



# Blogging as an Instrument for Co-Creation and Collaborative Learning in University Education

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## ABSTRACT

A number of university educators decided to implement an experience “pilot”: the co-creation of a blog with students in which they disseminated some topics of the subject “Spanish political system”, taken as part of a joint honors degree in law and political science from the Faculty of Political Sciences and Sociology of the Complutense University of Madrid. Four professors and 42 students participated in this experience. In the first phase, the students, under the supervision of the professors, collaboratively developed each of the assigned topics. To do so, the professors explained the dynamics, provided them with a series of resources, trained them in collaborative work techniques, supervised the whole process, and resolved all their doubts. In a second phase, they jointly evaluated one subject to see the possible deviations that had occurred with respect to the initial model, in order to be able to correct them in the rest. In addition, the professors conducted a student survey to measure teamwork and the impact of the blog, the results of which were shared with the participants and at specialized conferences. Thanks, this pilot program has shown that blogging is an important technological tool for the transformation and improvement of teaching and learning processes, and that it encourages the active role of students and promotes their collaborative learning, generating knowledge with and for students.

**Keywords:** university innovation, blogging, co-creation, collaborative learning

## INTRODUCTION

European and Spanish university institutions within the European Higher Education Area (EHEA) urge universities to migrate to new teaching paradigms, focused on autonomous Life Long Learning (LLL) and on the active, leading role of students in the learning process (Álvarez et al., 2008). Pedagogical approaches based on the experience of “learning by doing” (Schank et al., 1999) have become a fundamental reference point within this modernization of university education. As such, contemporary education must focus on improving student learning through methodologies, which allow, inter alia (Ministry of Education, Culture and Sports, 2003): the achievement of training objectives; an increase in the level of student satisfaction and motivation; a move towards a new working style for teachers, fostering a more coordinated and cooperative teaching practices; the promotion of professional training providing basic skills for professional performance; giving

the student a greater role in the learning process; promoting collaborative and competency-based work; and the application of learning tools and didactic materials to facilitate autonomous learning and continuous assessment.

In short, it is a constructivist-learning model based on a teaching process centered on the student body and, in which the role of the educator consists fundamentally of supporting and guiding their learning (Concheiro Coello, 2011, p. 3). New technologies have become the main strategic resource in establishing this innovative approach, especially tools originating with the development of the Internet. Specifically, Web 2.0, also referred to as “collaborative”, is characterized by its social and participatory nature being a workspace for group activity, which allows the creation, collaboration and sharing of knowledge with others. Therefore, it is not surprising that this instrument or means of participation, communication, and teamwork (Dapia Conde & Escudero Cid, 2014, p. 56) has been incorporated into the educational field since the 1990's. However, the use of technology alone to innovate and improve university teaching, is not sufficient, collaborative, and cooperative methodologies must also be added (Hernández et al., 2014), which promote the design of new learning environments (Levis, 2011). Therefore, innovation in university teaching will depend upon the approach, objectives, and existing methodology in each educational program (Leslie, 2003), as well as the most appropriate technological tool, according to context and objectives, being applied.

Some authors (Aguaded & López, 2009; Durán, 2011; García Martín & García Martín, 2021; Gutiérrez de la Concepción, 2017; Michailidis et al., 2022; Murga et al., 2008; Olutunu Daramola, 2022; Sim & Hew, 2010; Verástegui Escolano & Geribaldi Doldán, 2021; Williams & Jacobs, 2004; Worthington et al., 2018) have pointed out that blogs can be the ideal instrument to adapt university teaching to the current European convergence framework, fundamentally because they stimulate the active role of students and favor the evaluation of their own practice (Dapia Conde & Escudero Cid, 2014, p. 56). In addition, these instruments offer multiple advantages and benefits. Amongst others, they facilitate the understanding of the topics of the teaching program, thus favoring the consolidation of knowledge (Bolisani et al., 2022; Coutinho, 2007; Ellison & Wu, 2008); they foster intellectual exchange and debate (William & Jacobs, 2004; Xie & Sharma, 2005; Zeng & Harris, 2005); they allow more reflective thinking and writing (Lara, 2005; Park et al., 2022; Xie et al., 2008); and they develop skills for collaborative work (García & Suárez, 2011; James et al., 2022).

The value blogs provide for students can be summarized in three dimensions: the “knowing” dimension because they help the assimilation of theoretical and technical knowledge; the “knowing how to act” dimension because they provide a series of capacities and abilities to solve certain problems which may arise in a future working life; and the “knowing to how be” dimension because they contribute to developing proactive and decisive attitudes in order to achieve the proposed objectives (Blanco García, 2016, p. 37), *author's translation in inverted commas*.

