A tale of tweets: Analyzing microblogging among language learners

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Received 20 January 2011; revised 20 September 2011; accepted 16 November 2011

Abstract

In these days of ubiquitous tweeting, language teachers must consider whether microblogging is an activity that will bring benefits to the learning experience. Recent research (Junco et al., 2010; Messner, 2009, among others) indicates that Twitter is becoming increasingly popular in classrooms, but few studies (see for example, Borau et al., 2009; Junco et al., 2010) have empirically examined the linguistic, attitudinal or content-based outcomes of such implementation. This paper discusses the role of Twitter in an intermediate French class (4th or 5th semester of French at the University level), in which students tweeted weekly with each other and with native French speakers. The goal for using Twitter was to build community among learners in the U.S. and in France and to provide opportunities for creative language practice outside of class time. Data suggest that participants quickly formed a collaborative community in which they were able to learn, share and reflect. Attitudinal data and discourse analysis findings are presented to discuss the use of this medium in language learning.

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Keywords: Community; Microblogging; Social presence; Twitter

1. Introduction

Given that 98% of today’s college students own some type of digital device (Bennett, 2011), it is undeniable that technology plays an increasingly important role in students’ lives. With the surging popularity of Twitter, the number of tweets per week now averages around a billion (Smith, 2011); microblogging has made its way into education. Twitter is increasingly present in language classrooms as well, but few studies (Borau et al., 2009; Junco et al., 2010) have provided evidence as to how it affects the linguistic, attitudinal or content-based outcomes of language learning. This paper investigates the role of Twitter in an intermediate French class (4th or 5th semester of French at the University level), and specifically examines the role of social presence and its development over the course of a semester. We begin with a close examination of Twitter, which was used specifically as a community building tool. Then we build on previous research (e.g., Antenos-Conforti, 2009) to address the role of microblogging in the context of language learning. The present study adds to the existing body of literature by examining how community is

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doi:10.1016/j.system.2011.11.001
established, using a framework of community inquiry (Rourke et al., 2001) to investigate the role of social presence in learners’ tweets. Data from the study suggest that participants quickly formed a collaborative community in which they were able to learn, share, and reflect.

1.1. What is Twitter?

Twitter (http://www.twitter.com) is a real-time information exchange network that offers social networking and microblogging services. Through Twitter, users can send and read messages (‘tweets’), which are posts of up to 140 characters displayed on the author’s profile page and delivered to the author’s followers. Twitter allows friends, family, and co-workers to communicate and stay connected through the exchange of quick, frequent answers to one simple question: “What’s happening?” In addition to sharing the latest happenings, tweets often contain a hashtag, i.e., a tagging mechanism allowing users to attach a word or phrase with the hash (#) symbol to a tweet; hashtags can facilitate searching on Twitter. Twitter can be easily accessed from a computer with Internet connection, but 50% of all Twitter updates are published using mobile and Web-based tools (Vallee, 2009). Whether updates are made by phone, computer, or another mobile device, we know that Twitter usage is growing significantly: 230 million tweets per day are made by 50 million daily users (Dugan, 2011).

It is important to consider how Twitter differs from other computer-mediated communication tools, such as chat/IM (instant messaging), discussion forums, and blogging. With chat and IM, communication usually involves a point-to-point exchange between individuals or select groups. Communication takes place in real time and exchanges are usually short and spontaneous. In contrast, Twitter allows users to “grab ideas in byte-size chunks and use your updates as jumping off points to other places or just let others know what you’re up to at any given moment” (Thorton, 2009, ¶8). Unlike the quick and short opportunities for posts offered by Twitter, discussion forums serve as a space to offer more structured postings on a given topic. These forums are asynchronous and thus allow more time for reflection and are not limited in length. Blog posts, like forums, often require a longer commitment per post in terms of time and length. Twitter may be perceived as a medium for short communications, since messages are limited to 140 characters. However, active tweeters may make multiple tweets in a given day. Unlike discussion boards, blogs and chat, Twitter allows users to create pathways so that messages can be directed toward one person (@), be privately viewed (DM), or be retweeted (RT), i.e. shared with others.

Honeycutt and Herring (2009) as well as Java et al. (2006) discuss some of the ways Twitter can be used, which they refer to as “categories of intention” (n.p.). These categories include daily chatter, sharing information or URLs, reporting news, and conversation. Given Twitter’s growing popularity and the flexibility with which it can be used, it is not surprising that educators, and particularly foreign language instructors, have begun to show an interest in this social networking and microblogging tool. The goals of this paper are to discuss Twitter’s potential role in education and to present data from a language-learning project to further explore this role.

