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# Educational Possibilities of Social Networks and Group Work. University Students' Perceptions

Posibilidades educativas de las redes sociales y el trabajo en grupo.  
Percepciones de los alumnos universitarios

## ABSTRACT

The change in classroom methodologies has in many cases come with the emergence of the Internet and 2.0 tools (mainly social networks). The development of a constructivist approach focused on group work means that students' training can be improved by this type of resources as they foster important aspects such as socialization, information searching and the achievement of a common goal, etc. This work aims to analyze the information and communication technology (ICT) university learning processes and student preferences for working either inside or outside the classroom at the universities of Córdoba, Sevilla, Huelva and the Basque Country. Our objectives are focused on knowing: the students' feelings on social software and its influence on collaborative and group work; the social network tools they use and, if there are any differences between these universities in terms of collaborative work perceptions. The instrument for data gathering was a four-dimensional questionnaire. The main results are: students are interested in group work as a type of classroom methodology; students have little knowledge of technology tools (except for social networks). These results provide a reliable diagnostic instrument for the variables that comprise this tool.

## RESUMEN

El cambio en las metodologías de aula viene de la mano, en muchos casos, de Internet y de las herramientas de la Web 2.0. Por otra parte, el desarrollo de una perspectiva de corte constructivista apoyado en el trabajo en grupo, suponen que la formación de los estudiantes puede ser alimentada a través de este tipo de recursos, dado que potencia, entre otros aspectos la socialización, la búsqueda de información, el logro de una meta común, etc. La investigación que aquí se presenta versa sobre la realidad de los procesos de aprendizaje universitario con TIC y las preferencias para trabajar dentro y fuera del aula de los estudiantes de las universidades de Córdoba, Huelva, Sevilla y País Vasco. Los objetivos se centran en conocer las percepciones que los alumnos tienen sobre el software social y el trabajo en grupo y colaborativo, cuáles son las herramientas de software social que emplean y si hay diferencias en función de la universidad de procedencia. Se empleó como instrumento de recogida de datos un cuestionario conformado por cuatro dimensiones. Se concluye que el alumnado está interesado en el empleo del trabajo en grupo como metodología de aula, así como su escaso conocimiento de las herramientas tecnológicas, salvo de las redes sociales. Al mismo tiempo, estos resultados aportan un instrumento fiable para el diagnóstico de las variables que lo conforman.

## KEYWORDS / DESCRIPTORES

Social networks, Internet use, social relationship, research, student, learning, interactive youth, digital media.  
Redes sociales, uso de Internet, relaciones sociales, investigación, alumno, aprendizaje, jóvenes interactivos, medios digitales.

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## 1. Theoretical approach

Recent times have seen universities transformed by events ranging from joining the European Higher Education Area (EHEA), the extension of methodologies and collaborative work or case studies, and the incorporation of Information and Communication Technologies (ICT) in general, and the Internet and Web 2.0, in particular.

As noted by Shang et al. (2011), the arrival of Web 2.0 in education means that the learning processes developed by students are now of a more social, dynamic and personal nature whereby explicit knowledge is produced and interacting with others is an ongoing process. Thus, education is more creative, participatory and socializing. We share Túniz and Sixto's opinion (2012: 78-79) that «Web 2.0 is not a technological change occurring in isolation, but falls within a model that understands learning as the result of the interaction and collaboration of people and places, with the student at the center of the process; so, it has to be understood as an instrument that facilitates model change in the learning process».

Among the Web 2.0 tools, «social media» and social networks in the university context have the potential to increase student participation, enhance their creativity and add a new perspective to the process of socialization. As Imbernón, Silva and Guzman (2011) state, they tend to provide a space for more interactive and dynamic learning.

As several studies (Marquis, 2011; Callaghan & Bower, 2012; De-Gouveia, 2012; Barajas & Fabiola, 2013, Alvarez & Lopez, 2013; Bernal & Angulo, 2013) have pointed out, these possibilities have led to social networks increasingly embedding themselves in student learning processes, with particular reference to cooperative and collaborative work.

With respect to collaborative work, different studies (Cabero, 2003; Gros, 2008, Martin, Dominguez & Parallel, 2011) have shown that social media yield a number of advantages such as: improving social relationships, increasing tolerance within the group, enhancing student participation, developing intrinsic motivation and self-esteem, advancing social skills and supporting group integration and cohesion, as well as fomenting democratic participation and the acquisition of leadership skills.

