Learning Beyond the Classroom through Vodcast

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In education podcasting and vodcasting opens many doors for students and teachers. Podcasting/Vodcasting allows educators to reach students using a medium they are accustomed to. Students today are digital natives. Even very young students have spent time online reading email, playing games, looking up information, or communicating with friends. It can be used to interact with students and parents beyond the four walls of a classroom and can be a great facilitator to increase student engagement. This article explores the concept of Vodcast, tools and skills for developing Vodcast. And this article exposes the importance and advantages of Vodcast.

Vodcast

Video podcast (sometimes shortened to vidcast or vodcast) is a term used for the online delivery of video on demand video clip content via Atom or RSS enclosures. The term is an evolution specialized for video, coming from the generally audio-based podcast and referring to the distribution of video where the RSS feed is used as a non-linear TV channel to which consumers can subscribe using a PC, TV, set-top box, media center or mobile multimedia device). From a web server, a video podcast can be distributed as a file or as a stream. Both methods have their advantages and disadvantages. Downloading complete video podcasts in advance gives the user the ability to play the video podcasts offline on, for example, a portable media player. A downloaded version can be watched many times with only one download, reducing bandwidth costs in this case. Streaming allows seeking (skipping portions of the file) without downloading the full video podcast, better statistics and lower bandwidth costs for the servers; however, users may have to face pauses in playback caused by slow transfer speeds.

Required Tools and Equipment for Making Vodcasting

I. Video capture tools. Nothing will affect the quality of a VODcast more then the tools and techniques selected with which to capture it. However the quality required for a VODcast is dependent on the purpose of the VODcast. If the objective is to simply record an instructor's lecture for future reference, then a simple $400 DV camcorder may be adequate, but you will need to have a strong understanding of the limitations of your camcorder to get the best results from it. However if the VODcast needs to meet broadcast standards or may be shown on a very large screen, much higher quality equipment may be

required. A level of comfort and expertise will be required to get satisfactory results from the higher quality broadcast class equipment.

II. Video editing tools. There are variety of video editing applications that are available covering the range of capability and pricing from free for the novice, to thousands of dollars for the expert. Movie Maker from Microsoft and iMovie from Apple are both excellent products with which to create surprisingly sophisticated VODcasts. For the highest quality projects Final Cut Pro or editing products from Avid may be required.

III. File transfer software. Once content files are created they need to be published to a Web site or blog using any traditional file transfer method; basic FTP/SFTP, HTTP upload, virtual drive (WebDAV), or server upload will all work well.

IV. RSS Enclosures. Preparing the content for delivery requires it to be tagged via XML in a format known as RSS 2.0. The enclosure can be created with software designed to create RSS feeds or can be hand coded using your favorite text editor or WYSYWIG web design software. See the resource portion of this document for a list of editors and articles on creating a RSS enclosure.

V. Specialized RSS news reader. To-date we have not yet found news reader software specifically designed for VODcasting. Podcasting news readers like iPodder, iPodderX, and Play Pod will work, as well as standalone generic news reader applications like Feed reader and Awasu.

VI. Content management software.IPhoto for the Mac and Adobe Album are both great products with which to organize your content. IPhoto can synchronize with the Apple iPod Photo and (currently) display stills. Rumor has it that a forthcoming software upgrade to the newest iPod Photo will also allow it to play MPEG 4 videos. Adobe Album allows organization and playback of VODcasts on a laptop computer. Although it will synchronize with some devices, none of these devices currently have video playback except for several models from Archos.

VII. A laptop computer or portable digital media player. Although portable video devices are beginning to appear, the most popular playback environment for VODcasts is still the laptop or desktop computer. Interestingly, some of the units even have built-in personal video recorders (PVR) allowing for the creation of additional content which can then in turn be VODCast.

Required Skills of Podcasting and Vodcasting

Podcasting and VODcasting both require basic computer abilities and an interest in learning several new, although easy-to-use, software packages. Most students enter the university technology environment with enough basic technical skills to easily create and

distribute podcasts. VODcasting takes a bit more work and planning but it is still very much within the realm of most student and staff technical abilities.

However, as the importance of the message increases, generally, so does the level of effort to create high quality content. Higher quality audio or video generally require a higher level of technical expertise. Currently many podcasts are known for their "scratchy" or homemade personalities. As the popularity of podcasting grows we will see ever more sophisticated broadcasts with increasing production values and higher level of required technical skills. The School of Journalism at The University of Missouri has already committed to producing all future podcasts and VOD casts using "best practices" - a professional quality level for their podcasts and VODcasts which they are currently defining.

Vodcasting as a Tool to Develop the Skills of Information

By the standards of American Association of School Libraries, the use of video podcasts develops in students the following matters:

- Read, watch, and listen to the information in any format for gathering knowledge. Students would be qualified to evaluate the video podcast and include it in their range of knowledge.
- Collaboration with others to enlarge and deepen their knowledge. With the vodcast, the learning is more attractive for young people and it is easier to reach to more persons, being the action of sharing computer issues a type of divulgation of the knowledge very common among students.
- Using technology to create new knowledge. It is an innovative way to get information to students and create projects that develop information skills.
- Use technology and other information tools for organizing and presenting knowledge, and understanding the ways that others see, use and access.