2. Twitter in academia

The literature offers many overviews of what Twitter is and why educators might benefit from it (e.g. Stevens, 2008), but provides few empirical studies regarding its impact on academic endeavors. The National Education Association, which is the largest professional and labor organization in the U.S. representing teachers, recommends that Twitter can be used to help students “crystallize thoughts, focus attention, and make connections” (2009, ¶12) and points to examples of collaborative stories and projects that connect students in the U.S. with those in different countries. Other instructional benefits of Twitter include enhancing social presence, maintaining relationships, supporting learning, writing concisely and for an audience, addressing issues in a timely fashion, and connecting classmates and instructor (Dunlap and Lowenthal, 2009a, 2009b). Among the few empirical studies that are published, Junco et al. (2010) claim that Twitter can impact student engagement and grades, and encourage faculty to be more active and participatory.2

2 In addition to benefits, researchers have also identified drawbacks. Grosseck and Holotescu (2008) draw attention to a number of potential negative elements of Twitter. They suggest that it could be distracting, time consuming, and even lead to poor grammar skills, given the 140 word limit. They also point out that privacy and spam issues should be carefully considered for both students and the teacher.
There is a small but growing body of work investigating Twitter in language learning situations. For example, Antenos-Conforti (2009) examines the tweets made by 22 students enrolled in Intermediate Italian in order to understand their Twitter habits in terms of both content and frequency, and to gauge their assessment of Twitter as a language learning tool. Students responded to a questionnaire about their experiences, and the researcher also calculated the frequency and distribution of the students’ tweets. Antenos-Conforti claims that the incorporation of Twitter in this language course helped to create a virtual extension of the physical classroom while also fostering a strong sense of community and encouraging participation. Kolowich (2011) comments on Twitter and its role in language learning contexts and projects. He cites the work of a professor who uses Twitter in language learning to encourage “students to talk about what’s going on in their lives in the moment, and share that with the other class” (5). While the language professor specifically comments that Twitter does not replace traditional language instruction in the classroom, she adds that it does help extend learning outside of the classroom and encourage the students to use the target language more often. Borau et al. (2009) present one of the first empirical studies in language learning to use Twitter. Their participants were ESL students enrolled in an online college for a period of seven weeks. 90 students and 5580 tweets were analyzed for communicative and cultural competence. Boraus et al. administered a questionnaire and performed an analysis of the tweets. Their results indicate that students responded positively to Twitter and that it was a suitable tool to train communicative and cultural competence anytime, anywhere, even without face-to-face interaction.

2.2. Twitter and the development of community

In spite of a relative lack of empirical studies of Twitter’s use, some common themes emerge with respect to its use in academic settings. First and foremost, perhaps, is the potential of a microblogging tool such as Twitter to foster a sense of community within and beyond the walls of the classroom. Virtually all of the previous works discussed above allude, to some degree or another, to the social presence of learners in Twitter and/or the ability to unite students with students, and students with teacher. As the purpose of this paper is to delve more deeply into this notion of social presence and community building by using Twitter as a tool to achieve these goals, the construct of social presence itself merits further discussion here.

The term “social presence” was coined decades ago by Short et al. (1976). Their theory of social presence classifies different kinds of communication along a continuum, depending largely on the extent to which someone feels aware of the other people in the communication. Certain types of communication require different levels of involvement, or social presence, among the interlocutors. Of course, as the methods of communication available to us have expanded exponentially, the working definition — as it is considered in the literature on academic technology, and as we consider it here — has necessarily evolved as well.

Academics now tend to view social presence as the compendium of ways in which we represent ourselves in our online environments (Lowenthal, 2009); in other words, we examine how participants convey messages and how those messages are interpreted by the other members of the group. These factors influence how we relate to other participants involved in communication, and can subsequently have an impact on the effectiveness of the communication (Kehrwald, 2008). The question we address here is the extent to which new tools and new ways of communicating, such as microblogging, can impact these traditionally held views. Can online microblogged ‘tweets’ promote effective communication through the development of greater social presence?

The question of how to assess social presence can be nebulous. Numerous frameworks have been employed (Fabro and Garrison, 1998; Na Ubon and Kimble, n.d.; Na Ubon, 2005; Rourke et al., 2001; Stein and Wanstreet, 2003; Tu, 2002a, 2002b; Weaver and Albion, 2005) to examine various aspects of social presence. Previous work explores how social presence may enhance instructional effectiveness (Gunawardena and Zittle, 1997; Tu, 2002a) or encourage greater satisfaction in the learning process (Gunawardena and Zittle, 1997; Hackman and Walker, 1990). Others have focused on how social presence can increase dynamic interaction (Tu and McIsaac, 2002) or foster greater and more in-depth discussion (Polhemus et al., 2001). Finally, some have examined how heightened social presence can be key in facilitating collaborative learning (Gunawardena, 1995). For our current purposes, we follow Garrison and Anderson (2003) perspective that social presence is required for the development of community: “it is inconceivable to think that one could create a community without some degree of social presence” (p. 49). We further assume
that the development of community, both within and beyond the classroom, is vital for the effectiveness of the educative process.

To address the quantitative assessment of social presence, Garrison et al. (2000) developed a model of a community of inquiry that is composed of three elements: cognitive presence (the ability of participants to construct meaning and engage in cognitive thinking), teaching presence (designing the educational experience) and social presence (making personal characteristics visible to the community). This framework was later modified by Rourke et al. (2001). In both frameworks, social presence is described as the degree to which the participants can present themselves, both socially and emotionally, as ‘real’ people in their online community (Garrison et al., 2000). Social presence, therefore, is one of the three components of the social dimension of online learning, but is a crucial one, as it engages groups in interaction and communication, facilitates cognitive presence, and thus sustains and furthers critical skills (Garrison et al., 2000).

