Social media as a teaching innovation tool for the promotion of interest and motivation in higher education

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Summary— Social media is part of the daily life of university students, so it can become a useful teaching innovation tool. This paper describes the teaching innovation project carried out in the Degree in Linguistics and Applied Languages of the University of Cádiz, in which two profiles have been used, one on Facebook and the other one on Twitter, to share the content (news, papers, videos, job offers ...) related to linguistics and languages, specifically targeting degree students, in such a way that their autonomous work will be promoted from the shared contents in networks; their motivation will be increased, providing them with resources to broaden their knowledge about topics that especially interest them, and at the same time, boost their English written and oral comprehension, considering that news, articles and videos have also been shared in this language. The project has been evaluated both quantitatively and qualitatively: the quantitative data of the scope of the profiles have been provided by the analytics of Facebook and Twitter and the qualitative ones have been extracted from an anonymous survey answered by the students of the degree. Conclusions support the usefulness of social networks as a tool for these purposes.

Keywords— teaching innovation, higher education, social media, interest, motivation, linguistics.

I. INTRODUCTION

The use of social media has become a daily activity in recent years for the vast majority of university students. These increasingly specialized social spaces allow individuals who share the same interests to be connected [1]. On the other hand, as pointed out in [2], in recent years the way of communicating and interacting with others in these networks has been revolutionized, mainly due to its integration with the use of smartphones and mobile devices. In this sense, in [3], a work carried out with university students is emphasize that the success of these technologies will depend on the degree of knowledge that, of these ones, students know how to do and their attitude (positive or negative) towards them. The use of social networks, blogs, video applications would involve bringing information and education to the places that students associate with entertainment and therefore approach them with less prejudice [4]. These new means of relationship not only allow the extension of the class to other contexts outside the classroom [5], but also they make possible to include new contents that would have a difficult place in the development of the subject in the classroom [6], how to connect such content with the real demands of society.

Therefore, many teachers and institutions have incorporated social media as part of their strategies for teaching and disseminating content. In [7] an interesting analysis is carried out on the penetration of social media platforms such as Tuenti and Facebook in university students and [8] highlights the implementation of different educational projects in the Spanish context based on the use of social media for teaching practice. Likewise, in [9], focusing on Twitter, the uses and perceptions of students and teachers in relation to this social network are examined, comparing results from Spain and the United States. There are already numerous studies, in this context, that seek to improve the university teaching-learning process through social media: [6], [8], [10], [11], [12], [13], [14], [15], [16], [17], [18].

In this regard, in this paper we present an observational case study derived from the results of the teaching innovation project developed in the Degree in Linguistics and Applied Languages of the University of Cádiz during the 2016-2017 academic year, whose purpose was the use of Facebook and Twitter to promote the interest and motivation

of the students of the whole grade and, secondarily, for the scientific spreading of Linguistics. This action began the previous year, 2015-2016, but focused on a single subject of the degree, and also continues during the current course, 2017-2018, not finished yet. We present here the results of the 2016-2017 course, since they are already analyzed and evaluated in their entirety and applicable to a full grade.

The results provided by the statistics of the profiles and by the survey carried out to the students at the end of the second semester show that effectively managed profiles and with periodical publications is revealed, indeed, as a very useful tool for communication and dissemination of contents that do not fit during the class hours but that can be useful for us, as teachers, to broaden topics, share information on applied issues, disseminate useful information and, therefore, increase the interest and motivation of the student towards the contents of the grade.

II. METHODOLOGY

A. Objectives and benefits for teaching

The problems that this project was proposed to address are the following:

- Improve the active participation of students in those groups with a high number of enrolled students, in these contexts the interventions in class are very scarce and the sessions are reduced, in many occasions, to master classes in which only the teacher intervenes. Social networks can serve as a parallel channel in which the teacher and students interact in a more fluent way.

- Improve the knowledge of the actual work exits of the degree, given the disconnection of the students from the communication channels in which they share information about postgraduate courses, scholarships, work opportunities, etc., of all students, preferably those in the last year of the degree.

- Guide students towards complementary contents that may interest them from what they have seen in class. This individualized work is difficult to do in class and even when tutoring.

The benefits for teaching that we have foreseen in this project are:

- The improvement of teacher-student communication and among the students themselves. This is limited in the classroom due to the numerous groups with which they have some subjects; in others with a smaller number of students, this project has sought to help overcome the traditional distance between student and teacher, which prevents communication between them from being fluent.