Considering the potential blogs have to promote innovative processes of co-creation and collaborative learning, a series of educationist from the Faculty of Political Sciences and Sociology of the Complutense University of Madrid decided to use them when teaching a module on “the Spanish political system” as part of a joint honors degree in law and political science. Besides, this initiative also formed part of a teaching innovation project called: “The impact of collaborative learning on student academic performance: A wiki and blog for political science and administration”.

## **BLOGGING AS A TOOL FOR CO-CREATION AND COLLABORATIVE LEARNING**

The Web 2.0, and especially edublogs, have become a strategic tool in the transformation of the teaching and learning model. These technologies offer fundamental support to pedagogy (Cabero et al., 2009), which, in turn, contributes to the following: the generation of a more accessible learning modality because a virtual learning space is constituted which enlarges the spatio-temporal limits of the classroom (Salinas & Viticcioli, 2008); the development of continuous student evaluation and co-evaluation (Farmer et al., 2008; Torre-Cajas et al., 2021); provide autonomy for students (Abd Rahman et al., 2022; Bhattacharya & Chauhan, 2010); and favoring reflection and contrast of ideas (William & Jacobs, 2004; Xie & Shamra, 2005; Zeng & Harris, 2005) when opening participation channels (Ferdig & Trammel, 2004). In addition, the group blog (Lara, 2005) allows students to continuously co-create and consolidate knowledge of a given issue and, consequently, to learn “with,” “from,” and “for” others (Achterman, 2006; Corujo-Vélez, 2021; Cuhadar & Kuzu, 2010; Salinas &

Viticcioli, 2008). It contributes to learning by actively involving the students in the process of their own learning. On the same lines, different investigations raise the different possibilities for blogs as facilitators and enhancers of collaborative learning (Álvarez & Bassa, 2013; Álvarez et al., 2005; Echazarreta et al., 2009; Fernández & Valverde, 2014; Levis, 2011; Sim & Hew, 2010; Williams & Jacobs, 2004; etc.). However, it is also true that the real effectiveness of edublogs as a learning tool will depend on the motivation and training of the teacher, on the importance and real value that the education system gives to innovation and, of course, on the efforts dedicated to improving the necessary resources (Dapia Conde & Escudero Cid, 2014, p. 69).

Considering the relevance of blogs to the promotion of collaborative learning, the increase in recent years, in the university curriculum, of the use of the cocreation approach is not surprising (Lubicz-Nawrocka & Bovill, 2021). Specifically, the concept of co-creation (used in this article) is based on the extensive existing academic literature in the field of public management (Alford, 2002; Bason, 2010; Bovaird et al., 2019; Brandsen & Honingh, 2018; Eriksson, 2019; Osborne, 2019; among others). Co-creation can be roughly defined as those processes in which new ideas are created with people and not for people (Bason, 2010; Prahalad & Ramaswamy, 2004) and creating value among interested individuals and participants in these processes in a joint and evolutionary fashion (Ramaswamy & Ozca, 2014). The transfer of this concept to the field of university education necessarily refers to the processes of knowledge generation with students and not for students, in which teachers and students interact, engage in dialogue and exchange opinions, to jointly create ideas and agreements that add value to the teaching and learning model.

Co-creation is, therefore, closely related to collaboration, since its development depends on having previously generated face-to-face, or virtual, collaborative spaces (such as blogs), which facilitate interaction between students and teachers to jointly develop new knowledge. In addition, co-creation not only adds value to results, by producing ideas and knowledge, but also value for use, since it helps to transmit new values among the participants in these processes, such as sense of commitment and responsibility, among others. From this point of view, the co-creation model differs from the co-production model, because, although both approaches advocate participatory and collaborative methodologies, co-production considers teachers and students as added, or added elements, in the process of teaching, so that each actor interacts and fits into the chain of production or transmission of knowledge, or even participates in previous stages of production design, but within the logic of production-consumption. However, the concept of co-creation involves a process of interrelation between the student body and the teaching staff in which they share the power of decision, negotiation, implementation, and evaluation. This dynamic occurs within and between groups (classroom), but connects with the social ecosystem, providing a contextual value that adds in new resources, actors, and values from the social environment. In short, co-creation not only helps to change the teaching and learning processes, but also allows the participants to be transformed (Lubicz-Nawrocka & Bovill, 2021) within a given context.

