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Additional Information

## **ESP vocabulary and social networking: the case of Twitter**

### **El vocabulario de IFE y las redes sociales: el caso de Twitter**

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#### **Abstract**

This paper reports on the results of an innovative study that applied a social networking tool to a task explicitly designed to practise specialised vocabulary. The exploratory study, framed within a blended learning approach, examined whether the use of Twitter, a microblogging tool, can help increase students' confidence in using ESP vocabulary. The research questions addressed the role of Twitter in enhancing vocabulary acquisition, in providing peer and teacher feedback, and promoting communication skills. The paper comes to the conclusion that ESP students do not frequently experience problems using vocabulary specific to their specialised field of study. In terms of peer feedback, often students simply approved their peers' Tweets, were unable to detect errors, and preferred feedback from their teacher. A significantly positive outcome is the role of Twitter in enhancing student participation. Additionally, regarding communication skills, a particularly important finding was the effectiveness of this blended approach in involving the learners in the classroom and beyond, creating the sense of a learning community.

**Keywords.** ESP, Twitter, vocabulary acquisition, social networking, peer response.

## **Resumen**

Este artículo se centra en los resultados de un estudio innovador que incorpora una red social a una tarea explícitamente diseñada para la práctica de vocabulario especializado. El estudio exploratorio, enmarcado en un enfoque de enseñanza semipresencial, examina si Twitter, herramienta de microblogging, puede contribuir a promover la confianza de los alumnos en el vocabulario de IFE. Las preguntas de investigación planteadas fueron el papel de Twitter en el fomento de la adquisición de vocabulario, la retroalimentación entre pares y por el profesor, y el papel de Twitter en la mejora de las habilidades comunicativas. La conclusión del artículo subraya que los alumnos de IFE no experimentan problemas frecuentes de vocabulario en su campo de especialidad. En relación a la retroalimentación entre pares, con frecuencia simplemente aprobaban los Tweets de sus compañeros, eran incapaces de detectar errores y preferían la retroalimentación proveniente de su profesor. Los resultados subrayan el papel de Twitter en el aumento de la participación. Además, en relación a las habilidades comunicativas, un resultado de especial relevancia fue la eficacia del método semipresencial en la implicación de los alumnos en la clase y fuera de ella, y la creación de una comunidad de aprendizaje.

**Palabras clave.** IFE, Twitter, adquisición de vocabulario, redes sociales, retroalimentación entre pares.

## **1. Introduction**

While new technologies were not originally designed for education, their present everyday use has allowed their incorporation into the language classroom. The appropriate use of technologies like computers or smart phones for learning has been a crucial point of departure in many studies on language learning through new media. As Zhao (1996) adeptly contended in the early days of this field of research, the successful incorporation of technologies in education basically depends on a clear understanding of the technology and on the achievement of a set of well-defined objectives based on a sound learning approach. With these premises in mind, the study outlined in this article aims to implement a blended learning approach in a university-run English for Architecture course, which was based around both face-to-face and online meetings. In our blended learning approach, the element that was blended with the face-to-face component was students' participation using Twitter.

The paper reports on how a microblogging tool can promote the development of students' confidence in using vocabulary appropriately. The study was particularly concerned with the effectiveness of Twitter in terms of specialised vocabulary acquisition; in other words, students' ability to use the lexical resources needed in the discourse of their discipline (Peters & Fernández, 2013). We compared the specialised vocabulary acquisition of students who used new lexis in original sentences on Twitter with that of those who did not use this Web 2.0 tool for the same purpose. The influence of peer revision in the learning process was also examined. The role of Twitter in reinforcing communication skills was the final focus of this research.

## **2. Twitter and language learning**

Originating in 2006, Twitter describes itself as “a real time information network” (Twitter, 2014) that connects users to the latest stories, ideas, opinions and news that interest them through the exchange of online messages called Tweets. This application permits users to write messages of up to 140 characters in length which, as Hattem (2013) suggests, equates to approximately 30 words in English.

One of the most important features of Twitter is addressivity, whereby a message is prefaced by the nickname of the intended addressee (Werry, 1996). Users can follow threads of conversation by mentioning another user with the symbol @ and a username, or engage in a topic or hashing by adding # to it. From Twitter’s initial goal of responding to the question “What’s happening?”, this tool has evolved rapidly and is now used for other purposes as well, like in emergencies such as natural disasters, and to discuss and promote social and political issues, because it embodies that which is highly prized in communication today: the diminutive, the brief and the simple (Eco, 2002).

It is different from other networking sites, such as Facebook, because most of its activity is public (Leaver, 2012). Recently, with the popularisation of smart phones, its number of users has increased dramatically. Now it is used mainly on mobile devices. For example, in February 2014, 76% of Tweets were posted using mobile devices like smart phones or tablets (<https://business.twitter.com/whos-twitter>). The strength of Twitter in terms of communication is its ubiquitous character, given that it can be easily accessed everywhere.

At the moment, this microblogging tool has more than 600 million active users (Twitter, 2014).

As a consequence of its popularity and features, this social media platform has recently been incorporated in some learning environments to promote a fast exchange of ideas, brainstorming, or reflective thinking. Enhancement of the learners' attitude as regards participation, engagement or sense of community as a result of using Twitter has been positively assessed in some interventions (Junco et al., 2011).

