

Using Visual Social Media in Language Learning to Investigate the Role of Social Presence

Fabrizio Fornara¹ and Lara Lomicka²

Abstract

In this paper, we attempt to investigate the pedagogical value of visual social media platforms, specifically Instagram, for the development of the online social presence of language classes. Students in intermediate university-level French and Italian classes used Instagram for a six-week period to reply to a series of questions prompted by the instructor as a way to engage in interaction with their own classmates. This research examines how students establish a community of inquiry (CoI) and investigates the development of social presence in students' posts. Using a mixed methods approach, we performed a content analysis of the transcripts of Instagram posts, coding for social presence. Given the visual nature of Instagram, we also conducted a visual analysis of representative posts to investigate the multimodal projection of social presence. Additionally, we administered voluntary pre-questionnaires to capture demographic data and students' experience with Instagram. We analyzed the data using the social presence density calculation and performed basic statistical analyses. Findings indicate that students did build online social presence, which can promote the development of a CoI. Both language groups performed in similar ways, which may be a result of the tool rather than the language and context. This finding is consistent with the general use of visual social media as a tool for self-expression, self-identity, and community building.

KEYWORDS: SOCIAL PRESENCE: COMMUNITY OF INQUIRY: MOBILE LEARNING:
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Affiliations

¹University of Applied Sciences and Arts of Southern Switzerland.
email: fabrizio.fornara@supsi.ch

²University of South Carolina, USA.
email: lomicka@sc.edu

Introduction

In days of ubiquitous social media use and with the impact of visual content with today's learners, language teachers and trainers must question whether the use of visual social media has benefits and positive outcomes in language classes. Visual social media are free platforms that allow users to create, manipulate, and instantly share visual and textual information. A popular type of visual social media, Instagram allows users' to share photos and videos taken via mobile phone, either as a post or a story¹ (Pew Research Center, 2018). Text and hashtags serve as the primary way to deliver content (Hochman & Manovich, 2013; Laestadius, 2017). According to Statista (2018), the number of active monthly Instagram users is one billion. These users commonly use the app to engage in visual communication (Laestadius, 2017; Marwick, 2015), to promote self-presentation and expression (Ibrahim, 2015; Marwick, 2015), to chronicle their surroundings (Hochman & Manovich, 2013), and to participate in online communities (Tiidenberg, 2015).

Recent research argues that Instagram is increasingly popular in language education (e.g., Al-Ali, 2014; Barbosa, Bulhoes, Zhang, & Moreira, 2017; Hoy, 2016; Whiddon, 2016); one can find numerous project descriptions and suggestions for its use in the classroom. While these publications can shed light on how Instagram is being used to further language teaching and on student perceptions of these experiences, the literature to date does not offer much empirically-based research. The goal, then, of this project is to investigate the use of Instagram as a mobile pedagogical tool, with a focus on the categories and indicators of social presence in the captions and comments of Instagram posts, and on the features of Instagram that learners use to project their social presence online.

Research on Instagram Within Language Instruction

Despite the popularity and educational potential of social media, empirical research on visual social media within the context of language learning is scant (Golonka, Bowles, Frank, Richardson, & Freynik, 2014; Lomicka & Lord, 2016). Similar to findings on other social media platforms, such as microblogs, preliminary research on visual social media has shown that these platforms can be used to build language skills, autonomous learning, and motivation, and can impact students' level of confidence to participate and communicate in the foreign language (e.g., Al-Ali, 2014; Fornara, 2018; Munday, Delaney, & Bosque, 2016; Whiddon, 2016). Most of these studies are based on classroom experiences and explore the pedagogical potential of Instagram. Munday, Delaney, and Bosque (2016) discussed how personal connections play a role in the learning process and increase production of the target language, through opportunities such as #InstagramELE, a challenge that has spread worldwide with more than 30,000

