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Research Article

Collaborative design of audio-visual materials in Political Science and Administration

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ABSTRACT

The creation of educational audio-visual materials has recently become popular. It is an innovative and entertaining practice, which can reach millions of people through social networks and YouTube. For this reason, this specific was designed for students enrolled in the following three modules: The Spanish political system, public administration in Spain, and institutions and decision-making structures in both the of joint degrees in law and political science and in public management and economic sciences, as well as degrees in public management and degrees in political science. Educational audio-visual materials were co-designed and co-created to define a Municipal Council, its workings and its organization. This was a three phased experiment.. In the first, under the supervision of teachers, students developed five videos showing how Municipal Councils work. This allowed university students to become involved in a collaborative learning activity through which they acquired a series of important skills for future use, in addition to reinforcing their learning by participating in creation of digital teaching material, and also establishing a new teaching methodology consisting of learning-by-doing. In the second, professors and students attended CEIP Severo Ochoa Primary School in Madrid showing videos and playing two practical games, thus promoting knowledge transfer. In the third, the teachers evaluated the impact of this activity and the degree of satisfaction of university and primary school students. The result was positive, because not only was an educational innovation successfully implemented, but also a large part of objectives were achieved.

Keywords: teaching materials, audio-visuals, collaborative learning, educational videos, knowledge transfer

INTRODUCTION

European and Spanish institutions governing higher education encourage the transition to new teaching-learning paradigms, focused on autonomous learning throughout life (LifeLong Learning, LLL) and also considering the student as an active protagonist of his own learning process, within the framework of the European Higher Education Area (EHEA) (Álvarez et al., 2008). Besides, following this trend, pedagogical approaches based on learning through experience, or "learning by doing", are gaining presence (Schank et al., 1999). As Okoye et al. (2020, p. 139) explain, every educational institution has an interest in ensuring that students learn effectively, and this *is only possible thanks to educational innovation,* due to it producing a learning model shaping human resources in accordance with the global demand to develop creative-productive thinking, decision-making, problem solving, learning skills, collaboration and self-management (Cahyani, 2019, p. 384).

The education community is, therefore, including more proactive and creative learning strategies and experiences (Okoye et al., 2020, p. 138). Accordingly, it is very important that students develop the necessary skills to discern, select, codify, organize, analyze, retain, retrieve and use information, as well as converting it into useful knowledge, thus allowing them to achieve a better quality of life, in addition to an adequate participation in productive and social processes. Teachers also carry out a systematic exercise of reflection on their work, and on the contributions offered by research, to improve the quality of their students' learning (Ramírez et al., 2006).

Thus, for the sake of developing new educational methods, a group of university professors proposed a teaching innovation within the learning and service project: "Strengthening politics: Madrid City", from the UCM. Students from different programs within the Faculty of Political Science and Sociology were scheduled to participate in the co-design and co-creation of audio-visual teaching material, to be used at the Severo Ochoa Early Childhood and Primary Education Center in Getafe, Madrid. This material itself explains the organization and functioning of one of the most important political-administrative institutions as well as that of another closest to the citizenry, that of the Municipal Council.

AUDIO-VISUAL TEACHING MATERIALS

Teaching materials include all those materials facilitating education (Castro, 2019; Fernández de Arroyabe-Olaortua et al., 2018; Rodríguez Guimeráns et al., 2021; Simonit, 2009), those with which the student interacts directly as part of the knowledge creation process and those that are designed to sustain, support and guide the learning processes (Dorado & Gewerc, 2017; Schwartzman, 2013). These are perhaps the reasons why they have acquired so much importance. They can guarantee successful learning by stimulating interest in the teaching-learning process; facilitating student-teacher communication; increasing student motivation; improving student-teacher interaction and by being one of the fundamental elements for the development of creativity, enriching the teaching-learning process (Palomo, 2011). Any teaching-learning process thus includes teaching materials.

The kinds of materials can differ in form, such as print, audio-visual, digital, graphic materials, etc and provide different educational resources,. In this paper we focus on audio-visuals and, specifically, on videos. One must consider that the experiences analyzed here are a result of the production to teaching videos, since their use facilitates knowledge transfer to teachers and its assimilation by students. (Sánchez & Martínez, 2014).

It is perhaps because the use of teaching videos as a tool allows meaningful learning among students, that it is increasing (García Matamoros, 2014, p. 44; Vital-Rumebe et al., 2021). It can be, therefore, deduced that the increase in the use of this kind of teaching material indicates that it is received positively by teachers and students. On the one hand, this is due to the fact that students are used to audio-visual stimuli, versatility in the communication of information, and, above all, to its immediate accessibility, which is why they find these resources more attractive than traditional ones (Ortiz Colón, 2006, p. 37-38). On the other hand, the use of videos provides several advantages in the educational process, such as providing information and motivating students to assimilate the contents taught in different topics (Magadán-Díaz & Rivas-García, 2021; Sánchez & Martínez, 2014).