- The promotion of students' autonomous work on linguistic contents, based on the contents shared in networks, which is useful as a starting point for the search of other related materials.

- The improvement of students' motivation, since they have the resources to broaden knowledge about topics that interest them, to investigate in the networks and share it with teachers and students.

- In addition, going beyond the benefits that our students can extract, these profiles in social networks have the intention of becoming a speaker for the scientific dissemination of language and languages. The shared contents have been previously filtered by the professors who are responsible for the project, so we have ensured the scientific quality.

B. Materials

There have been different types of shared contents, so that we could attend to the different objectives that we have set:

- News about phenomena related to linguistics and languages, especially with applied linguistics, which is, how the theoretical contents about linguistics are applied to solve problems in society and day to day.

- Web pages and tools about concepts related to languages and Linguistics.

- Links to interviews and talks by specialists in linguistics and its subdisciplines.

- Videos about subjects related to the discipline (type TED).

- Links to download bibliography on linguistics.

- Notices about events, seminars and conferences held at the University of Cádiz related to content seen in class or, in general, with linguistics.

- • Announcements of scholarships, external training courses and job offers related to the profile of the students of the degree.

The profile on Facebook is https://www.facebook.com/linguisticayllaauca/ and on Twitter, https://twitter.com/linguistica_uca. The frequency with which the profiles have been updated has oscillated between the twice a week in non-teaching periods (holidays, exam period) and daily in the last month of school (mid-April-mid-May), when the the involvement of the students with the project has been greater, since they have had time throughout the course to familiarize with it and with the objectives that have been pursued. It has been fundamental for the good development of this project to have a trainee who is responsible for the direct management of the networks, thanks to the funding received. She has been responsible for managing the publication of content on Twitter and Facebook on a daily basis, with the supervision of the project coordinator. For the automation of the publications, there have been used both the programming tool provided by Facebook and Hootsuite which is a web and mobile application for managing profiles on social networks, which has been used to schedule publications on Twitter, have been used. Likewise, the face-to-face contact with the students has been very important: visits to the classes have been organized to explain the project, the objectives that were pursued and encourage them to participate.

C. Evaluation methods

We started with a population of 72 students enrolled in the Degree in Linguistics and Applied Languages, who in

the 2016-2017 academic year were enrolled in one of the four courses and usually attended classes. The scope, diffusion and acceptance evaluation method has been double. On the one hand, we have analyzed the "medium range" of Facebook posts and impressions and retweets from Twitter, using the evaluation tools that social networks place within the reach of their users.

The other evaluation method was an anonymous survey that was sent to the students by email. This method of evaluation has been chosen due to its low cost, how easy it is to be created and the rapid quantification of data. In addition, with this method the anonymity of the informer is maintained at all times and there is the possibility that they reject the completion of the survey. This survey was designed in Google Drive, so that it was available online and compatible with mobile devices.

After a short pretest of elimination of biases that could have been unnoticed, a census of the students was carried out and the survey was sent by email and through instant messaging (WhatsApp). Of the 72 students enrolled, 52 completed the survey. Given that we have a sample of the initial population, we need to estimate the possible derived error. Previous studies estimate that the use of social networks among young students is over 90% ([19], [20] and [21]), so we start with a confidence level of 95% of a margin of error expected maximum of 4.5%.

III. RESULTS

To describe the results of the project, firstly we will summarize the most interesting statistics provided by the Twitter and Facebook analysis tools. These first data will give us an idea of the actual scope of the profiles. Below we describe the assessments made by the students of the degree in the anonymous survey and we will evaluate whether the expected benefits in teaching have been fulfilled.

If we firstly focus on the number of followers, in the period from October 1, 2016 to May 28, 2017 the Facebook page has been from having 198 followers to 317; the profile of Twitter had 287 at the beginning of the course and now has 377. The analytics of the social networks themselves provide us with the following statistics: the average reach of the publications on Facebook has been 170 people per publication, with concrete peaks of more than 800 people. On average, each publication has been shared 4 times. In addition, only during these months from October 2016 to May 2017 have more than 2,000 "likes" or "loves" have been registered as a reaction to the publications. The publications made on Twitter had a total of 58,100 impressions (times that the publications have been seen by someone), received 577 clicks, 270 retweets, 317 likes and 72 responses.