According to Rourke et al.’s (2001) modified framework, social presence can be assessed by examining a series of indicators that reflect the behaviors of the participants and their purposes. The indicators fall within the three categories of affective, interactive, and cohesive. For example, the affective category relates to emotional behaviors, such as expression of emotions, use of humor, and self-disclosure of personal information. The interactive category refers to the participants’ attempts to interact with others and include actions such as continuing a thread (for example, as a way to extend a discussion in a forum), quoting from others’ messages, referring explicitly to others’ messages, asking questions, complimenting and expressing appreciation or agreement. Finally, the cohesive category has to do with behaviors intended for social functions only, such as vocatives and addresses, making reference to the group by using inclusive pronouns, and using group salutations.

Rourke et al.’s (2001) framework has been employed in previous works, with studies in general educational settings (Meyer, 2004; Picciano, 2002; Poscente, 2002) as well as in foreign language learning contexts (Arnold et al., 2005; Arnold and Ducate, 2006). Arnold et al. (2005) examined social presence indicators in discussion board transcripts from pre-service foreign language teachers at three different universities and found that all groups established high levels of social presence as a result of their online discussions. Interestingly, though, they did find variations in the degrees of social presence and the indicators employed; these were attributed to differences in task type (structured or unstructured). Similarly, in Arnold and Ducate’s (2006) study, online discourse was examined from students enrolled in language teaching methodology courses at two different universities both cognitive and social presence indicators. They concluded that participants were successful in furthering their cognitive understanding of topics through their virtual communities, and that they were simultaneously able to achieve significant levels of social presence through these media as well.

As we have stated, the general assumption in works such as these is that social presence serves as the basis for building successful communities of inquiry and the other dimensions of cognitive and teaching presence. Further, given the increased use of online interaction in today’s classrooms, and particularly the availability of new social interactive tools for teachers, it is clear that additional research in this area is necessary (Richardson and Swan, 2003; Na Ubon, 2005). Specifically, we propose to examine how social presence is developed, maintained and presented through microblogging in a Twitter-based language learning community, considering both tasks and requirements.

3. Methodology

3.1. Research questions

Considering what we currently know about Twitter and its uses in education, as well as the considerations of social presence afforded by previous work, the following research questions were devised to guide this study.

1. Does the microblogging medium, specifically Twitter, allow participants to develop a sense of community?
2. How is social presence indicated in participants’ tweets?

3 We have necessarily modified this framework slightly to reflect the functionality of Twitter, as will be discussed in the methodology section (Section 3.3) below.
The sections below consider the context in which Twitter was used and the methods used to assess the data, from both a qualitative and a quantitative perspective.

3.2. Context

Thirteen students (11 female, 2 male) were enrolled in an intermediate level French course at a southeastern university in the U.S. Over a portion of an academic semester (approximately 9 weeks) students tweeted both among themselves and also with 12 native French speakers enrolled in an intermediate-high English conversation course in France. Due to the cross-linguistic nature of the exchange between the students in France and in the U.S., students tweeted twice a week in the target language and once a week in their native language (see Fig. 1 for an example).

The use of Twitter was a course requirement for the U.S. students, and only their tweets were analyzed. A common hashtag was used in order to find and sort tweets more effectively. Tweets represented status updates and current happenings in students’ lives. The instructional goals for incorporating Twitter into this language class were to build community among learners in the U.S. and in France and to extend learning outside of classroom.

3.3. Analysis

In order to assess the status of our research questions, two different data sources were employed: surveys and content analysis. Each is discussed below.

3.3.1. Surveys

Participants were administered surveys (see Appendix) at the end of the semester in which they were using Twitter for their class. The surveys asked the participants questions relating to their familiarity with Twitter prior to engaging in the project, their reactions to the Twitter project, and other general questions regarding the usefulness of the project in the specific contexts. For each survey, the responses were tallied, numerically and/or qualitatively, to reveal trends in the answers.

3.3.2. Content analysis

Following Rourke et al. (2001) and Lomicka and Lord (2007), all the tweets of the participants were coded for indicators of social presence. Table 1 below provides a list of the indicators in each category, the code used to represent each, and an example of each taken from our dataset.

Because the Rourke et al. (2001) framework was not intended specifically for social networking tools, it was modified to reflect what could (and could not) be done through Twitter. For example, Rourke et al.’s indicator of ‘continuing a thread’ is not as relevant on Twitter as it would be in a discussion forum since the tweets do not naturally create the same kind of threaded discussions, so we modified this indicator to include a direct reply to another person’s tweet. Likewise, it is not easy, especially given the space constraint, to quote someone else’s words in a tweet, and we therefore considered instances of retweeting to be comparable to quoting. It should also be noted that using names to direct a comment specifically to one person is not as necessary with Twitter, since it is possible to directly reply to a tweet. In these cases, which were counted as “Interactive”, the use of the original poster’s Twitter name (which shows up as “@name” in the tweet), were not considered indicators of vocatives/names in the cohesive category.

It was possible for one tweet to be coded in more than one category at a time, and many of the examples given in the table above were, in fact, coded for more than just the indicator they represent there. For example, a tweet such as, nous sommes presque à la fin @ COURAGE, TOUT LE MONDE [“we are almost done @ courage, everyone”] would have been considered to fulfill two categories: affective and cohesive. This tweet would have been coded for indicators of group address (nous [“we”], tout le monde [“everyone”]) and emotion (the use of the smiley face emotion). Cases in which a certain indicator was repeated twice were counted as two instances only if they referred to different contexts. For example, the use of “we” and “everyone” in the above tweet would only have constituted one case of addressing

4 Participants were made aware of the project and that Twitter posts would be analyzed for academic purposes, as had been approved by the Office of Research Compliance.
the group, since both terms refer to the same group. At the same time, there were tweets that contained no indicators of social presence, and were thus not coded for anything.