However, the videos by themselves do not improve learning. It is necessary to adapt them to appropriate pedagogical objectives, contents and activities (Guerrero Armas, 2009, p. 3). It is thus necessary to employ an educational strategy that prevents the medium from limiting itself to transmitting a more or less didactic and/or entertaining audio-visual message, and that guarantees a session with clear learning and correctly achieved objectives (Bravo Ramos, 1998, p. 42). Therefore, videos should not be used exclusively as an information tool (Martínez, 1991; Wijnker et al., 2019), which is one of their most traditional functions: that of transmitting content to students (Gimeno, 1988). They should also be a tool to motivate students to commit to the contents and activities that are later developed in class (Bravo Ramos, 2019; Choi & Johnson, 2005; Escudero Muñoz et al., 1989; Rodríguez-Almagro et al., 2021; Salinas, 1992); for the more effective development of knowledge by students, by allowing them to access updated information with the immediacy characteristic of recorded messages. As such, they are ideal in enabling students to analyze the world around them (Ellis & Childs, 1999; García Matamoros, 2014, p. 52; Herron et al., 2019), and in improving the teaching and learning strategies and methodologies developed by teachers and students (Cabero, 2002, 2005; Salinas, 1992; Stone, 1999). The use of video, therefore, facilitates the development of a learning process with four key components (Coyne et al., 2018; Pascual Segoviano, 2011):

(a) material support,

(b) a content,

(c) c) a symbolic way of representing information, and

(d) d) an educational objective or purpose.

Therefore, not every type of video is useful. When designing a video, it is essential to comply with some fundamental work guidelines, which can be grouped, as follows: what it is going to be used for, how it is going to be made and how it is going to be implemented (De la Fuente Sánchez et al., 2013, p. 189). There is no consensus regarding the development process (Cabero, 1994; Pascual Segoviano, 2011; Rodríguez et al., 2022; Sigüenza, 2004). However, taking as a reference point the studies that analyze the different phases involved in the development of a learning video, we can highlight the following:

(1) content selection, which relates to the identification of more or less difficult topics for students, and their selection for appearance,

(2) identification of the audience for the audio-visual material,

(3) 3) planning and timing, whereby a script, not exceeding five minutes in length is prepared (Sexton, 2006; Stone, 1999), and where both symbolic and narrative elements are introduced, etc.,

(4) 4) production, which relates to the design, using resources and technical knowledge, and

(5) 5) review, which verifies whether the video meets the pedagogical criteria informing design.

It should not be forgotten that the purpose of these videos has to be to implement a reference point for a collaborative space for audio-visual narrative, which remains functional beyond the duration of the project.

COLLABORATIVE WORK

In the 1980s, the word “groupware” arose in reference to work environments where participants in a group collaborate to achieve an objective. Collaboration involves small teams of students working together to achieve a common goal, but this does not mean that collaborative work consists only of distributing tasks. Nor is it synonymous with group work, since group work can include competition between, or even to the indifference of members. Collaborative work is characterized by positive interdependence. Collaborative work, therefore, consists of the contributions, which students make to their teammates in terms of experience, comments, suggestions and reflections on the work of other team members, and, in turn, hoping that ones’ teammates reciprocate. If it is to transform individual work into a richer product that integrates observations made by teammates, it is important to go beyond praising or agreeing with teammates’ work. Collaborative work therefore is characterized by

(1) competition through which students try to achieve goals, which are only achieved when the group as a whole achieves these,

(2) cooperation through which students exercise positive interdependence allowing personal and social growth,

(3) responsibility through which students have to take responsibility for their own, and the rest of the groups' learning (Glinz, 2005), and

(4) training and skills through which students acquire communication tools, reciprocal relationships, etc.

Collaborative learning is thus made up of teamwork to solve tasks posed by the teacher, applying communication for group work, with the teacher acting as coordinator of the process, intervening, so that all groups collaborate in equal fashion and solve any problems that may arise. Group members evaluate tasks that have been carried out individually, thus transforming them into a group contribution and a collaborative learning process. The group is not instructed as to the principles through which to reach the conclusions. Rather, they learn based on their own knowledge and by looking for concepts of which they are unaware. Through collaborative learning, they learn to search for information, to share it, to communicate and to self-evaluate collaboratively (Carrió Pastor, 2007, p. 2). It is a more flexible form of learning in which the teacher's role is relegated to coordinating and completing learning. It ceases to be central and assumes a peripheral role (Carrió Pastor, 2007, p. 2). From a social constructivist perspective, learning therefore supposes participation in a community. It should not be limited to the acquisition of knowledge in an isolated and individualized way by the students, but through formulas based on social participation (Del Moral Pérez & Villalustre Martínez, 2008, p. 74).

