

The Role of the Open Educational Videos as Support and Evidence of Learning: Project TALK — Targeting Achievements-Linking Knowledge

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Abstract: This article will show the results of a research project on educational technology. Project which target was to study and investigate the role of the educational video as a scholar production from K-12 students in their academic performance by utilizing the new technological tools available through digital devices and by applying the new Information and Communications Technology (ICT). The project was supported by Tecnológico de Monterrey and the Masters in Educational Technology division from Escuela de Graduados en Educación, EGE (Graduate School of Education). The research was performed with students from middle basic education level (junior high) from Colegio San Felipe located in the city of Monterrey of the state of Nuevo Leon in Mexico, during the school year September 2012–July 2013. The main objective was to detect if creating educational videos influences directly in the fundamental learning of students within this institution, through the production of open educational videos conceived as open educational resources (OER).

Key words: open educational resources, educational videos, middle basic education, educational innovation, educational technology

1. Introduction

The present article describes the results of an investigation project of educational technology which target was to study and analyze how the production of educational videos by junior high students influences in their academic performance by utilizing the new available communication tools through mobile devices (*iphones, ipads, tablets, smartphones*, etc.) in addition to the Information and Communications Technology (ICT). The project was supported by Tecnológico de Monterrey and the Masters in Educational Technology division from *Escuela de Graduados en Educación*, EGE (Graduate School of Education). In this project, students themselves produced *educational videos under an open licensing format* conceived like *open educational resources* (OER) by creating their own means and didactic digital resources available at an Internet level for their use, production, and redistribution.

The design and production of educational videos as *open educational resources* (OER) field is merely new, it is well known that highly expensive educational videos have been produced for decades moreover, under copyright schemes, but having these under OER parameter lowers their cost and allows their access through the

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Internet. Due to the lack of OER and open educational videos in Spanish for junior high-level students, the project was directed to investigate how to generate a stock of open licensing audiovisual stock (*respecting copyright*) (*creative common and open source*) for the teaching of the different areas that conform the academic curriculum of such level that permits to optimize the use of technological resources at schools and the development of digital materials for learning.

2. Theoretical Framework

With the advent of Web 2.0 and social web it has been facilitated the generation of informal communities with great potential for the communication, collaborative work, and learning. On the other hand, the use of video consumption will reach 50% of the total internet traffic in 2012 and for 2015, the quantity of video that circulates in Internet in one second would take a person around five uninterrupted years of video playing and also on demand video will triplicate the amount of traffic of 2010 by 2015 (Cisco, 2010). Sideways, YouTube, the largest home made videos host where every minute 48 hours of video are uploaded and 3,000 million of videos are played a day counts with an audience of 800 million users a month (<http://goo.gl/mceKw>), which recently announced its new educational videos section <http://youtube.com/edu>.

The *Open Educational Resources* (OER) is a new and pushing trend of the knowledge society, particularly with the advent of the Internet 2 and all its possibilities such as the use of *Information and Communications Technologies* (ICT) into the educational scope and its impact towards the learning process on its diverse modes. The term *Open Educational Resources* (OER) points to the resources and free educational materials and freely available in the Internet and the World Wide Web (such as text, audio, video, software tools, and multimedia, among others) and that have free licenses for the production, distribution and use of such resources in the sole benefit of the world educative community; specially for its utilization by teachers, professors, and students from different educational levels (Atkins, Seely Brown, & Hammond, 2007; Schmidt, 2007). Existing the need and specific demand in Mexico of improving and increasing the levels of both school and academic performance from our students of basic level in the different areas (Spanish, mathematics, history, natural science, etc.) making them participate in the building of their own educational resources along with the active participation from teachers and professors will permit them motivate and direct impact over their academic achievements (Ramirez, 2007).

