

Research paper

Web 2.0 tools in the EFL classroom: Comparing the effects of Facebook and blogs on L2 writing and interaction

Gilbert Dizon* and Benjamin Thanyawatpokin**
Himeji Dokkyo University, Japan | Ritsumeikan University, Japan

*gdizon@gm.himeji-du.ac.jp | **btpokin@gmail.com

Abstract

Web 2.0 technologies have become an integral part of our lives, transforming not only how we communicate with others, but also how language is taught and learned in the L2 classroom. Several studies have looked into the use of these tools and how they influence L2 learning (e.g. Jin, 2015; Wang & Vásquez, 2014), yet only one has compared the effects of two Web 2.0 technologies (Castaneda Vise, 2008). Thus, the aim of this study was to compare the impact that Facebook and blogs had on the writing skills, namely, writing fluency, lexical richness, and syntactic complexity, of Japanese EFL learners. Moreover, the authors examined the influence blogging and Facebook had on interaction, i.e., the number of comments the learners posted outside of class. Student attitudes towards using these tools for written English were also measured through a survey based on the technology acceptance model (Davis, 1989). Twenty-three students at a Japanese university participated in the study and were divided into a Facebook group (n = 14) and a blog group (n = 9) according to their classes. Both groups took part in a ten-week treatment consisting of weekly guided free-writings on their respective Web 2.0 applications. Pre- and post-tests were administered and non-parametric statistical tests were used to determine if any significant writing gains were made. It was found that students in both blogging and Facebook groups showed similar improvements in writing skills. However, blogging seemed to be more effective at promoting interaction and students who took part in this group retained more favorable attitudes on using blogging for L2 writing. It was concluded that Facebook may indeed present an environment where students can be distracted from more formal educational pursuits (e.g. Wang & Kim, 2014) even when they are in private Facebook groups, while blogging may support a more serious environment for improving L2 writing skills.

Keywords: Web 2.0, computer-assisted language learning, L2 writing, EFL, Facebook, blogs.

1. Introduction

Education has entered an age in which there are almost countless numbers of ways in which students can use the Internet to practice or enhance their writing skills. Chief among them are Web 2.0 technologies, online tools which emphasize interaction, collaboration and creativity (Tu, Blocher, & Ntoruru, 2008). Compared with Web 1.0 tools such as email or traditional webpages, Web 2.0 applications are highly adaptable and promote greater degrees of interaction and collaboration (Harrison & Thomas, 2009; Pegrum, 2009). Upon the conception of these technologies, they were primarily used for recreational purposes (Crook, 2008), however through ingenuity in the classroom, they have become more and more relevant to the daily on-goings of language instruction. Researchers have attempted to analyze these tools and how applicable they are to L2 students. In their review of Web 2.0 literature, Wang and Vásquez (2012) found that the most cited advantage of these technologies is their ability to support a positive environment for language learning. Yet, they also note the lack of empirical research examining how Web 2.0 can impact language ability, specifically in regards to the less researched area of social-networking services (SNSs).

In recent years, researchers have tried to address this issue (e.g. Dizon, 2016; Shih, 2011; Wang & Vásquez, 2014), but studies incorporating comparison groups are still lacking, particularly those that compare the effects of different Web 2.0 tools on groups of learners. Students often engage in more than one type of Web 2.0 application; they may keep a Facebook profile for personal use but be asked to use more widely utilized forms of Web 2.0 such as blogs and wikis for formal language learning. Thus, it is imperative to investigate the degree to which each of these technologies affect student L2 proficiency. Therefore, this study fills this gap in the literature by comparing two technologies that represent the social and collaborative nature of Web 2.0 – blogs and Facebook – to see if there were any significant differences in writing improvements and interaction between two groups of Japanese EFL students using these tools, as well as assess the learners views towards their use in the L2 classroom.

