

Open video tools to support the production of online collaborative audiovisual projects:

How to promote collective creation in e-learning

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Abstract

This paper analyses the use of open video editing tools to support the creation and production of online collaborative audiovisual projects for higher education. It focuses on the possibilities offered by these tools to promote collective creation in virtual environments.

Keywords

Open educational resources, open video tools, social software, collective creation, e-learning

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Introduction

Open educational resources (OER) (OECD, 2007) are becoming an increasingly feasible alternative to reshape the traditional e-learning scenario that is currently based on closed, proprietary and institutionalized systems, content and resources. At the same time, new forms of construction and representation of knowledge, based on free tools and social software, promote a change from an e-learning to a c-learning paradigm (Owen et al, 2006) in higher education institutions that currently emphasize individual learning.

In this paper we outline the backgrounds to the development of the teaching innovation project “*Collaborative editing of videos in online environments*” supported by the vice-chancellorship for research and innovation at the Universitat Oberta de Catalunya (UOC).

Firstly, we look at the possibilities that OER has brought about in terms of the construction, disseminating and sharing of knowledge freely over the Internet for the benefit of education and society, placing special emphasis on the use of open and collaborative tools to build new virtual learning environments for higher education.

Secondly, we present an analysis of the possibilities and functionalities offered by open video editing tools to create and produce online collaborative audiovisual projects.

Finally, we illustrate how these resources and tools are integrated into the framework of the Audiovisual Communication degree at UOC. This course explores a specific set of ICT skills (including searching and organising web content; management and development of virtual projects; and the rational and critical use of ICT) through the implementation of a group-based audiovisual project on project-based learning and computer-supported collaborative learning methodology.

Opportunities and Benefits of Open Educational Resources for E-learning in Higher Education

Traditionally, e-learning has been based on the Learning Management System (LMS) concept. The IMS Global Learning Consortium (2008), defines an LMS as a computer application that enables learning, the assignment of content to learners, and the reporting of learning outcomes. Therefore, an LMS is essentially a system that gives users access to a set of resources within a restricted space. This meeting point for users and resources is usually called a *course*. Resources refer to static content (Web pages, documents, and others) but also tools and programs (blogs, wikis, chats, forums, videoconferencing and more).

At an operational level, the richness of an LMS depends on how easy it can be used and run, and also on the variety of resources available to users. This second aspect is especially relevant when the following two factors have been taken into account: the ability to add and update resources and the support for various educational models. Generally, educational models are achieved by using and

combining different resources following a certain pedagogical approach. Depending on the subject, the pedagogical approach can be different too. In essence, the amount and diversity of resources available for students is a fundamental factor that has a significant impact on the quality of learning.

These resources are becoming increasingly diverse and complex. In recent years, there has been a growing tendency to use noneducational-designed resources as educational ones (e.g., blogs and wikis). Complex tools such as broadcasting and video conferencing via the Internet have become ever more common in e-learning, not to mention a growing list of services to be found in the Internet cloud, like Facebook, Twitter, Youtube etc.

In the meantime, the Internet has been transformed into a social and collaborative environment. Social networking and web 2.0 tools have changed the way of conceiving the web. What's more, the Internet has attained a human dimension. From a place to upload and share information, it has evolved into a place to encounter other people, where knowledge can be created and developed in collaboration. Social networks enable encounters, the establishment of various relationships, the opportunity to get to know others' interests and activities, and a way for people to keep in touch. Social software or Web 2.0 tools (Owen et al, 2006) allow users to develop knowledge together with new digital partners (Blanco, 2009).

From the beginning, the Internet has been an open environment, and this has determined to a great extent the way in which changes are implemented. Web 2.0 tools are open to everyone and everyone can use them. The business model of such tools relies on achieving a great number of users, proving their utility and becoming widely adopted. In fact, in most cases not only users are allowed to interact with the tool but software applications also. In other words, Web 2.0 tools provide mechanisms for their integration into other software. These mechanisms are called Application Programming Interface (API). An API is a set of services (usually Web services) that allow other applications to use the functionality of the tool.

Higher education covers practically every area of knowledge in society, business and science. Open resources and tools is bringing about dramatic changes in distance higher education and they also aim at covering a wide variety of needs that people have on the internet. Thus, they are extremely valuable and appropriate resources in e-learning in higher education. The fact that these resources have their own business model ensures their survival and evolution, especially if they are open source. However, to regard these tools as real OER, the challenge is to integrate them into the virtual classroom and to design the best pedagogical use of them in higher education.