tagged photos. Based on classroom observations of the project, the authors claimed that the challenge served as a vehicle for acquiring new vocabulary, acquiring cultural topics, and developing reading and writing expression. Similarly, Al-Ali (2014) investigated Instagram as a tool for language production for various tasks in intermediate ESL classes. In this action research project, 40 participants used Instagram as a production tool that involved sharing stories and comments in intermediate ESL classes. Using the SAMR model to frame the discussion, the researcher found that use of the platform facilitated students' active learning, and students (N=16) indicated on a voluntary survey that they enjoyed the task; using the platform enhanced their creativity and provided them with a more personalized learning experience (see also Romrell, Kidder, & Wood, 2014). Whiddon (2016) conducted an exploratory study that examined how the use of Instagram images supported second language writing. 83 participants used Instagram in three second-semester French classes and participated in weekly online posts that related to topics covered in the curriculum. Whiddon collected data using a background questionnaire, an open-ended survey, and a likert-type questionnaire. Whiddon's study confirmed that Instagram's visual nature shows promise for supporting student writing at beginning levels of language study. Finally, Fornara (2018) presented an Instagram-based instructional unit for the development of students' autonomy for cultural and intercultural learning. He selected 12 themes and asked third-level Italian students to explore a series of hashtags that aggregate posts made by native speakers. Students also participated daily in an Instagram group chat, completed weekly worksheets, and wrote a reflective essay focusing on cultural practices, products, and perspectives. Fornara suggested that well-designed activities with Instagram can help students to take responsibility for their own learning and empower them to become autonomous learners.

The existing literature on visual media shows promise for vocabulary gains, written production, and the use of images in language education. However, the research is largely experiential; while highlighting a number of solid activities, it does less to critically evaluate the results. Moreover, published research tends to focus on students' individual growth as language learners but does not comment on their participation as part of a community of learners. Our study attempts to fill this gap in the literature by examining how using Instagram to practice the foreign language outside of class helps traditional students to develop online social presence.

Social Presence Model

This study follows research by Rourke, Garrison, Anderson, and Archer (2001, based on Garrison, Anderson, & Archer, 2000) and their model of a community of inquiry (CoI), which is composed of cognitive presence (the ability to construct

meaning and engage in cognitive thinking), teaching presence (designing the educational experience), and social presence (making personal characteristics visible to the community). The model of social presence looks closely at how participants interact, both socially and emotionally, as participants in an online community (Garrison et al., 2000). Social presence helps to build social and emotional connections and, as such, is vital to the development of the community. According to Rourke, Garrison, Anderson, and Archer's (2001) framework, social presence is quantified through a series of affective, interactive, and cohesive indicators, which reflect behaviors of the participants. The affective category relates to emotional behaviors, such as use of humor or self-disclosure of personal information. The interactive category refers to the participants' interactions with other group members by continuing a conversation or thread, quoting others, or asking questions. The cohesive category relates to social functions only: salutations, addressing the group, and using inclusive pronouns.

Framed on the social presence model, our study investigates the pedagogical value of visual social media platforms, specifically Instagram, for the development of language students' online social presence. Our overarching research questions include:

RQ1: What categories and indicators of social presence are most and least common in Instagram posts?

RQ2: What features of Instagram do learners use to project their social presence online?

The results of the study will help language instructors to design activities that strengthen the development of students' online social presence within face-to-face classes.

Methods

In this section, we focus on the methodological aspects of the study, the task design, and the procedures followed to collect and analyze the data.

Participants

Participants include 18 students of French and 21 students of Italian, enrolled in two intermediate university level French and Italian classes at two different large research universities in the southeastern United States (Fall 2017). The sample group was recruited from classes taught by the instructors and represents a convenience, non-probability sample. Every student (N=39) had access to a smartphone and most of them were already Instagram users (N=35). To

remove any potential issues related to students' privacy, we invited students to create a new Instagram account, set as a private account². Almost every student (N=36) created a new account for the activity. While the Instagram activity was mandatory, participation in the study was voluntary³; students could withdraw from the study at any time without being penalized. Students' consent was collected and kept until the end of the semester by colleagues who were not involved in the study. All students gave consent to participate in the study.