Let's look at the results of the last anonymous survey of the students of the degree. The students surveyed are 80.8% women, compared to 19.2% men. Their ages range between 18 and 25 years, with an average of 20.4 years. They are distributed in the different courses of the degree with this distribution: 25% is in 1st, 26.9% in 2nd, 26.9% in 3rd and 21.2% in 4th.

Among the students who answered the survey, 86.5% follow at least one of the two profiles of the Degree: 50% follow the two profiles, 28.8% follow only the Facebook page and the 7, 7% only the Twitter profile. 13.5% does not follow any.
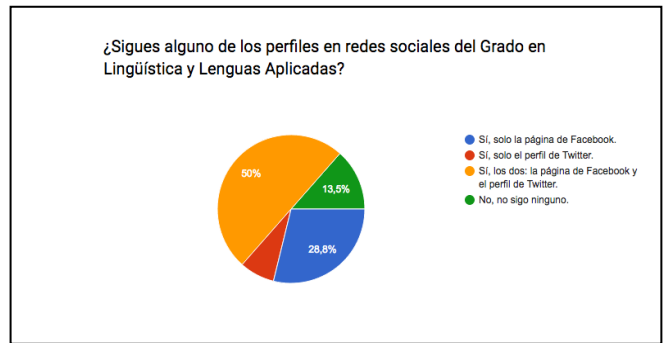

Fig. 1. Percentage of students of the Degree in Linguistics and Applied Languages that follows the social media profiles of the Degree.

Next, we asked them to assess different aspects of the project. We consider that these are the fundamental questions to evaluate the success of the project. With the intention of determining the internal consistency of this part of the survey, the Cronbach's Alpha reliability test was applied, obtaining an alpha value of 0.7, enough value to guarantee its reliability. First of all, we asked them to rate the interest (in general) shared content on social networks have for them: on a Likert scale from 1 to 5: the average rating is 4.02 (with a $\pm$ 0.24 error) standard at a 95% confidence interval).
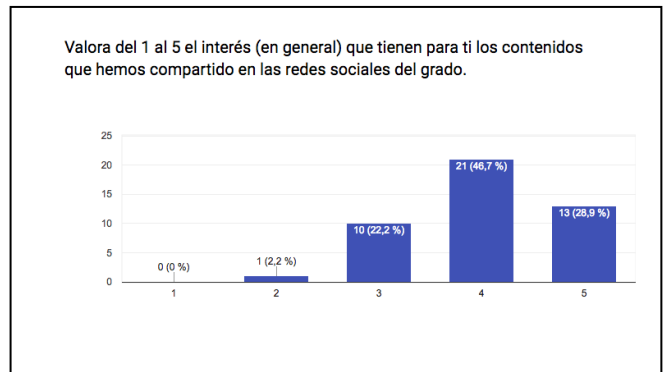

Fig. 2. Answers to the question about the interest of the students for the shared content in the social networks of the Degree.

Secondly, we asked them to what extent the social networks of the degree have been useful to expand knowledge of issues seen in class: in a rating on a Likert scale from 1 to 5 the average response has been 3.02 (with a $\pm$ 0.34 standard error at a 95% confidence interval).
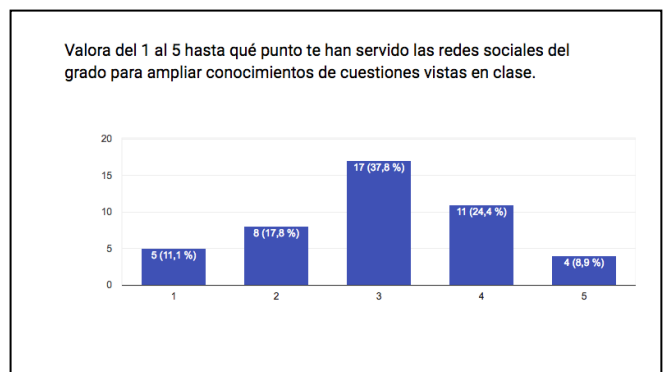

Fig. 3. Answers to the question about the degree of usefulness of social media to expand knowledge of issues seen in class.

