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Use of Twitter among Spanish communication-area faculty: Research, teaching and visibility
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Abstract

The relationship of social media and undergraduate students has been widely analyzed but studies regarding faculty's point of view are scarce. This study explores the use of Twitter in Spanish communication-area faculty members. A total of 211 respondents answered an online survey. Most of these answers consider Twitter a tool for enhancing public visibility rather than educational interaction. Though the youngest faculty members start considering Twitter a tool for consulting and disseminating information, communication via Twitter is still unidirectional.

Contents

Introduction

Social networking sites (SNS) have become a new sphere where many events and aspects from public life occur (van Djick, 2012). These platforms are useful tools for enhancing communication and participation among individuals in terms of cultural, political or scientific contexts (Claussen, *et al.*, 2013).

SNS have emerged as a new rhetorical space or a twenty-first century agora (Berlanga, *et al.*, 2013) in which social and contemporary relationships take place, including educational and academic processes related to higher education institutions. However, research on the way those emerging social media platforms are used by faculty members is scarce (Veletsianos, 2013).

The Internet's early uses in a university environment were related directly to the institutional communication (Duart, 2011), and SNS were not the exception in this respect. In fact, universities mainly use SNS for spreading information and managing their public image (Guzmán, *et al.*, 2012).

Faculty members rely on technology, in general, and social media, in particular, for improving instruction and promoting active learning in students (Tess, 2013). Research on the use of Twitter as a teaching tool highlights more potential gains to encourage participation, engagement, reflective thinking, and collaborative learning (Gao, *et al.*, 2012). Learners have provided positive feedback when using these tools (Cartledge, *et al.*, 2013).

Some early studies pointed out that faculty members preferred the use of more traditional tools, such as the e-mail, instead of SNS (Roblyer, *et al.*, 2010). However, studies dealing with the use of SNS among faculty members have particularly analyzed the teaching side and ignored research (Seaman and Tinti-Kane, 2013).

Other studies have focused on the use of SNS by faculty members in research at different stages of their work (Rowlands, *et al.*, 2011), in order to reach a larger audience and a more diversified public (Torres-Salinas and Delgado-López-Cózar, 2009).

Sone studies have opted for cases of a concrete institution (Madhusudhan, 2012), while others

have focused on analysing messages posted via Twitter by an international sample of faculty members (Veletsianos, 2012). In this study, the purpose of messages by faculty was to share information and resources related to their professional practice, build their public image, and establish and manage their contacts. There was, however, a problem of representation, since the study was limited to those with a high number of followers on Twitter.

Other studies have focused on academic SNS rather than other more popular and generic platforms, such as Facebook or Twitter, which are differently viewed and used by scholars (Jordan, 2014).

The aim of this research is to offer an overview about how and why communications faculty members use Twitter, including members widely experienced in using the platform and those early in their professional career. This study has been carried out in Spain, due to the popularity of certain SNS among Spanish Internet users. In fact, Spain holds the fourth position — together with Czech Republic — in the use of such platforms (Pew Research Center, 2012).

Twitter is the third most visited SNS in Spain and the second SNS that is most frequently used per week (Interactive Advertising Bureau Spain, 2015). Twitter has been chosen instead of Facebook because, contrary to other SNS, it is considered a scholarly communication medium (Priem, *et al.*, 2011). It is a topic of research based on the number of Spanish scientific journals on Twitter, almost three times those with a Facebook account (Segado-Boj, 2013).

Belonging to a concrete knowledge domain influences the communicative practice of scholars (Cherney, *et al.*, 2013). By selecting a sub-group of faculty members (in our case, communications faculty), we can delve deep into motivations that boost their presence on Twitter and the objectives they pursue through their activity on it. Other studies focusing on the state of art of e-research among Latin American faculty from communication (Arcila, *et al.*, 2013) have pointed out that 62.34 percent use SNS.

The purpose of this study is to examine why Spanish faculty in communications use Twitter, focusing on their motivations.

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Hypotheses and background

This study sets out three main hypotheses (divided at the same time into a group of sub-hypotheses) related to research and teaching activity and to the social presence of faculty members. These hypotheses align with expected reasons for using Twitter as noted below.

The first hypothesis claims that *communications faculty use Twitter as a tool to disseminate and consult information for their research (H1)*.