MATERIALS AND METHODS

This experiment is based on the co-design and co-creation of educational audio-visual materials produced by a group of students and professors from the Faculty of Political Science and Sociology of the Complutense University of Madrid. Specifically, five educational videos were produced that enabled university students to collaboratively design an educational project for the curriculum. Collaborative learning was guided by three parameters:

(1) intent, responding to a formal planning process in which the teachers designed and structured the activities to be carried out, based on a set of learning objectives,

(2) commitment, due to the fact that both teachers and students actively committed to working together in order to achieve the objectives set out; and

(3) collaboration–due to the modification of the teachers' methodology and the significant increase in student skills (Barkley et al., 2007).

Moreover, this activity has embraced a descriptive and critical-analytical approach, which has fostered the development of key issues explained during the theoretical classes of the respective subjects. This approach has meant that students have been able to reinforce and deepen the knowledge acquired in class, since it has forced them to reflect upon it, in order to select those aspects that were most relevant and should essentially be included in the video. This collaborative approach has also allowed students, not only to develop knowledge, but also to improve teamwork and communication skills, both essential for their future professional performance. This activity also resulted in a transfer of knowledge from the university to society. This consisted, on the one hand, on the preparation of educational videos by university students aimed at primary school students, and on the other, on their being viewed together with a series of educational activities, allowing the students of CEIP Severo Ochoa Primary School in Madrid to discover what Municipal Councils actually are. The videos were designed to be attractive for primary school students, encouraging them to understand what a council is, what its functions are, how its members are elected, and how citizens can participate in the decisions it makes. University students and teachers developed a practical workshop with primary school students, consisting of simulating a council plenary session, and focusing on how negotiating and decision making occurs within that space.

Participants

A group of students were selected, to develop this project, from three disciplines (The Spanish political system, public administration in Spain, decision-making institutions and structures) from joint degrees in law

and political science, joint degrees in public management and economic sciences, as well as degrees in public management and in political science. In total, 15 university students volunteered to take part in this activity.

In addition, a steering group of seven professors and a researcher, in political and administration science, from the "Instituto Complutense de Ciencia de la Administración" (ICCA) took part. Finally, the three groups of primary school students from CEIP Severo Ochoa in Madrid, selected by its director, were the recipients of the audio-visual materials.

Objectives

The objectives for the co-design of the pedagogical material were the following:

1. Implementing an innovative educational experience based on learning-by-doing.
2. Motivating students to study highly theoretical subjects, thus enabling higher-order learning.
3. Providing students with a series of tools for collaborative learning.
4. The preparation by university students of a series of teaching materials that facilitate their own learning, as well as that of primary school students, thus enhancing the possibility of knowledge transfer and the adaptation of learning to social reality.
5. Evaluation of the activity's impact and the satisfaction of the students producing these teaching materials.
6. Evaluation of the activity's impact and the satisfaction of CEIP Severo Ochoa primary school students in Getafe.

Resources

In order to carry out this activity, the university students were provided with the following resources:

1. Work standards: instructions for the development of project tasks, style standards, work structure, and dates for mid-term review and final delivery.
2. A list of groups, spokespersons and assigned topics.
3. A guide describing the use of generic search engines (e.g.,. Google), social bookmarks (e.g., Delicious), specific search engines (e.g., Academic Google, Computers in Libraries, Emerald, IUCAT (Indiana University Catalog), etc.), work repositories (slide share), videos (YouTube, Vimeo), etc. Students were encouraged to search for useful information in order to carry out course activities and to organize information management systems. The need for theoretical and practical content, using case studies to exemplify the inner workings of city councils, was highlighted.

Procedure

At the outset the project director met with the team of academics to inform them in detail about the proposed activity and the methodology to be used. In addition, a minimum level of content was established for the videos, as well as the number of students needed to develop each video. It was decided that the videos should cover the following questions: What is a Municipal Council and a municipality? What are municipal elections for? What are municipalities and what are they for? What are the functions of a municipality? How can citizens participate in local politics? It was decided that the videos would be no longer than three minutes and that groups of university students would have a maximum of four members. Finally, the modules within which the activity would be integrated were selected (The Spanish political system, public administration in Spain, institutions and decision structures), and a topic was assigned to each module (**Figure 1**).