For each participant and each context, the total number of indicators was tallied, and the percentages of the tweets that were affective, interactive and cohesive were calculated. Both authors had previously used the same framework and were thus quite familiar with the procedure. For this dataset, the two researchers worked together on the modifications to the framework and then each coded an entire set of tweets for a particular student and subsequently verified their coding with the other. Any cases of disagreement were discussed until both researchers understood the codes and categories and applied them in the same way. Through this process, inter-rater reliability was established prior to coding the full set of tweets. Students were required to contribute 27 tweets over a period of 9 weeks. The total number of tweets for those enrolled in Intermediate French was 623. Of those tweets 1004 indicators were coded. Data

<table>
<thead>
<tr>
<th>Category</th>
<th>Indicator</th>
<th>Code</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective</td>
<td>Humor (jokes, etc.)</td>
<td>HU</td>
<td>Yea, that candy was a nice pick-me-up yesterday LOL.</td>
</tr>
<tr>
<td></td>
<td>Emotion (all caps, emoticons)</td>
<td>EM</td>
<td>I’m missing my other half… my identical twin lives in Iowa and</td>
</tr>
<tr>
<td></td>
<td>Self-disclosure</td>
<td>SD</td>
<td>we just finished talking on Tokbox. I MISS HER terribly. @</td>
</tr>
<tr>
<td>Interactive</td>
<td>Continuing/reply</td>
<td>RP</td>
<td>happy birthday, @catfairecloth!</td>
</tr>
<tr>
<td></td>
<td>Quote/retweet</td>
<td>RT</td>
<td>check out <a href="http://bit.ly/49wU64">http://bit.ly/49wU64</a> (from @aol_news) METEOR SHOWER</td>
</tr>
<tr>
<td></td>
<td>Content reference</td>
<td>CN</td>
<td>tomorrow morning between 1 am and dawn! Going to bed early so I can watch!</td>
</tr>
<tr>
<td></td>
<td>Compliment, appreciation</td>
<td>AP</td>
<td>@SCTourDeFranzia hahaha omgosh! i love that!! sparkle on girl!</td>
</tr>
<tr>
<td></td>
<td>Ask question</td>
<td>QS</td>
<td>Sometimes I wish that I could stop time, just so that I can actually enjoy</td>
</tr>
<tr>
<td></td>
<td>Agreement</td>
<td>AG</td>
<td>my life and get all my work done. Anyone feel the same?</td>
</tr>
<tr>
<td>Cohesive</td>
<td>Vocatives/names</td>
<td>VN</td>
<td>Lunch at capstone was awesome and party with Gladine was the BEST!!!</td>
</tr>
<tr>
<td></td>
<td>Inclusive pronouns</td>
<td>PR</td>
<td>J’adore mon keypal!!! [I love my keypal!!!]</td>
</tr>
<tr>
<td></td>
<td>Phatics, salutations</td>
<td>PH</td>
<td>nous sommes presque à la fin @ COURAGE, TOUT LE MONDE</td>
</tr>
<tr>
<td></td>
<td>Address group</td>
<td>GR</td>
<td>[We are almost at the end. Courage everyone]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bonjour Tweeters!!</td>
</tr>
</tbody>
</table>

Data
from twelve of thirteen students were analyzed for the content analysis of tweets.\(^5\) All but one participant met the requirement and the other eleven students tweeted more than the required minimum. The highest number of tweets made by one participant was 90, with others totaling at 76, 69 and 58 (See Fig. 2).

4. Results

4.1. Survey results

This section presents the results of the surveys administered prior to and at the end of the course. All 13 students in the Intermediate French class had heard of Twitter, but only three had an account prior to class. All but one student felt comfortable using new technologies. When comparing pre- and post-semester thoughts on using Twitter, two students responded negatively (did not like or hated it) after the semester had ended. All other respondents either loved it/liked it \((n = 8)\) or were neutral \((n = 3)\) in their feelings on the use of Twitter (see Fig. 2).

In a second part of the survey, students were polled about the features of Twitter that they found useful in learning French. They responded that they appreciated the fact that they could use the language with classmates outside of contact time \((n = 7)\) and that they were able to exchange information \((n = 7)\).

Students also shared their opinions on Twitter for learning French language and culture (see Table 2). The results of this section were collapsed into disagree \((1 & 2\) on the Likert scale), neutral \((3)\) and agree \((4 \& 5)\). As not all participants answered all items, percentages of each response were calculated to make comparisons possible. Students generally agreed that they learned more about culture in this particular French class than they have in past classes \((12/13 \text{ or } 92\%)\), they were able to infer meaning from the tweets according to the context \((12/13 \text{ or } 92\%)\); they also put more time into this particular French class \((11/13 \text{ or } 84\%)\), they gained confidence in their abilities as independent learners \((10/13 \text{ or } 77\%)\), their reading skills improved \((11/13 \text{ or } 84\%)\), they learned a lot from replies to others and from reading others’ tweets \((11/13 \text{ or } 84\%)\), interacting with the professor increased their motivation \((11/13 \text{ or } 84\%)\), and wished their counterparts in France had tweeted more often \((11/13 \text{ or } 84\%)\).