Task design

The researchers verified that every student had access to a smartphone and to regular Internet connection. Students used Instagram for a six-week period to reply to series of questions prompted by the instructor as a way to engage in virtual interaction with classmates (see Whiddon, 2016). Although the two groups participated in the activity at roughly the same time, students interacted online only with their own language specific classmates and instructor. Twice a week, instructors shared an Instagram post with questions in the target language (Figure 1; see Table 4 for a complete list of the questions). Aiming to model the common Instagram practice of establishing strong connections between images and individual online identities (Fallon, 2014), the questions elicited information on students' preferences and personal practices. Each week, students were required to share three posts, either in response to the prompts or with information about their daily life. Every post included an image or video, a caption in the target language, and the class hashtag, which was created specifically for the activity. Moreover, students were required to comment to at least two other posts in the target language. We assessed the activity with a weekly participation grade on a 10-point rubric; the activity counted for a 10% of the final grade.

Procedures

This exploratory study used a mixed-method design. Prior to the task, students completed an anonymous pre-activity survey to capture demographic data and prior experience with Instagram (French, N=17; Italian, N=21). Due to the small number of participants, we analyzed these data by performing basic statistical analyses. Following Laestadius' (2017) suggestions for working with small data samples on Instagram, we manually extracted data from the user-interface. To answer the first research question, we performed a content analysis coding for social presence using Rourke et al.'s (2001) framework. Students produced language specific text in the captions and comments but did not produce any written or spoken language in the videos, nor did they add text to the images. Therefore, our analysis only focused on text in the captions and comments. Following Rourke et al. (2001), we used as our unit of analysis a combination of



Figure 1. Example of questions prompted by the instructor (What is your favorite place in your city? Why?) and of students' posts and comments.

thematic unit, “a single thought unit or idea unit that conveys a single item of information extracted from a segment of content” (Budd & Donohue, 1967, p. 34, as quoted by Rourke et al., 2001) and a syntactical unit, “one independent clause and the dependent clauses (if any) syntactically related to it” (O'Donnell, 1974, p. 102). We calculated the social presence density of each group in relation to each indicator by adding the raw number of instances and dividing them by the total number of words in the captions and comments (we counted each emoji or string of emojis as one word). Then, we multiplied this figure by 1,000 and calculated the mean density of each category (i.e., affective, interactive, cohesive) as well as the aggregate social presence density of each group.

Rourke et al.'s (2001) framework has been used in previous L2 research (e.g., Arnold & Ducate, 2006; Arnold, Ducate, Lomicka, & Lord, 2005; Lomicka & Lord, 2012; Lord & Lomicka, 2007); it is grounded in theories of interaction in lean media (see Short, Williams, & Christie, 1976) and cannot be used to investigate social presence in face-to-face contexts. Although the participants had opportunities to build relationships both in person and online, for this study, we only investigated the projection of online social presence. Lomicka and Lord (2012) used Rourke et al.'s framework with the same goal by examining the use of Twitter as a tool to help learners of French to engage with each

other and with native speakers of French. They made minor modifications to the framework in light of social media practices that were relevant to the tool. Similarly, we modified the framework (Table 1) to better reflect the medium we used (i.e., Instagram).

Instagram posts are usually self-contained and do not explicitly refer to other posts. Hashtags loosely aggregate posts but the platform does not provide a structure for threaded posts. Thus, we considered each post as an individual thread even when it was a response to an instructor's prompt. Following the same reasoning, we coded each comment as "Continuing a thread" (indicator #4), with the only exception being comments that self-corrected a previous post or comment, which we did not code. Moreover, we coded as "Expressions of emotion" (#1) every smiley emoji, heart emoji, as well as unconventional expressions of emotion (i.e., emoticons, repetitious punctuation, conspicuous capitalization). Following the guidelines recommended by Rourke et al. (2001), the posts and comments were coded by both researchers (interrater reliability level .953, i.e., Holsti, 1969).