Many researches predict that Web 2.0 will enable a new world characterised by a more open and collaborative universe of ideas (Acord and Harley, 2013). SNS allow faculty to interact with other colleagues all over the world, publish their manuscript drafts, and invite other partners to comment, review and even criticise their work before publishing it in a journal (Conole, 2013). SNS also allow the users to disseminate and expand the potential audience of scientific papers, such as in health science (Van Eperen and Marincola, 2011).

However, not so many scholars participate actively in social media for disseminating their research to a wide target audience, since traditional academic journals and face-to-face communication are still preferred among scholars (Wilkinson and Weitkamp, 2013). Social media services as blogs, videos/YouTube, RSS feeds, Twitter feeds, comments on articles, podcasts, etc., represent a rich source of reading material for scholars (Tenopir, *et al.*, 2013).

On the other hand, SNS can improve not only scholarly communication, but also collaboration (Codina, 2009).

As mentioned before, *H1* can be subdivided into several statements. This study is aimed at checking if communications faculty use Twitter to:

- distribute their research (*H1.1*);
- disseminate other colleagues' research (*H1.2*);
- consult the research of other colleagues (*H1.3*);
- request help about research in progress (for example, bibliographies, methodological aspects, etc.) (*H1.4*);
- offer scholarly assistance to others (*H1.5*); and,
- disseminate collections of resources (repositories, databases, etc.) (*H1.6*).

The second hypothesis of this study sets out that *communications faculty use Twitter as a tool for public visibility and professional relations (H2)*.

Simplicity and low cost are the main features of SNS when establishing new contacts (Grabowicz, *et al.*, 2012), which causes more social capital in users rather than in non-users (Brandtzæg, *et al.*, 2010). SNS — together with blogs — constitute tools for building online visibility and personal

branding (Harris and Rae, 2011), a strategy that scholars are also starting to follow (Weller, 2011). Others state that the use of SNS is deeply related to civic engagement (Brandtzæg and Heim, 2011) or to spread information about conferences (Ross, *et al.*, 2011).

As far as sub-hypotheses of the second hypothesis are concerned, this study aims to verify whether communications faculty use Twitter to:

- manage and establish new contacts with other faculty members and scholars (*H2.1*);
- keep in touch with other colleagues (*H2.2*);
- build and manage their public image and their online reputation (*H2.3*);
- spread scientific events (conferences, seminars, workshops) they organise or in which they participate (*H2.4*);
- offer their opinion about themes related to educational or scientific policies (*H2.5*); and,
- express their opinion about the latest general themes (*H2.6*).

Finally, the third hypothesis asks if *communications faculty use Twitter for educational purposes and as a tool for communication with their students (H3)*.

This last hypothesis is directly related to the use of Twitter as a teaching tool to foster communication between faculty and students (Chamberlin and Lehmann, 2011; Johnson, 2011) and to stimulate the teaching-learning process (Guzmán, *et al.*, 2012). As widely known, microblogging is a form of communication supporting informal learning beyond classrooms (Ebner, *et al.*, 2010). Social media have been proven to become a more convenient platform for sharing educational resources than other e-learning tools (Jong, *et al.*, 2014).

Despite the benefits for students (Arquero and Romero-Fría, 2013; Hung and Yuen, 2010) faculty members have been reticent in using SNS in teaching (Roblyer, *et al.*, 2010). On the other hand, SNS can constitute an effective tool for providing tasks to students (Subires and Olmedo, 2013).

Therefore, the sub-hypotheses try to verify whether communications faculty members use Twitter to:

- stimulate the teaching-learning process for students (*H3.1*);
- propose activities to students (*H3.2*);
- increase and update information offered in the classroom (*H3.3*);
- inform students about employment opportunities (*H3.4*).

Material and methods

A descriptive approach was followed to assess in depth the impact of Twitter on scholars and their professional activities. The sample chosen for this study belongs to a concrete knowledge domain and geographical area. This strategy was used to understand better the changes caused by technologies in our society, in general (García-Martín and García-Sánchez, 2013), and in teaching, in particular (Thompson, *et al.*, 2003). This descriptive approach also enables us to extract data to formulate hypotheses and establish further comparison with wider samples of users from different academic fields and countries.