The training and development of the teachers of basic education concerning design and production of educational videos as open educational resources (OER) is necessary, likewise training them on the digital information field, use of technologies, and the design of digital materials with the purpose of generating a stock of open licensing audiovisual materials (complying with copyrights) for the teaching of social and natural science that allows optimizing the use of technological resources at schools and the development of digital learning materials (Burgos-Aguilar, 2010). All of it has the target of complementing the elaboration of didactic resources by teachers with the creative and active participation from students themselves, for example in the creation of: educational videos provided from a fictional, original, creative, and interesting story that gets the attention of the native “multi-tasking” in a short lapse of time (a couple of minutes) to approach and educational theme in a non-conventional way (Mortera, Salazar, & Rodriguez, 2012).

The results of the project here presented promote the good use of the educational video in computers and mobile devices to narrate, record, and edit such story in order to publish it and share it through video channels of the Internet (as *YouTube*, etc.) to be shown in the classroom or extra class. Thus, the video transforms into not only

an interesting open educational resource, but also a total self-manifestation of an interesting formative process and an experience rich in learning on a collaborative, meaningful way and always located here and now inside an environment where our little boys and girls develop. The video also offers great possibilities of personal, artistic, self critic, and reflexive expression, besides the aspiration to be a very original work that offers a clear evidence of the learning to the same teacher that guides and evaluates the entire process (the making of educational videos based on digital narratives as learning evidences). By acquiring this, support materials and evidences of the academic performance among students of basic level education would be created, these elements will be key aspects for the development of this project of investigation proposal, whose goal will be to seek, analyze, and measure the direct effect of these audiovisuals resources (the *open educational video* — OEV) as a teaching strategy onto the academic success and the acquisition of new knowledge, skills, and competencies between the boys and girls of the basic educational level (UNESCO, 2010).

2.1 Functions of the Educational Video

The video has diverse functions, particularly in its impact and effects at an educational level, among them its informative and motivational functions stand out, on the other hand, its creative and expressive function, and lastly its appraising and researching function (Ferrez, 2004).

Into its informative function it stands out its role as a document that disseminates and distributes knowledge in a relatively easier way compared to the printed information or to other sources. “The specific peculiarities of the video as a piece of technology permits that such piece can perform the informative function in a very distinct way, as for example, television does” (Ferrez, 2004, p. 68). In the video, the selection of the information to disseminate may respond to the particular needs of the group of people who express or the group of subjects who will be receivers (students).

J. Férrez (2008) comments about it that: The versatility of the technology of the video, the ease that it offers to record during precarious environmental or brightening conditions makes it particularly suitable for the reportage, for the documentary, for the testimonials. The informative possibilities of the video are boosted by its versatility and they remain as evidence the same way during the viewing [projection]: viewing in normal cadence, in accelerated cadence, image freezing, visualized searching of the pertinent moment...(p. 69).

Following this, the technology of video offers service to particular and diverse interest of users such as the case of the *open educational video* pointed in this article and the exposed project... “reproducing daily realities with a freshness that becomes them into new ones” (Ferrez, 2004, p. 69).

Relative to its motivational function, the video, particularly the educational one, focuses on the receiver to cause an impact in his person and willingness and by that augment the possibilities of causing a type of learning response.

[*The video delivers*]...a main function in the modern conception of education if the importance of the emotional and willing stimuli during the educational process is considered. There the video can play an important role taking in consideration the capacity of the audiovisual means to cause emotions and sensations (Ferrez, 2004, p. 71).

On the other hand, another of its functions stands out: the expressive creative. There is where the creation and production of video permit the manifestation of singularity, sensitization, subjectivity, and expressiveness of particular ideas in a propositional way.

The luminous image encourages awareness of the own self affective world and facilitates the liberation of

self emotions of affective states. “The Technology of video is vastly versatile. Its creative possibilities are extraordinary and yet unexplored. Being connected with the synthesizer and with the generator of special effects or with the computer, the image metamorphoses until infinity” (Ferrez, 2004, p. 75).