Table 1
Social Presence Density Instrument (Modified from Rourke et al., 2001)

Category	Coding #	Indicators	Definition	Examples from Instagram study
Affective	1	Expressions of Emotion	Conventional and unconventional (i.e., smileys and heart emojis, emoticons, repetitious punctuation) expressions of emotion.	"Mi piace il cibo in Italia! [emoji]" [I like Italian food!]
	2	Use of Humor	Teasing, cajoling, irony, understatements, sarcasm.	"Tu joues encore un Game Cube??" [Are you still playing a GameCube??]
	3	Self-disclosure	Presents details of life outside of class or expresses vulnerability.	"Ma passion est un bon café et les conversations profondes qui l'accompagnent" [My passion is a good coffee and deep conversations to go with it]

Interactive	4	Continuing a thread	Comments.	Every comment
	5	Quoting from others' messages	Cutting and pasting selections of other's messages.	[No instances]
	6	Referring explicitly to others' messages	Direct reference to contents of others' posts.	"Anch'io vorrei visitare i Paesi Bassi" [I would like to visit the Netherlands too]
	7	Asking questions	Student asks questions of other students or the instructor.	"@InstagramHandle qui est votre professeur?" [who is your professor?]
	8	Complimenting, expressing appreciation	Complimenting others or contents of others' messages.	"Mi piace questa foto di te con la koala" [I like this picture of you with a koala]
	9	Expressing agreement	Expressing agreement with others or content of others' messages.	"Moi aussi, je ne veux pas faire cet examen" [Me too, I do not want to take this test]
Cohesive	10	Vocatives	Addressing or referring to participants by name or Instagram handle.	"@InstagramHandle sono d'accordo" [I agree]
	11	Addresses or refers to the group using inclusive pronouns	Address the group as <i>we, us, or our group</i> .	"Veinez à la maison d'état pour le jour de l'UN. 1-4 pm aujourd'hui" [Come to the state house for UN day. 1-4 pm today]
	12	Phatic, Salutations	Communication that serves a purely social function; greetings, closures.	"@InstagramHandle Grazie!!" [Thanks!!]

We used qualitative visual analysis to respond to the second research question. Instagram posts are complex multimodal texts, and as in any communication using a combination of modes, meaning on Instagram is distributed

across all the modes (Crawford Camiciottoli & Fortanet-Gómez, 2015) with the visual mode (i.e., images, videos, “boomerangs”) having more prominence than the verbal mode (i.e., captions, audio content). Considering that different modes can complement or contradict each other semantically (see Royce, 2007 on intersemiotic complementarity), we selected and conducted a visual analysis of a set of representative posts to observe whether their visual elements complement or contradict in terms of social presence the meaning of the textual elements. We followed Rose (2001) to guide our interpretation of visual images and to frame our understanding of how students use the different features of the platform to project their social presence. Rose proposes three sites of meaning making of an image: production, the image itself, and the audiencing. Each of these sites has three modalities, which contribute to the critical understanding of an image: the technological, the compositional, and the social modality.

Results

We now return to the research questions to better understand the projection of students’ online social presence.

RQ1: What Categories and Indicators of Social Presence are Most and Least Common in Instagram Posts?

To answer this question, we first analyzed posts and comments together. Table 2 presents the density of each category and indicator for both the French and the Italian classes. The results are very similar. In both groups, “Self-disclosure” (#3) is the indicator with the highest density, followed by “Continuing a thread” (#4) and “Expressions of emotions” (#1)—indicators #3 and #1 are both in the affective category, the category with the highest social presence density. Two other relatively dense indicators, “Expressing agreement” (#9) and “Asking questions” (#7) are in the interactive category, along with indicator #4. The same category also has the indicators with the lowest frequency, “Quoting from other messages” (#5) and “Referring explicitly to other messages” (#6), with densities of zero or close-to-zero. Another low-density indicator is “Addresses or refers to the group using inclusive pronouns” (#11), which is in the cohesive category, the category with the lowest density score.