However, it must be pointed out that there are also a series of difficulties when it comes to implementing co-creation processes and collaborative learning. On the one hand, because the educational system tends mainly to favor individual competence and achievement. Due to this, students tend to be reluctant to participate in collaborative processes and thus they are not willing, a priori, to change the dominant educational model, focused on knowledge transmission, for that of one focused on the “building” of knowledge. Furthermore, not everyone consciously and positively shares resources, media, networks, contexts, or discourses, which in itself generates differences in learning and limits the impact of co-creation.

On the other hand, we must not forget that educational quality does not reside in technological innovation, but in the teaching and learning process triggered (Levis, 2011). Therefore, in order to take full advantage of the potential of ICT, new ways of learning and teaching have to be developed. This involves a pedagogical project on the part of teachers (analysis to determine the dynamics to be used in the classroom, modes of interaction between teachers and students, dynamization of the experience, etc.) This is something that does not always happen. Despite the above, edublogs have an intrinsic potential to revolutionize the organizational structure of traditional teaching environments (Baumgarther, 2004) and to innovate learning processes, because they are instruments that favor collaboration (amongst students, amongst the teachers, and between teachers and students) and co-creation in pursuit of the generation of knowledge.

## METHODOLOGY

This article involves a “pilot” project consisting of the co-creation of a blog by students of the “Spanish political system”, a module forming part of the Joint honors degree in law and political science of the Faculty of Political Sciences and Sociology at the Complutense University of Madrid. In this blog, the student body had to provide a short dissertation on the topics and questions addressed in the theoretical classes. This work was carried out in groups of six people, who had to collaboratively design an educational project to be integrated in the curriculum (see the section procedure). In this way, a new learning model was generated that increased the students’ potential, because it took place in a shared context that allowed the development of group knowledge (Parker & Chao, 2007). Furthermore, this collaborative learning was based on three parameters:

1. Intentional responding to a formal planning process in which teachers designed and structured the activities to be carried out based on a set of learning objectives;
2. Committed in that the teaching staff and the students took responsibility for working together to achieve the objectives set; and
3. Collaborative- in that the teaching methodology was modified and the competencies of the students increased significantly (Barkley et al., 2007).

Finally, to check the impact of the activity, all participating students were surveyed, and the results analyzed.

In addition, it should be noted the objectives of this pilot program were to:

1. Motivate students studying a subject with high theoretical content.
2. Promote active and collaborative learning through a constructivist method.
3. Involve students in personal learning projects.
4. Develop a tool and a methodology which would facilitate the learning of those students, and anyone interested in accessing the blog and acquiring knowledge about the subjects disseminated.
5. Develop transversal skills: inter alia teamwork, the capacity for reflection, critical thinking, communication, interaction, and cooperation through practice
6. Enhance the ability of university students to transfer and adapt knowledge and learning into social reality.
7. Provide students with a real audience, giving visibility to their work.
8. Evaluate the activity and satisfaction of the students who co-created the didactic materials.
9. Assess the usefulness of blogging as an accessible medium and as a source of learning and motivation for university students.

### Participants

The participants in this activity were 42 students within the “Spanish political system” module, from the Joint honors degree in law and political science of the Complutense University of Madrid, and this assignment was integrated into the modules design. Therefore, the sample for this pilot experience is 42 students. Moreover, the four teachers who authored this article participated in the process, playing an active role in programming the activities to be carried out by each group and carrying out the control and monitoring of such for example, the correction of the topics the students elaborated.

### Objectives

The objectives of this activity:

1. To promote new methodological methods that involve the students more in their learning and, therefore, favor their motivation.
2. Promote and provide students with the necessary tools to enable them to work collaboratively, something that will be of great importance for their subsequent incorporation into the labor market.
3. To evaluate the collaborative work of each group, its content and the satisfaction of the students.

4. Contribute to the transfer of knowledge to society through the creation of a blog that can be consulted by anyone.

## Resources

The resources made available to the students to carry out this experience “pilot” were the following:

1. Normative resources (the rules of the game). Group work rules and instructions for developing project tasks (e.g., style rules, work structure, etc.).
2. Training resources. Setting up a workshop for the student-participants to learn to work collaboratively in a group and to become involved in the innovative experience.
3. Informational resources. The students were provided with various types of information. Firstly, the files for each topic outlining the topic to be developed by each group, as well as a news item linked to each one of them. Secondly, an informative guide on generic search engines (e.g., Google), social bookmarks (e.g., Delicious), specific search engines (e.g., Academic Google, Computers in Libraries, Emerald, etc.), work repositories (e.g. SlideShare), videos (e.g., YouTube, Vimeo), etc. In addition, students were encouraged to seek out useful information for carrying out the course activities and to organize systems to manage this information.
4. Technological resource. The blog together with the corresponding link in which the practice was to be developed: <https://sistemapoliticoespanol.wordpress.com/>.