In the language classroom, the incorporation of Twitter is also incipient. Research by Borau et al. (2009) concluded that Twitter tools lead students to actively produce language by giving them opportunities "to express themselves and interact in the target language" (Borau et al., 2009: 78). The language skills which Twitter has been used to develop have mainly dealt with writing and, in particular, collaborative writing skills, such as in the article by Luo and Gao (2012). Regarding grammar, the study by Hattem (2013) concluded that Twitter may favour the acquisition of new grammatical constructions as well as their long-term consolidation, especially for visual learners. Likewise, recent research has confirmed that the convenience of Twitter suits the needs of busy students, regardless of their level of language competence, because they can choose topics and grammatical structures appropriate to their language level (Borau et al., 2009).

One aspect of using Twitter in language education that has been the focus of academic debate is the effect of the limitation of characters on sentence production. On the one hand, Castrillo de Larreta-Azelain (2013) remarks that writing messages of up to 140 characters may be an easier and less intimidating way of starting to write in the target language. The

length constraint on messages has also been considered the strength of Twitter in peer reviewing tasks since, in Ebner's and Maurer's (2009) view, students never read long essays from other students. On the other hand, research has revealed that brevity can be a drawback for language learning, due to the fact that students may be anxious when they have to summarise ideas in such short texts (Ruipérez et al., 2011).

These studies make an undisputable contribution to the field, but according to Wang and Vasquez (2011) further research is still needed to investigate the pedagogical uses of Twitter.

In the context of ESP and English for Academic Purposes (EAP), computer-based language learning in specialised contexts and Web 2.0 technologies have been researched extensively (see, for example, Warschauer, 2002; Murray et al., 2007; Zorko, 2009; Kuteeva, 2011; Pérez-Sabater & Montero-Fleta, 2012; Perea-Barberá & Bocanegra-Valle, 2014; Rodríguez Arancón & Calle Martínez, 2014). However, while the Web, blogs and wikis have gained the interest of scholars, to our knowledge, no experiments with Twitter and ESP have been published yet.

### **3. Theoretical background: vocabulary acquisition**

Since the 1990s, a great deal of English as a Second Language (ESL) literature has focused on vocabulary acquisition and learning as well as on the role of vocabulary in reading (Laufer, 1997), writing (Muncie, 2002), listening (Ellis, 2003) and speaking (Hincks,

2003), since learning a second language (L2) involves knowing a large number of words (Laufer & Hulstijn, 2001).

The techniques for teaching vocabulary have been broadly examined during the last 30 years, and the results of these examinations have provided useful information for learners, teachers, and coursebook and curricula designers (Folse, 2006). Important factors that affect vocabulary acquisition are based on issues put forward by Schmidt (1993) related to conscious and unconscious learning, such as incidental and intentional learning, attention and learning, and implicit and explicit learning. Special value was given by Schmidt (1993) to the notion of awareness in language learning. In this line of thought, in the comparison of explicit teaching and incidental learning, researchers have favoured explicit vocabulary teaching over incidental learning, since the latter shows poor results in vocabulary retention (Folse, 2006). Nevertheless, despite this recent interest in the formerly neglected area of vocabulary learning, Folse (2006) argues that the bulk of L2 vocabulary research has been devoted to the learner, specifically to the words learners need to know and the method of presentation –that is, explicit or implicit techniques– whereas little attention has been devoted to the type of written activities that follow the presentation of new vocabulary items which may promote their better acquisition. In this respect, studies have showed inconsistent results as far as which type of exercise involves deeper processing, a perspective taken from cognitive psychology that entails better retention of knowledge (Horst et al., 2005), and what exactly depth of processing involves (Laufer & Hulstijn, 2001). Notwithstanding the relevance and interesting nature of the topic, retention and deep processing are beyond the scope of this article.



With regard to ESP research, the study of vocabulary has been a crucial issue since it has been widely recognised that ESP students have very particular linguistic needs in their communities of practice, their discourses and the types of documentation they use (Northcott & Brown, 2006). Moreover, given that their professional decisions and judgements will be based upon their command of specialised language, vocabulary practice should be an important part of ESP learning resources (Peters & Fernández, 2013).

Currently, there is a heated debate about the value of common academic vocabulary corpora in meeting the learning needs of different ESP learning communities (e.g., Coxhead, 2000; Hyland & Tse, 2007). While some scholars defend the use of a single core vocabulary for all disciplines, called sub-technical, others question the suitability of this common list to all disciplines and recommend the elaboration of a technical repertoire, one which is more restricted and discipline-based, as suggested by Hyland & Tse (2007). In this controversy between the wide versus the narrow approach, Belcher (2006) suggests that this issue will depend greatly on the type of students and that instructional decisions should allow learners a voice in content selection.

ESP practitioners usually play the role of researchers, curriculum designers and materials developers, as Belcher (2006) suggested. In our course, the university decided upon the learning materials and we only played the role of English language teachers. Consequently, no decisions were made regarding the dichotomy of academic versus more discipline-oriented vocabulary strategies for architecture, a particularly difficult field of study because of its interdisciplinary character (Peters & Fernández, 2013). The conventional ESP course is based on an eclectic approach which includes some discipline-oriented vocabulary, while the majority of instruction focuses on academic and professional repertoires. It follows the

guidelines proposed by Peters and Fernández (2013) on the vocabulary needs of postgraduate architects who, in their opinion, have a higher need for abstract and scientific words rather than technical architectural terms. Our study tried to supplement and enrich the vocabulary exercises found in the commercial coursebook for English for Architecture used at the university, by devising microblogging-based activities with the purpose of shedding light on the adequacy of Twitter for learning specialised vocabulary.