2. Literature review

2.1. Facebook

Research shows that online interactions can promote communication among L2 learners (Kissau & Pyke, 2010; Moore & Iida, 2010), and this also seems to be true with Facebook. In a study involving L2 French students, Mills (2011) found that the SNS promoted social interaction, which in turn led to a sense of community among the participants. Jin (2015) had similar findings in a study investigating the effects of an intercultural exchange via Facebook between Korean EFL learners and American college students. Based on the quality as well as the high number of posts and comments, Jin (2015) concluded that Facebook fostered interaction and intercultural competence. In contrast to the previous studies, Alm (2015) examined the use of Facebook outside of formal language learning contexts. His findings indicated that the SNS had the potential to support engagement in the L2. However, what was key was whether or not a learner had native speaker friends on Facebook, illustrating the importance of native speakers as a language learning resource. Another interesting finding by Alm (2015) was that advanced language learners were more likely to use the SNS in their L2 as well as be part of a Facebook L2 group. These results illustrate that language students may use Facebook outside of the confines of the classroom as a means of authentic communication with others in the target language. Similarly, Mitchell (2010) found that the SNS encouraged the ESL college students in her study to communicate with their Facebook friends in English, thereby increasing their input as well as output in the L2.

L2 students seem to have mixed views towards the use of Facebook for language learning. Although all the learners in Alm's (2015) study stated that they felt less anxiety communicating in the L2 over Facebook, only advanced students viewed it as useful for informal language learning. Shih (2011) had similar findings in his study which focused on the use of Facebook and peer assessment with university EFL students in Taiwan. According to the results of questionnaires and interviews, Shih (2011) found that the participants had generally favorable opinions towards combining Facebook and peer assessment. In particular, the learners in his study thought the blended learning approach enhanced their L2 writing skills, reduced stress, and offered a convenient and fun way to communicate in the target language. However, a few downsides were listed by the participants as well, namely, the fact that writing through Facebook could lead to bad habits due to an over-reliance on online correction tools and the potential for the SNS to act as a distraction. The latter was also described as a disadvantage of Facebook in Wang and Kim's (2014) case study involving L2 Chinese students. Nonetheless, their overall perceptions towards Facebook were positive, and they indicated several benefits of using the site: low-pressure learning environment, opportunities to use Chinese, as well as strengthened relationships with their classmates. Likewise, the Malaysian EFL students in Kabilan, Ahmad, and Abidin's (2010) research stated a variety of advantages of Facebook writing including enhanced writing ability, confidence, motivation, and attitudes towards the L2. Kabilan et al. (2010) also had a few negative findings regarding Facebook. To be specific, some of the learners in the study thought that the SNS was not a suitable environment for studying English. Moreover, a few of them indicated that they could not improve their English skills through Facebook because it is merely a social space to share stories and information with friends.

While research indicates that Facebook can support improvements in L2 writing output or fluency, it is unclear if the SNS can enhance the quality of students' writing. Wang and Vásquez (2014) examined the use of Facebook with L2 Chinese learners and found that the Facebook group in their study wrote significantly more Chinese characters on a post-test than a control group which took part in no treatment. In regards to writing quality however, there were no significant differences between the two groups. Similar results were found by (Dizon, 2016) in a study of Facebook and EFL learners. Two groups were involved in the study, an experimental group which used Facebook and a comparison group which used paper-and-pencil writing. Although the Facebook group improved their writing fluency to a greater degree than the comparison group on a timed post-test, significant differences in lexical richness or grammatical accuracy were not found. To date, only Shih's (2011) study has found that the use of Facebook could lead to significant improvements in L2 writing quality. However, the study incorporated a combination of peer assessment and Facebook and no control group was involved. Therefore, it is unknown if Facebook truly had a significant impact on the improvements that were made or if peer assessment was a greater factor.

2.2. Blogging

Blogging and its uses in the classroom is one of the most used, and widely researched, applications to arise out of the Web 2.0 era (Wang & Vásquez, 2012). Many studies have made note of the benefits involved with using blogs in a language learning classroom (e.g. Sykes, Oskoz & Thorne, 2008; Warschauer, 2010). Similar to Facebook, blogging has also been shown to promote communication amongst students; this is reported to be achieved by the propensity of blogging to facilitate communication amongst students using it to write. In a study done by Nepomuceno (2011), ESL students enrolled in academic writing classes were observed to comment on blog posts made by their classmates on a number of different topics. These topics were not limited by the researcher and students took it upon their own volition to reach out to their classmates and communicate. In addition, students stated that through blogging they were able to make new friends. Pinkman (2005) also found similar results in an action-research study she conducted using blogs with Japanese EFL students. Commenting on blogs prompted students to spend time thinking up ways to respond to their peers. People who were not involved with the class also began commenting on the student blogs which led to the conclusion that blogs being a public open forum could potentially invite more global communication and encourage students to speak with people in other countries through this medium. Similar to the Alm's (2015) findings on Facebook, Hashimoto (2012) found that proficient L2 students were able to experience authentic communication in their target language through the Web 2.0 tool, thereby promoting learning autonomy.