At last, relative to its appraising function, J. Ferrez (2004), says that: “When talking about appraising function, it is referred to that act of communication in which what basically matters the most is the valuation of conducts, behaviors, or skills of the subjects caught by the camera” (p. 76). He also comments that into his researching function: “By its technological configuration the video is an instrument fitted to do research works at all levels: sociological, anthropological, scientific, educational...” (Ferrez, 2004, p. 82).

The technology of video permits without any questions all kinds of investigations. It allows as investigating the behavior of people as the one of animals. It permits the analysis as conducts of individuals as of conducts of groups, collective, communities, and even mass. It can be investigated through the video both the events of nature and the ones caused by men’s wit (Ferrez, 2014, p. 82).

The following part of the article, describes and explains the process of investigation (methodology) done in the production of open educational videos and their impact in the learning process among adolescents of junior high level where they were the main creators and producers, and enhancing with this, their educational formation.

2.2 Objective

The objective of the project was to investigate the effect that *open educational videos* (OEV) have as a learning strategy towards the academic performance of the junior high level students (middle basic). In addition, to boost the generation of a stock of open educational resources for teaching social and natural science and with this, optimizing the use of existent technological resources at schools and the development of digital materials for learning through the creation of their own educational software repositories in the Internet where this OER-educational videos will permanently be for their free access.

2.3 Research Problem

To the problematic of increasing the quality of the education so the students from middle basic education level improve their academic performance; particularly within the social science and natural science and the elevated cost that the creation of resources and support educational and instructive materials results; the ICT raise as an alternative that may diminish the high costs and the shortage of free resources available in the Internet so they can reach more scholar audience and reduce the digital gap.

It is through the creation and production of open educational videos that is presented the acquisition, integration, and management of proper new knowledge, skills and competencies, which must be brought to teachers and students to solve this problem of acquiring new knowledge. There is interest in developing educational innovations that permit to study and analyze the best learning strategies displayed by the teachers. Such ones seek to influence directly into the learning of the adolescents of the middle basic education level through the development and production of open digital educational videos, elaborated and produced by the students themselves and teachers; creating like this their own educational and instructive resources, and with that to enhance the production of such educational materials and teachers updating.

2.4 Research Questions

(1) Which is the direct effect of the educational videos as learning strategy towards the academic performance within the acquisition of new knowledge, skills and competencies among students from middle basic

education level at *Colegio San Felipe*?

(2) How much does the creation and production of open educational videos, conceived as OER make the development of digital educational software repositories available in the Internet?

3. Methodology

A quantitative investigation including field work was performed making observations in the classrooms and a pole-type questionnaire was applied to two groups of students from junior high level at *Colegio San Felipe*, with a total population of 45 students from which only 20 students answered them. The questionnaire contained 20 questions and was applied through the following link <http://www.surveymonkey.com/s/V7GLDR2>.

The pole was founded over the process of creation and production of educational videos that students made during the 2012–2013 school year, mainly during January and February 2013. The performed analysis was based on descriptive statistics and frequencies distribution being able to respond with it to the research questions which aimed to measure the effect and impact of the educational videos as creative tasks of the students within their significant learning of the social and natural science subjects respectively, also as the boost in the creation of digital repositories.

Colegio San Felipe is a prestigious, private bilingual institution located in the south of the city of *Monterrey* in the state of *Nuevo León* established more than 15 years ago and ever since, it has served a student population conformed by middle and high level class kids and adolescents. The students possess resources concerning the availability of mobile and digital devices that allowed them to make the projects of videos that were assign to them and which they selected along with their teachers and instructors guidance.

4. Main Results

There were two stages attached to the results of the project. The first one founded over the creation and production of videos and the second one, over the pole results.

(1) Concerning the creation and production of the educational videos of the two contributor groups of junior high, the mechanics were the following: 6 teams per each group or classroom were formed by 3 to 5 members per team to make the video filming, edition, and production tasks. The materials produces were part of their English speaking classes related to the social and natural science subjects (*Colegio San Felipe* is a bilingual institution) from junior high level within the official program of Secretaria de Educación Pública SEP (Secretariat of Public Education).