However, the use of social networks for collaborative work depends on whether the student has a positive attitude towards this phenomenon, or adequate levels of interpersonal intelligence (Gardner, 2001). As indicated by Shen, Cho and others (2013), students' perceived self-efficacy with regard to group

work conditioned the way such work developed; and this is related to their attitude towards teamwork and social presence, showing subjects in mediated communication environments (Kim, 2011). One cannot forget that students' negative attitude towards technology or mode of use impacts on the type of interactions established and the goals achieved by means of the same (Hung & Cheng, 2013), and that not all students have a positive attitude towards the use of social networks in their academic training (Irwin, Ball & al., 2012). The research we have developed deals with student perceptions on working in groups and collaborative and social networking. Technologies, collaborative environments and social media will, according to several Horizon reports, figure prominently in training centers (García, Peña-López & al., 2010; Durall, Gros & al., 2012).

## 2. Method

### 2.1. Starting objectives

This research is part of a more extensive investigation being carried out internationally.

The results obtained are taken from a Faculty of Education Sciences study at the universities of Córdoba, Huelva, Sevilla and the Basque Country among Primary Education undergraduates. These universities were selected as a result of the positive response and willingness to collaborate among professors at these institutions, hence the choice of this study population.

The objectives were:

- To know students' perceptions of social software and collaborative group work versus individual work.
- To know whether there are differences between each university regarding perceptions of group and individual work.
- To know which social software tools students prefer to use.

### 2.2. Research methodology

The type of sample used is non-probability incidental, meaning the researcher selects the sample directly and intentionally, because it is easily accessible and is representative of the population (Sabariego, 2004). The sample consisted of 525 subjects from an initial population of 728 at the four universities.

The methodological approach is quantitative, with a non-experimental and non-correlational descriptive design. To gather the information, a questionnaire designed by Anderson, Poellhuber & McKerlich (2010) called Social Software survey with unpaced undergrad was adapted to consist of 91 items distribu-

ted across the following dimensions: identification, learning preference, technical and technological skills, experience in social software, social software for learning, confidence in the ability to perform distance learning and conclusion.

The adaptation of the instrument involved the incorporation of an identification variable, university of origin, and the deletion of the last two dimensions of the original questionnaire, because they did not conform to the objectives we pursued. The final instrument was composed of 67 items, divided into: General (college, gender...) (6 items), preference for working in groups or individually (27 items), technical and technological skills (15 items), experience with Web 2.0 tools (10 items) and use of different social software tools in distance learning (9 items).

The questionnaire was distributed via the Internet, and is available on: [www.sav.us.es/surveys/redsocial/-index.htm](http://www.sav.us.es/surveys/redsocial/-index.htm). It offers a Likert-type construction with five response options (SD=strongly disagree, D=disagree, N=neither agree nor disagree, A=agree, SA=strongly agree).

In order to determine the internal consistency of the instrument, Cronbach's alpha reliability test was applied both to the questionnaire as a whole and to each of its dimensions. The following values were obtained: total Cronbach's alpha instrument: 0.860; Cronbach's alpha dimension «learning preference»: 0.800; Cronbach's alpha dimension «technical and

technological skills»: 0.902; Cronbach's alpha «social software experience»: 0.818; Cronbach's alpha dimension «social software for learning»: 0.835.

According to Mateo (2004), these scores can be considered high and show that the instrument is reliable. We also performed the item-total correlation (the results are not published here to avoid making the reading of this paper tedious), but the values obtained clearly indicated that eliminating any of the instrument's items would not increase its reliability.

### 3. Results of the study

#### 3.1. Dimension 1: Descriptive data

The first thing we highlight is that the vast majority of students who filled in the questionnaire were women (76.76%, versus 23.24% who were men); the proportion was almost identical for the four universities.

In regard to age, the majority was aged between 17 and 20 (58.90%), followed by 21- to 24-year-olds (26.33%). These data are not uniform at the four universities since the survey majority at the Basque Country university was aged 21 to 24 (36.09%). When asked about whether they had received training on the Internet the figures were fairly similar at the four universities, with 54.21% stating they had and 45.79% stating they had not.

Significantly, the vast majority of students indicated that they regularly accessed the Internet for educational purposes (93.54%), a figure that was similar in

samples from the four universities. This confirms that the usage of the Internet as an educational tool is now common in higher education institutions.

We also point out that most students are well-equipped, with 41.63% owning an integrated headset and 88.99% a webcam. This equipment facilitates their use of ICT tools in training programs, which incorporate remote videoconferencing.