We also asked to what extent the social networks of the degree have increased their interest and motivation for the contents they have seen in the grade: on a Likert scale from

1 to 5, the average has been 3.48 (with a ± 0, 35 from standard error to 95% confidence interval).
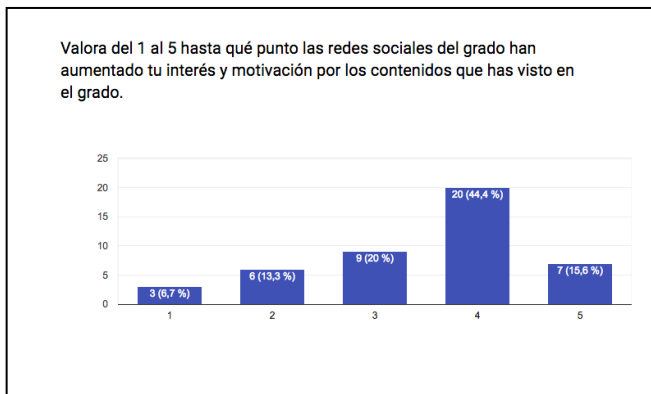

Fig. 4. Answers to the question about the influence of the social media profiles of the Degree in their interest and motivation for the contents seen in class.

The subjects that have seemed most interesting are those related to the applications of linguistics (88.9% of respondents); 65%-70% are also interested in the contents on internal and theoretical linguistics, news about scholarships and grants and about training activities.

As we discussed earlier, we have made an effort to look for content in English that will help students improve their written and oral comprehension skills in this language. In the survey we consulted their opinion on this issue and the average rating of this initiative has been very high, 4.27 (with a ± 0.3 standard error at a 95% confidence interval) on a Likert-type scale From 1 to 5. In addition, 62.2% consider that the level of English of the shared contents is accessible and they have understood them without problems, compared to 24.4% who say that it has cost them a bit but they have been able to understand it and 13.3% who acknowledge not having paid attention to what has been shared in English.
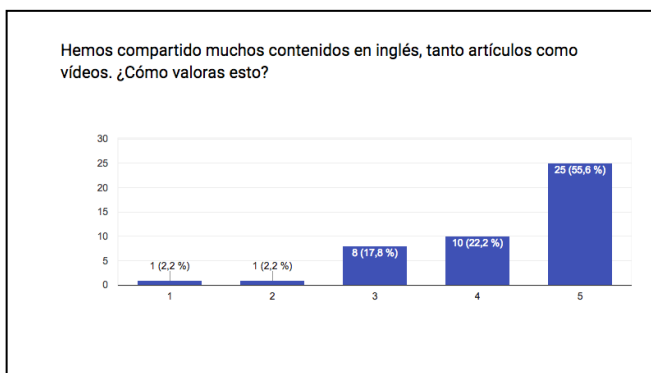

Fig. 5. Answers to the question about the evaluation of the selection of content in English.

Finally, of the 13.5% that state not to follow the profiles of the degrees, 57% does not do it for ignoring them, 28.6% because they do not use social networks and 14.3% because they do not care.

IV. Conclusions

Social media have been revealed as one of the most powerful communication tools that exist today, and, specifically, can be very useful in pedagogical innovation in higher education. In this article we have presented an observational case study derived from the results of the action supported by teaching innovation developed in the Degree in Linguistics and Applied Languages of the University of Cádiz during the academic year 2016-2017, whose main objective has been the use of social networks Facebook and Twitter for the promotion of interest and motivation of students of the entire grade.

The results of this initiative have been very positive. On the one hand, the follow-up of the profiles has been very high (86.5% of the students follow at least one of them) and the growth of the followers has been constant throughout the months in which the project has been developed. The students rated very positively (above 4 on a scale of 1 to 5) the general interest of the content shared on the networks and positively (above 3 on a scale of 1 to 5) both their influence on their interest and motivation for the content of the degree as its utility to expand content seen in the degree. In addition, they have welcomed very positively (above 4 on a scale of 1 to 5) that the content chosen has not been only in Spanish, but alternate with others in English at an appropriate level. On the other hand, although this is a secondary objective, the scope of publications on both Facebook and Twitter show that actions of this type are useful for scientific dissemination in this field to reach a much larger number of interested parties, a quick way and with the endorsement that has been evaluated by specialists before being shared.

Finally, it is essential to bear in mind that for a project like this to be successful, the dedication of the person responsible for managing the profiles must be done on a daily basis. Therefore, in the results of the project we have presented, it has been crucial to have an assistant in practice to help in its management, as well as the involvement of teachers in the selection and evaluation of content.

Thus, the results provided by the statistics of the profiles and by the survey carried out to the students show that profiles managed efficiently and with periodic publications are a very useful tool for the communication and dissemination of contents that have no place during the hours of class but that can be useful to broaden topics, share information on applied issues, disseminate useful information and, therefore, increase the interest and motivation of the student.

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