completed by NASA.
- ISTE: The International Society for Technology Education is a trusted source for podcasts on how technology is changing the classroom. Podcasts cover various topics from blogging to mobile learning.
- EdTechTalk: This podcast is called Teachers Teaching Teachers and is a collaborative effort. Teachers discuss new software and tools they are successfully using in the classroom.
- The ARTS Roundtable: This podcast is a fantastic resource for teachers in the fine arts. The focus is on music, drama, and the visual arts.
- Educate: This website offers a large database of podcasts for all subject areas and disciplines. They are specifically designed for classroom and student use. The database makes it easy to search by topic or theme.
- Teacher Created Materials: Podcasts for educators looking for new strategies to use in the classroom. Podcasts are arranged by topic and cover all subject areas.
- Teacher Cast: Podcasts that explore current learning trends and resources.

#### **5. CONCLUSION**

Podcasts can be very successfully used in learning process as support for learners and their acquisition of the teaching contents. With the help of podcasts, it is possible to deliver a successful presentation of materials for independent learning, distribute lectures delivered by foreign professors and experts in certain areas, as well as to enrich presentations and materials that are posted within the learning system.

The use of podcasts in education contributes to diversification of the teaching materials that are presented based on the use of text and pictures, which has a positive effect on increasing motivation and encouraging the students' attention and interest in their engagement and learning. By activating their auditory attention and assimilating the learning contents in this manner, the students are provided with a welcome opportunity not to learn by reading texts that are only occasionally aided with drawings and pictures. Instructors who record and

distribute their lectures via podcasting provide their students with audio/video materials that can be easily downloaded on an automatic and regular basis. Similar to many other educational technologies in the past, the ultimate use of podcasting and its influence on the traditional lecture may not be determined by the potential

#### LITERATURE:

[1] Bausch, S, and Han, L. (2006), *Podcasting gains an important foothold among U.S. adult online population* [online]. Nielsen/Net Ratings. (Accessed, 18.8.2013.) [http://www.nielsen-netratings.com/pr/pr\\_060712.pdf](http://www.nielsen-netratings.com/pr/pr_060712.pdf)

[2] Campbell, G. (2005), There's something in the air: Podcasting in education. *Educause Review* 40, 33–46.

[3] Davis, A. (2004), Developing an Infrastructure for Online Learning, *Edupoint*, year V, No. 39, Zagreb, ISSN 1333-5987

[4] Evans, C, & Fan, J. (2002), Lifelong learning through the virtual university, *Journal of Campus Wide Information Systems*, 19 (4), 127–134.

[5] Evans, L. (2006), *Using Student Podcasts in Literature Classes*. Academic Commons, Center for Teaching and Learning.

[6] Fernandez, V, Simo, P. & Sallan, J. M. (2009), Podcasting: A New Technological Tool to Facilitate Good Practice in Higher Education. *Computers & Education*, 53 (2), 385-392.

[7] Fisher, M, & Baird, D. E. (2006), Making mlearning work: Utilizing mobile technology for active exploration, collaboration, assessment, and reflection in higher education. *Journal of Educational Technology Systems*, 35(1), 3–30

[8] Frydenberg, M. (2006), "Principles and Pedagogy: The Two P's of Podcasting in the Information Technology Classroom." In *The Proceedings of ISECON 2006*, v 23.

[9] Kaplan-Leiserson, E. (2005), Trend: Podcasting in Academic and Corporate learning. *Learning Circuits*. [http://www.learningcircuits.org/2005/jun2005/0506\\_trends](http://www.learningcircuits.org/2005/jun2005/0506_trends) (Accessed, 18.8.2013.)

of the technology, but rather by the way in which it is used by both teachers and students. Podcast implement in educational process should contribute to achieving the aims and outcomes of education.

[10] Lazzari, M. (2009), Creative use of podcasting in higher education and its effect on competitive agency. *Computers & Education*, 52(1), 27–34.

[11] Lim, K. (2005), *Now Hear This – Exploring Podcasting as a Tool in Geography Education* [online]. Nanyang Technological University. (Accessed, 20.7.2013.) [http://homepage.mac.com/voyager/brisbane\\_kenlim.pdf](http://homepage.mac.com/voyager/brisbane_kenlim.pdf)

[12] Lum, L. (2006), The power of pod casting. *Diverse Issues in Higher Education*, 23[2], 32-35.

[13] Meng, P. (2005), Podcasting and Vodcasting: A white paper. (Accessed, 03.8.2013.) [http://edmarketing.apple.com/adcinstitute/wp-content/Missouri\\_Podcasting\\_White\\_Paper.pdf](http://edmarketing.apple.com/adcinstitute/wp-content/Missouri_Podcasting_White_Paper.pdf)

[14] Milosavljević, G. (2002), *Internet-based Education*, Beograd, FON

[15] Oliver McGarr (2009), A review of podcasting in higher education: Its influence on the traditional lecture, *Australian Journal of Educational Technology*, 25(3), 309-321, University of Limerick

[16] Perraton, H. (1988), "A theory for distance education". In D. Sewart, Keegan, D. & Holmberg, B. (Eds.), *Distance education: International perspectives* (pp. 95-113). New York: Routledge.

[17] Schhoser, L. A, Simonson, M. (2010), *Distance Education- definition and Glossary of terms*, USA: Information Age Publishing

[18] Stanković, Ž (2006), Development of Distance-Learning Technology, *Nastava i vaspitanje*, No 2, pages 169-181.