As a whole, blogs appear to be welcomed by students when used for written exercises or activities; however, the extent to which students enjoy blogging seems to vary by student and certain environmental factors (e.g. Miyazoe & Anderson, 2009; Pinkman, 2005). Nepomuceno (2011) stated that his students felt blogging was an extremely positive experience in that it allowed them to be connected to the wide world in addition to being convenient when compared to other methods of writing for English classes. In a study done in the Japanese EFL classroom, Miyazoe and Anderson (2009) observed that students who used blogging in class in conjunction with other Web 2.0 applications such as Wikis and BBS had a positive impression of it in class. The overall conception of blogs may have been positive, but the actual usage of the blogs in the classroom demonstrated a noted lack of commenting on each other's blogs. In fact, the researchers stated that the students felt that each blog was a "private space" in which they were allowed to post their thoughts. It should be noted, however, that students did in fact read their classmates' blogs. In another study, Amir, Ismail, and Hussin (2011) collected data which suggested students became more motivated after using blogs to write about certain topics for a period of six weeks. Survey data revealed students felt an increased interest in writing which helped improve their writing skills and also they had more confidence in their writing after the study was concluded.

In terms of language-related outcomes, research has shown that students have gained certain benefits from using blogs in the classroom. Fellner and Apple (2006) observed

that low-level Japanese students writing blogs in a seven-day 20-minute blog activity achieved higher writing fluency scores. In addition to writing faster in the allotted time, a lexical analysis of the students' blogs revealed that more complex words were also being used which meant that lexical complexity was also promoted. Nakatsukasa (2009) found similar results when comparing the lexical complexity of students' blog posts after a set amount of timed blogging sessions in an ESL classroom. Students were observed to use more complex words after several weeks of completing an assignment where they had to blog collaboratively and comment on each other's posts. However, post length was found to be determined by student interest in the topic and not simply by becoming accustomed to the process of blog writing or incidental learning. In a study done with Japanese students using Moodle, Miyazoe and Anderson (2009) observed that students had higher levels of lexical density, or ratio of total words to different words used in the text. The researchers also claimed that there were higher levels of complexity and vocabulary usage. However, these claims were not subjected to any quantitative analysis. To date, there have not been many studies that quantitatively attempt to rate the syntactic complexity of student texts after writing in blogs for an extended period of time.

In summary, Facebook and blogs have strikingly similar benefits and have been implemented into more and more curricula in recent years. Both have been shown to promote interaction among L2 students (Alm; 2015; Jin, 2015; Mills, 2011; Mitchell, 2010; Nepomuceno, 2011; Pinkman, 2005) as well as authentic L2 communication (Alm, 2015; Hashimoto, 2012). In addition, learners seem to have generally positive views towards their use for L2 learning, despite the fact that these web 2.0 tools come with their own unique disadvantages as well (Alm, 2015; Amir et al., 2011; Kabilan et al., 2010; Miyazoe & Anderson, 2009; Nepomuceno, 2011; Shih, 2011; Wang & Kim, 2014). Lastly, research on Facebook and blogs have indicated that students can make L2 language gains through their use, particularly when it comes to writing output and vocabulary improvements (Dizon, 2016; Fellner & Apple, 2006; Miyazoe & Anderson, 2009; Nakatsukasa, 2009; Shih, 2011; Wang & Vásquez, 2014). However, while studies like the ones listed above have delved into using different forms of computer-mediated communication (CMC), few have compared two different web 2.0 technologies. The lone exception to this is Castaneda Vise's (2008) study which compared two groups of L2 Spanish learners: one which used wikis and another which used blogs. The researcher found that there were no significant differences between the groups in terms of achievement and satisfaction levels. Despite these findings, much more research needs to be done in order to determine which Web 2.0 tool is more suitable in formal language learning contexts. Therefore, this study aims to fill this gap in the literature by addressing the following research questions:

- Are there significant differences in writing fluency, lexical richness, or syntactic complexity between students who use Facebook or blogs?
- Is there a significant difference in student interaction between the two groups?
- Are there differences in students' opinions of each web 2.0 tool?