An online survey was used for this study. Focusing the research on a concrete group marks out a manageable universe through a sample. We sought to explore all the faculty members teaching in both undergraduate and postgraduate courses in the area of communications and present on Twitter.

For collecting our sample we searched for faculty members in communications departments appearing on the Web sites of Spanish universities. For those faculty members who were not found on Twitter, we opted for searching in Twitter as well as in official accounts of universities, departments, degrees, postgraduate courses on communication, and through other communications faculty members with a Twitter account.

This procedure enabled us to collect a sample of 379 faculty members from 40 different centres with a Twitter account. They were invited through e-mail messages to participate in an online survey — available from 23 May to 8 July 2013 — about their use of Twitter. A total of 211 faculty members fulfilled the survey, or 55.6 percent.

A close-ended survey was chosen in order to reduce ambiguity, allow comparisons and demand less effort from survey respondents (Cea D'Ancona, 1998). The survey — designed and elaborated through Google Drive — had 32 variables, divided into the following themes:

- Twitter as a tool for scientific dissemination;
- Twitter as a tool for public visibility; and,
- Twitter as a teaching tool.

Each theme gathers six or seven questions related to the frequency of the respondents to carry out tasks and activities via Twitter: seven in the first group, seven in the second and six in the third. All the questions appear in figures displayed in the Results section.

Two experts on methodology in the social sciences were sent the survey draft. Once those experts suggested changes on some variables, the final survey was sent to the whole sample.

All of the answers were managed statistically with the programme PSPP, a free statistical analysis programme similar to SPSS (Statistical Package for the Social Sciences), to develop statistical tests so as to check factors which might be correlated with the uses of Twitter according to different sociodemographic variables. The Kruskal-Wallis test was used to compare more than two groups, while Mann-Whitney U was employed to compare two groups. Concretely, issues of gender (male/female), age, academic position (early career, tenured) and the nature of the courses taught by the respondent (related or not related to digital communication) were also considered.

Results were considered significant when the associated probability was lower than 0.05 (that is, a margin of error of five percent).

Results

Most of our respondents were between 31 and 50 years old (79.2 percent) and held a Ph.D. (73.9 percent). As far as the gender is concerned, 57.4 percent were male faculty members; with regard to the type of university, 56.9 percent were teaching in a private institution. As for the frequency of use of Twitter, 66.4 percent answered that they use it everyday, while 27 percent noted that they used Twitter at least once a week.

There were varied reasons why our respondents decided to utilize Twitter, but the most popular reason (32.7 percent) was that they like being updated about ICT tools (see Table 1).

Table 1: Reasons for using Twitter. Note: N=211.	
Reason	**Percentage**
To stay up-to-date about ICT tools.	32.7
For professional purposes, not related to the university context.	20.9
My opinion does not fit the possible answers provided in this survey.	17.5
Public visibility.	15.6
For personal reasons, not related to the academic and professional world.	8.5
My university recommended its use.	2.8
My department colleagues are on Twitter.	1.0
I do not know why I registered on Twitter. It was an impulsive act.	0.5
Don't know/did not reply.	0.5

As for the advantages for using Twitter, different answers were extracted from respondents but the most frequent (44.6 percent) was that they received information of personal and professional interest (see Table 2).

Table 2: Advantages in using Twitter. Note: N=211.	
Advantage	**Percentage**
Obtain information of personal and professional interest.	44.6
Public visibility and personal branding.	19.0
Sending information.	12.8
Simplicity.	9.9
Establishing contacts in the academic world.	5.7
Other advantages.	4.3
Don't know/did not reply.	1.4

Establishing contacts with students.	1.4
Twitter has no advantages.	0.5
Freeware.	0.4

Twitter as a tool for scientific dissemination

More than 50 percent of the respondents recognized that they use Twitter as a tool to release their own publications and research results (see Figure 1) in articles, books or conference contributions, either as single authored or jointly authored papers. This frequency of Twitter use is divided among users employing the platform everyday (4.3 percent), at least once a week (13.3 percent) or at least once a month (40.8 percent).

The dissemination of other research through Twitter was greater (almost 70 percent: 8.1 percent everyday, 31.7 percent once a week, and 29.9 percent once a month) than the dissemination of their own papers.

A large number of faculty (51.2 percent) used Twitter to distribute collections of resources, such as repositories or databases (3.8 percent everyday, 15.2 percent once a week, and 32.2 percent once a month).