The UOC virtual campus (Campus 5.0) provides mechanisms for the easy integration of these OER. The UOC virtual classrooms enable the incorporation of external web 2.0 tools. Each year, the vice-chancellorship for research and innovation promotes innovation projects as a way to include the above type of resources in the courses. This article presents the experience of using open source and Web 2.0 video platforms in the UOC classrooms.

When the Video Becomes Social

Focusing on language related to editing audiovisual processes we find many concepts which have been in use for many years and continue to remain as useful as ever. *Color correction* used to be made through analogue processes and nowadays is done digitally. Obviously, digital capabilities are

broader than analogue ones. But what we want to say when we talk about *colour correction* processes is more or less the same. *Shooting, lighting, editing or compositioning* are denominations of processes that, while the technology has changed, continue to refer to the same processes.

However, when we talk about video on the web there are many new concepts related to this emerging audiovisual reality. *Tag, metadata, embed, link, or RSS* are some of the terms in this new reality of video, just as in the past editors used the terms *cutting* or *focusing*. Video on the web constitutes an emergent reality that combines traditional and innovative editing forms with essentially new patterns of diffusion and publication. Audiovisual publication on the web has different characteristics from audiovisual TV broadcasting or from publication through optical supports.

We can say that audiovisual production in today's world is a collaborative work between producers and consumers (Casacuberta, 2002). Some years ago we were more inclined to think it as the work of a limited number of creators. It is clear that the nature of the Internet promotes this kind of collaboration. Consequently, it is only logical that an educational web should adopt this philosophy of collaboration. It can sometimes be difficult to see an audiovisual application as enabling open collaboration. Collective creation is something that occurs or that can occur in different phases of the working process. We can find collaborative ways for authoring or editing and also collaborative practices in audiovisual projects.

The doctoral thesis of Roig (2008), which focuses on cultural practices and collaborative forms of audiovisual production, highlights the importance of collaborative processes in video production. He studies emerging practices of creation and distribution of movies through the Internet and introduces another idea that is essential for our understanding of video resources. He places remix and appropriation processes at the heart of the video production process. Remixed videos are created in a collaborative way and are based on raw materials downloaded and reused by the authors.

The idea of remixing is one of the parameters that define the Web 2.0 environment. Applying the philosophy of Creative Commons,¹ copyright-free material is created and uploaded onto web sites. Later it can be downloaded, used and shared by other authors. Anyone can edit the original material to create their own project. In fact, remixing entails both the reuse of images in the editing process as the reuse of ideas. Let us look at some examples of this kind of video production. We can find many homemade videos emulating the movie *Star Wars* and the TV series *Lost* on the web. The acts of sharing videos and creating new products through remixing are key characteristics of video in Web 2.0.

To emphasize the social nature of video on the web, it is interesting to analyze two common features that are found in most video publishing portals, videoblogs and webTV. In these cases, the functionalities (embed, link, email, RSS,) are designed according to the philosophy of collective creation. Sharing audiovisual contents is an essential goal in this process and can be done in different ways, e.g. via email (by providing the URL of the clip to another user) or by embedding in websites, blogs or wikis. The philosophy of sharing video is applied through many procedures and resources. Also, many of these portals facilitate the publication of video clips on sites like Facebook, Twitter, Tuenti, Blogger or MySpace.

Open Video Editing Tools to Support Online Collaborative Audiovisual Projects: an Example in Context

Within the framework of bringing Spanish university degrees in line with the European Space for Higher Education, the Open University of Catalonia (UOC) has defined a transversal competence common to all degrees: «The use and application of ICT in the academic and professional environments». This competence is promoted in the course «ICT Competences» (ICTC), which is compulsory for all degrees and amounts to 6 ECTS credits. Students are recommended to take this module in the first semester to form part of their basic cross-sectional credits.

Based on project-based collaborative learning methodology, the ICTC course involves a continued and progressive process of acquisition of the following generic ICT skills necessary to study and to work in a virtual environment:

- Planning and management of a virtual project
- Net-based teamwork
- Search and retrieval of digital information
- Digital information analysis and processing
- Digital information presentation and diffusion
- Digital technology notions
- Online communication strategies
- Rational and critical use of ICT

To develop and teach the ICT skills described above, the course has relied on the methodology of project work as it allow students to initiate, develop and practice each of the skills in an integrated and interrelated way. For each degree, the topic of the virtual project and the tools to be used are defined according to the profile and the specific training needs of students in that particular area of knowledge.