Table 1. Questions related to learning preferences

	SD	D	N	A	SA
	%	%	%	%	%
Working in a group means getting lower marks.	23.3	48.1	24.8	3.0	0.8
The teacher can help the students when they are working in a group.	2.7	1.3	3.2	51.7	41.1
I prefer to work on my own so I can advance faster.	4.2	21.8	42.8	22.3	9.0
Working in groups is useful for gathering everyone's ideas and taking decisions.	1.5	4.6	5.1	58.1	30.8
When a class or group needs to do something important, it is more useful for me to work in a group than on my own.	1.0	9.7	23.4	52.4	13.5
I am afraid of working in a group.	45.1	41.4	10.0	3.0	0.6
I don't like to work on my own.	13.2	34.4	38.6	11.6	2.3
In a group debate, important decisions are never reached.	19.5	51.7	18.3	7.8	2.7
I like classes to be taught by means of group work.	4.4	13.3	33.3	37.9	5.2
I like to be able to use someone else's ideas together with my own.	0.4	2.7	8.6	71.2	17.2
If I work on my own most of the time, I get lonely and feel sad.	20.2	47.5	22.0	8.6	1.7
Projects are done faster if we all collaborate.	3.1	2.1	9.0	36.9	49.0
My work is of better quality if I do it on my own.	7.1	37.9	44.9	8.0	2.1
When I work in a group, I like to help other people out.	1.2	1.2	10.6	67.2	20.0
If I work on my own, I will be better prepared to be independent in the future.	6.1	32.1	36.5	22.0	3.4
I don't know how to work on my own.	46.7	45.5	6.5	1.2	0.2
I like my work more when I do it alone without any extra help.	5.9	33.7	44.2	14.0	2.3
Other students do not need to know what I do while I'm studying.	4.8	27.3	43.7	21.6	2.7
To work in a group now will help me to work with other people in the future.	1.0	1.1	4.2	50.1	43.2
I like to keep my ideas to myself.	0.8	3.8	24.5	60.7	10.2
The teacher can help each student to select the most adequate topic.	1.2	5.3	19.1	62.2	12.2
Working with other students helps me to learn.	0.2	0.6	2.1	58.2	38.9
I like to work on my own without paying any attention to my partners.	22.6	58.0	15.7	5.2	0.6
I do not like to work with other partners.	32.6	50.1	11.4	3.6	1.5

### 3.2. Dimension 2: Learning preferences

The second part of the questionnaire was designed to understand the students' learning preferences (table 1).

It is evident that although the vast majority of students surveyed know how to work individually, 92.2% stated that they «strongly agree» or «disagree» with the statement: «I do not know how to work on my own». The study clearly indicates that students prefer to work in groups, since the percentage of «agree» and «strongly agree» clearly exceeds the other options:

- Working in groups is useful for gathering everyone's ideas and taking decisions (88.9%).
- I like to be able to use someone else's ideas together with my own (88.4%).
- Projects are done faster if we all collaborate (85.9%).
- Working with other students helps me to learn (97.1%).

This is also evident in the items which were formulated in a negative way, where the options with higher percentages were those labeled as «totally agree» or «totally disagree»:

- Working in a group means getting lower marks (71.4%).
- I am afraid of working in a group (86.5%).
- I don't like to work on my own (47.6%).
- In a group debate, important decisions are never reached (70.2%).
- I like to work on my own without paying any attention to my partners (80.6%).
- I do not like to work with other partners (82.7%).

It seems significant that when presented with the option «I prefer to work individually in order to move on quickly», the preferred choice of answer (with 42.8%) was «neither agree nor disagree», so the options that referred to favorable and unfavorable attitudes were on a par. It is also revealing that students perceived that the role teachers played in order to set groups in motion was very important, as the high number of positive answers denote (81.3%). The answers also help us to infer that students perceive that one of the most important elements when learning in the 21st century will be collaborative work. One of the items was meant to ascertain the preferences that students had for working with other students in a distance education environment; the results are presented in table 2.

When asked how they would classify their experience of working in groups, a large percentage of the students (60.38%) considered it to be positive, followed by the neutral option (24.23%). We highlight the

fact that the sum of the negative ratings did not exceed 3%. These data were similar at the four universities and globally the positive ratings are above 52%. The last question in this part of the questionnaire was designed to determine whether the students were interested in collaborating with other students. In this case, 63.17% said they were very interested, followed by 23.09% who indicated being interested. There are no major differences in regard to students from the four universities in the sample.