## Procedure

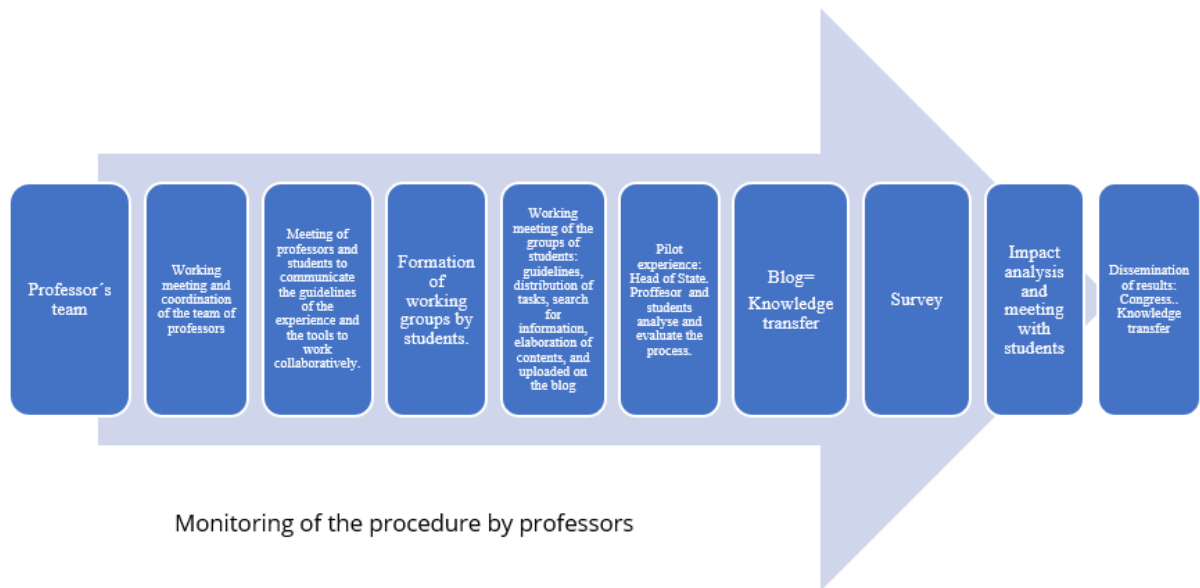
In an initial session, the project director met with the remaining participating professor and informed them in detail of the learning activity's characteristics and methodology. In addition, the project leader and professors agreed on the issues to be addressed and the appropriate number of students to make up each group. It was decided that the blog entries would be the following: political and social actors, national parliament, government, head of state, territorial organization, judiciary, and electoral system and behavior. In addition, were developed at this meeting to evaluate the group work and the impact of the blog. In a second session, the professors met the students to inform them of the work and coordination guidelines and provide them with a range of resources. After explaining each topic on the subject's syllabus, the teachers would use the virtual campus to share a file with the students in which seven topics, and a news item on the subject, was presented related to each of them.

The practice would be divided into two parts: the first, in which each topic would be assigned to a group, so that they could elaborate their explanation of it; and the second, in which each group would have to review the work prepared by the other groups, to provide them with recommendations or proposals for improvement. Additionally, the students were instructed to write their text using clear and simple language, so that the blog could serve as material for the study of the subject, whilst also being accessible for any citizen wishing to comprehend the essential aspects of the structure of the Spanish political system. The students were then instructed to form groups of six, since a larger number would limit the contributions of their members and a smaller number would reduce the variety of interactions (Beal, 1964). The groups were self-organized in order to maximize the learning and commitment of their members. In the end, seven groups of six were formed (**Figure 1**).

In the first group meeting, students were given some indication of how to guide group work, as well as instructions on the style in which the assigned theme should be developed. In addition, they were instructed on the instruments they should use to carry out this task, indicating that their personal reflections would be considered and that each project would be reviewed for plagiarism.

Throughout the process, the professors provided guidance to their students to ensure their projects reached the expected quality levels. This was principally because it was necessary to create collaboration guidelines, which would help to guide students in the areas of group formation, interaction, and collaboration around the proposed task (Dillenbourg & Hong, 2008, Haake & Pfister, 2010). In addition, the teachers oversaw clarifying any doubts arising in the implementation process.