While these results present valuable information on the potential of learners to establish social presence in online activities, the examination of posts and comments separately provides insight into the way learners responded (i.e., affective, interactive, cohesive). The results for both classes are again similar

Table 2

Aggregate Social Presence Density, Category Density, and Indicator Density of the French and Italian Classes

Aggregate social presence density	Category	Density French	Density Italian	No.	Indicator	Density French	Density Italian
French 18.19	Affective	44.62	42.63	1	Expressions of emotion	20.48	19.11
Italian 16.83				2	Use of humor	2.63	1.84
	Interactive	11.56	10.80	3	Self-disclosure	110.74	106.93
				4	Continuing a thread	41.11	37.97
				5	Quoting from others' messages	0	0
				6	Referring explicitly to others' messages	0	0.12
				7	Asking questions	10.39	7.84
				8	Complimenting, expressing appreciation	6.44	7.84
				9	Expressing agreement	11.41	11.02
	Cohesive	5.02	3.10	10	Vocatives	8.05	6.12
				11	Addresses or refers to the group using inclusive pronouns	1.02	0.24
				12	Phatic, salutations	6.00	2.94

(Table 3), with only slight variations from class to class (for brevity, we only present the results of the Italian class). In both classes, the levels of social presence vary consistently from posts to comments. Both groups present a higher frequency in the comments than in the posts for every indicator but “Referring explicitly to others’ messages” (#6) and for every category. The difference between comments and posts is especially noticeable for such indicators as “Expressing agreement” (#9), “Complimenting and expressing appreciation” (#8), and “Asking questions” (#7) in the interactive category—and of course

for “Continuing a thread” (#4), with which we coded every comment; for “Self-disclosure” (#3) and “Expressions of emotion” (#1) in the affective category; and for “Vocatives” (#10) in the cohesive category. These findings are not surprising as Instagram comments are designed to promote user-content and user–user interaction, which, in turn, helps to encourage students’ affective and cohesive responses.

Table 3
Comparison Between Category and Indicator Density for Posts and Comments in the Italian Class

Category	Density Posts	Density Comments	No. Indicators	Density Posts	Density Comments	Difference		
Affective	37.39	57.40	1	Expressions of emotion	12.44	37.90	25.46	
			2	Use of humor	1.16	3.74	2.58	
	Difference	20.01	3	Self-disclosure	98.56	130.56	32.00	
			4	Continuing a thread	0	145.06	145.06	
	Interactive	0.59	40.01	5	Quoting from others' messages	0	0	0
				6	Referring explicitly to others' messages	0.17	0	-0.17
Cohesive	Difference	39.42	7	Asking questions	2.49	22.93	20.44	
			8	Complimenting, expressing appreciation	0	29.95	29.95	
	0.33	32.76	9	Expressing agreement	0	42.12	42.12	
			10	Vocatives	0.17	22.93	22.76	
	Difference	32.43	11	Addresses or refers to the group using inclusive pronouns	0.17	0.47	0.30	
			12	Phatic, salutations	0.66	9.36	8.70	

RQ2: What Features of Instagram Do Learners Use to Project Their Social Presence Online?

The students from both classes generated a total of 675 posts (Site of production, technological; Rose, 2001). Every post included a caption written in the foreign language and an image (N=607, 89.9%), a “carousel” of images (N=56, 8.3%), a video (N=7, 1%), or a “boomerang” (N=5, 0.7%). Only one student posted “stories” (N=3, all with videos). The images are either mobile-phone photos taken as they happened or at an earlier date (N=381, 56.4%), or a photo retrieved online (N=294, 43.6%). Each carousel included two to five images, all of them either taken by the student or retrieved online; interestingly, no carousel included a video. The videos had no sound or had just background noise; nobody shared audio in the foreign language.

Students posted different genres of images (Site of production, compositional). Although students could share any kind of academically appropriate image or video, most questions encouraged students to post images of a specific genre (Table 4). In general, students posted from a private Instagram account with the specific audience of their classmates and instructor in mind (Site of production, social). As their primary goal was to reply to the instructor’s prompts, students did not place special emphasis on the construction of their online identity; the images and videos they shared were usually not carefully crafted or heavily manipulated (Site of image itself, technological).