Even though Twitter was considered an appropriate tool for research dissemination, there was some evidence of different behaviour. Some researchers did not cite works recommended via Twitter (37.9 percent) while some researchers cited some works found via Twitter but not frequently (33.7 percent).

Sixty percent of the youngest faculty members, between 20 and 30 years old, perceived of Twitter as a useful source for their research, since they occasionally cited papers found on this platform. On the other hand, 42.2 percent of faculty members aged 41–50 years old answered that they had never used this platform for this specific purpose.

A large number of researchers (77.3 percent) did not use Twitter for help in their research. Some respondents (66.9 percent) offered to help research in progress by other scholars.
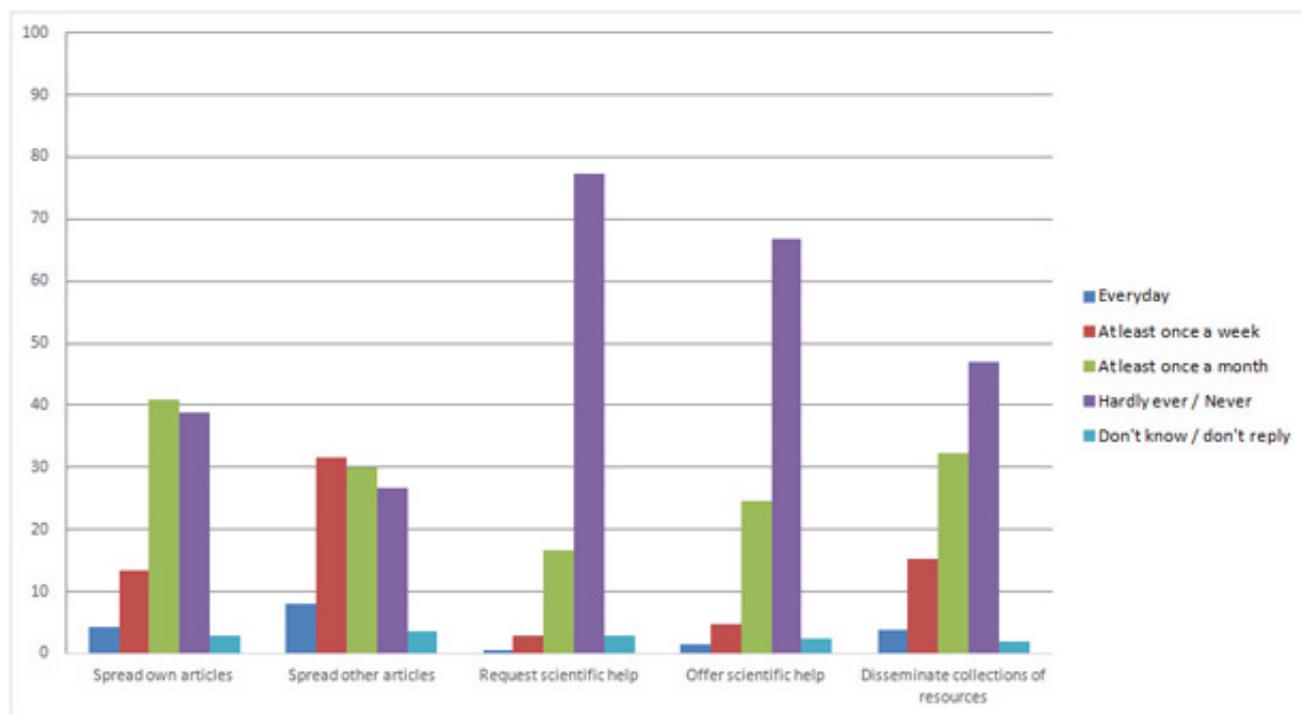
Figure 1: Use of Twitter for scholarly communication. Percentage of answers to the question: 'How often do you use Twitter to ...?'

Note: Larger version of image available here.

Regarding *H1* (Twitter as a tool for scholarly dissemination), three sub-hypotheses have been ratified (dissemination of personal research; research of others, and collections of resources) while the other three have been refuted (consultation of other scholars' papers; request for

assistance in their own research; and, offer assistance to research in progress). Therefore, *H1* has been partially refuted as well as ratified by this study.