In order to begin, the members of each group had to firstly define the objectives of the learning activity, including the development of the topic, the focus (what, why and how to communicate the topic to be taught),



**Figure 1.** Process of the pilot experience

the establishment of appropriate resources and the organization of activities and responsibilities. Next, the group members had to find the necessary information to enable them to start working on their topic and give it content. Finally, each group inserted their text (the content of each topic) using an application through the virtual campus of the module. Subsequently, the teachers uploaded each text to the blog, so that the groups could act as co-evaluators, reviewing and correcting the rest of their classmates' topics. Only then were, the teachers finally in charge of supervising and evaluating the work carried out by each group.

Having addressed the topic "head of state and government", a second meeting was held between the teachers and the students to evaluate the activity, as well as to highlight the difficulties and problems that had arisen due to internal group dynamics. The rationale for this meeting was to enable mistakes and deviations to be corrected in good time and to propose solutions for them, to guarantee the success of the exercise. Finally, this innovative teaching and learning practice was evaluated through a survey, accessed through the module website, which permitted an assessment of the quality of the group and collaborative work process, as well as the impacts of the experience. These results were analyzed by the teaching staff and presented to the students. In addition, the professors presented the results at specialized educational congresses with a double objective:

1. to improve the process thanks to the exchange of opinions with other professors, and
2. to contribute to making this experience known to professors and professionals.

### Dimensions and Indicators

The following dimensions and indicators were used to measure and value this experience educational:

1. Collaborative and active learning: A continuous evaluation of the activity was carried throughout the process; the involvement of all members of the group; the review of the preparation and the recommendations for improvement made by the other groups.
2. Content of activities: The following aspects were scored in the elaboration of each topic by the groups: search for information, content, clarity, and syntax. Based on this assessment, each group obtained a score for the practices delivered.
3. Collaborative/group work: This dimension aimed to establish how the group work process was carried out, based on the opinion of the students, and their overall level of satisfaction thereof. To this end, different analytical variables were identified and applied (**Table 1**): organization/planning, measures the level of planning of the group work process; information/communication, assesses how the information search and exchange process was developed by the group, as well as the use of information resources provided by the teaching staff; involvement in the group, measures the degree

**Table 1.** Evaluation of collaborative/group work: Variables and questions

Analytical variables	Questions
Planning & organization	<ul style="list-style-type: none"> <li>Assess group task planning</li> <li>Assess the distribution of tasks amongst groups and sharing of results</li> <li>Assess the establishment of group roles</li> </ul>
Information & communication	<ul style="list-style-type: none"> <li>Assess the exchange of information amongst group members</li> <li>Assess utility of informational &amp; educational resources made available by teachers</li> <li>Assess the extent to which group members contributed to search for information</li> </ul>
Involvement in group	<ul style="list-style-type: none"> <li>Assess whether all students have worked equally within each group</li> <li>Assess whether the members of your group were committed to the group</li> </ul>
Decision making	<ul style="list-style-type: none"> <li>Assess the degree of consensus in group decision-making</li> <li>Assess the degree of disagreement within the group</li> </ul>
Effectiveness	<ul style="list-style-type: none"> <li>Assess whether the group has met initial objectives</li> </ul>
Efficiency	<ul style="list-style-type: none"> <li>Assess group efficiency</li> </ul>

Note. Source: Authors' elaboration

**Table 2.** Evaluation of effects/impacts of the blog: Variables and questions

Analytical variables	Questions
Cultural effects: Development of collaborative & group working	<ul style="list-style-type: none"> <li>Assess whether the development of the blog has fostered collaborative work &amp; fostered group organization</li> </ul>
Effects on student learning	<ul style="list-style-type: none"> <li>Evaluate whether the blog activity has helped you to learn the contents of the subject</li> <li>Assess whether the blog has been useful for studying &amp; preparing for the exam</li> <li>Assess whether it has been positive for your learning to participate in the correction of the content &amp; receive feedback from your colleagues</li> </ul>
Impact on other academic courses/knowledge transfer	<ul style="list-style-type: none"> <li>Assess whether you would recommend repeating this activity in future courses</li> </ul>
Social impact	<ul style="list-style-type: none"> <li>Assess whether the blog content is useful for anyone interested in acquiring a basic understanding of the topics it addresses</li> </ul>

Note. Source: Authors' elaboration

of commitment and involvement of the participants in the collaborative process; decision-making, assesses how the decision-making processes developed in the group; effectiveness, or degree of achievement of the planned objectives; and efficiency, or how the resources used by the group contributed to achieving the objectives. Each variable was evaluated through a series of questions, using response scales from 1 to 10, with 1 being very unsatisfied and 10 very satisfied. The total score for each indicator is the average of all responses.