Students also voiced opinions on Twitter as a social tool (see Table 3). 10/12, or 83\%, found that because they knew their classmates and fellow tweeters, they were more comfortable tweeting in the target language. They also agreed \((10/12, 83\%)\) that sharing and reading the information exchanged led to a greater sense of classroom community. Most believed that they could share real life information and the happenings in their lives \((7/10, 70\%)\) and that tweets were relevant to real life language use in French \((10/12, 83\%)\) (Fig. 3).

Finally, the survey concluded with some open ended questions that addressed what students liked most and least about Twitter. They generally appreciated reading other’s tweets (“I liked being able to see what was on everyone’s mind at a glance”), especially the French students’ tweets (“We had another way of communicating with the students. It gave us a chance to learn more about them”), and they felt that tweets were relevant to how language was being used in French speaking countries. They were interested in knowing about the French students’ lives and replying to others. They also found that random comments were fun and entertaining. As for what they liked least about Twitter, they indicated that it was a challenge to use hashtags and that they often felt restricted by the 140 character limit that Twitter imposes; this student’s frustration is evident in the comment: “the word limit! I want to say so much more!” One student mentioned that at times, he did not know what to contribute (“I didn’t like being forced to come up with tweets and sometimes I just have nothing to say”). Another student concluded by writing, “I was scared of Twitter at first because I didn’t really understand what it was. Now I check it all the time! It was a great element for the class in terms of connecting and being a community.”

4.2. Content analysis results

For this analysis the modified social presence framework was employed to code the tweets for any and all indicators of social presence. Raw numbers of indicators were tallied and converted to percentages in order to facilitate comparison.

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\(^5\) One student deleted her Twitter account before tweets were compiled by the researcher.
Of these tweets 1004 indicators were coded, with 346 (34.46%) being affective, 276 (27.49%) in the interactive category and 29 (2.89%) cohesive indicators (See Table 4 and Fig. 4 below).

The results for the affective category can be seen as an outcome directly related to the specific tasks assigned the participants, which was to talk about what was going on in their lives. They clearly interacted well with other members of the group. As students got to know each other better over the semester, humor emerged naturally, as seen in this example (which also was double coded with an emoticon): “I’ll be the judge of that TONIGHT, cupcake. o_0” Emotions were also used regularly so that students could express themselves and their feelings more easily: “je dois faire du shopping pour les cadeaux de Noel. :-/” [I must go shopping for Christmas presents :-/]. Finally, instances of

<table>
<thead>
<tr>
<th>Table 2:</th>
<th>Opinions on Twitter for learning French language and culture.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Question</strong></td>
<td><strong>Disagree</strong></td>
</tr>
<tr>
<td>The learning experiences on Twitter made this a more interesting course.</td>
<td>17%</td>
</tr>
<tr>
<td>The tweets contributed greatly to my knowledge of French grammar and vocabulary.</td>
<td>8%</td>
</tr>
<tr>
<td>I learned more about French culture in this class than I would have learned in a regular French class.</td>
<td>0%</td>
</tr>
<tr>
<td>Because of Twitter, I put more time into this class than in a regular French class.</td>
<td>0%</td>
</tr>
<tr>
<td>Posting tweets helped build my confidence in writing French.</td>
<td>17%</td>
</tr>
<tr>
<td>Twitter reduced my anxiety in learning French.</td>
<td>17%</td>
</tr>
<tr>
<td>Twitter increased my motivation in learning the language.</td>
<td>8%</td>
</tr>
<tr>
<td>I was able to infer meaning from the tweets according to the context/conversations.</td>
<td>0%</td>
</tr>
<tr>
<td>I gained confidence in my abilities as an independent learner.</td>
<td>0%</td>
</tr>
<tr>
<td>My reading skills in French have improved as a result of Twitter.</td>
<td>0%</td>
</tr>
<tr>
<td>My writing skills in French improved as a result of Twitter.</td>
<td>25%</td>
</tr>
<tr>
<td>I learned a lot from the replies to my tweets.</td>
<td>17%</td>
</tr>
<tr>
<td>I learned a lot from replying to other students’ tweets.</td>
<td>8%</td>
</tr>
<tr>
<td>I learned a lot from reading other peoples tweets.</td>
<td>8%</td>
</tr>
<tr>
<td>Having the professor reply to the tweets increased the learning potential.</td>
<td>0%</td>
</tr>
<tr>
<td>Having the professor tweet and reply to the tweets increased the motivation.</td>
<td>0%</td>
</tr>
<tr>
<td>I enjoyed tweeting more than traditional writing assignments.</td>
<td>17%</td>
</tr>
<tr>
<td>I found the 140-character tweet length too limiting.</td>
<td>50%</td>
</tr>
<tr>
<td>Reading tweets with language mistakes in them doesn’t help me learn.</td>
<td>56%</td>
</tr>
<tr>
<td>I wish the French students would have tweeted more often.</td>
<td>0%</td>
</tr>
</tbody>
</table>
self-disclosure were abundant and perhaps were a direct result of the task itself, as they were asked to talk about what was happening in their lives: “I am excited that today is almost [over]! I cannot wait to relax tonight!”.