Table 4

Questions in English Translation and Common Genres of Images for Each Question

Week	Question	Common genres of images
1	What do you like to do for fun? What don't you like to do? Why?	Images of items and events
	What is your biggest passion? Why?	Images of items and events
2	What is your favorite place in your city/town? Why?	City and campus images
	What would you like to change in your college/university? Why?	Campus images
3	What can make you stressed? What do you do when you are stressed?	Images of items, nature images
	What makes you mad? What makes you happy? Why?	Animal images, selfies, relationship images
4	What is your preferred way to travel both around your town and in other parts of the world and why?	Travel, city, and relationship images

Week	Question	Common genres of images
	What country of the world would you most like to visit and why?	City and nature images
5	What do/don't you like about Italy/France? Why?	Travel images, images of items
	How does the rest of the world view America?	[No specific genre, stock images]
6	Do you like to cook? What did you cook lately?	Food images
	What are typical foods from your area of the country?	Food images

It is beyond the scope of this study to discuss the compositional nature of the visual elements of the posts (Site of image itself, compositional). However, it is interesting to observe how the visual and textual elements of a post complement each other in terms of social presence (Site of image itself, social). For this analysis, we selected and analyzed three representative posts (Figure 2). The first post is an example of visual-verbal intersemiotic complementarity. The picture portrays a number of novels on a bookshelf, and the caption suggests that the user enjoys reading novels in her free time (#3, “Self-disclosure”). In the second post, both the image and the caption convey complementary information. The caption presents two instances of self-disclosure in response to the question, “What can make you stressed? What do you do when you are stressed?” (I’m stressed when I have too many exams. When I’m stressed, I spend time with my friends!). The picture shows two students studying—one carries a laptop and the other a book—but they do not seem especially stressed, as the caption says. Instead, the facial expressions and gestures of one of them convey a meaning of humor (#2) that is not explicit in the caption. Finally, the third post conveys a contradictory message between the image and the caption. The colorful bird of the stock image may suggest to the viewer that the student actually likes birds. However, the caption contradicts this likely inference by pointing out that the student actually detests birds (Today, a bird flew by me and it was very frightening. I hate birds).

The posts students shared were displayed on Instagram and likely circulated only on the platform (Site of audiencing, technological). The viewing position they offer is that of a student who shares many commonalities with the intended audience (Site of audiencing, compositional). Most students were already familiar with the platform and could easily relate to the format and content of the posts and to engage with them through the “Like” feature and comments (Site of audiencing, social). The French group generated 1478 likes in 333 student posts, for an average of 4.4 likes per post; the Italian group

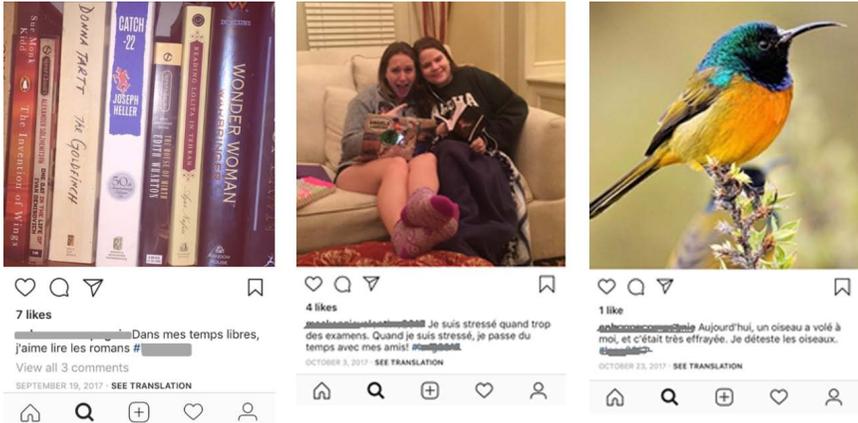


Figure 2. Example of student-created posts.

generated consistently less likes ($N=546$) in 342 student posts ($M=1.6$). There does not seem to be a formula to generate likes in the activity. Both mobile-phone photos and images retrieved online could generate “large” numbers of likes (e.g., more than six in groups of 18 and 21 students). However, students usually received more likes when they posted pictures they personally took, disclosed information about their daily life, or shared some unknown fact about themselves (i.e., a female student shared her passion for car mechanics). While there certainly are reasons external to the activity that helped to generate likes, online authenticity seems to be the best way to win peers’ approval. Conversely, students who shared multiple posts a day, posted heavily manipulated images, wrote incorrect or incomprehensible captions, or expressed negative emotions (i.e., I hate to cook) did not receive as many likes on their posts. The posts that generated more likes also generated more comments. Although students’ primary goal was to reply to the instructor’s prompt, the information they shared often fostered loose conversations around shared knowledge. The two classes generated a total of 591 comments on 328 different posts (one to six comments per post). Affective responses were the most frequent in both classes, followed by interactive and cohesive responses (Table 3).