Twitter as a tool for public visibility

Most of the respondents (75.8 percent) answered that they use Twitter for expressing their opinion about current topics everyday (19 percent), at least once a week (34.1 percent) or at least once a month (22.7 percent) (see Figure 2). Although less numerous, a large number of respondents (59.3 percent) used Twitter to express their opinion about themes related to educational or scientific policies everyday (5.7 percent), at least once a week (22.8 percent), or at least once a month (30.8 percent). Participation or organization of events and scientific activities were also common among faculty members: 66.4 percent declared to have distributed information about them via Twitter everyday (3.3 percent), at least once a week (16.6 percent), or at least once a month (46.5 percent).

On the other hand, no significant differences were noted based on the kind of centres (public or private) in which faculty were found.

Twitter was also considered a tool for public visibility, as declared by the respondents (Figure 2): 69.7 percent claimed that they used Twitter to establish new professional contacts everyday (10.9 percent), at least once a week (19.9 percent), or at least once a month (38.9 percent). A similar result was found for respondents (65.4 percent) who claimed that they used the platform to stay in contact with other faculty members within their institution or from other institutions (6.2 percent everyday, 23.2 percent once a week and 36 percent once a month).

Figure 2: Use of Twitter as a tool for public visibility. Percentage of answers to the question: 'How often do you use Twitter to...?'

Note: Larger version of image available here.

On the other hand, almost half of the respondents (48.8 percent) considered that Twitter was used for building and managing their public image and online reputation, although 38.4 percent recognized that this was not their main purpose (Table 3).

Table 3: Use of Twitter for building and managing a public image and online reputation. Note: *N*=211.	
Answer	**Percentage**
Broadly speaking, I think so.	48.8

This is not my main purpose.	38.4
No, I use Twitter for personal purposes.	4.3
No, I use Twitter only for scholarly dissemination purposes.	3.8
No, I use Twitter for educational purposes.	2.4
Don't know/did not reply.	2.3

Sixty percent of the youngest faculty members, between 20–30 years of age, used Twitter to stimulate their public image and online reputation. On the contrary, slightly more than a half of the faculty members, aged 51–60 years old (54.5 percent), claimed that this was not the main reason why they exploited Twitter.

Almost six out of 10 male respondents (57 percent) explained that they use Twitter for personal branding reasons; branding was far less (37.8 percent) a reason for drawing on Twitter by women in the survey. Faculty affiliated with private institutions were more likely to use Twitter for branding (54.2 percent) than those faculty at public institutions (41.8 percent).

In light of these observations, *H2* was ratified by the survey.

Twitter as a teaching tool

In terms of putting Twitter to use for educational purposes, 58.3 percent of the respondents claimed that they post — everyday (6.6 percent), at least once a week (18.5 percent), or at least once a month (33.2 percent) — information about employment opportunities, grants or internships for their students (see Figure 3).

A high percentage of the respondents (69.1 percent) declared that they did not resolve (or hardly ever resolved) questions from students via Twitter. Most of the participants in the survey (72.5 percent) never (or hardly ever) used Twitter for strictly educational activities. Faculty did not share (49.8 percent) teaching material supplementing their lessons (examples, videos, texts for updating contents, etc.); only 23.2 percent claimed to use Twitter in this fashion at least once a month.