More affective indicators were found than interactive. This result is not surprising, given that the project was designed to allow students to talk about what was going on in their lives. Students often used the reply function, even though they were not required to. As community was built, students became more interested in talking with each other and sharing opinions, comments, and information, as seen in this tweet about music preferences: “@orlane: The Beatles are my absolute favorite!!”. Interaction between students was continually present. Students often referred to previous content, for example, “@beth: elephants are my favorite animal! I drew Matt a French elephant the other day; It was cute,” as well as asked questions: “@jordan: oui, je les connais! est-ce que tu t’es amusée?!” [Yes, I know them. Did you have fun?]”.

There were few cohesive indicators found, perhaps due to the nature of the tool itself. When using Twitter, students perhaps did not feel the need to address the class as a group or to use individual names (since one can reply directly to another). In one instance a student addressed the entire group in French by using the mention symbol and “everyone” to mean all the classmates in France and the U.S. [“@toutlemonde (haha): merci! J’ai hâte d’aller là!” (@Everyone (haha): thank you! I’m anxious to go there)] but generally students would reply to an individual person. In addition, because of the character limit (which is even more restrictive when using a hashtag), there may have not been enough space to refer to individual names.

In sum, students enjoyed the project, and the context promoted some degree of social presence. With these varying degrees of social presence we can speculate, as claimed by Garrison et al. (2000), that groups were engaged in both interaction and communication, cognitive presence was facilitated, and students’ interactions via tweets sustained and

<table>
<thead>
<tr>
<th>Question</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I looked forward to reading everyone else’s tweets.</td>
<td>8%</td>
<td>25%</td>
<td>67%</td>
</tr>
<tr>
<td>I found myself wanting to post tweets.</td>
<td>25%</td>
<td>25%</td>
<td>50%</td>
</tr>
<tr>
<td>I liked that we can share information about our lives.</td>
<td>10%</td>
<td>20%</td>
<td>70%</td>
</tr>
<tr>
<td>The information I read from other tweets contributed to a greater sense of class community.</td>
<td>8%</td>
<td>8%</td>
<td>83%</td>
</tr>
<tr>
<td>Knowing the people I am following made me feel more comfortable tweeting in French.</td>
<td>8%</td>
<td>8%</td>
<td>83%</td>
</tr>
<tr>
<td>I enjoyed rereading past tweets of others on my profile.</td>
<td>17%</td>
<td>17%</td>
<td>67%</td>
</tr>
<tr>
<td>I enjoyed rereading past replies of others on my profile.</td>
<td>17%</td>
<td>17%</td>
<td>67%</td>
</tr>
<tr>
<td>I enjoyed rereading past conversations of others on my profile not related to me.</td>
<td>17%</td>
<td>42%</td>
<td>42%</td>
</tr>
<tr>
<td>The tweets were relevant to real-life language use in French.</td>
<td>8%</td>
<td>8%</td>
<td>83%</td>
</tr>
<tr>
<td>The information I read from the French contributed to my knowledge about French culture.</td>
<td>8%</td>
<td>25%</td>
<td>67%</td>
</tr>
</tbody>
</table>

Fig. 3. Opinions on using twitter pre/post.

Table 3
Opinions on Twitter as a social tool.
furthered their critical skills. In the sections that follow, we conclude by returning to the research questions that motivated the study and answering them based on the data analysis.

Generally speaking, students’ attitudes were favorable and they seemed enthusiastic about the opportunity for additional communication outside of the classroom to continue to improve their language study (see also Antenos-Conforti, 2009). A variety of everyday topics were discussed which supports, as indicated by Antenos-Conforti (2009), “Twitter’s uniqueness for cultivating community membership and authentic exchanges” (p. 72). What seemed to frustrate U.S. students the most was that their counterparts in France, who were studying English at a School of Engineering, did not embrace Twitter as quickly as they did. In fact, there were only three active tweeters in the French institution out of a group of 15. Even though one of the main goals of the project, as articulated by the teacher in the U.S., was to use Twitter to connect the students in France and in the U.S., this goal was not well met. However, Twitter did help the students in the U.S. to establish a close community amongst themselves — they were very well connected both in and out of class and preliminary results confirm those found by Antenos-Conforti (2009) in that in addition to expanding the four walls of the classroom, “Twitter provided learners a forum in which to represent themselves in the L2 to their fellow community members, […] and they] engaged one another in brief exchanges that contributed to the sense of community” (p. 73).