Next, the teaching team explained the content of the pilot project in each module, in order to give university students holistic understanding of the activity beyond their specific tasks. All students were then invited to participate, although only a few decided to take up the opportunity. An initial meeting was then held between university teachers and students, with a view to establishing the appropriate coordination criteria, present guidelines for the improvement of tasks and provide instructions on how to constitute the groups: all with a view to achieving the final objectives (Dillenbourg, 2002; Guitert, 2011; Isotani et al., 2009). For example, students were made aware of the need to develop content using short, simple and easily comprehensible phrases, and to develop a strategy appropriate to making videos for a primary school audience. In addition,

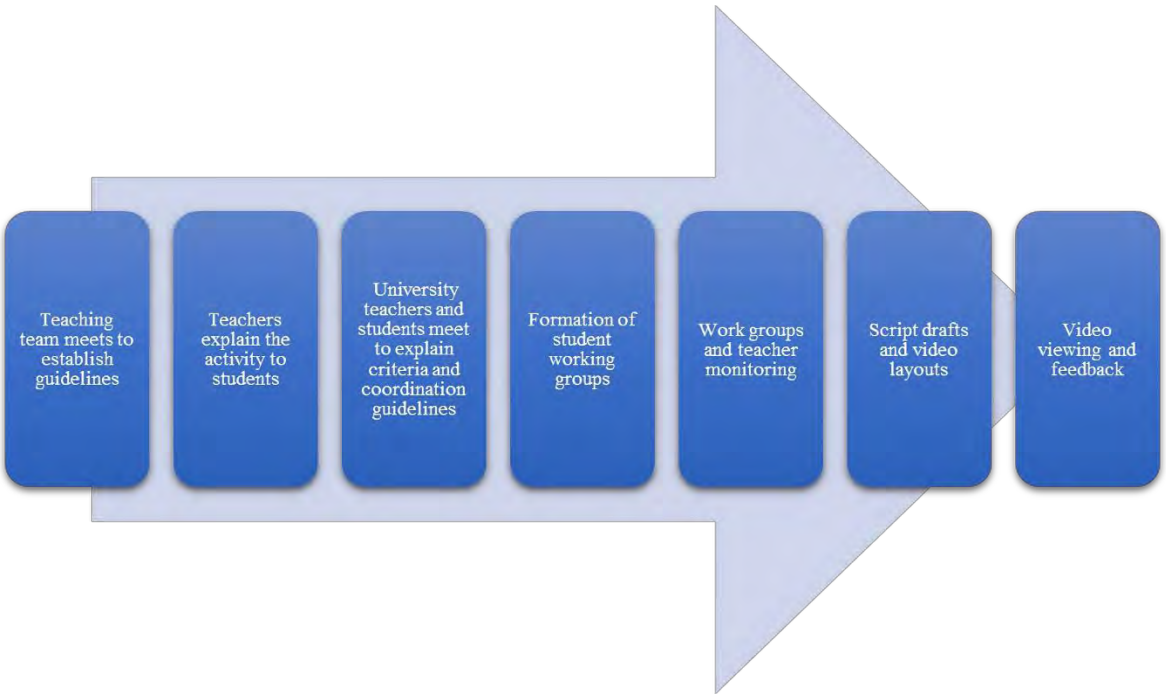

Figure 1. First phase of the process (Source: Authors' own elaboration)

university students were provided with group work guidelines; a writing guide to develop the content; guidance on appropriate tools for the task; a warning that personal reflections would be considered, and that each project would be checked for plagiarism. They decided that the expected timeframe to complete the videos would be fifteen days, with a progress meeting at the end of the first week and another to present the content at the end of the second week. Finally, a spokesperson was appointed for each group, university students were informed that they could organize themselves in order to maximize group participation and learning, but that groups could not have more than four members. The topics were then assigned to the groups.

A university teacher guided students through the process, with a view to ensuring minimum standards were met. Indeed, scholars have noted the need to create guidelines that help guide students to form groups and collaborate to complete the task (Dillenbourg & Hong, 2008; Haake & Pfister, 2010). In addition, the teacher was responsible for clarifying any doubts that might arise during the performance of this activity. To begin, group members had to define the objectives of the learning activity, which had to include the development of the topic, the approach (what, why, and how to communicate the topic to be taught), and establish the resources needed, as well as organizing activities distributing responsibilities, and setting the schedule. Subsequently, student groups searched for information relating to their tasks, and prepared a list of topics to be dealt with, which they shared with the teachers and their classmates in the progress meeting. The university teacher was, therefore, able to provide initial orientation and answer student questions, as well as guide the students towards addressing their topic effectively. The university students were informed that the platform used to carry out the work recorded the development of the process, allowing the teacher to evaluate the contributions made by each student, as well as the process as a whole, step by step, from beginning to end. This allowed the teacher to identify necessary corrections and to evaluate the work of each member of the group.