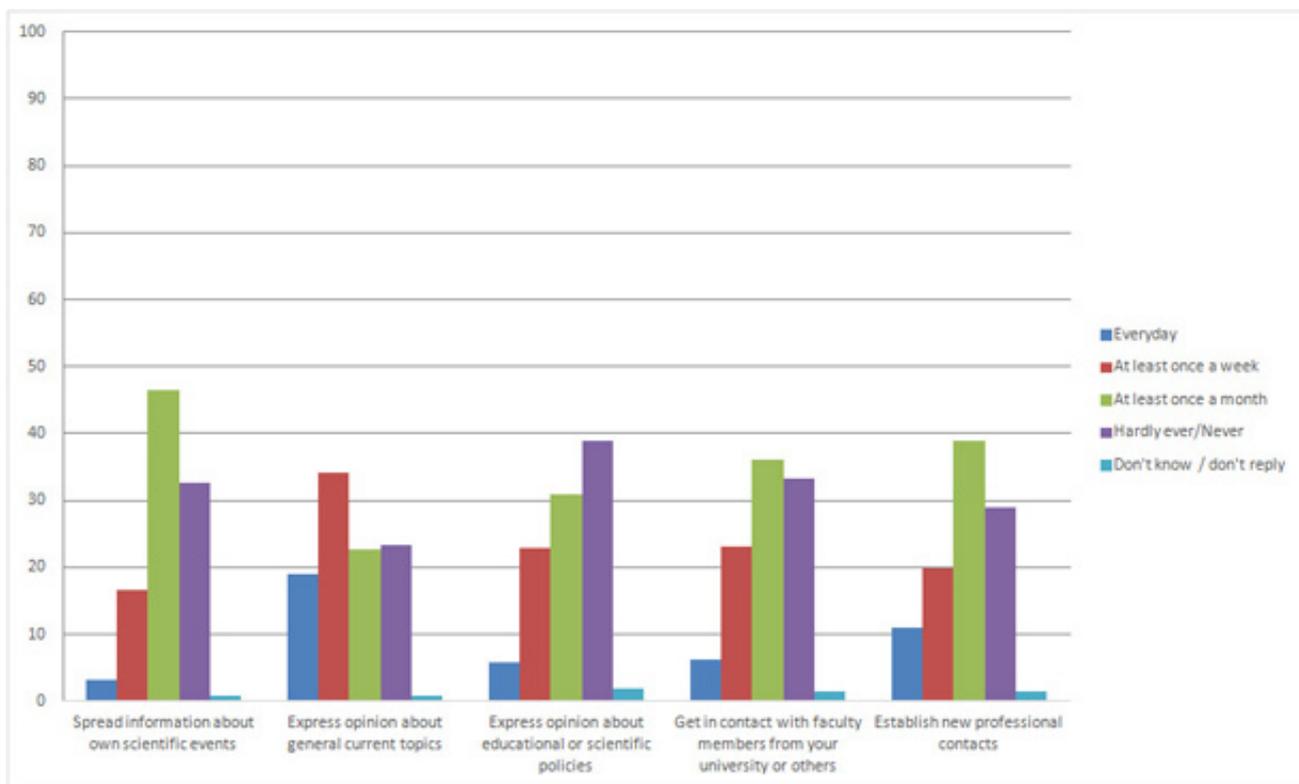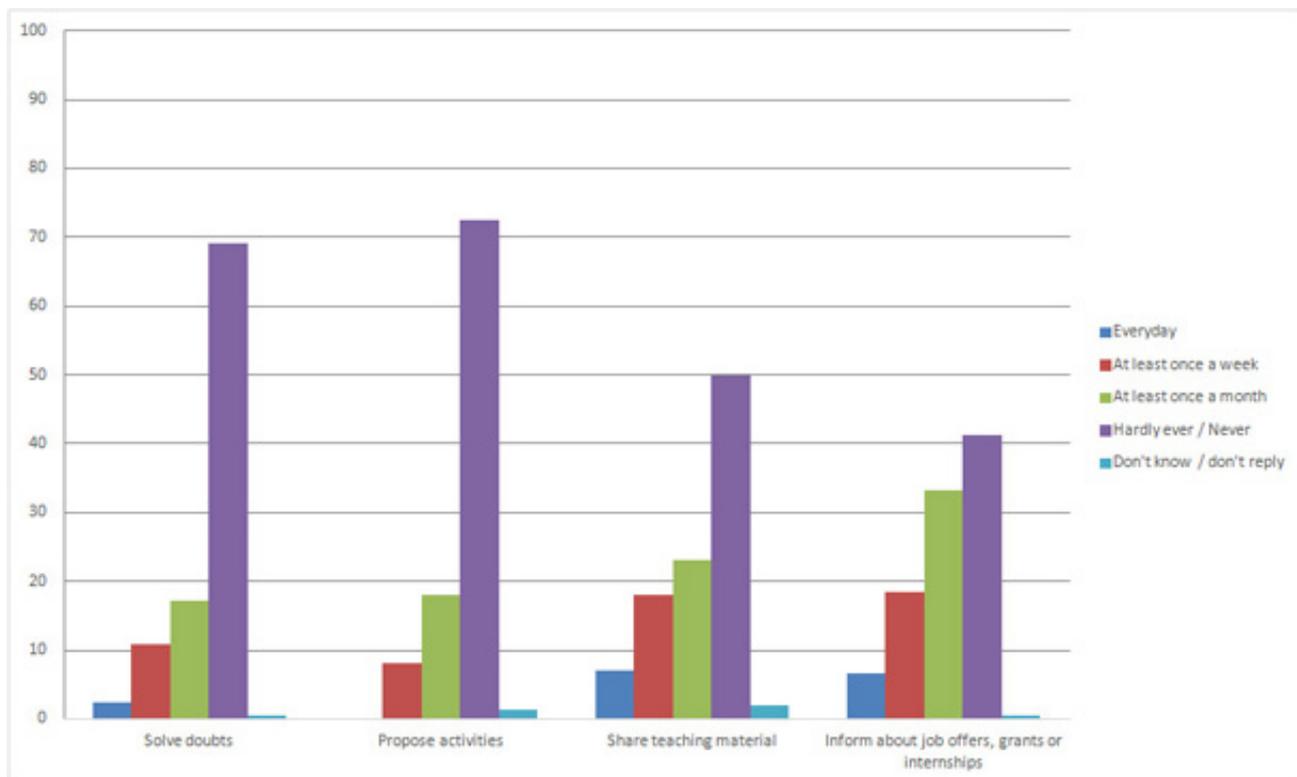**Figure 3:** Use of Twitter as a teaching tool. Percentage of answers to the question: 'How often do you use Twitter to...?'