Discussion

This paper investigates whether using a mobile social media platform like Instagram can contribute to the establishment of social presence in language courses. In the results section, we found that social density was highest for the affective category and lowest for the interactive and cohesive categories. To

look more closely at the first question, data indicated that the affective category was the highest for posts made by both the students of French and Italian with “Self-disclosure” as the indicator with the highest density. Instagram, like other social media tools, encourages students to share details of life outside of class, which is primarily done through the posts. In the posts, almost every caption presented one or more instance of self-disclosure. However, the comments also promoted self-disclosure. The high amount of self-disclosure or revealing information about oneself to others is not a surprising result as students were tasked with responding to a series of questions in the target language to engage them in conversation (see also Lomicka & Lord, 2012). Further, social media technologies (i.e., online social networks, visual social media platforms, microblogs) provide outlets for sharing personal information, and for expressing personal opinions and feelings, and for documenting details of daily life (Bazarova & Choi, 2014). These types of public sharing have changed the way information is shared in the classroom, which is often limited to those who actively participate or are called upon. With the growing use of social media, classroom discussion with opportunities to practice language usage outside of the class meetings allows not only for disclosing information but also for additional ways to build community.

The other affective behavior that surfaced was expressions of emotion in both the posts and in the comments. Posts were coded for emotion based on the use of caps, exclamation points, and emojis. Many social media platforms encourage the use of emotion as they invite users to regularly update their status, story, or posts (Waterloo, Baumgartner, Peter, & Valkenburg, 2017) and provide visual ways for expression and outlet. As students became more acquainted with each other over the semester, they perhaps felt more comfortable revealing information about themselves and expressing how they felt about different ideas. The social presence density for comments that contained emotion were even higher than the post numbers, perhaps since students were often reacting (positively or negatively) to a stated opinion.

Posts in the interactive category were not as high as one might expect, even though there was at some level a lot of interaction taking place. One reason for the lower social density numbers for interaction may be due to the fact that comments represent the default “reply feature” of Instagram (#4) and each post usually presents content that is not related or is loosely related to other posts. This is especially true for the indicators #5 and #6: no post explicitly refers to or quotes other messages, as would be common in a discussion board. Thus, Instagram can be used to promote student interaction with the content of a post (i.e., student–content interaction) and student–student interaction through comments. Due to both the structure of the task and the nature of the tool, student–student interaction was not common through posts. Moreover,

the fact that “likes” represent a type of interaction or acknowledgment that one is reading or interacting with the post in a different way may merit further examination. Expressing agreement, offering compliments/appreciation and asking questions were also higher forms of interaction in the comments.

On the other end of the spectrum, the cohesive category was the lowest. The posts themselves show little evidence of cohesive behaviors but the comments show more. Again, the framework being one developed for discussion forums, may not lend itself well to the nature of social media tools and how interaction is conveyed. Perhaps tasks that involve more in-depth discussion, reflection, assigning specific roles to members and/or knowledge sharing would promote more cohesive behaviors, which again could be linked back to the nature of the social media tool.

Because of the platform’s highly visual culture, Instagram users tend to convey meaning mainly through images, with text and hashtags added for additional context (Laestadius, 2017). As it is not possible to fully make sense of an Instagram post without considering the unity of visual and textual analysis (Highfield & Leaver, 2014), we also looked at how students used both images and text to project their social presence. Our analysis suggests that students used the visual and textual elements of the posts to present either complementary or contradictory meanings. In some posts, we observed intersemiotic complementarity between the image and the caption while, in others, the two elements seem to contradict each other in terms of social presence. Future work could explore further the notion of visuality and how it might impact social presence with visual social media.