#### **4. Preliminary pedagogical considerations: Blended learning and peer review**

Before describing the study in detail, it is necessary to frame it in the context of the pedagogical approaches on which it is based: blended learning and peer review. Blended learning combines face-to-face and online meetings (see Whitelock & Jefts, 2003; Dziuban et al., 2004; Borau et al., 2009, among others). The ongoing convergence of these two learning environments has been debated from different angles. For instance, the integration of traditional learning with web-based online approaches (Whitelock & Jefts, 2003), the technologically-enhanced active learning possibilities offered by text-based asynchronous Internet and the higher level of interaction involved in online interactions (Dziuban et al., 2004), the effectiveness of blended learning, the transformative potential of the approach in the context of the challenges facing higher education, or specifically in the design of a course based on the blended learning approach (Hoic-Bozic et al., 2009). However, in spite of scholarly interest in the topic, authors have claimed the need for a closer investigation of the integration of technology to improve the learning process “in terms of depth and scope” (Derntl & Motschnig-Pitrik, 2005: 111), or the characteristics and outcome of online peer response (Cha & Park, 2010).

Peer response or peer review is a pedagogical approach which requires students to give feedback on their classmates' written interactions. This pedagogical approach has been applied to traditional writing courses (see, for example, the article by Paulus, 1999). Nowadays, online peer feedback is becoming increasingly popular to foster opportunities for language practice and to enhance students' active role in collaborative learning (Cha & Park, 2010). Differences in technology-enhanced versus traditional peer corrections and the type and nature of revisions have been evaluated by researchers like Liu and Sadler (2003). Motivation, participation and collaboration are, among others, the benefits mentioned by online peer feedback approaches in academic writing (Warschauer, 2002). With regard to language improvement, Hattem (2013) claims that correcting feedback in a Computer-Mediated Communication (CMC) environment may favour the noticing of one's errors in the target language. In our study, the students peer reviewed their partner's Tweets, giving feedback on the errors detected, as explained extensively in the next section.

## **5. The study**

Any type of blended learning experience should be formally designed, as recommended by Bonk and Graham (2006). Our study tries to contribute to blended learning by drawing on the fact that the parameters for designing a learning environment should focus on "optimizing achievement of learning objectives by applying the 'right' learning technologies to match the 'right' personal learning style to transfer the 'right' skills to the 'right' person at the 'right' time" (Singh & Reed, 2001: 2).

This section describes the scenario of the study, the research questions addressed, the procedure carried out and an explanation of the sources for data collection.

### **5.1. Participants**

The educational environment in which this study was applied is a university subject, English for Architecture. This 9 ECTS-credit course aims to improve students' language proficiency at an intermediate level in discipline-oriented and general academic and professional lexis as well as specialised writing and speaking. This course is a compulsory subject in the last year of the degree, therefore many students are already on internships in architectural firms and blended learning may be the suitable approach for them to complete the required tasks for the practical sessions (25% of the course; the sessions are carried out online). In the year 2012-2013, a total of 75 students were enrolled in this course. The group under investigation was homogenous: they shared the same subject field, architecture, and had similar cultural backgrounds (they were all born in Spain except for two girls born in Colombia and Ecuador but who had been living in Spain for 20 years). Their ages ranged from 20 to 27. The number of males and females was balanced. The students were distributed into three groups of 24, 25 and 26 students by the administration officers. One group received traditional vocabulary instruction on paper: the control group or Group C. Meanwhile the other two groups used Twitter as a learning tool; these are study Groups A and B. This assignment was carried out randomly by the course teachers.

As for the students' use of Twitter, it is important to mention that 57.3% of the participants were active users of Twitter before the experiment; for 43.7% it was a new tool.

## 5.2. Research questions

Our study focused on the following research questions:

Research question 1: Does writing original sentences on Twitter contribute to specialised vocabulary acquisition as an explicitly-designed vocabulary task?

Research question 2: Are students competent in providing accurate feedback on Twitter?

Research question 3: Does participation on Twitter reinforce communication skills?

## 5.3. Procedure

Several steps were followed to answer these research questions.

1. At the beginning of the course, an instruction phase was carried out on the use of Twitter and on how to focus on the learning content, as suggested by Luo and Gao (2012). In addition, one study group received instruction on the different ways of responding to peers' errors<sup>1</sup> following Sauro's (2009) study on corrective feedback on grammatical errors. The students were asked to notice their peers' errors in vocabulary use and respond to them by either recasting, that is, reformulating the sentence using the adequate word, or by means of a metalinguistic prompt (see Table 1). For the purpose of this research, Group B received instruction on peer review while Group A did not.

Responses to Errors	Operationalization of Response to Target Form Error	Example

Recast	Reformulation of S: These sport the full sentence installations cover a containing the wide range of sports. error.	A.: These sport facilities cover a wide range of sports.
Metalinguistic Prompt	A scripted meta S: These sport statement installations cover a reminding the wide range of sports. student to avoid false friends.	A: This is a false friend, be sure to use the correct word.

Table 1. Ways of peer responding to vocabulary errors adapted from Sauro (2009).

2. The students created a new account on Twitter to avoid interference from Tweets from previous followers.
3. The teacher devised two lists for each group of participants and added students to each list.
4. In each group, the participants in the study started following each other, including the teacher, an important step in the process of creating a sense of community.

5. Following Twitter's initial goal of responding to the question "What's happening?", the participants posted their responses to the questions suggested by the teacher including the hashtag #edifgroupA or #edifgroupB, an exclusive point of reference for the whole Twitter community. These hashtags were not needed when the whole group followed each other, a process which took several weeks.
6. The students answered the question by incorporating the new words learned in the unit. One Tweet per week was required.
7. The students in Group B peer reviewed the Tweets of a classmate following the guidelines adapted from Sauro (2009), whereas the members of Group A were not given any instructions. For both groups, a final revision of each peer feedback was completed online by the teacher.
8. The teacher retweeted the final corrections.
9. After each weekly task, an in-class feedback session was held to address the most significant problems.