Note: Larger version of image available here.

The dynamics of Twitter is based on following those individuals you might be interested in for diverse reasons, but also on being followed by different people. Therefore, one of the questions of our study looked into whether or not faculty members followed their students. The most frequent answer to this question (concretely, 36 percent of the respondents) was that they only follow students who are 'brilliant' or who post 'interesting' messages. Some faculty members (24.6 percent) followed their students only when those students had followed them. Few faculty (8.1 percent) decided to register for Twitter with a special account created exclusively to follow their students.

H3 is refuted, since most surveyed faculty do not press into service Twitter for strictly educational reasons.

Influence of socio-demographic factors on the use of Twitter

The Kruskal-Wallis non-parametric test found no evidence of academic position influencing the use of Twitter (U=5085.5; p=0.370). However, it must be pointed out that all respondents to this survey were academics with a Twitter account.

Since communication via Twitter might be seen as an extension of on-campus and off-campus lives (Sugimoto, *et al.*, 2015) patterns found in this study might indicate general attitudes towards scholarly communication.

Differences of use were found according to gender. Males tend to be more open and extrovert than females on Twitter. This tendency was also found professionally (men were more likely than women to distribute more their research papers and outcomes; men were more likely to utilize Twitter in other professional activities). Men posted more informal messages than women; men were more likely to express their opinions on news or other issues more frequently than women.

Table 4: Uses of Twitter according to socio-demographic factors. Note: *N*=Total number; *AR*=Average range.																		
	Gender				**Age**											**Teaching Internet-related courses**		
	Male		**Female**		**20-30**		**31-40**		**41-50**		**51-60**		**61-70**		**>70**		**Yes**		**No**
	N	*AR*	*N*	*AR*	*N*	*AR*	*N*	*AR*	*N*	*AR*	*N*	*AR*	*N*	*AR*	*N*	*AR*	*N*	*AR*	*N*	*AR*
Twitter as a tool for scientific dissemination																				
Spread own articles	92	83	61	68	10	87	79	77	44	74	18	81	2	74	0	0	98	76	55	78
Spread other articles	97	87	69	78	13	94	87	82	47	85	17	77	2	105	0	0	104	81	62	59
Request scientific help	73	67	56	63	7	85	69	70	41	59	11	50	1	44	0	0	93	64	36	67
Offer scientific help	68	61	51	58	9	74	59	61	39	57	11	57	1	28	0	0	81	57	38	67
Disseminate resource collections	85	79	69	76	12	101	80	80	45	69	15	65	2	106	0	0	98	71	56	89
	Gender				**Age**												**Teaching Internet-related courses**		
	Male		**Female**		**20-30**		**31-40**		**41-50**		**51-60**		**61-70**		**>70**		**Yes**		**No**
	N	*AR*	*N*	*AR*	*N*	*AR*	*N*	*AR*	*N*	*AR*	*N*	*AR*	*N*	*AR*	*N*	*AR*	*N*	*AR*	*N*	*AR*
Twitter as a tool for public visibility																				
Spread information about own scientific	87	81	72	78	11	107	81	84	51	70	15	74	1	69	0	0	107	80	52	80