### 3.3. Dimension 3: Technical and technological skills

The third part of the questionnaire is aimed at gathering information about the level of technical skills needed to manage the various technologies the students have at their disposal (table 3).

As we can see, the perceptions that students have of ICT are very positive. In some cases, the sum of the choices «agree» and «completely agree» equals 80% of the distribution, as in the following cases:

- I like to use computers for research and education (87.1%).
- I like to communicate with other people by

Table 2. Item 31

	F	%
Debates with other students	183	13.89
To study for exams	212	16.09
To write a paper	108	8.19
To do an essay or courses	320	24.28
To work on a project	318	24.13
To share resources on the Internet	343	26.02
To create web pages and other materials for the Net	207	15.71
Other activities	184	13.96

means of computer-assisted technologies (i.e. email, text messages) as an aid to my learning process (83.2%).

- I feel comfortable working with computers (79.2%).

At the same time, students reveal that they felt qualified to perform different tasks:

- I know how to send and receive messages and attached files through different communication tools (email, instant messaging...) (95.6%).
- I am good at finding what I am searching for when using Internet search engines (Google, Yahoo...) (73.3%).
- I am able to use Word processors to write documents (i.e. using underlying, bold characters, creating tables, etc.) (92.3%).
- I am good at using presentation software (i.e. PowerPoint) (70.6%).

It is worth noting that the students who acknow-

ledged that «I spend a lot of time on the Net» is evident if we add the «agree» and «totally agree» answers to reach a total of 60.2% of the distribution.

### 3.4. The social software experience dimension

In regard to the experience that students have regarding social software (table 4) we find three levels of training. Firstly, those technologies in which students state they have an «advanced-(A)» level of training: social networks (49.3%), uploading photographs (45.8%) and video sharing (31, 4%); and secondly, the technology level of training in which the majority is «no-(N)» or «beginner-(B)»: wikis (34.1%, «beginner»), social bookmarking (71.8 %, «N»), podcasting (69.8%, «n») and 3D immersive experience software (84.1%, «no»). Finally, we found some cases where the beginner and advanced options have very similar rates: blog (34.1% and 28.8%) and video conferencing via the web (34.7% and 20.7%). We must emphasize the case of social networks because this is the only one in this part of questionnaire where the sum of the options «advanced» and «expert-(E)» reach 50%.

In terms of the social networks, one of the survey questions focused on collecting information on the most actively used social networks, offering four options: Facebook, Twitter, LinkedIn and Hi5. These data showed that 54.1% chose Twitter and 45.3% Facebook, while the other two options, LinkedIn and Hi5, obtained a response rate of less than 1%. However, these results varied depending on

Table 3. Dimension 3: Technical and technological skills

	SD	D	N	A	SA
	%	%	%	%	%
I like to use computers for research and education.	1.3	1.3	10.8	60.3	26.9
I like to communicate with other people by means of computer-assisted technologies (i.e. email, text messages) as an aid to my learning process.	0.4	3.3	12.3	56.6	27.6
I spend a lot of time on the Net.	1.5	14.5	23.7	40.3	19.9
I know how to send and receive messages and attached files through different communication tools (email, instant messaging...).	1.7	0.8	1.9	39.6	56.0
My computer is protected against threats that might appear when I connect to the Internet.	2.3	6.1	19.9	52.1	19.5
I am good at finding what I am searching for when using Internet search engines (Google, Yahoo...).	0.0	4.6	22.1	58.5	14.8
When my partners get confused about how to do something with the computer, I am able to look for the information to solve the problems (helping, finding documentation, etc.).	1.5	13.5	43.1	33.7	8.3
I am able to use Word processors to write documents (i.e. using underlying, bold characters, creating tables, etc.).	0.6	0.4	6.7	41.8	50.5
I know how to install software on the computer that helps me in my learning.	4.8	22.8	25.2	31.4	15.9
I feel comfortable working with computers.	0.8	3.6	16.4	50.9	28.3
I can handle the majority of computer-related problems.	5.0	23.6	36.2	27.4	7.9
I have broad experience of computers.	2.1	19.4	36.7	32.7	9.2
I am good at using presentation software (i.e. PowerPoint).	1.0	7.5	21.0	50.0	20.6
I am good at using spreadsheet software (i.e. Excel).	6.4	32.2	32.6	23.5	5.2
I am able to administer file directories and do accounts.	4.8	24.7	35.7	28.6	6.2

the university. In particular, students at the universities of Huelva and the Basque Country prefer to use Facebook, approximately 74% each, and students at Sevilla and Córdoba opt for Twitter, with 70.1% and 53.1% respectively.