The groups then began working on their tasks, with designated tutors overseeing the development of the scripts via google drive. The students prepared an initial script for discussion with their tutors, establishing the best way to carry out the task and develop relevant content. A final script was produced and reviewed by all teachers and students in the ultimate presentation meeting. Once all the final scripts were received, they were sent to the ICCA researcher in charge of designing the video on the "animarker" video editor and Danvinci Resolve for post-production. A draft of each video was viewed and discussed by all the groups to verify its

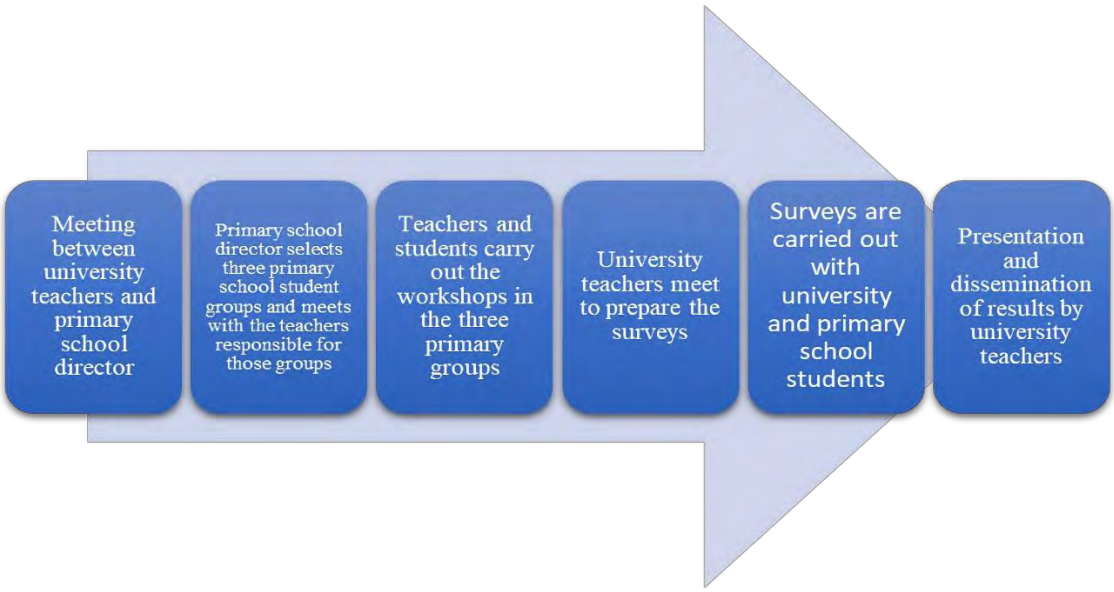

Figure 2. First and second phase of the process (Source: Authors' own elaboration)

pedagogical usefulness. Recommendations were made to achieve objectives more effectively, leading to redesigning the videos.

In the second phase, university academics contacted the Director of CEIP Severo Ochoa primary school in Getafe to launch the pilot project. It was agreed that three student groups from the school would take part, and that the Director would be responsible for explaining the project to the primary school teachers, who would then introduce it to their students.

Once the project was confirmed, university teachers and students visited the primary school to carry out the exercise with three groups of primary school students. The session had two key elements. First, the viewing of the videos made by the university students and, second, the simulation of a municipal plenary session, to illustrate how decisions are taken in local councils. Both activities were carried out by university students under the supervision of their teachers. Primary school teachers encouraged the participation of their students in both exercises. The intention was for primary school students to learn what a municipality is and how a municipal council works. With the information provided by the videos, they consolidated their knowledge by taking part in the role play of a plenary session (**Figure 2**).

In the third phase, the university teachers met to establish the variables and questions for the satisfaction survey, which was to be sent to university and primary school students. The ICCA researcher then designed and developed the digital platform for the survey and collected the data. The university teachers analyzed the results and proposed improvements to the process. Finally, the results were presented to the student participants, the primary school and at a conference on pedagogical innovation.