	Gender				Age												Teaching Internet-related courses			
	Male		Female		20-30		31-40		41-50		51-60		61-70		>70		Yes		No	
	N	AR	N	AR	N	AR	N	AR	N	AR	N	AR	N	AR	N	AR	N	AR	N	AR
events																				
Express opinion about general current topics	98	93	74	78	17	97	85	85	48	82	19	93	2	154	1	30	114	85	58	89
Express opinion about educational or scientific policies	88	81	64	71	11	87	76	78	47	67	16	88	2	81	0	0	101	74	51	81
Get in contact with faculty members from your university or others	85	83	77	80	18	98	86	84	44	69	11	85	2	85	1	65	105	76	57	92
Establish new professional contacts	92	86	74	80	18	99	81	90	48	69	17	80	2	63	0	0	109	81	57	87
Post informal messages	85	86	67	65	15	82	74	80	45	71	15	75	2	58	1	50	94	76	58	78
Post messages about my professional activity	100	96	76	79	18	85	90	94	49	84	18	77	1	121	0	0	112	87	64	91
Twitter as a teaching tool																				
Solve doubts	94	84	68	79	14	99	81	85	51	77	13	67	2	50	1	50	107	76	55	92
Propose activities	96	84	68	80	13	102	78	81	55	82	15	84	2	55	1	55	105	76	59	93
Share teaching materials	100	91	70	78	13	90	88	88	53	81	14	87	2	64	0	0	111	80	59	96
Inform about job offers, grants or internships	94	87	74	82	12	94	85	90	52	75	17	80	1	136	1	24	109	81	59	91

Age was found to be another influencing factor with older scholars less prone to using Twitter in informal contexts and for answering queries or offering help.

Young scholars (20-30 years old) respondents answered that they frequently use Twitter to ask for help in their research. They also employ this tool to establish new professional contacts, but this difference was less significant.

Finally, the nature of the courses taught by faculty members also influenced their use of Twitter. As expected, faculty involved in courses about digital communication frequently used Twitter to answer questions, propose activities and share teaching materials. But teaching these kinds of courses had a wider influence. Faculty responsible for courses on digital communication also frequently use Twitter to contact other colleagues rather than faculty not involved specifically in these sorts of courses.

Discussion

Even though this research was restricted to Spanish faculty teaching in communications, the results may be extended to scholars in other disciplines.

There is certainly evidence that younger scholars are using tools like Twitter in their research, like other digital resources such as Google and even Google Scholar (JISC, 2012). The next

generation of scholars is using social media for their research, in ways quite different from their older colleagues.

Future studies should examine if these tendencies occur only on Twitter or appear on other platforms. Additionally, research should investigate if these trends are appearing in other scholarly disciplines, as there are wide variations in research between different kinds of scholars (Procter, *et al.*, 2010).

Further research should test the gender differences that we found in the use of Twitter, whether these results can be understood as an additional evidence of gender-based inequalities in academia (van den Brink and Benschop, 2012; Savigny, 2014).

Conclusion, limitations and further research

Spanish communications faculty appear to use Twitter mainly as a tool for public visibility and for disseminating research, but not as a teaching tool.

It is notable that the communication of ideas via Twitter seems unidirectional. Communications faculty use Twitter to share resources, but not to provide assistance. Twitter seems to be a research showcase rather than a stimulus for collaboration.

This unidirectionality might be related to efforts to boost the presence of faculty on this platform. Among the respondents there is a direct correlation between dissemination and public image construction: 56.5 percent of faculty members that frequently disseminated research on Twitter also used this platform for building and managing their public image and online reputation. Overall, 63.4 percent declared that they used Twitter platform to disseminate their own research.

This research is based on a limited audience of Spanish scholars in communications. The absence of open-ended questions limited qualitative evidence for some of the tendencies found in the survey.

However, this research is a starting point for new research to explore the use of Twitter by scholars in other geographic areas as well as in other scholarly disciplines **FM**

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Editorial history