#### **5.4. Data gathering**

Data were collected from different sources. A quantitative and qualitative analysis was attempted using the students' dataset for the following indicators:

1. Contributions and interactions on Twitter: use of specialised vocabulary, type of peer review, accuracy of reviewing and overall language correctness.
2. Students' perceptions of the task based on a questionnaire at the end of the course.

3. Periodical collective in-class discussions with the students about the experience and the potential of this vocabulary practice in ESP.

Finally, it should be noted that in the two groups, the A and B groups, the students' engagement with the assigned weekly Tweet represented a compulsory element of the language course assessment, with weighting appropriate to its importance, as Murray et al. (2007) recommended; this was regarded as a necessary element to encourage participation in our learning environment. The assessment of this activity was carried out in terms of participation, content, accuracy and peer revision, and was part of the grades for the practical sessions of the subject (a maximum of 3 points out of 10). A final general written exam, common to the three groups, took place at the end of the year; it included the use of specialised vocabulary in short sentences. The comparison of the results of the three groups gave weight to some of the conclusions discussed below.

## **6. Interpretation of results**

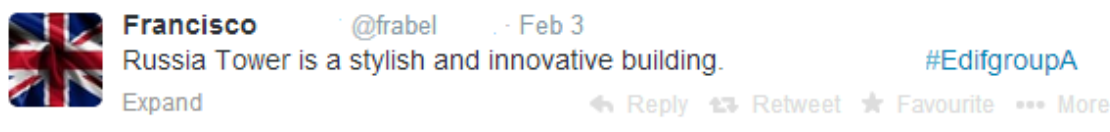
Before the results are discussed in detail, some general data about involvement in the task should be considered. In the group of regular Twitter users, most interactions were completed using mobile phones and on a daily basis (92%). As for their levels of engagement in the ESP Twitter task, 91% of the students participated regularly in this activity through Twitter, whereas 9% only used Twitter sporadically, in spite of the weight given to it in the overall assessment of the subject. The reason for the infrequent participation of some students was the fact that these students were not regular users of Twitter and often forgot to do the task, as they admitted in the questionnaire.



The findings are shown for each of the three research questions mentioned above.

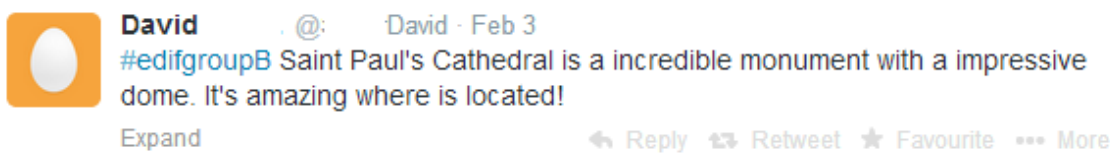
**6.1. Research question 1:** examines specialised vocabulary acquisition through Twitter in a blended learning approach and students' perceptions on the suitability of this tool. The results are based on the following data:

1. New specialised vocabulary in original sentences. In practically all the Tweets, the students succeeded in incorporating the new specialised lexis. For instance, noun phrases such as "classical architecture", "building site", or "site manager", and adjectives like "innovative", "derelict" or "impressive" were successfully employed in the Tweets. Example 1 shows the appropriate use of specialised vocabulary:



Example 1.<sup>2</sup>

But many grammatical errors were made repeatedly, as Example 2 illustrates:



Example 2. Errors in article formation and the absence of a subject.

2. The comparison of the final vocabulary acquisition results for Groups A and B with those for the control Group C. The three groups carried out the same assessment exercises

which involved using specialised vocabulary from the language course syllabus. For these exercises, the grades obtained in the final achievement test were slightly higher in the study groups (7%). This slight increase is not significant enough to demonstrate the learning benefits of the Twitter task if we consider these data in isolation (see Appendix A).

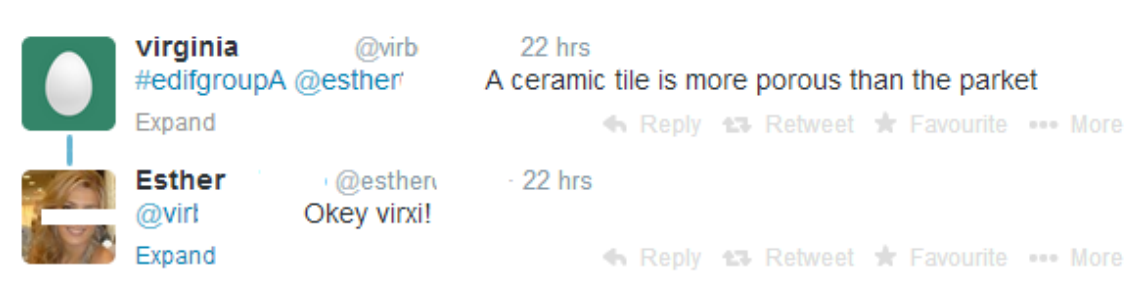
3. The students' valuable opinions as given in the questionnaires and the collective feedback discussions on the task. The data show that over 67% of the participants were enthusiastic about using Twitter to practise specialised lexis. 8% did not consider the task interesting, whereas around 20% had neither a positive or negative point of view (see Appendix B for exact figures). Another interesting fact is that more than 67% considered that Twitter had given them greater exposure to the English language. Comments in the questionnaires and the discussions demonstrated that the students enjoyed using Twitter. Some illustrative statements are as follows: "I like Twitter because it is a different method of learning"; "I hate learning new vocabulary, especially related to technical drawing and with Twitter is much fun!"; "I don't like writing much but writing short sentences is much easier".

