Video as a support to education in geography

Giancarlo Macchi Jánica, Melissa Tomassini, Anna Guarducci

a Geography Laboratory, University of Siena, Siena, Italy
Email: giancarlo.macchi@unisi.it

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Abstract

The digital and IT revolution, together with the spread of the Internet, has changed and enhanced our tools and ways of communication. To what extent can these new forms of interaction and transmission of ideas be used in an improved manner in the geography education process? One of the areas that has seen a relevant transformation is the production and distribution of audio-visual content. Starting from the question of whether and to what extent current video techniques are a valuable method for the dissemination of scientific ideas, this paper discusses the main phases of a project conducted by the University of Siena’s Geography Laboratory, which involved the production of targeted films aimed at the explanation of a complex theme such as globalization. One of the key characteristics being highlighted was the technical quality. This intellectual analysis also entailed an assessment of the degree of approval, usability, and efficacy in the learning process with geography students at college level.

Keywords: Globalization, Geography, Education, Film, Video

1. Introduction

Between February and November 2014, the Laboratory of Geography of the University of Siena published on the Internet two educational videos titled Globalization: a geographical approach (https://goo.gl/1bYUur) and Globalization: a historical approach (https://goo.gl/uVc2Nx). The project aimed to produce academic content in geography that accredited the dissemination of globalization as a scientific subject (Dicken, 2004, pp. 14-15). Four years after their online publication, the experience collected in the classroom through these videos, as well as the significant number of views obtained, has stimulated a joint assessment by the members of our Laboratory. The idea is to perform a comprehensive evaluation of the scrutiny undertaken, examining its learning objectives, its methodology, and outcomes. The evolution of video platforms and their integration with social networks and mobile devices, only recently granted to video recordings, document a status of ubiquitous instruments for education and scientific circulation (O’Reillya and McManusa, 2015, p. 10; Patterson, 2015, p. 524). If present-day societies can listen to music videos at will, it is equally feasible that today’s humanity can carry out a continuous process of education by virtue of the same type of media. In addition, the
rapid expansion of technology and digital recording devices is a critical factor that has bolstered the formation of a context where the achievement of the internal production of informational videos has become easy and reasonably straight-forward. Accordingly, the focus of the present article consists in the creation of visual communication as educational material (Raack, 1972, pp. 111-115). Our investigation also sets out to understand to which extent new multimedia tools can coexist in the geographical training and integrate a traditional approach, inside and outside the lecture hall.

Figure 1. Frame of the opening sequence of Globalization: a geographical perspective.

The choice of globalization as the central subject matter of the video stemmed from its significance in geographic university teaching (Elden, 2005; Spring, 2008). Specifically, the two videos aimed to highlight the relevant aspects of globalization observed from two distinct perspectives: on the one hand, its geographical explanation in the strict sense and on the other, an essential discussion from a contemporary history standpoint (Hopkins, 2010). The research endeavors to verify to which extent films broadcasted on the Internet enhance and blend with concepts acquired by students on such an all-embracing and broad theme in the classroom (Hillman, 2015). From the preparatory stages, we have assumed that different frames of reference – in this case that of a geographer and a historian – would have been indispensable to offer a complete understanding of a heterogeneous issue such as globalization (Andrist et al., 2014, pp. 196-197). In the specific case of the videos at hand, the underlying gist was to approach the production process with a genuine, interdisciplinary viewpoint.

The use of videos, documentaries, and films in teaching classes does not constitute a new concept. There is a vast bibliography on this which is difficult to summarize in these pages. Nevertheless, pioneering works worthy of remark are The portrayal of educators in motion pictures (Schwartz, 1960) and Teachers in the movies (Edelman, 1983). The topic we are exploring has undergone a compelling development, apparently connected to the propulsion of the digital audiovisual medium at the beginning of the 21st century. An appreciable contribution is Using Popular Films to Challenge Preservice Teachers’ Beliefs about Teaching in Urban Schools (Grant, 2002). Also, Trier has explored the complexity and potential of these tools for the written support, challenging the Cinematic Construction of “Literacy” with Preservice Teachers (Trier, 2001).

Questioning the usefulness of films as a significant and complementary appliance for learning, this paper addresses the advantage of video production for teaching geography (O’Doherty et al., 2011, p. 910).