Indicators

The indicators used to measure and assess the activity were the following:

1. Collaborative and active learning: The following were evaluated: the continuity of work throughout the period, rather than solely towards the end of the commitment period; the involvement of all group members; the process for the revision of the video script; and the number of recommendations for improvement made during the evaluation.
2. Project content: Following questions were scored: search for information, content, clarity and syntax.
3. University student perception of and satisfaction with the process: Opinion poll data was collected in the form of a survey consisting of 14 questions divided into three dimensions: processes, impacts/results and satisfaction. The first had four analytical variables, the second five and the third, one (**Table 1**). A scale of 1-10 was established for all responses, one being slightly negative and 10 being very positive.

Table 1. Dimensions, variables, and questionnaire

Analytical variables	Questions
Processes	
Participation	• Rate your level of participation in the video making process. • Rate the degree of involvement and commitment to the activity by all group members. • Rate the degree of consensus in decision making about video design.
Organization	• Rate the extent to which tasks were planned in the group work process. • Rate the extent to which the group distributed tasks among its members and then shared the results.
Information/communication	• Rate the extent to which the members of the group exchanged information when carrying out the activity (video).
Easiness	• Rate extent to which it was easy to prepare teaching material for primary school students.
Impacts/results	
Learning effects	• Rate extent to which this activity has been useful to study & learn proposed contents. • Rate the extent to which the outcome is useful for school students to understand what a city council and a municipality are.
Cultural effects	• Rate the extent to which the preparation of the videos fostered and encouraged group organization and teamwork.
Effectiveness of group work	• Rate the extent to which the result of the group's work met its initial objective.
Social impact	• Rate the extent to which this activity contributes to transmitting knowledge from the university to society.
Satisfaction	
Overall satisfaction	• Rate your overall level of satisfaction with the activity. • Rate your enjoyment of the activity.

Table 2. Results from the evaluation of the activity by the students of CEIP Severo Ochoa

Variables	Questions
Processes	
Participation	• Rate the extent of your participation in the activity of the Complutense Institute of Administration Science "What is a municipal council and what is a municipality" • Rate to what extent you enjoyed taking part in this activity • Rate the extent to which all members of the group collaborated equally • Assess whether when decisions had to be made, you were all in agreement or had to vote
Information	• Rate the extent to which you consider the information provided by the university about w a municipality is to be clear and understandable
Reliability	• Rate degree to which you consider this activity to be useful in your learning or training
Continuity	• Assess whether you would like this activity to continue operating in your school in order t continue learning about issues relating to your municipality
Impacts/results	
Learning effects	• Rate the extent to which the video and activity helped improve your learning about what municipality and a council is
Satisfaction	• Rate the extent to which you enjoyed the activity
Overall satisfaction	• Rate the extent to which you liked the activity

4. Primary school student perception and satisfaction with the process: Opinion poll data was collected in the form of a survey and consisted of 10 questions divided into two dimensions: impacts/results and satisfaction. The first consisting of seven analytical variables and the second of three (**Table 2**). A scale of 1-10 for the responses was established, one being slightly negative and 10 being very positive.

ANALYSIS AND RESULTS

During this process, five videos were created and viewed by primary school students from three groups of CEIP Severo Ochoa Primary School in Getafe (**Figure 3** and **Table 3**). These videos were aimed at fulfilling three objectives: information (transmission of content to students), motivation (bringing learning closer to students' interests by capturing their attention), and knowledge (capturing information). Hence, these objectives were brief, functional, multidimensional, dynamic, and had expressive potential. Attempts were made to imbue the videos with an instructive and motivating character.

Figure 3. Images of links to five videos on YouTube (in Spanish) (Source: https://www.youtube.com/)

Table 3. Content and minimum duration of each video

Video	Duration	Minimum content
What is a municipality & what is a municipal council?	1:56 min.	Basic fundamentals of what a municipality & a city council are. Structure. Core features.
What are functions of municipal services?	1:01 min.	Basic functions of municipal services.
What are municipal elections for?	1:44 min.	Municipal electoral procedure. Right to active & passive suffrage. Effect of municipal elections.
How can I participate as a citizen in my municipal council or municipality?	1:39 min.	Forms of citizen participation in a city council or municipality. Elections. Citizen forums. Participatory budgets.
How does municipal council work & what is it for?	2:05 min.	Municipal council organization. Types of organization. Functioning.