For the filming and recording of the videos any mobile device that had a 5 megapixels camera and a video, image, and sound editing function was required. During the editing process of the videos there were used some of the basic editor applications such as: iMovie or Final Cut (video), movie-maker, GIMP (image), Audacity (audio), Smart Converter (intended for video formats), iTunes, iDVD and sometimes Garage Band (from iLife suite for Mac).

Inner topics of the subject in English related to the junior high educational level academic curriculum were selected. Students were authorized towards the topic election. Later they developed a presentation about it in the classroom and such exposition was recorded. They were able to rely on a PowerPoint presentation. Once they filming was over they took the videos home, and some students were carrying at least 2 devices to film an iPod, Ipad, a Smartphone, or a camera (photograph and video one), which helped them a lot. Finally, the students built

up and described their video with images extracted from such sources. The students worked the edition at home, they removed unnecessary parts, took bloopers away (errors that emerged during the recording). All of this was made in order to deliver the produced and edited videos by the students themselves, with a maximum allowed length of 3–5 minutes. All of the videos were edited and produced under *Creative Commons* licensing, since they were produced as open educational resources (OER).

All this created great expectation and motivation among the students being satisfied by the achieved goals during this academic activity that reinforced their learning. The videos were presented during an event held for ninth grade students of junior high from Colegio San Felipe during the month of march 2013 mirroring the TED conferences format (*Technology Entertainment and Design*) that are organized for the Internet audience (<http://www.ted.com/>).

The educational videos produced were set into a channel under the concept of TALK: Targeting Achievements-Linking Knowledge and uploaded to two different sites: Youtube (<http://youtube.com/user/talkbroadcast>) and Vimeo (<http://vimeo.com/talkbroadcast>) in different formats depending on the software in which the video had been edited being *.mov, *.mpeg, *.avi, and *.mp4 the most common ones. The site where all videos are gathered and can be watched in Internet is called **Talkbroadcast.blogspot**, in the following link www.talkbroadcast.blogspot.com. In this site it can be found permanently, the videos that were produced by the students as part of the project. The total videos produced and located in this site were a total of 21 (up to April 24th, 2013).

(2) Regarding the results of the pole (questionnaire) there are the following findings. From the 20 students that answered the pole, 12 are male (60%), and 8 are female (40%); all with an average age of 14 years; 90% were taking the third year of junior high (9th grade), and there were two students from the second year (8th grade) (10%). It was asked to them if they had previously made videos and from the 20 students, 11 (55%) answered that indeed they had made a video, and 9 students answered never (45%). It was asked to them whether they had received any kind of instruction and training to perform the activity of producing and editing the videos, 50% answered yes, and the remaining 50% answered no.

Regarding the question asking if they use these technological means to expose, 25% answered sometimes, 35% responded that they use them many times, and the remaining 40% replied that they always use them, about the frequency in which they utilize presentations as videos in their classes, 5% answered never, other 5% once a month, other 25% every 15 days, other 25% mentioned once per week and the rest (40%) answered every day.

It was asked to them if the utilization of educational video has contributed to improve their performance and learning during their classes, 45% (9 students) replied that it has been some sort of significant, other 45% (9 students) answered that it has been significant, and the remaining 10% (2 students) commented that it has been significant indeed.

The following Figure 1 shows the educational functions that the respondents considered the most important ones in the use of the educational video:

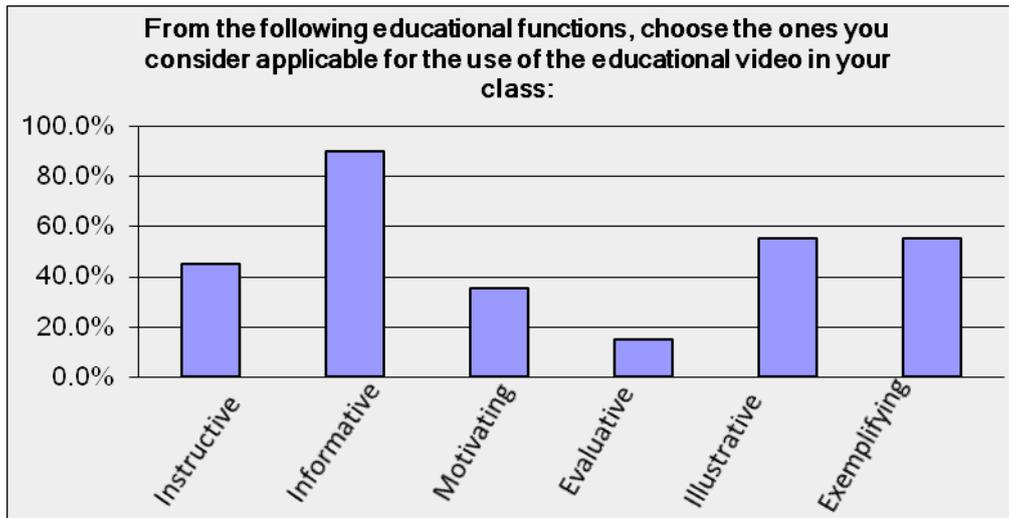


Figure 1 Educational Functions of the Video in Class

It was asked to the students if they had participated in the creation of educational videos watched during their class, 10% said they had not participated, 40% commented sometimes, 25% replied that they had participated many times, and finally, the remaining 25% answered that they always had participated. This shows an active participation of the students in the presentations that are given in their classes and topics from the academic program.

When it was asked whether there were advantages for the students regarding the use and application of the educational videos in class as instructive material to support their own learning, all of them presented a positive response, considering that for the majority, the use of videos in the classroom turns into faster, funnier, and quicker learning, which leaves a sense of satisfaction around them because they have more time for other things since the learning became effective in a shorter time, and moreover the process was nicer. Now, just as they were questioned about the advantages that they observed in the use of videos in class, they were also asked whether they observed disadvantages in such process and what they were to which the majority of them responded that the disadvantages were not significant, a pair of students mentioned that it was much time required for the elaboration of the video, and a single student said that the result was not what he expected in the sense of taking advantage of or liking the process since he states that it is hard to make the videos.

Finally it was asked to the students whether they had liked participating into the creation of their own educational videos of their classes and had learned, 95% answered yes, and just 5% said no. This shows the great acceptance that an activity that directed the positive use of the mobile devices and the use of ICT for learning had and not as means of distractions and escaping during the process of learning itself.

5. Conclusions

This research project on educational technology pretended to promote the good usage of the educational video in computers and mobile devices to relate, record and edit educational topics towards the diverse levels of middle basic education (junior high) in Mexico, publishing and sharing through channels of video in the Internet (such as YouTube, vimeo, etc) instructive materials to be shown in the classroom or as extra-class thus, supporting the teaching and the learning process.

In this way, the video becomes not only into an interesting open educational resource, but into an entire manifestation worthy of a significant formative process and also into an experience rich in learning in a collaborative way being always located here and now inside the setting where adolescents develop. The video also offers great possibilities of personal, artistic, self critic, and reflexive expression besides of aspiring to be an innovative work that shares a clear evidence of the learning of students.

The current project of investigation, whose objective was to inquire, to analyze, and to measure the direct effect of the videos as open audiovisual resources (*open educational video*) and as learning strategy in the academic achievement and acquisition of new knowledge, skills, and competencies among students from middle basic education level (junior high) was justified by the results obtained during this investigation which they demonstrate accordingly. In both the production of more than 21 educational videos under OER type by the students themselves in the reinforcement of their significant learning, and also in the creation of a new Internet channel: *Talkbroadcast.blogspot* (www.talkbroadcast.blogspot.com) that allows having a digital educational “home-made” repository of Colegio San Felipe about the achievements of its junior high students.

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