2. Aims of the project

The tempting proposal of making targeted films for academic purposes was born as an authentic effort to appraise the ability to promote scientific notions through media other than texts, whether in its traditional printed form or in its increasingly spreading digital version (Fehn and Schul, 2011a). Although the printed document illustrates a unique and unparalleled device for original content transmission, and a perfect complement of classroom teaching, the progressive growth of innovative communication channels following the advent of the Internet has introduced groundbreaking opportunities for information transfer. The applicability of these modern devices as pedagogical tools remains partly unknown and must be assessed within a collective and shared backdrop (Imig, 1981). As outlined above, our work program aimed at the production of video documents to be published in the open domain of Internet, in order to guarantee free access to the public, therefore, not
excluding students of the degree
courses, who were involved in the teaching
carried out by the staff of the Laboratory of
Geography at the University of Siena.

Globalization presents various ramifications
that made it one of the most appealing themes of
contemporary geography. It is a broad subject
that lies precisely at the intersection of topics
such as development, urban or political
geography, to name just a few. Such a pheno-
menon characterizing the era we are living in
has progressively affirmed itself as one of the
focal motives of the typical program of
introductory modules in geography (Reilly and
McManus, 2015). Consequently, the choice was
also dictated by the consideration that a valid
representation of the theme of globalization
would have a positive spillover effect on other
related talking points during geography courses.

At first glance, it may be argued that the aim
of the project was to move towards a
simplification of support materials for academic
training and to produce a substitutive device for
books and texts. On the contrary, and as stated
before, the objective was to experiment the
realization of innovative technological tools
empirically (Andrist et al., 2014). At present,
videos typify a medium that has attained an
overwhelming recognition as a mass commu-
nications format. As stated by Imig, “film is
dynamic in time and orientation, presents
multiple visual and audio information that can
depict a range of interpersonal behaviors beyond
that conveyed by printed words or other
objective was not to exploit the recent popularity
of videos – nor their alleged convenience – but
rather to evaluate the potential of the channel
itself as a learning device (Leung and Hawkins,
2011).

The reference context for this study was thus
geographical training at a higher education level.
Within this process, a starting question was to
discern if the integration of new technological
tools needs to be considered crucial in the
current socio-cultural context (Puttilli, 2014). In
other words, the analysis was meant to estimate
to what extent advanced communication
instruments can now be successfully and
expertly melded with traditional methods of
education. From the beginning, the logic was,
therefore, to identify and experiment with
mechanisms that would favor the integration of
new videos and video documents with the
regular tools of conventional training (Smith,
2003, p. 38). At the same time, our goal was to
figure out if such fresh practices could endorse
the construction of educational materials that
satisfied both their use in curricular education
and as a platform for scientific dissemination.

Furthermore, we are keen to understand if the
films discussed in this paper may perhaps be
used opportunely both in scholastic and in
university stages of geographic education. Would
the message and the language be consistent with multiple degrees or levels of
training? In this respect, the initial goal was to
fathom how videos could consolidate and
improve the preparation and acquisition of
scientific knowledge gained in the classroom or
through printed manuals (Hillman, 2015).

3. Structure and contents

The two video clips were both structured as
interviews (Leung and Hawkins, 2011, pp. 350-
351) and the principal characters are respectively
Professor Claudio Greppi in Globalization: a
geographical perspective (Figure 1) and
Professor Tommaso Detti in Globalization: a
historical perspective (Figure 2). The rationale of
organizing the narration around an interview is
chiefly based on the necessity to provide the
highest degree of authoritativeness to the contents
produced (Andrist et al., 2014, p. 19). To achieve
this, we decided to choose well-acknowledged university fellows as the main actors of the commentary (Figure 3). Today the web is marked by a condition of relativism, here also intended as an absence of authority. From the beginning, it was evident and essential to pinpoint the mechanisms for assigning a satisfactory standard of competence and credit to our video clips.

The interview was devised as a procedure to envisage a dialogue between two ideal interlocutors. On the one hand, a narrator or interviewee and on the other, a listener or interviewer. During the preparation stages of the article, a one-sided dialogue structure for the interview was preferred. It should be remarked, however, how current platforms for video publishing constitute recognized social networks that ensure a productive interaction with the final viewers. In fact, nowadays every online platform enjoys spaces to insert comments through which it is possible to provide feedback to documents and subject matters therein.