**6.2. Research question 2:** examines the accuracy of peer feedback, the type of errors addressed, and peer versus teacher feedback.

To address the second research question we used quantitative data from the questionnaire and qualitative data extracted from the debriefing sessions on the students' interactions, as well as the teacher's perception as a participant on Twitter. The research undertaken reveals the following results from Group A and Group B corrective feedback in response to students' errors:

### 6.2.1. Group A

In this first group, formed by students with no instruction on peer revision, 62% of the participants detected mistakes, which were mainly spelling and grammatical errors (see Appendix C). By contrast, 38% failed to spot mistakes and their correcting feedback consisted, basically, in approving their partners' production, even though there were language problems present, as in Example 3:



Example 3. Message approving Tweet despite its errors.

Possible explanations for the absence of adequate feedback may include the following:

a. The students were unable to detect mistakes because of their insufficient linguistic knowledge of the target form, one of the reasons suggested in the study carried out by Liu and Sadler (2003). Interestingly, in the case in which the student's partner was believed to be a high ability learner, the reviewer felt that his/her partner would never make a mistake. Hence, both in the questionnaire and in the debriefing session, the students manifested their fear to make rectifications to those peers they perceived to be more proficient. Consequently, these apparently more proficient students were very scarcely corrected. In the words of a less proficient student: "I felt insecure to make corrections to good students; although I sometimes thought there was a mistake, I suspected I was wrong". Conversely,

good students complained about not being given appropriate feedback by their peers. They felt that they had put a great deal of effort into peer review but had received too little in return.

b. Some students failed to dedicate time and effort to the revision process.

In 57% of the Tweets, however, the participant provided accurate feedback on lexis and grammar to his/her partner's messages. A few first language transfers in vocabulary were noticed, like "responsability" instead of "responsibility" (imitating the Spanish *responsabilidad*) or "armed concrete" rather than "reinforced concrete". The latter and its accurate correction are exemplified in the following Tweet:



Example 4. Accurate response to problems with technical vocabulary.

Most of the peer comments on lexical features referred to spelling. Twitter does not incorporate a spell checker, therefore there were some spelling mistakes that would be unlikely to occur in texts written using word processing programs such as Word. To illustrate the most frequent feedback given on vocabulary, Examples 5 and 6 include inaccurate and accurate revisions respectively. In Example 5, the spelling mistake in "because" was corrected together with other errors:



Example 5. Correct recasting of sentence with errors.

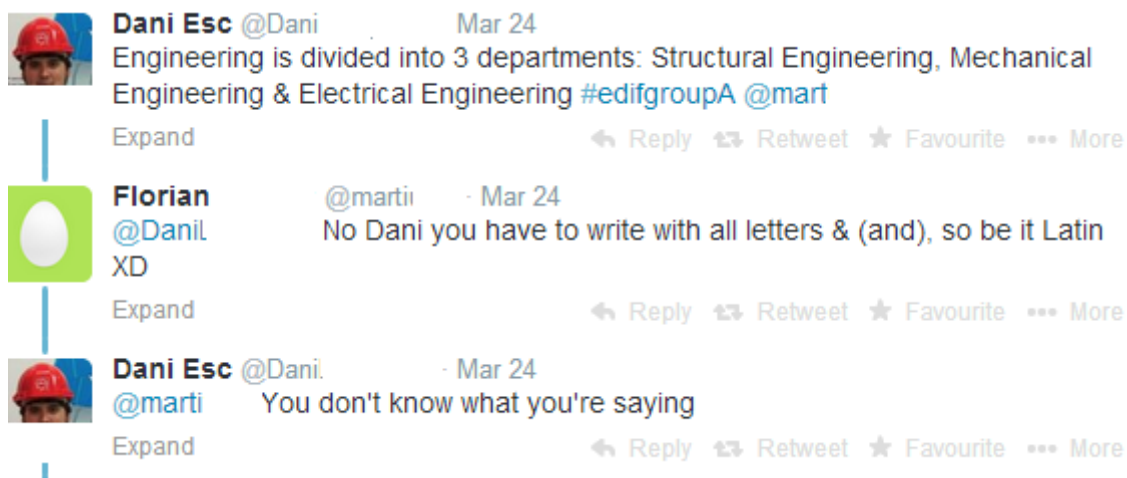
By contrast, the first language transfer, “responsible”, was not detected in Example 6.



Example 6. Partially correct recasting of peer post.

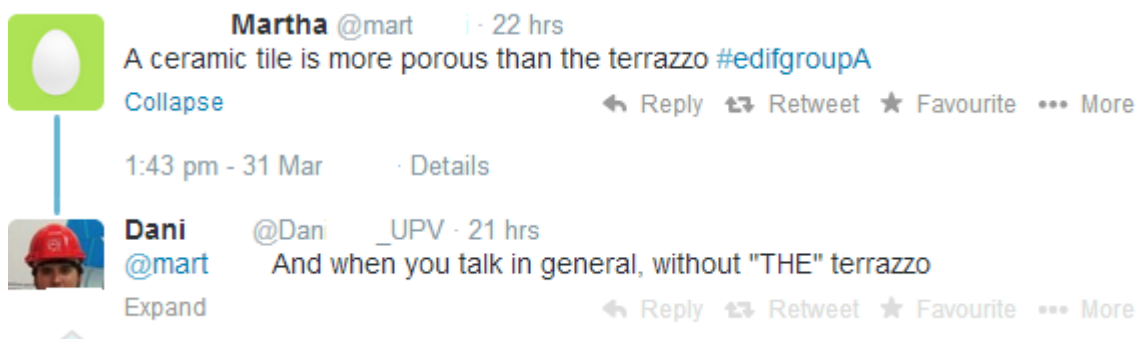
As we can see in the last Tweet, it is hard to show corrections on Twitter because crossing out a word or underlining are not available options at the moment; the only way is to use capital letters to emphasise the rectification.