Students were very willing to share information about themselves and the messages were, in most cases, immediate and spontaneous. Joinson and Paine (n.d.) indicate that self-disclosure helps to increase mutual understanding and promote trust. They further point out that self-disclosure on the Internet is somewhat of a paradox, in that anonymity and distance could easily lend themselves to promoting self-disclosure in one situation, but may hinder it in another (e.g. commercial sites asking for personal information). Further, the immediacy of tweeting is also recognized in claims made by Parry (2008a, 2008b ¶ 6): “The immediacy of the messages helped the students feel like [they belonged to] more of a community”. Community, as defined by Wenger (2007), consists of members who “engage in joint activities and discussions, help each other, and share information. They build relationships that enable them to

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**Table 4**

Frequency counts and percentages.

| Total tweets | 623 |
| Total indicators | 1004 |
| Total affective | 346 |
| Total interactive | 276 |
| Total cohesive | 29 |
| % affective | 34.46 |
| % interactive | 27.49 |
| % cohesive | 2.89 |

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**Fig. 4. Indicators of social presence.**
learn from each other” (¶4). It seems fairly clear that the Twitter group was able to achieve this sense of community. According to Lave and Wenger (1991) this is an important ingredient in the successful interaction in communities of practice, especially when considering the asynchronous factor of microblogging. As noted by Antenos-Conforti (2009), the use of Twitter “contribute[d] to the classroom community by creating a virtual extension of the physical classroom and providing an opportunity for membership in the […] community” (p. 82).

5. Conclusions

5.1. Research questions

The first question we devised to guide this study looks at whether the microblogging medium, specifically Twitter, allows participants to develop a sense of community. Based on the data we collected and analyzed, we can conclude that a sense of community was established through the Twitter interactions. Community was built, of course, through face to face classroom meetings but given the limited opportunities to connect during class time, Twitter was able to facilitate community building quickly and in a fun and interactive way. 84% (or 11/13) of the U.S. students studying French wished the French students would have tweeted more often. The students in France did not turn out to be regular tweeters (with the exception of 3 French students) so community was built primarily within the class in the U.S., rather than with the students in France. For the students in France, Twitter was not a required component of the class, although they were highly encouraged to participate. Three French students did participate at least once a week but the remaining students tweeted once or twice during the semester at most. In talking with one of the two engaged tweeters from the French class he said: “[t]he others were not that motivated because we were not graded, so technically we didn’t HAVE to do “anything”, we could if were serious but the others just forgot I guess.” The survey results indicated a high appreciation for communicating outside of class and for sharing information, which again contributed to building a strong community among classmates. If Twitter had not been required from the students in the U.S. it is difficult to say how many students would have actually used it for academic purposes.

The second question addresses the extent to which social presence was present in participants’ tweets. Social presence was demonstrated largely through affective and interactive indicators, with fewer indicators of cohesion. The affective indicators were the highest because the goals of project encouraged students to talk about their lives (what’s happening), therefore creating high levels of Self-disclosure. Interactive indicators were readily apparent as well, as students typically replied to others and asked questions. Cohesive indicators were low probably because of the lack of space to offer salutations, and the fact that the reply feature did away with the need to use names.

The answers to both research questions, therefore, confirm that Twitter is a tool that is capable of allowing participants to create community and to build social presence. Nonetheless, it is essential to consider the participant population (or user) and the tasks involved in such projects. Students developed a greater sense of community with those beyond their classroom because the sole purpose of their interactions was to find out more about each other. Based on these results, we can conclude, as have many others working in Web 2.0 tools, that the success of endeavors such as these depends on well-designed tasks, the appropriateness of the task for the specific population using it, and the choice of the proper tools for the task.

5.2. Limitations and future directions

As with many preliminary studies of newly emerging tools, these findings are not without flaw. First, the project was set up around a specific methodology (students in U.S. and in France), therefore making it a challenge to compare with other Twitter or microblogging projects. Nonetheless, it offers a unique perspective and different take on using Twitter in language learning and teaching, and provides empirical data to substantiate the claims. Second, the framework employed for coding and analyzing the data has not yet been used in studies on Twitter and was therefore modified for our particular study. It would be helpful to see other studies use the same framework and to compare results. Third, like many other studies, we could only analyze what is produced and therefore the findings are likely to be skewed. While we have seen positive outcomes as a result of Twitter, it is also important to use this study as a springboard for longer and varied studies that could speak to the effectiveness of Twitter in language learning over two or more semesters. Furthermore, although students reacted positively to Twitter as a medium for communicating in language classes, it is likely that these favorable attitudes were influenced at least in part by the novelty of the
medium itself. Previous work has shown positive attitudes towards new technologies (e.g., Beauvois, 1998; Chen et al., 2004; Ducate and Lomicka, 2009; Ushida, 2005; among others), but these perceptions may change over time as the novelty wears off. Finally, data were generated from relatively small sample sizes. Any outcomes drawn here are tentative at best, and would need to be explored by future studies with larger populations.

At the same time, this study is an important one, for it brings Twitter (and microblogging) into the context of language learning. These findings offer insights into the potential uses of Twitter in our classes, and have shown some examples of what might work, and what might not. First, we recommend that future studies look more carefully at Twitter’s full potential, including using all available options such as retweeting, direct messaging, and mentions. Although these were mentioned in class and were used occasionally in the project, they were not a focus and students were not encouraged to take advantage of these options. In follow-up surveys, participants indicated that they did not know these options were available to them. Second, students were encouraged but not required to “follow” others involved with the projects. If students had followed everyone involved in the project, they would have had more access to input and be able to see more information from peers. Changing the instructions and training for participants could have an impact on the extent to which a greater community is developed. Finally, when asked if they would use Twitter in the future, either in education or socially, participants’ replies indicated that they were slightly more inclined to use Twitter again for learning (10/13) than for personal use (7/13). Follow-up data would be interesting, to observe if they did, in fact, continue to use Twitter once the course requirements no longer demanded it. Nonetheless, the fact remains that over half of the participant group believed they would continue to tweet, somehow.