The structure of the contents was organized according to an ideal order of information that pertains to a logical sequence. Each interview was articulated in a series of themes that the interlocutor asked the interviewee. One of the most relevant elements of all the choices made was, of course, the duration of the videos (Fehn and Schul, 2011, p. 26). The length adopted was a maximum of 15 minutes. The main problem was to define which timespan represented the best option and encouraged the construction of the most suitable container for the transmission of ideas (Fehn and Schul, 2011, p. 39). Today the audience of video platforms leans toward short films; therefore, we inquired whether it was better to single out an ideal length limit or the balance between the quantity of information to be transmitted and the duration of the movie.

The interview was structured in five questions and each segment of the video production centered around these concepts. It is worth pointing out how the interpretation of the set of questions by the two interviewees was considerably divergent. As will be explained below, the interviewees had the opportunity to develop ideas around the survey freely. The questions proposed to both interviewees were, or at least can be summarized, in the following five points:

1. What is the meaning of the term globalization? When was the first time you heard the term globalization?
2. What are the differences between contemporary globalization (post-colonial) and historical globalization?
3. What role did different media play in 20th century globalization?
4. In your opinion, what paradigm (homogenization, polarization or glocalization) best describes the social and cultural dynamics of the last two decades?
5. In which way is the development of multinational corporations and the increase in direct foreign investments transforming the general framework of state sovereignty? What is the role of globalization in the economic dynamics of emerging countries?
In addition to the initial questions, participants were asked to introduce bibliographical references, concepts, and news that would motivate viewers to explore the topic in more detail independently. This aspect has been of great interest and usefulness since the document references mentioned in the videos were texts consistently used during lectures (Bauman, 2005; Bayly, 2004; Levinson, 1971; Osterhammel and Petersson, 2005; Robertson, 1995).

4. Globalization: from narration to production

The entire project – from its initial preparation to publication – was marked by specific steps that were coordinated in a given order (Mistry, 2013). The process was divided into five distinct phases that required – in the early stages – several attempts by trial and error and experimentation to achieve the desired quality standard (Wenger, 2007). Our ambition to reach a substantial qualitative value has influenced many of the choices of this path.

4.1 Interview planning

Each of the two interviews began with a group of general questions on the subject of globalization. Interviewees received the questionnaire beforehand. As stated above, great attention has been given to the interviewees’ opportunity to interpret and develop the survey with no conditioning of any kind (Sealey-Ruiz, 2011, p. 317). Each question translates ideally into one of the sections determining the structure of the videos. The queries and the related subtopics served as a map or guide to lead the interlocutor or addressee progressively within the dialogue at a level of ever-increasing complexity. One of the primary goals from the onset was to leave this structure implied within the conversation (Hillman, 2015, pp. 313-314). The questions were not stressed openly by an interviewer, nor by a background voice or by a title or text to separate the different sections of the dialogue. The only precaution interviewees were requested to take was to clarify each topic implicitly, including the meaning of the question in the opening statements of their answers. The result is precisely that of defining an effective logical dynamics and rhythm in the design of the expected dialogue.

4.2 The shoot

In front of the camera, the subject sampled was left to speak openly without any interruptions, or indications of any kind. The function of the interviewer was passive and neutral. His presence served to ensure the naturalness of the gesture and allow the interviewee to present a spontaneous expression during the shot. In fact, in the filming, the inquirer not only never appeared in the frame, but during the video-editing, his questions and voice were excluded from the final cut.

One of the main objectives was to comply with a high-quality standard for the shoots (McDonald, 1985, p. 62). A reflex camera with a photographic lens was used for this purpose. The method adopted offered a great advantage in...
terms of image quality but placed limits on the trend of the recording process. SLR cameras – for purely commercial reasons – do not enable continuous shooting and stop their recordings every 15 or 30 minutes. In addition, shooting interrupted every 15 minutes also requires more extensive work during the video editing process. All shots were taken with 50mm lenses (on an APS-C sensor) to assure the lowest degree of deformation of the interviewee. Concurrently, the maximum focal aperture was used to blur the background and, thus, emphasize the figure of the interviewee. In the specific case of the conversation with Claudio Greppi, the interview foresaw a double-take with a second camera for a lateral shot to favor the video editing process. In any case, the use of the SLR was to obtain an excellent depth of field at the interviewed shots that made it possible to define an adequate level of filming.

In both cases, the focal aperture of the lens, which can convey the maximum amount of light possible, was determinant in making satisfactorily illuminated shots and the isolation of the subjects from the background.