### 3.5. The social software for learning purposes dimension

The last part of the questionnaire was designed to determine the extent to which the students were interested in using social software in their classes. Table 5 shows the results.

The results are somewhat contradictory since the «interested» option was chosen in all the cases but, nevertheless, to two of the question, («How interested are you in using the social markers used on the courses you are taking? (i.e.: De.licio.us, Diigo)» and «How

Table 4. The social software experience dimension

	N	B	I	A	E
	%	%	%	%	%
What has been your experience with blogs?	11.8	34.1	25.4	28.8	1.9
What has been your experience with wikis?	34.1	34.3	24.5	6.9	0.2
What has been your experience with social markers? (i.e.: De.licio, Diigo)?	71.8	16.6	8.9	2.3	0.4
What has been your experience with videoconferences via the web? (i.e.: Elluminate, Adobe Connect, Skype...).	24.0	34.7	15.7	20.7	4.8
What has been your experience with social networks? (i.e.: Facebook, MySpace, Ning...).	2.1	5.2	12.1	49.3	31.3
What has been your experience with publishing pictures? (i.e.: Flickr, PICASA, Facebook...).	4.8	12.3	23.4	45.8	13.8
What has been your experience sharing videos? (i.e.: Youtube, vimeo...)	8.7	18.9	31.6	31.4	9.4
What has been your experience with podcasting?	69.8	17.7	10.0	1.9	0.6
What has been your experience with 3D immersive software? (i.e.: Second Life).	84.1	11.2	4.1	0.0	0.6

(N=None. I don't have any idea about it, B=Beginner. I have some knowledge of it, I=Intermediate. I can do search, tags and comments, A=Advanced: I have my own account and can upload my own materials, files and resources, E=Expert: I know the majority of elements that are associated to this tool).

Table 5. The social software for learning purposes dimension

	NN	NI	I	VI	N
	%	%	%	%	%
How interested are you in using the wikis used on the courses you are taking?	5.6	25.3	49.8	7.9	11.5
How interested are you in using the social markers used on the courses you are taking? (i.e.: De.licio.us, Diigo).	13.7	32.4	34.8	3.5	17.0
How interested are you in having access to the videoconference tools that are employed on the courses you are taking? (i.e.: Elluminate, Adobe Connect, VIA).	7.5	23.4	50.1	9.5	9.5
How interested are you in having access to the social networks used on the courses you are taking? (i.e.: Facebook, MySpace, Ning).	2.7	12.1	51.2	32.1	2.0
How interested are you in having access to the social networks used on the courses you are taking? (i.e.: Facebook, Flickr, Picassa).	2.5	15.6	55.2	21.4	5.2
How interested are you in having access to downloading and video sharing tools used on the courses you are taking? (i.e.: YouTube, Vimeo).	1.0	6.2	56.4	34.6	1.9
How interested are you in having access to the podcasting tools used on the courses you are taking?	8.9	28.1	38.2	5.2	19.7
How interested are you in having access to social networks like Twitter and Facebook used on the courses you are taking?	3.7	11.6	45.5	37.8	1.5
How interested are you in having an e-portfolio like the one employed on the courses you are taking?	4.8	22.5	44.8	9.0	18.9

(NN=Not interested at all, NI=Not very interested, I=Interested, VI=Very interested, N=I don't know).

interested are you in having access to the podcasting tools used on the courses you are taking?»), the response rates for «not very interested» were somewhat higher: 32.4% and 28.1%, respectively, although the percentage for «do not know» was 17.0% and 19.7% respectively. This shows for the fact that there is a certain lack of interest in these technologies.

One of the goals of our study was to find if there were any statistically significant differences between the university students comprising our sample. In order to achieve this objective we considered the four main dimensions that constitute the questionnaire: «learning preference», «technical and technological skills», «social software experience» and «social software for learning purposes». In all cases the hypotheses we formulated were:

- H0 (null hypothesis): there are no significant differences between the students from the different universities, with an alpha risk of 0.005.
- H1 (alternative hypothesis): there are significant differences between students from the different universities, with an alpha risk equal or less than 0.05.