- The blog: The objective of this dimension was to assess participant perceptions regarding the effects and impacts generated by blogging. Four variables were identified: the cultural effects or the impacts of the activity upon the transformation of the traditional teaching and learning model, and in the development of a collaborative and group work model; the effects on learning or the impact of blogging on student participants; the impact on the transfer of experience in university teaching or whether the innovation should be repeated in other academic courses; and the social impact or whether the content of the blog can contribute knowledge to society. As can be seen in [Table 2](#), to measure these variables, a series of questions relating to each of them were developed. Participants' responses were ranked on a scale of 1 to 10, where 1 is very dissatisfied and 10 is very satisfied. As above, the total score for each indicator is the average of all responses.

## RESULTS

The WordPress app was used to host the blog, since it met all the necessary characteristics, and it was free to use. It should not be forgotten that edublogs are websites that have a specifically educational content and that, therefore, are used as a support for the teaching and learning processes. The four pillars of education,



**Figure 2.** Covers of blog

proposed by Delors (1996) can be applied to them: learn to be, to know, to do and to live together. Our blog entitled: "Get to know the Spanish political system" is no exception. A blog that is made up of 28 different entries that are related to the following topics: head of state, parliament, government, judiciary, and territorial organization (**Figure 2**).

This blog had three objectives:

1. to inform (transmit content to students),
2. to motivate (bring learning closer to the interests of students and capture their attention), and
3. to provide knowledge (capture the information).

Furthermore, considering that this tool also involved transferring knowledge to society, all contributions to the virtual space had to be brief, simple, functional, clear, multidimensional, and so on. In this way, the social utility of the blog was enhanced, because access was open to anyone interested in consulting any aspect of the Spanish political system.

At the same time, this activity was capable of promoting educational innovation. A process of deliberate and systematic change has been set in motion to achieve the objectives of this project more effectively. The creation of the blog has facilitated collaborative working between teachers and their students, contributing, as described by Wheeler (2010), to the transformation of the traditional roles of both actors. For example, the teachers have promoted new methodologies trying to favor capacity building amongst students; student motivation (Chain et al., 2008), the stimulation of continuous attention to the subject; and the continuous involvement of students in the construction of their own learning (Molina Alventosa et al., 2015, p. 24), teaching them to work in a collaborative group, amongst other issues.

On the other hand, the students intoned an active role, reflecting and contrasting their own ideas and those of others (Bohórquez, 2008); promoting their autonomy (Bhattacharya & Chauhan, 2010); increasing their social skills (learning to live together) in the construction of knowledge; and consolidating and acquiring content by promoting a greater understanding of the subject (Salinas & Viticcioni, 2008). To summarize the teacher ceased to be a mere transmitter of knowledge and became a facilitator and mediator of the teaching and learning processes, increasing ties between the teacher and the students; and students took an active role in their own learning, improving their skills and abilities.

The experience also promoted collaborative learning, allowing co-creation, and sharing of knowledge with others, as described by various specialists in the field (Álvarez & Bassa, 2013; Álvarez et al., 2005; Echazarreta et al., 2009; Fernández & Valverde, 2014; Hernández et al., 2014; amongst others).

The surveys were a crucial source of information in relation to the results of this university innovation initiative. Despite the fact that this research technique has been ignored or underestimated in other studies (Padrón Nápoles, 2009), it has enabled teachers to better understand this complex learning and teaching



**Table 3.** Results of group/collaborative work evaluation

Analytical variables	Questions	Score
Planning & organization	Assess group task planning	7.6
	Assess the distribution of tasks amongst groups and sharing of results	6.9
	Assess the establishment of group roles	5.1
Information & communication	Assess the exchange of information amongst group members	7.5
	Assess utility of informational & educational resources made available by teachers	7
	Assess the extent to which group members contributed to the search for information	6.8
Involvement in group	Assess whether all students have worked equally within each group	5.9
	Assess whether the members of your group were committed to the group	6.8
Decision making	Assess the degree of consensus in group decision-making	7.2
	Assess the degree of disagreement within the group	4.5
Effectiveness	Assess whether the group has met initial objectives	7.9
Efficiency	Assess group efficiency	7.5

Note. Source: Authors' elaboration

process (Gijbels et al., 2005; Struyven et al., 2005). The design and application of the survey has contributed to the understanding of the students' perception of this experience, assessing their level of satisfaction with group and collaborative work, as well as their opinion regarding the impacts or effects of the blog.