4.3 The audio

At a technical and methodological level, the aspect upon which most emphasis was placed was the audio recording. A double voice taping accompanied the video shooting. The redundancy of this operation was not only directed at the construction of a backup copy but was necessary for the post-production of a better quality of audio to be employed in the video editing phase.

The decision to have a double recording was made on the assumption that poor audio quality would have simply produced a video of decreased impact (Plowman and Stephen, 2008, p. 556). In other words, the videos had to be characterized by a clear transmission of the messages through the voice (Fehn and Schul, 2011, p. 31). The audio recordings were conducted through microphones both on the input of the SLR itself and with a professional digital recorder. The adopted scheme gave us the possibility to make a high-quality lossless recording in WAV format at 24kHz/bit. This configuration subsequently turned out to be paramount to achieve a good audio track through the equalization of the levels and the removal of the background noise.

Figure 5. One of the key features for both videos was the use of animated cartography. In Globalization: a geographical perspective, animated maps were used as a tool to explain the geographical migrations and homogenization of Homo sapiens (A). In Globalization: a historical perspective maps were employed to represent the role of telecommunications like the Transatlantic telegraph cable (B) but also to contextualize the narration regarding the development of emerging markets and countries.
4.4 Video editing

One feature shared by the two films was the type of shot taken through a close-up. The interview with Claudio Greppi lasted a total of 1 hour and 36 minutes. This recording time was subsequently reduced to 10 minutes and 43 seconds of the final cut. The talk with Tommaso Detti had a duration of 1 hour 28 minutes, then condensed into a 15 minute 25 second video clip. The free approach to the interview, described above, required more effort in selecting sections of the shot for the editing of the final video. To allow fluidity in the final photomontage, different strategies were adopted for the two films. In the first case, we used double shooting. That solution comprises the cutting and mounting between the parts of the shot without major obstacles. In the second case, realized just with one SLR, the fluidity in video editing was accomplished by means of a large number of b-roll movies and context clips accompanied by the voice of the narrator in the background (Raack, 1972, p. 114). In fact, the constant use of video clips in Globalization: a historical perspective led to a high-quality product and a significant difference between the two videos (Figure 4).

Another aspect that differentiates the two films is the presence of a soundtrack in Globalization: a historical perspective. In this regard, the video consists of six different music tracks in the background, which play along with the interviewee's voice. The choice of all the audio and video clips was made from accessible Creative Commons Licenses on the Internet. Both the music and the clips were used as a device to foster a more plausible context and, therefore, to facilitate the descriptive process conducted by the interviewee’s narration. In the first film (Globalization: a geographical perspective), instead, steady pictures and maps were applied only as an incorporation to its final montage (Figure 5).

4.5 Publication

After the completion of the montage, the compression was carried out, trying to maintain the quality of the product as unaffected as possible. The final version of the first movie was 1,080p, while the second one was equal to 720p.

According to the aims of the study, the conditions of the platforms that offered the possibility to publish the videos were assessed. Following the logic of full accessibility and given the free nature of the platform, it was posted on the YouTube platform (Patterson, 2015, p. 524).

5. The video in the classroom

Commercial promotion of the video clips was never done after their release, and they were not promoted through other channels such as social networks. The videos began to be utilized primarily in classrooms during the 2015/2016 geography courses. Initially, they were presented jointly with other films on the Internet for their use in and outside the lecture hall. In the successive academic year, the videos were designated as an integrative content of the course, and students were highly recommended to watch them. Then, during the next academic year 2017/2018, it was decided to evaluate, through an impartial framework, the potential of video documents as an educational tool. This initiative was implemented by examining the case of Globalization: a historical perspective, in the wake of the higher popularity in terms of views that this clip gained, especially if compared to Globalization: a geographical perspective. By September 2018 this video had already exceeded 18,000 views, while for the second film this number was still around 1000. Nonetheless, it should be noted that it is complicated to understand which choices between the two productions may have brought about these significant divergences. Nevertheless, it should be remembered that Globalization: a historical perspective represented in general a more evolved stage, distinguished by more attention to technical details like background music, as well as a list of more than 60 video clips, with the purpose of contextualizing the narration. This attention and zeal engendered discordances in the final result of both productions.