The statistic used for this was the Kruskal-Wallis test (Gibbons & Chakraborti, 2003) for independent samples, carried out using the SPSS program, version 18. Table 6 presents the results.

The results allow us to reject H0 formulated for the «technical and technological skills» and «social software experience» dimensions, and also for «learning preference» and «social software for learning», with

an alpha margin of error of 0.05. In the case of rejection, we would accept H1, referring to the existence of differences.

In order to find out which universities presented differences after rejecting H0, we applied the Kruskal-Wallis statistical multiple comparison test, specifically the Dunn test (1964). The results obtained are in table 7.

As we can see, the only significant differences appeared between the students of the University of Sevilla and the Basque

Country, with the latter showing a greater preference for work group (average = 3.5646). In the case of social software for learning purposes, the results are presented in Table 8.

In this case, the differences were established between the students of the University of the Basque Country with those of Córdoba and Sevilla. The highest scores occurred in the Basque Country (average = 3.1011), compared to those of Córdoba (average = 3.0666) and Sevilla (average = 2.8672).

#### 4. Conclusions

The study shows that students, regardless of their university of origin, show considerable interest in working together and collaboratively. This is of utmost importance since we are constantly talking about the potential of networked collaborative work and networked collaborative virtual training. But this would not be possible if students held negative attitudes toward teamwork and collaborative work, as our research shows.

As noted by various studies (Holcomb & Beal, 2010; Rollet, Lux & al., 2011), this paper shows that students are not as competent in handling technologies as certain sectors have been saying, and that they show notable shortcomings with regard to digital competen-

Table 6. Kruskal-Wallis statistics (\*\*=meaningful at 0.01)

	N	K-Wallis	GI	Significance level
Learning preferences	528	27.068	3	0.00 (**)
Technical and technological skills	523	0.947	3	0.814
Social software experience	523	1.736	3	0.629
Social software for learning purposes	523	21.749	3	0.000 (**)

**Table 7. Meaningful differences between universities in «learning preferences»**

Samples	Statistical test	Standard Error	Dev. Statistical test	Significance
Sevilla-Basque C	-78.642	15.959	-4.928	0.000 (**)
Huelva- Basque C	-16.625	30.817	-0.539	1.000
Córdoba- Basque C	31.428	22.112	1.421	0.931
Sevilla-Huelva	62.017	29.237	2.121	0.203
Sevilla-Córdoba	-47.214	19.851	-2.378	0.104
Córdoba-Huelva	-16.625	30.817	-0.539	1.000

(Note: \*\*=meaningful at 0.01).

ces for the educational management of Web 2.0 tools. This leads us to affirm that those teachers who want to apply these technologies to their classes must first set up training for students to achieve at least an adequate technological-instrumental level of competence in the use of these tools. The teachers would be justified in their decision since the data found in this study indicate that students are certainly interested in learning how to handle and use 'social media' and they are willing to incorporate them into their educational practice.

The stated objectives were to know whether there were significant differences among Primary Education undergraduates in terms of their university of origin. In this regard it can be concluded that the data found, except for certain nuances, are similar in the four universities both in terms of significant insights into teamwork their mastery of Web 2.0.

On the other hand, this work validates the experiences being carried out in order to incorporate the Facebook and Twitter social networks into university education since these are the networks students most commonly use, as is also shown in other studies (Holcomb & Beal, 2010). The preponderance of one network over the other depends on the universities where the students study, possibly as a consequence of their own experiences with the individual network. At the same time we find that the experiences that students have of social networks is far greater than their knowledge of professional networks, which is virtually non-existent. In that case, teachers should make an effort to familiarize students with them.

We believe that this work provides a useful tool for the diagnosis of students' perceptions of teamwork, collaborative work and the skills that need to be incorporated into Web 2.0 teaching tools.

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**Table 8. Meaningful differences between universities in Social software for learning purposes»**

Samples	Statistics test	Standard Error	Dev. Statistical test	Significance
Basque C.-Huelva	57.100	30.478	1.873	0.366
Basque C.-Córdoba	-61.477	21.883	-2.809	0.030 (*)
Basque C.-Sevilla	73.243	15.848	4.622	0.000 (**)
Sevilla-Huelva	-4.377	32.615	-0.134	1.000
Sevilla-Córdoba	-16.143	28.914	-0.558	1.000
Huelva-Córdoba	11.766	19.646	0.599	1.000

(Note: \* = meaningful at 0.05; \*\* = meaningful at 0.01).

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