This activity promoted educational innovation at the same time as it launched a process of deliberate and systematic change to achieve the objectives of the project more effectively. The creation of the videos facilitated collaboration between teachers and students, contributing, as Wheeler (2010) describes, to the transformation of the traditional roles of both actors. Whilst teachers provided regular feedback and assessed contributions, both individually and collectively, their focus was on programmatic change. They worked to increase participant motivation, coordinated with other teachers and classes, constantly followed up to allow for continuous student progress, effectively facilitated all group meetings, and encouraged students to collaborate with each other. They were taught to work collaboratively in a group, to iteratively deal with any issues that arose, to increase member participation, and to analyze and reflect on individual concepts, whilst working collaboratively with the group to promote self-learning and related skills (Allen et al., 2018). In this way, practice-based learning was developed with real examples that were implemented (Schank et al., 1999), helping students, on the one hand, to develop and consolidate a set of abilities and skills that would be useful to them in different environments. On the other hand, it helped teachers generate a collective learning methodology that could be transferred to other subjects.

The survey on the activity carried out and the degree of satisfaction has been a source of crucial information to better understand this complex process of learning and teaching (Gijbels et al., 2005). Hence the interest in knowing what the students' perception of this experience was, although, on many occasions, this issue has been ignored or underestimated (Padrón Napoles, 2009). In this case, we wanted to carry out this practice in order to determine the effect of the process, the impact of the results and the satisfaction of the students. In short, the pedagogical and learning usefulness with which this training action was proposed has been fulfilled.

Table 1. Results of the activity evaluation by dimensions, variables and indicators

Dimensions	Variables	Indicators	Median
Processes	Participation	Degree of participation	8.5
		Commitment of group members	8.6
		Consensus in decision making	7.5
	Organization	Group work planning	8.7
		Planning and distribution of tasks	8.6
	Information/communication	Information exchange	8.7
	Easiness	Ease of making the video	8.4
Impact & results	Effects on learning	Usefulness for studying the subject	9.1
		Usefulness of this activity for primary school students	9.0
	Cultural effects	Promotes group organization and teamwork	8.5
	Group work efficiency	Fulfilment of the initial objectives	8.9
	Social impact	Knowledge transfer from the University to Society	8.6
Satisfaction	Overall satisfaction	Overall satisfaction with the activity	9.1
		Activity enjoyment	8.7

Table 5. Results of the activity evaluation by CEIP Severo Ochoa Primary School students

Dimensions	Variables	Indicators	Average
Processes	Participation	Rate your level of participation in the activity of the Complutense Institute of Administration Science "What is a municipal council & what is a municipality"	6.9
		Rate if you liked participating in this activity	7.6
		Rate the extent to which when working in a group with your classmates you all collaborated equally	7.1
		Rate the extent to which when you had to decide something, all of you agreed or had to vote	6.5
	Information	Rate the extent to which the information provided by the University on what a municipality and a City Council was clear and understandable to you	7.8
	Reliability	Rate the extent to which you consider this activity useful in your learning or training	7.0
	Continuity	Rate extent to which you would like this activity to continue in your school to continue learning about issues related to your municipality	7.2
Impact & results	Learning effects	Rate the extent to which the video and the class activity improved your learning about what a municipality and a Municipal Council are	6.5
	Satisfaction	Rate the extent to which you enjoyed the activity	7.4
	Overall satisfaction	Rate the extent to which you liked the activity	7.2

As can be seen in **Table 4**, the results obtained in the survey in all aspects, and their respective variables, show a positive assessment from the participants in this activity. This implies that the initial objectives of this activity have been fulfilled. So much so that, according to the results of the survey, only the level of consensus in decision-making is below eight points, which suggests that the group's work was influenced by the leadership of the spokesperson, since this score contrasts with the exchange of information between members of the group, obtaining a score of 8.7. Both the organization of the group, as well as the ease of the activity, were ideal.

With regard to the impact and results of the activity, a slightly higher score is obtained than the previous dimension. The students have stated that this activity did not only contribute to their learning about the subject but is also highly useful for primary school students. Likewise, it encourages group organization and group work and the fulfilment of the initial objective. In addition, this activity contributes to the transmission of knowledge from the university to society. And, finally, the overall satisfaction of the students with this activity was very high (9.1 out of 10), without forgetting that not only have they learned, but they have also enjoyed doing so.

Another issue relates to the results obtained in the evaluation of CEIP Severo Ochoa primary school students. As far as these are concerned, we have focused our analysis on two aspects, the process and the impact/results. Primary school students showed satisfaction with participation in the activity stating they liked working in a group, hence both indicators obtained a high average score, exceeding seven points (**Table 5**).

This is reinforced by the fact that there was a high satisfaction score of 7.2 from students who would like the activity to continue in their school, in order to learn more about issues relating to their municipality. On the same lines, a high percentage of primary school students showed that they enjoyed and liked the activity, with an average of 7.4 and 7.2 points respectively.