In relation to the results of the evaluation of collaborative/group work, **Table 3** shows how the satisfaction index exceeded 6.5 in most questions. The analysis by variables makes it possible to highlight that effectiveness and efficiency obtained very good results, with a 7.9 level of satisfaction in the first case and a 7.5 in the second. Therefore, a large part of the student participants considers the group and collaborative work to have achieved its purpose or to have achieved its initial objectives and, in addition, to have also efficient. However, the main problems detected relate to some aspects of commitment to group work and the distribution of roles within the collaborative process, an indicator corresponding to the organization and planning process. Despite this, the planning of tasks within the group obtained a high score with an average of 7.6 points, a figure that differs from the 5.1 points awarded to the question related to the roles established within the group. This confirms that the relationships within the group were based on emotional ties and friendship, which is corroborated by observing the results attained in the group effectiveness variable. Given that, a priori, with certain deficiencies in the performance of the work by all members of the group it is difficult for effectiveness to be high; in other words, a true commitment to contribute to the common goal.

On the other hand, the results obtained in the questions on information exchange, decision-making by consensus, or group work, obtained scores above six. This implies that the relationship between the members of the group was positive, and that the students who contributed the least, on the other hand, did intervene in decision-making and in the exchange of information. The most relevant data in this respect is the level of commitment, which is almost one point above the average obtained from the question on the share of work. It is incompatible that the first has a higher mean than the second. This can only be due to the fact that by allowing the students to self-organize, friendship prevailed as a criterion for selecting group members, and not another basic aspect such as their ability to generate synergies conducive to collaborative work. Fact that corroborates the data obtained from **Table 3**.

In the evaluation of the blog and, especially, of the effects and impacts generated by it, the general results have oscillated between a minimum of six points and a maximum of 7.5 out of 10 (**Table 4**). A disaggregated analysis of the variables shows that the best scores are for the effects of the blog on learning the subject (7.5 points) and for the transfer of the innovative experience to subsequent years (7.2 points). Although, as evidenced in **Table 4**, this technological tool has generated positive effects on the learning of students, the perceived impact has been greater in relation to the content of the subject and less in relation to the preparation of the exam (6.9 points) and participation in the marking and corrections (six points).

Another variable with a positive measurement, with a score of 6.8, was the social impact of the blog. From this we can conclude that most of the participating students considered that the information co-created and

**Table 4.** Evaluation of the effects and impacts of the blog: Variables and questions

Analytical variables	Questions	Score
Cultural effects: Development of collaborative & group working	Assess whether the development of the blog has fostered collaborative work & fostered group organization	6.4
Effects on student learning	Evaluate whether the blog activity has helped you to learn the contents of the subject	7.5
	Assess whether the blog has been useful for studying and preparing for the exam	6.9
	Assess whether it has been positive for your learning to participate in the correction of the content and receive feedback from your colleagues	6
Impact on other academic courses/ knowledge transfer	Assess whether you would recommend repeating this activity in future courses	7.2
Social impact	Assess whether the blog content is useful for anyone interested in acquiring a basic understanding of the topics it addresses	6.8

Note. Source: Authors' elaboration

disseminated on the blog can add social value, since it can contribute to providing knowledge about certain aspects of the Spanish political system to any citizen interested in this matter.

Finally, the blog has also made it possible to transform the traditional teaching and learning culture by fostering collaborative work and group organization. However, there is still a long way to go, since the deficits identified in the collaborative/group work process (Table 3) may have undoubtedly led to the impact on this variable not achieving the expected results, obtaining a score of only 6.4 (Table 4).

## CONCLUSIONS

Contemporary university students are familiar with the skills and abilities needed to operate in social networks, technological apps, and so on. However, this research shows that outside the context of social networks, their ability to use new technologies has much room for improvement (Dapia Conde & Escudero Cid, 2014, p. 67). Along the same lines, Salinas and Viticcioni (2008) identified that only 25% of university students had experience as an active participant in a blog (16% as creators and 10% as commentators), although 73% stated that they knew what a blog was.