In spite of some of these limitations, the results suggest that social presence can indeed be fostered in a microblogging environment, and community was established over the course of this project. Thus, Twitter does seem to provide a relevant and authentic forum for communication. Educators should continue to take advantage of the features offered by tools such as Twitter to build prominent communities of inquiry and to enhance cognitive and teaching presence.

Appendix. Survey used in Intermediate French class

Post — survey: Using Twitter in Intermediate French Last name: ____________

By filling out this survey, you will help me understand better how Twitter can be used as an educational networking tool. It will help me determine whether having you write little “sound-bites” in a practical, day-to-day setting is effective for improving language skills and cultural understanding.

1. Before taking this course, which of the following social networking websites did you use:
   - MySpace
   - Facebook
   - YouTube
   - del.icio.us
   - Flickr
   - SplashCast Media or blogTV.
   - widgetbox
   - reddit, Digg, or Fark.
   - LinkedIn
   - Twitter or Jaiku
   - Friendfeed
   - Second Life
   - a Yahoo group, a Google group
   - personal blogs
   - Gmail/Google/Google reader
   - Tumblr
   - other (list as many as you want):

2. What was your initial response to Twitter?
   - Loved it
   - Liked it
   - Neutral
   - Did not like it
   - Hated it
3. And NOW, after 14 weeks, what do you think?

- Love it
- Like it
- Neutral
- Do not like it
- Hate it

4. Please indicate the following features of Twitter that you found useful in learning French. Check as many as you like then indicate your first choice.

- being able to have delayed communication
- being able to have instantaneous communication
- being able to reply to someone’s tweet
- being able to share information
- following French students in Troyes
- building community with classmates in your class and in France
- having a 140 character limit
- using language with classmates outside of contact time
- using language with professor outside of class

Which is the most important to you? 

Learning French language and culture

In this section, I will ask whether you agree or disagree with these statements about learning French. Please circle the response that best matches your opinion.

Strongly disagree (SD) Disagree (D) Neutral (N) Agree (A) Strongly agree (SA)

5. The learning experiences on Twitter made this a more interesting course. SD D N A SA
6. The tweets contributed greatly to my knowledge of French grammar and vocabulary. SD D N A SA
7. I learned more about French culture in this class than I would have learned in a regular French class. SD D N A SA
8. Because of Twitter, I put more time into this class than in a regular French class. SD D N A SA
9. Posting tweets helped build my confidence in writing French. SD D N A SA
10. Twitter reduced my anxiety in learning French. SD D N A SA
11. Twitter increased my motivation in learning the language. SD D N A SA
12. I was able to infer meaning from the tweets according to the context/conversations. SD D N A SA
13. I gained confidence in my abilities as an independent learner. SD D N A SA
14. My reading skills in French have improved as a result of Twitter. SD D N A SA
15. My writing skills in French improved as a result of Twitter. SD D N A SA
16. I learned a lot from the replies to my tweets. SD D N A SA
17. I learned a lot from replying to other students’ tweets. SD D N A SA
18. I learned a lot from reading other peoples tweets. SD D N A SA
19. Having the professor reply to the tweets increased the learning potential. SD D N A SA
20. Having the professor tweet and reply to the tweets increased the motivation. SD D N A SA
21. I enjoyed tweeting more than traditional writing assignments. SD D N A SA
22. I found the 140-character tweet length too limiting. SD D N A SA
23. Reading tweets with language mistakes in them doesn’t help me learn. SD D N A SA
24. I wish the French students would have tweeted more often. SD D N A SA

Social aspects of Twitter

These next questions will ask you to agree or disagree with the social networking part of Twitter. Please circle the response that best matches your opinion.

Strongly disagree (SD) Disagree (D) Neutral (N) Agree (A) Strongly agree (SA)
1. I looked forward to reading everyone else’s tweets. SD D N A SA
2. I found myself wanting to post tweets. SD D N A SA
3. I liked that we can share information about our lives. SD D N A SA
4. The information I read from other tweets contributed to a greater sense of class community. SD D N A SA
5. Knowing the people I am following made me feel more comfortable tweeting in French. SD D N A SA
6. I enjoyed rereading past tweets of others on my profile. SD D N A SA
7. I enjoyed rereading past replies of others on my profile. SD D N A SA
8. I enjoyed rereading past conversations of others on my profile not related to me. SD D N A SA
9. The tweets were relevant to real-life language use in the French. SD D N A SA
10. The information I read from the French contributed to my knowledge about French culture. SD D N A SA

Twitter & posting tweets

Here are the last 5 questions about Twitter and your personal opinion about your experience.

a) What did you like most about Twitter? Why?

b) What did you like least about Twitter? Why?

c) Do you think you will use Twitter for learning French in the future? ☐ Yes ☐ No ☐ Maybe

d) Do you think you will use Twitter for your own personal use? ☐ Yes ☐ No ☐ Maybe

e) Please explain whether you felt twitter helped our class and the students in France to focus on community building and why/why not?

f) If you sent replies but did not get responses to your tweets, did that negatively shape your opinion of using Twitter to learn French? Explain.

g) Other thoughts?

*Survey adapted from Antenos-Conforti (2009).

References