Primary school students valued the information provided alongside the activity very positively. This indicator achieved the best score, at 7.8. However, this result contrasts with that of the learning effects indicator, where the students rate their learning in the video-projects. This means that they place greater value on practical activities in class to reinforce their knowledge. However, and despite this, they consider that this activity was useful for their learning and training, valuing it at seven. Therefore, when projecting the videos, it will only be necessary to make a few small readjustments in order to increase their participation in this activity. Thus, we will be able to fully comply with the objectives set concerning primary schools, helping the students in these centers to learn what a municipality and a city council are, and their significance.

CONCLUSIONS

This activity aimed, firstly, to integrate students as agents in the teaching-learning process, by granting them the function of creators, within the remit of a subject area and certain learning objectives. As such, university students participated actively in the acquisition of skills, knowledge, abilities and competences in the creation of audio-visual materials. In addition, thanks to this activity, university students have been able to carry out a collective project that involves their learning, as well as that of other students.

From a pedagogical point of view, important audio-visual resources, or materials, have been created in order for primary school students to learn what a municipality is. Besides, these materials are useful for the open and plural training environment offered by the internet or hypermedia platforms, whilst also serving to explore new pedagogical ideas relating to the process of creating teaching-learning activities.

The students also learned to work in groups and solve problems, encouraging initiative, autonomy and interest in the activity, as well as the content, associated with it. The activity was not only intended to improve the pace of learning, but also to develop capacities related to a new way of acquiring, creating and sharing knowledge in an information society (Adell, 2007). We conclude that these objectives have been met.

The students acquired skills useful for the future They expanded their knowledge beyond the theoretical content of subjects studied and modified their role, changing from passive to active actors, by creating tools that will be useful for others. This is precisely the main innovation of the activity: the students, rather than teachers, were the co-designers and co-producers of teaching materials, learning during the very process of creation. At the same time, teachers transformed their traditional role, introducing new methodologies to generate new learning styles, more in line with the pedagogical model underpinning the activity. They engaged with their students in a different way and became participants in the creation of teaching materials. There is no doubt that this experience has been an educational innovation because, it is not only original and novel, but it also improves the efficiency of the teaching-learning process.

However, some obstacles have also been detected. For example, all students expressed the feeling of not knowing how to collaborate effectively (Le et al., 2018) at the beginning of group work. Collaboration skill deficits was a problem, from accepting opposing viewpoints, providing detailed explanations, giving and receiving help, to negotiating. Moreover, not all students have the same ICT skills, making it difficult to upload and review contributions. In an attempt to resolve this problem, the support of a technician was provided, tasked with handling queries and doubts.

Another such example relates to the autonomy granted to the groups to distribute the skills and operate the working group. This autonomy was not used equally by all groups. Teachers had to pay more attention to the groups with less capacity in this regard. To increase the probability of successful autonomous learning, students received instructions on the operation of the processes, strategies and the use of the specific conditions of the environment and the specific demands of the task to be solved (Lobato, 2006). It was thus possible to verify the pedagogical potential of collaborative learning and its impact, both in generating knowledge, as well as in developing key competencies for future professional graduates from our university.

In relation to video viewing by primary school students, we saw that they valued the practical activities carried out with them in class, to a greater degree than viewing the videos, a conclusion based on the score obtained in the learning effects indicator. On this basis, some future modifications are planned, especially in all those measures, which allow us to ensure that students take an active part in the didactic benefits of the videos. For example, before starting the visualization, teachers will share some key questions on the content of the video, to ensure students have an overview. Students will answer these questions orally. In addition, in order to ensure that students have a more detailed understanding, a script, setting out the most important details, will be shared with them. Moreover, in order to further help deepen understanding of the videos' content and their learning, the teachers will freeze images at key moments, in order to make clarifications and ask students questions about the particular content. Given that interactivity can improve learning, because it can highlight the knowledge and skills of the student, while assisting meaningful learning (Boster et al., 2007; Cabero et al., 2005; Puntambekar et al., 2003; Rouet, 2006), students may be asked to explain some aspect of the video to their classmates. However, despite these small readjustments, the activity was considered by the students to contribute positively to their learning and training.

In any case, this experience can be considered innovative because it not only serves to reinforce learning by students taking the different modules involved, but it also serves as a motivation for them, presupposing a change in student-teacher interaction, and, therefore, in the teaching method. Finally, this activity has a positive social impact. It contributes to promoting learning by other citizens, in this case primary school students, thus transferring knowledge from the university to broader society. We, therefore, consider that the objectives set at the outset of this activity, have been to a large extent met.

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