However, the "pilot" learning experience analyzed here, not only sought to improve the learning of the subject content, but also "to develop capacities related to a new way of acquiring, creating, sharing and distributing knowledge in an informed society" (Adell, 2007). These objectives have been met. The students learned to work in groups and solve problems, fostering their autonomy and their interest in the activity and the content of the subject. These results are in line with other similar academic studies, and which corroborate the contribution of blogs to autonomous and collaborative learning (Ching & Hsu, 2011; Coutinho, 2007; Huang et al., 2011; Leng et al., 2013; Namwar & Rastgoo, 2008). In addition, students not only acquired skills that may be useful to them in the future. By implementing a collaborative teaching model and a technological tool that favors co-creation, reflection, critical thinking and the contrast of ideas, their role in the teaching and learning model shifted from that of a passive actor to an active agent. Two main issues have had an impact on levels of participation and commitment. Firstly, that the activity was integrated into the evaluation of the subject. Secondly, that the blog was published on the web, this increases participants awareness of their intervention in each process or activity and, consequently, increases their involvement.

Likewise, students have not only profited individually, improving their writing techniques. The activity also generated collective and social effects or impacts, due to the fact that the experience is an opportunity for student-teacher socialization, and because, in addition, it is easily replicable in other subjects and university contexts. Moreover, it provides transferable knowledge about the Spanish political system, which can influence civic culture, as it provides concepts and issues which can be consulted by any citizen who has an interest in these matters. Thus, the blog offers new perspectives inside and outside the classroom, since it allows students to receive feedback from other participants in the debate, to become more aware of their own learning, and to produce an impact that opens them up and brings them closer channels for participation

(Ferdig & Trammel, 2004). On the other hand, the teachers also experienced the transformation of their traditional role by introducing new methodologies that allow the generating of new learning styles, more in line with the proposed model and by getting involved with their students in a different way, making them participants in the co-creation of teaching materials. In addition, the lectures were connected to the activities of the blog, therefore, this had a double purpose. On the one hand, students were able to consult it in order to become aware of the progress made on the module and were also able to study through the material generated for and published through the blog. On the other hand, the teachers could detect topics or issues with which the students found it difficult to engage.

Consequently, blog co-creation process made a significant contribution to combatting some of the main obstacles that university education currently suffers passivity, lack of motivation of students, and learning centered, on the acquisition of theoretical knowledge. However, for blogs to be truly effective, promoting co-creation and collaborative learning there must be full commitment, both from teachers and from students. This is a difficult situation to achieve in full, especially when the current educational system tends to favor individual competence and achievement, over collaboration and collective achievement, and where teachers are not always willing to change the teaching model from that of focusing on the transmission of knowledge, currently dominant in university teaching. Therefore, students must be offered dynamic activities that can generate real interest, and professors must seek synergies with other professors who are committed to innovation in teaching methods.

Despite the important achievements of this “pilot” university teaching initiative, some barriers have also been identified hampering the proper development of the collaborative process and group co-creation work. According to survey data, students tend to have certain difficulties working in groups or collaboratively, mainly because not everyone knows how to do it effectively (Le et al., 2018). Specifically, the main problems stem from the lack of collaborative skills, difficulties in accepting opposing points of view, giving elaborate explanations, negotiation, and providing and receiving help. This is still the case after teachers had instructed students in relation to strategies appropriate to the environment and the specific requirements of the task (Lobato, 2006).

Another point to consider was the differences in the willingness to get involved in group work and collaborative processes. Not all students participate to the same extent and that not all make the same contributions, nor of the same quality (Molina Alventosa et al., 2015). In addition, in some cases, the phenomenon of forced writing, to which Lara (2005) refers, occurred, since the co-creation of the blog was an activity linked to a specific subject, and that can lead students to write for the teacher (Downes, 2004).

Regarding the teaching staff, despite their efforts, they were not always able to establish the desired feedback with the students, mainly due to the high student-teacher ratio. This fact has also been reflected in the works of various authors such as Lorenzo et al. (2011), Molina Alventosa et al. (2015), or Olofsson et al. (2011), amongst others. Nevertheless, it should also be noted that the reduction of theoretical classes, impeded the explanation of the entire syllabus foreseen in the subject program. Consequently, the blog did not manage to incorporate knowledge of important issues such as: the electoral system and the political and social actors of the Spanish political system.

Despite all these drawbacks, it is pertinent to note the importance of taking advantage of the potential of technologies, to transform and innovate the ways of doing and acting in the university environment. One of the main changes or innovations that must be implemented to complement the reforms to the Spanish university is allowing students to acquire a leading role, using educational methodologies promoting their autonomous and reflective learning (Murga et al., 2008). It is clear that proposing activities, such as the co-creation of a blog by students, offers a series of important advantages, among others: versatility of use, both for face-to-face and long-distance teaching; promoting active, autonomous, and reflective learning by students, as proposed by the European Higher Education Area; and cost reductions in the design, access, and use of learning materials, for both teachers and students alike (Baumgartner, 2004).

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