Another remarkable finding is that, although Twitter is not intended for chatting, students often engaged in mini-conversations when peer reviewing each other’s Tweets. This asynchronous tool was used synchronously by the students and became a chat-like application. Example 7 shows a mini discussion about adequate error correction:



Example 7. Engagement in mini conversation.

A final observation about Group A is that one of the few examples of responding to errors by means of a metalinguistic prompt took place in this group. This is surprising if we bear in mind that these students did not receive instruction on peer revision. Example 8 illustrates this response by means of a meta-statement:

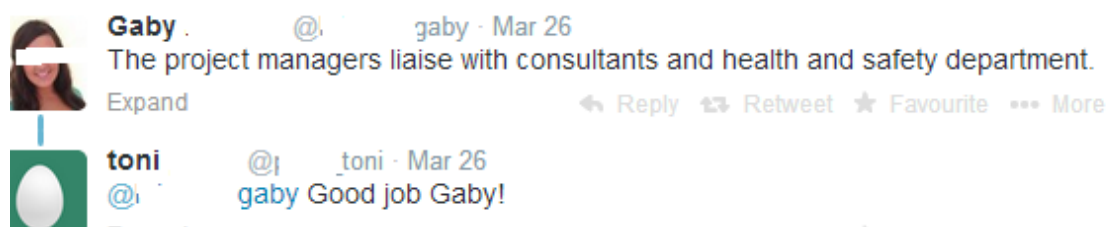


Example 8. The use of a metalinguistic prompt to respond to errors.

### 6.2.2. Group B

This second group was formed by learners who received corrective feedback on the task and had been trained to respond to errors either by recasting or reformulating the sentence

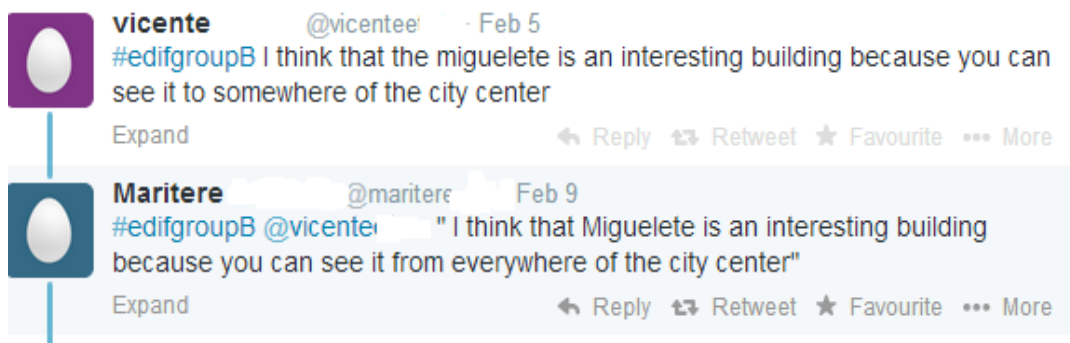
by means of metalinguistic prompts. The results show that some participants followed the patterns found in Group A, that is, highly proficient students were never corrected, even though over half of the students felt competent to give feedback (see Appendix B). For example, Gaby, one of the two students who obtained the maximum grade, was never corrected:



Example 9. Peer revision of a highly proficient student.

This is the reason why high ability students stated a preference for feedback from their teacher. Some of these high level students ignored peer feedback because they felt that peers were not knowledgeable enough to make meaningful comments.

Regarding the amount of revisions made in Group B, 69% of the students responded to their partners' errors and gave feedback on mistakes, 31% did not. The preferred method was recasting; only two cases of metalinguistic prompts were observed. Example 10 shows the most common way of responding to mistakes:



Example 10. Recasting or reformulating, the most common response to errors.

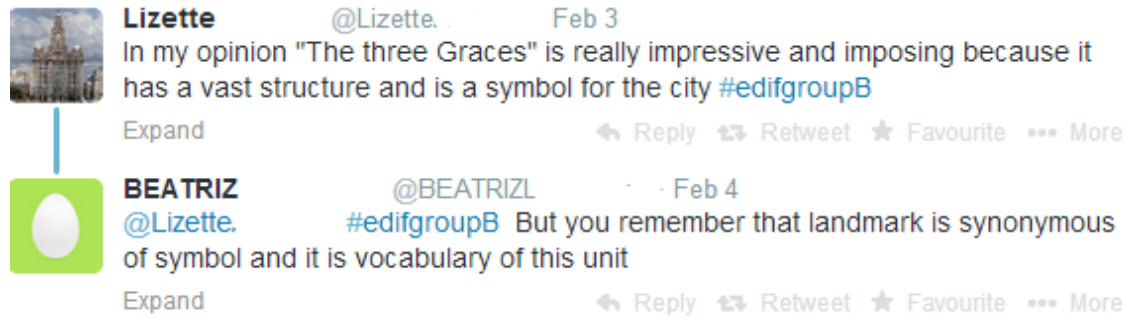
As in Group A, the corrective feedback mainly addressed grammar and spelling errors. The data show that 62% gave accurate feedback but 38% did not. Often, the revisions failed to provide correct feedback regarding article usage to make generic references, in spite of previous recent instruction on the topic. Example:



Example 11. Teacher's corrective feedback on grammar errors.