The data from our study suggest that students did build social presence and their interaction can lead to the development of a Community of Inquiry. Both language groups performed in similar ways, which may be a result of the tool rather than the language and context. This finding is consistent with the general use of Instagram as a tool for self-expression, self-identity, and community building (Marwick, 2015; Tiidenberg, 2015). To our knowledge, this framework has not yet been applied to visual social media but has been used with other social media tools like microblogs (Dunlap & Lowenthal, 2009; Lomicka & Lord, 2012; Lord & Lomicka, 2014).

Students seemed eager to share information about themselves; the messages were shared with the classroom community and the communication was immediate and spontaneous. Joinson and Paine (n.d.) indicate that self-disclosure helps to increase mutual understanding and promote trust. This is especially true for posts that students perceived as authentic. The posts that included a mobile-phone photo and presented curious but relatable information fostered more interaction in terms of likes and comments and, thus, helped to promote the establishment of social presence.

Limitations and Future Research

While we believe our research does offer interesting and informative ideas, it also has certain limitations. We must acknowledge that the direct involvement by the instructor may have contributed to the success of the project. In both classes, the instructor played a key role in the project—not only in pushing out the topic but also by liking and commenting on posts of the community. At the same time, the instructor involvement may have enhanced student engagement and contributed to the success. Furthermore, another limitation would be the prompts pushed out to the students—a different set of questions could have produced different results. Furthermore, it is important to note that not every student may have regular access to a smartphone and internet connection. Therefore, participation in a project such as this one that hinges on mobility could limit access to certain classroom members. Certain functions that the app allows for on Instagram (i.e., posting, adding stories) are not possible to accomplish on a desktop computer so there is not a suitable alternative to a mobile device.

Future research might explore instructor involvement and the use of Instagram in language settings and for mobile learning, since there are features only accessible from portable devices. Research may also explore Instagram in language settings that are more formal and at different levels, as little substantial research has been conducted in language settings to date. Additional research is also needed to look more closely at affordances of Instagram such as persistence, visibility, replicability, searchability, and interpretability (see Laestadius, 2017).

Conclusion

In sum, our study examined Instagram posts that lead to meaningful online community building opportunities among language learners and teachers. As teachers delve into the academic content, it is also essential to allow time for students to connect and engage with others in the classroom community to develop relationships. As part of their assigned tasks over a six-week period, students interacted with their language communities, shared meaningful information with each other in the target language, and practiced their language skills outside of the classroom with mobile social media tools. In addition, students benefitted from this experience in that Instagram provided a small community setting for students to exchange and practice language skills beyond regular classroom meetings. Mobile social media tools help to better engage today's continuously connected students to more positive learning

outcomes and interaction between students was continually present, both within and out of the classroom.

As students make connections with others, such as a shared interest or hobby, they can experience a greater sense of belonging to their group. Language tasks such as this one promoting social connections can change students' perceptions and motivation for a course and can influence the experience for the language community. The development of social presence is crucial to building community in both within and beyond the classroom space. As the Internet has shifted the ways in which relationship building and interaction can take place, we nonetheless need to continue to build connections within our language learning environments.

Notes

1. Instagram stories are photos and videos in a slideshow format that disappear after 24 hours.
2. Instagram users can easily switch between multiple accounts without signing in and out from the application.
3. This study was approved by IRB (assurance number IRB00000446).

About the Authors

Fabrizio Fornara is Assistant Professor of Teaching and Learning in the Center for the Advancement of Teaching and Learning at the University of Applied Sciences and Arts of Southern Switzerland. His research interests include social media, instructional design and technology, and computer-assisted language learning.

Lara Lomicka is Professor of French and Applied Linguistics in the Department of Languages, Literatures and Cultures at the University of South Carolina. Her research interests include teacher education, intercultural learning, social media, study abroad, service learning, and computer-assisted language learning. She currently serves as the President of the American Association of University Supervisors and Coordinators (AAUSC), and President of the National Federation of Modern Language Teachers Associations (NFMLTA), and recently finished a term as the Past President of the Computer-Assisted Language Instruction Consortium (CALICO).

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