The Audiovisual Communication degree at UOC trains students for professional practice in the main areas of communicative activity, analyzing both to the diversity of media and formats (digital, audiovisual, written) and the strategic goals (expressive, persuasive, informative). This academic program provides students with the skills required to design, plan, implement and evaluate communications projects. In this program, the virtual project is a collaborative video documentary about “Intellectual property in the new digital society and Creative Commons licenses”. The entire process of carrying out the collaborative audiovisual project consists of four stages as shown in Figure 1.

The different phases of the project are supported by various open and collaborative tools available in web 2.0. These tools support the collaborative tasks of scriptwriting, pre-production, editing and postproduction of the project. In the first stage of the project a social bookmarking resource is used as a too for teamwork that enables students to manage, store and share information searches (articles, resources, etc) with the other colleagues that will serve as reference for the virtual project. In the second phase, the collaborative process of writing the script of the project is

undertaken using office tools for remote collaborative work. In the third phase, an open video tool has been introduced to support the collaborative process of editing and postproduction (mixing clips, adding audio, transitions, effects, captions, etc). Finally, in the fourth and final phase, the different working groups broadcast their videos projects on the Internet on different video channels. e.g. YouTube etc.. Before the broadcast of the video, and in keeping with the theme of the project, the teams apply for Creative Commons licenses for their projects.

For the purposes of this paper we will focus on an analysis of the open tools for collaborative video editing used in the third phase of the project.

In the design phase of the ICTC course, teachers analyzed different, free, online video editing tools that support the collaborative tasks of composition and postproduction of the audiovisual project. The opensource video platform initially selected was JayCut.² JayCut's online video-editor functionalities include the possibility to remix and trim videos, add audio, transitions, effects, captions and subtitles, automated transcoding and export to YouTube or Facebook. The online beta version of the editor also allowed multiple users to work collaboratively on a project through the creation of groups. However, some students working with the beta version of the video editor found that there was the loss of quality in compressing video files when they were published in the JayCut platform versus other platforms such as Youtube, or when downloading finished videos. However, the most significant problem was that JayCut was down for a period while it was retooled and afterwards the platform was unstable.

In the context of the innovation projects promoted by the UOC vice-chancellorship for research and innovation, a team of professors at the IT, Multimedia and Telecommunications Department, in collaboration with a team working on Educational Technology, carried out the project "*Collaborative editing videos in online environments*". The aim of this project is to explore open source and web 2.0 video platforms that allow collaborative video production and choose the most optimal tool for integration into the Campus. During the benchmarking phase of the project, various platforms of video such as Pixorial, Motionbox, Jaycut and Kaltura were analyzed. Some of the main features sought in these tools were the functionality of collaborative creation and the mechanisms for integrating it into the Campus. Finally, the platform selected for integration was Kaltura³ (Fig. 2).

Kaltura enables collaboration during the editing and composing processes between students that are members of a working team. Users have to create accounts and can upload raw video material. Once done, they can edit and compose their clips sharing ideas, knowledge and skills. When the project is finished, the result can be exported directly to social media applications such as YouTube, Facebook, MySpace or Twiter.

Furthermore, the application programming interface (API) of Kaltura enables other applications to record, upload and view videos; customize their appearance; use streaming capabilities; among other options. The use of such tools is free of charge and profit is derived from associated advertising or when users choose to pay for additional advanced and customizable services. With Kaltura, licenses can be paid for to increase disk space and bandwidth availability, and to obtain some extra functionalities. As many of these tools are also open source, it is possible to download them at no cost. So, they can be installed in another website or have their source code modified, thus contributing to the development of the community.

The integration of Kaltura in the UOC virtual campus is done through Wordpress,⁴ an open-source content management system used primarily as a blog publishing application. The integration

of Kaltura by Wordpress facilitates the management of multiples users with the added feature of being able to organize content into categories (Fig. 3). Using blog categories, teachers can define the working groups and students who belong to each category have access to online video editing. Each blog post provides access to the Kaltura advanced video editor.

The viability of the being able to integrate the platform and the potential of Kaltura for supporting collaborative audiovisual production will be evaluated through a pilot test to take place in the semester beginning October 2010 in the context of the ICTC course.