In general, participants were able to identify some of the few problems with lexis (see Example 4). The students were highly involved in the task and played the role of teachers like in these Tweets in Example 12:



Example 12. Student playing the role of teacher.

On balance, what holds for Group A also holds for Group B. The participants of Groups A and B took on roles often associated with teachers or moderators in conventional educational settings as feedback providers through a process of individual reflection and refinement of the Tweets sent by their peers. However, around one third of the students from both groups did not supply any corrective feedback to the Tweet assigned but simply approved their peers' Tweets instead. Another interesting fact from the revision process is that it was very common for students to imitate the linguistic style of proficient students as a consequence of the online visibility of the task.

With respect to the linguistic category of the errors, the analysis confirmed that participants rarely had problems using specialised vocabulary, but they often had problems noticing their partners' grammatical mistakes. The most frequent problems were article usage, third person singular verbs, and the inclusion of an "s" for plurality in adjectives (these problems

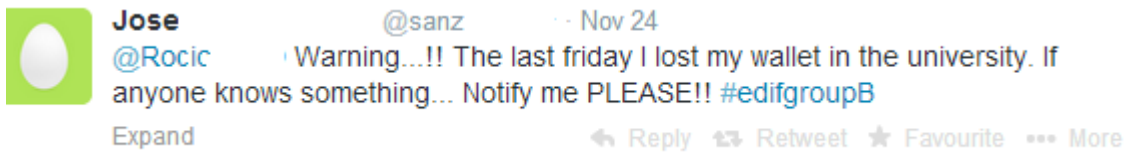
will be exemplified in the examples with the teacher included after the revision process). Particularly in Group B, the students' revisions consisted in reformulating the part of the sentence with mistakes.

**6.3. Research question 3:** analyses the contribution of Twitter in enhancing communication skills.

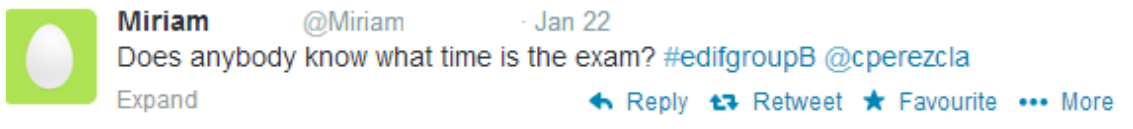
Discussions with the students in the debriefing sessions led us to nuance our initial assumption that Twitter has the potential to free students from many of the inhibitions inherent to other types of interaction such as time constraints or the pressure of real time interventions, following Castrillo de Larreta-Azelain (2013). Although most students felt at ease with the tool, some participants felt that having the whole class as an audience was a negative element, as observed in the study carried out by Hattem (2013). With regard to this concern, the data from the questionnaire demonstrated that some participants did not agree that Twitter was a suitable tool to help learners of English get over their shyness. The fact that writing on Twitter provides a global communicative visibility was discouraging for those students with a lower language level. In these cases, global online visibility was a handicap and did not promote communication in the target language. Despite these negative opinions, in general, the comments suggested that the students thought that writing on Twitter made them pay more attention to the formal aspects of writing not only because they had to focus all their efforts into just one sentence but also because their writings were visible worldwide.

With respect to the sense of community that Twitter forms in a blended learning approach (Borau et al., 2009), we see that around 48% of the respondents to the questionnaire agreed

that this tool was able to create a sense of community. It is important to note that, although the university provides online platforms for the exchange of information, Twitter was the most widely-used tool for this purpose, as the Tweets posted by Jose and Miriam show in Examples 13 and 14:



Example 13. Important information for the classroom community.



Example 14. Post enquiring about course information.

Examples 13 and 14 demonstrate that Twitter provided a tool for interaction outside the classroom. The class discussions also revealed that this tool was particularly important for those students who were on internships and who therefore needed to complete activities online in order to gain the required credits. Despite the role of Twitter in establishing online learning communities, 43% were neutral about its benefits and 5.4% did not agree that Twitter had the ability to engage students in a community.

Finally, it is interesting to note that most students found the activity enjoyable and motivating.

## 7. Discussion

Writing short sentences as a writing-to-learn activity on Twitter complemented other activities carried out in the ESP course. The blended learning scenario of incorporating Twitter into a structured ESP task started as a temporary experiment but became a core practice during the course because of the favourable responses of the participants.

However, in terms of vocabulary acquisition, our experiment did not overtly confirm the benefits of Twitter for this purpose. The figures obtained on the correct incorporation of new lexis were not significant enough to confirm knowledge improvement in the study groups when compared to the control group. The overall results evidenced that the students did not have major problems using general scientific and specific lexis. These findings are in line with other studies on ESP that highlight the absence of specialised lexical problems in the learner's subject matter (Peters & Fernández, 2013). In general, the new words were correctly applied with only minor spelling problems due to the lack of a spell checker in Twitter. In contrast, the students' Tweets repeatedly contained grammar errors, especially in the use of tenses, prepositions and articles; this was unforeseen because instruction on these grammar topics was given during the course.

In terms of peer feedback, an interesting fact drawn from the study is that, contrary to the results of Villamil and de Guerrero (1998) and Ebner and Maurer (2009), the latter precisely on peer feedback on Twitter, the peers were often unable to detect errors, even though one group had been trained to give specific comments and advice. The instruction given contributed overtly to the engagement of the participants in the experiment, but it did not result in any significant distinction between the type and quality of response to errors.