Vodcast Design Rationale

The vodcast also integrates Gagne's Nine Events of Instruction, which address the mental conditions of learning based on the information process model where learners are presented with various stimuli. The following illustrates how those events are handled in this vodcast:

1) Gain Attention

The vodcast engages the audience at the beginning with a thought---provoking question regarding development of multimedia lessons that engage learners and enhance learning. This is supplemented with an underlying introductory musical track with fade in and out.

2) Inform Learner of Objective

The title slide introduces the subject of the vodcast and includes a picture---in—picture video of the narrator describing the objectives of the lesson, an example of the Personalization Principle.

3) Stimulate Recall of Prior Learning

The opening thought---provoking question, in addition to gaining the attention of the viewer, serves as a prompt to stimulate recall of instances where the viewer was challenged in the design and development of a multimedia lesson. This sets the stage for opening the mind to the idea of tools and/or techniques that will help the viewer develop lessons integrating multimedia that is effective and efficient. Additionally, the viewer is queried as to the rational behind the principle.

4) Present Information

The material is presented in logical order, starting with a definition of the Coherence Principle and psychology behind it, followed by examples to drive home the point.

5) Provide Guidance

This event is designed to help learners encode information for long---term storage. Here the viewer is presented with an example the graphically demonstrates a lesson design utilizing multimedia that violates the principle.

6) Elicit Performance

Subsequent to the example demonstrating violations of the principle, the viewer is asked what is wrong with the example slide and how they would fix it.

7) Provide Feedback

Subsequent to the questions eliciting performance, the examples of improper use of multimedia in the sample are described, along with what can be done to improve the lesson. This is followed by a presentation of the same lesson sample applying the principle correctly.

8) Assess Performance

Assessment is accomplished by reviewing the key points of the lesson – a definition of the Coherence Principle and the psychology behind it. Viewers are presented with a question and asked to pause the video to contemplate an answer. Once the video is restarted, answers are presented, which the viewer can compare with their answers.

9) Enhance Retention and Transfer

Effective educational lessons incorporate a performance focus, incorporating design and multimedia that facilitate retention and application. The concluding assessment / review summarize the information presented and the viewer is encouraged to apply the Coherence Principle in their multimedia lessons. Finally, the vodcast can be replayed at any time to enhance retention.

Vodcasting Live

Though this web-site is devoted to the Pre-Vodcasting model of teaching, we realize there are many great benefits from Vodcasting your live lectures. In fact, this is how we got started. We conducted class as usual, simply recorded our lessons, and converted the lectures into vodcasts. We then made them available online in the same way that we now make our Pre-Vodcasts available. Below is a list of some of the benefits:

1. **Students who were absent really never missed a class:** They were able to watch a Vodcast and get the essential material that was covered. This is huge for us in our district that is in the mountains of Colorado. We have many students that can easily become snowbound after a large storm. Also, since we are somewhat isolated, sports and activities often have to leave relatively early in the day for their events. Though some of the real teacher and classroom interaction was missed this was VERY helpful to the students.
2. **Less time tutoring students after school:** We have been able to direct absent students to the Vodcasts and we do not have to spend as much extra time re-teaching the missed content to the absent students. This was very nice for us and allowed us to spend more time with our families.
3. **An amazing tool when teachers are absent:** When we were absent, we pre-recorded our lessons and students did not fall behind in the material. We teach on a block schedule and if we worked it out we could make a recording of the class on the first day of the block and the second day the students can watch the vodcast while we were gone. This is especially helpful in our subject (Chemistry) because there are few (if any) qualified chemistry substitutes in our small mountain town.
4. **Lessons going out to the world:** Once we started posting our vodcasts on the internet, iTunes, etc, we started hearing from people all over the world who had found our vodcasts. Some were students who were using the vodcasts to help them with their understanding of Chemistry, some were teachers using them to learn how to better teach a particular topic, some teachers used them with their classes in cases of absences, and one teacher even corrected us on a mistake in one of our presentations. One teacher in Japan even used our vodcasts in a professional development session as an example of innovative teaching strategies.

Effect on Current and Future Infrastructure

Both podcasting and VODcasting represent challenges to the current infrastructure albeit in different ways. The effects of these new technologies will be outlined for the following areas: storage needs bandwidth, security, supporting hardware, and other requirements.

Bandwidth: In our current network environment a one hour video segment will take about 10 minutes to download depending on network congestion. Because many VODcasts are scheduled downloads, they can be scheduled for odd times of the day to reduce demand on the network.

Storage: Depending on the resolution (for the purposes of this document we'll assume a frame size of 320 x 240 pixels). At 70 MB per hour of video the University could store approximately 10,000 hours of classroom video on a single terabyte drive. The storage and searching issues for video are similar to those for audio, although it may be a bit easier to catalog the video components.

Supporting Hardware: Hardware requirements for creating VODcasts are more demanding than for audio

Supporting Software: The software specifically designed for VODcasting is, as it is in podcasting, just beginning to appear.

Other Requirements: A broadband Internet connection is mandatory due to the large file sizes and the amount of information that needs to be transmitted.

Conclusion

Podcasting/Vodcasting can help foster student creativity and prepare them for a global market. Teachers may feel they don't have time during the instructional day to use technology such as Podcasting/Vodcasting because of individual state testing and No Child Left Behind. Podcasting/Vodcasting can be used as a way to allow students to have a creative outlet during the school day. Teachers can also use podcasting to create "testing review" sessions for students. Student created podcasts/vodcasts give students the opportunity to enhance their organization, communication and technology skills.

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