As stressed by many researchers, the evaluation of the impact in the classroom is still
one of the critical points within the entire creative process and production (Sealey-Ruiz, 2011, pp. 315-317). Bearing this in mind, students enrolled in the three-year cycle of literary and philosophical studies, attending the Geography D course at the University of Siena, were chosen as a reference sample. Besides, in order to validate video production as a teaching device, a two-step procedure was followed. Early on, during the lectures held in the entire semester of 2017/2018, the clip Globalization: a historical perspective was never shown in the classroom. At a certain point of the semester, the web address to access the video was handed out to all the students who had attended classes regularly. The video was presented without emphasizing it as supplementary material for the globalization subject. During the rest of the course, no more indications or remarks with regard to the video were made in class (Leung and Hawkins, 2011, p. 352). Just before the end of the semester, an anonymous online questionnaire was submitted to the sample group to which students answered directly in the classroom through their smartphone devices. The survey consisted mainly of eight questions without a formal structure (O’Reilly and McManusa, 2015, p. 11). The form was proposed to a group of 105 students who attended the geography lesson that day. Students who answered the first question negatively were automatically excluded from the rest of the questionnaire. The questions were:

a. Have you seen the video Globalization: a historical perspective?

b. Did the video express the concepts clearly?

c. Did the footage depict content that you consider attractive?

d. Was the video relevant to your university education?

e. Has the video stimulated you to deepen the theme of globalization?

f. Did you find appropriate the length of the video?

g. Would you be interested in watching (30:00) a more extended version of it?

h. Do you consider the contents of the docu-

The results were as follows (Table 1). After two months and two weeks from the indication of the links, 77.14% of the students had seen the video clip. Considering that a total of 105 students took part in the poll, a sample of 81 needs to be regarded as the actual sample of this assessment. The positive or affirmative results of the questions from b to h are shown in Table 1.

The interpretation of these results is elaborate, but to some extent, it is feasible to draw the attention to elements useful for the analysis summarized in these pages. Questions b, c, and d, to be read together, demonstrate a good reception of the videos. As underlined by the responses to these three questions, the general feedback was positive, also given that a large portion of the population sample watched the video. We must remember that the video was not mandatory and we assume that there had been also a word of mouth process that produced these results. Moreover, we hold that the group of first viewers had deemed the film useful for the learning program and, thus, presumed that the high value attributed resulted in a positive suggestion or judgment passed on to the classmates. The percentage of affirmative responses to question d lays the emphasis on a high rate of individuals (80.2%) who think it is consistent and coherent with their university education.

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<th>question</th>
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<tr>
<td>b.</td>
<td>81</td>
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<td>c.</td>
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<td>d.</td>
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<td>e.</td>
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<td>g.</td>
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<td>h.</td>
<td>79</td>
<td>97.5%</td>
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Table 1. Answers to the evaluation survey of the video Globalization: a historical perspective.

In summary, this specific movie was valued as a “relevant tool” in the overall framework of the degree course and not only contextualized...
within the geography program. The answers to question e show how the movie, beyond its contents, was able to “induce” further consideration of this topic. The outcomes to f and g are apparently conflicting, but are particularly thought-provoking, for the very reason that they provide key elements to one of the crucial questions of the project. All the interviewees consider the length of the video “adequate”. Simultaneously, answers to g show how a double-length version of the movie does not attract students’ attention as an education device and how much lower their predisposition to engage in a video of greater length is. To conclude, data collected in response to question h are pertinent, in that there is a consistency between what was discussed in the classroom, the readings, other texts and the contents of the film.

6. Conclusions

It is somewhat difficult to draw a conclusive statement on this educational project. In fact, it must be considered as ongoing since the films described in these pages are accessible even now and free for use and will continue to act as tools for integrating teaching.

On the one hand, it should be clarified that these results have overall confirmed the expectations outlined in the introductory part of this text. This four-year experience has proved that films can be powerful educational tools, favorable both to integrate and enrich the education of even complex geographic themes. In our opinion, the most critical aspect was the enthusiastic reception that these films had among geography students of some degree courses at the University of Siena. For both the videos produced, it was plausible to maintain that this type of video documents constitutes an excellent integrating tool, both for classroom teaching activities and for classroom dialogue or as an integration training outside the classroom. What seems to emerge from the comparison of the two films in question is that quality plays an essential role in the rise and diffusion of these instruments. Notably, the presence of music tracks in the background and movies as context elements produces greater popularity of one film in comparison to another.

As geography teachers, the overall judgment we make is that custom video production is a process with enormous potential for student education and the perception that we have had as educators is that the project has to some extent improved training experience in general. Not merely is it a mechanism to integrate, but above all to strengthen and connect the concepts acquired in the classroom.

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References