In both groups, the students frequently limited their responses to mere comments congratulating their partners or some recasting, whereas metalinguistic prompts were rarely provided. This may be due to the fact that peer review is a problematic task for L2 writers (Liu & Sadler, 2003) but also because pairs in written online conversations, such as chats and Twitter, accommodate their writing styles, a well-documented phenomenon in CMC (Bunz & Campbell, 2004). This implies that participants in an online conversation share similar characteristics at content, structural and stylistic levels. At a stylistic level, for example, this phenomenon is responsible for the imitation of specific words, abbreviations or punctuation. In our corpus, responses were frequently accommodated to the writing style of highly proficient learners. In addition to this, the students' preference for teacher feedback may have also affected peer feedback, unlike the outcomes of other studies on ESP like Belcher's (1990) which claimed that peers could give more adequate feedback when paired in the same subject field. In our study, however, the students preferred feedback from their teacher and that was one of the main purposes they attributed to microblogging, as in the study of Hattem (2013).

A final consideration is that the dropout rate was very low in comparison to those reported in other similar studies (for example, Borau et al., 2009), which could be related to the students' satisfaction with the support received from the instructor. The discussion sessions emphasised the highly motivational element of Twitter so as to enhance intrinsic motivation and collaborative learning. As Castrillo de Larreta-Azelain (2013: 135) adeptly posited, writing became "an active type of social learning". Furthermore, the high participation in the task could stem from the fact that it suited students' particular linguistic needs and addressed the specialised language of their profession, a powerful motivator in ESP in

Peters' and Fernández' opinion (2013). Indeed, these results also highlight the involvement of learners in the classroom and beyond, especially for those who could not attend lessons regularly, creating the sense of a learning community, as in the study of Borau et al. (2009). Interestingly, the contribution of Tweets to form a learning community, where authentic communication was involved, is particularly important in our institutional context, where other tools are provided by the university for this purpose. The ubiquitous and informal nature of Twitter may have favoured its use at the expense of the university platform for the exchange of information.

All in all, students' participation and engagement in a structured activity confirmed the educational benefit of microblogging, as in the activities developed by Luo and Gao (2012).

## **7. Concluding remarks and further research**

As a general conclusion we would like to say that Twitter gave learners the opportunity to vent to their feelings and voice their ideas. It facilitated an informal and encouraging way of starting to use specialised vocabulary in the target language in an authentic context. The overall outcomes confirmed the potential of the blended learning approach to support deep and meaningful instruction through thoughtful integration of classroom face-to-face learning experiences with online learning sessions. As Singh and Reed (2001) claimed, blended learning achieved learning objectives by applying the right learning technologies to the right learner.

The potential of social networking is growing everyday with new applications that may make our research obsolete in just a few years. This paper provides a starting point for further investigations in the promising field of pedagogical and linguistic research on Twitter. It is hoped that the prototype community of learners piloted in this project can pave the way for future exploration, for example, evaluating the motivational-cognitive dimensions of these tasks for better vocabulary retention.

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**Appendix A.** Vocabulary acquisition of the study Groups A and B, and control Group C in the achievement test

Final achievement test: vocabulary acquisition	
Groups	Average Grades (out of 10)
Group A + B	8.9
Group C	8.1

**Appendix B.** Likert scale with ratings of questionnaire responses. The scales correspond to the following:

1. Strongly disagree
2. Disagree
3. Neither agree nor disagree

4. Agree

5. Strongly agree

Declarative Sentence	1	2	3	4	5	No answer
1. Twitter is a useful tool to practise new vocabulary of the unit	0%	8.1%	18.9%	51.4%	16.2%	5.4%
2. Twitter has facilitated more exposure to language	0%	5.4%	24.3%	62.2%	5.4%	2.7%
3. I feel competent to peer review my classmates' Tweets	0%	8.1%	29.7%	48.7%	8.1%	5.4%
4. Peer review has been accurate	0%	16.2%	43.3%	29.7%	8.1%	2.7%
5. Peer review has been useful for vocabulary learning	0%	13.5%	27%	51.3%	8.1%	0%
6. Peer review has been useful for practising writing skills	0%	2.7%	29.7%	64.9%	2.7%	0%
7. I prefer feedback from a classmate	0%	0%	18.9%	64.9%	8.1%	8.1%
8. I prefer feedback from my teacher	0%	2.7%	13.5%	32.4%	48.7%	2.7%
9. My feedback has mainly addressed grammar	2.7%	2.7%	27%	45.9%	16.3%	5.4%
10. My feedback has mainly addressed vocabulary	2.7%	0%	24.3%	51.4%	18.9%	2.7%
11. I have learned from the other students' errors	0%	18.9%	8.1%	40.6%	27%	5.4%
12. I felt insecure to make corrections to	5.4%	24.3%	32.5%	24.3%	8.1%	5.4%

good students						
13. I think my motivation to the subject has now increased	0%	5.4%	32.5%	35.1%	21.6%	5.4%
14. I feel I am now more fluent in writing	0%	8.1%	24.3%	59.5%	2.7%	5.4%
15. I feel less shy to communicate in English	2.7%	16.2%	24.3%	35.2%	13.5%	8.1%
16. Twitter has improved the sense of community in the class	0%	5.4%	43.2%	37.9%	10.8%	2.7%

### Appendix C. Peer response production

	Group A	Group B
Percentage of participants who detected errors	62%	69%
Percentage of participants who failed to detect errors	38%	31%
Accurate response to errors	57%	62%
Inaccurate response to errors	43%	38%

### NOTES

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<sup>1</sup> \*Following MacDonald et al. (2013: 37) errors are “any structure deviant in form from the standard target language”.

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<sup>2</sup> \*Students explicitly agreed to the publication of their Tweets for research purposes. Names and identities have been partially removed from the originals.