Closing remarks

The rapid growth of OER provides new opportunities for teaching and learning in higher education. The OER concept strengthens traditional academic values of sharing and collaborative creation of knowledge. The concept of *openness* is based on the idea that knowledge should be disseminated and shared freely through the Internet for the benefit of society as a whole.

In the specific field of audiovisual production, the use of open resources and social software allow the redefinition of the concept and the relationship between production, distribution and audiovisual consumption. The many possibilities offered by open video resources for audiovisual creation and production are an exponent of a broader cultural movement that is characterized by providing greater autonomy to independent artists, as well as the interaction and participation of users in multiple and varied ways.

One of the best examples of collaborative audiovisual production projects in the open source movement is the pioneering computer-generated short film *Elephant's Dream* (2004), which was almost entirely produced using by a team of seven artists and animators from around the world using free software. The film has taken the philosophy of open source software into the cultural field, providing free access to films and the production process and enabling and promoting free distribution and free reworking of audiovisual production.

The commitment to the development of collaborative audiovisual projects using open resources and social software tools in higher education is a way of promoting the spirit of collaboration and open access to cultural creation. It should be one of our core objectives as critical and independent users of digital technology in contemporary society.

Figures

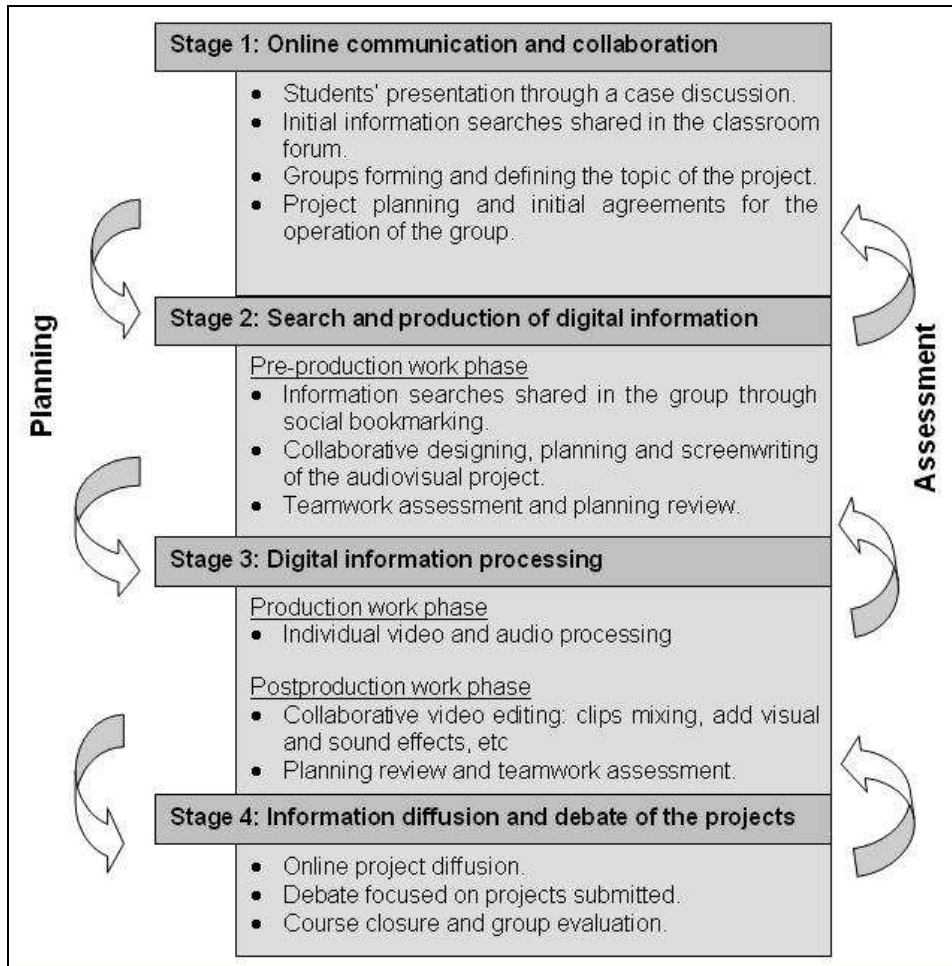


Figure 1 - Stages of the virtual project



Figure 2 - Kaltura's advanced video editor



Figure 3 - Kaltura integration in the UOC Campus by Wordpress

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Notes

1. <http://creativecommons.org>
2. <http://iavcut.com>
3. <http://corp.kaltura.com>
4. <http://wordpress.com>

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