3. Methodology

3.1. Research design

A mixed method quasi-experimental design was implemented in this study to examine if there were any significant differences in writing output, lexical richness, or syntactic complexity, between two groups of students: one which wrote in class via Facebook and another which used blogs. Two writing assessments were administered at the start and completion of the treatment to measure if any language improvements were made in these three areas. In addition, the number of student comments in the Facebook and blog groups were recorded to see if there was a significant difference in the amount of interaction between the members of each group. The qualitative aim of the study was to survey each group's attitudes towards Facebook and blogs with the technology acceptance model (Davis, 1989) in order to determine if there were any differences between their opinions in regards to their perceived usefulness, perceived ease of use, and behavioral intention to use the Web 2.0 tools.

3.2. Participants

A total of 23 first- and second-year EFL students at a small, private Japanese university agreed to participate in the study. The learners were part of the Department of Humanities and Social Sciences at the university and were enrolled in a course entitled Communicative English. The students were divided into four separate classes based on their English test scores in a Japanese standardized test called *Eiken*. The classes met three times a week in 90-minute periods during the spring 2017 semester. As shown in Table 1 below, each researcher taught a Facebook and a blog group as well as one first-year and second-year class in order to minimize the impact of teacher effects on the results of the study.

Group	Researcher		Year	
	A	B	1st	2nd
Facebook (n = 14)	8	6	6	8
Blog (n = 9)	5	4	5	4

3.3. Treatment

While the students using Facebook posted their writing on separate group pages, those in the blog group wrote on individual class pages created with Blogger.com since the students already had Gmail accounts through the university. Both groups took part in a 10-week treatment consisting of 15-minute guided freewritings (GFs). Whereas traditional freewriting involves students writing about a topic of their choice, GF is more focused, which encourages learners to get the writing process started, a common difficulty among EFL writers (Hwang, 2010). Additionally as Hammond (1991) asserts, GF better develops students' critical thinking skills, especially when writing is shared; thus making Web 2.0 technologies a natural medium for GF. Writing topics were selected by the researchers and were the same for the Facebook and blog groups in order to maintain consistency in writing themes between the classes involved (Table 2). At the start of each GF, topics were introduced and a short writing prompt was provided to the students. Other than this, no additional guidance was provided for the students; they were not allowed to use their electronic dictionaries, smartphones, or any other writing aid. After completing each GF, the students in both groups were assigned to comment on at least two other posts on their respective Facebook group pages or blogs outside of class in order to promote interaction among the learners. It was also highly encouraged to comment more than twice. It is also important to note that all the Facebook and blog pages were set to the strictest privacy settings. This was done to maintain the privacy of the students and to prevent outside interaction, which could possibly damage student motivation as was witnessed in Pinkman (2005).

Week	Topic
Week 1	Travel
Week 2	Work
Week 3	Health
Week 4	University life
Week 5	Foreign language

Week 6	Environment
Week 7	Hobbies
Week 8	Money
Week 9	Education
Week 10	Talents

3.4. Research instruments

While the students wrote about several different topics during the treatment period, pre-and post-tests were used in order to assess if the students' writing improved. The writing procedure for the assessments was identical to the treatment. The pre- and post-test both used topics that asked the students to report on their plans for certain school holidays. The pre-test focused on the students' plans for Golden Week (a five-day holiday in Japan) and the post-test asked the students about their plans for the summer vacation. The themes of the assessments were kept similar due to the effect that topic can have on lexical richness (Laufer & Nation, 1995; Robinson, 2001).

A 10-item, L1 questionnaire based on the technology acceptance model (TAM), developed by Davis (1989), was created by the researchers and administered to assess each group's views of Facebook and blogs. According to Lee, Kozar, and Larsen (2003), TAM is "the most influential and commonly employed theory for describing an individual's acceptance of information systems" (p. 752). Although TAM can also measure external factors such as user training and anxiety, it consists of three primary variables: perceived usefulness (PU), perceived ease of use (PEOU) and behavioral intention (BI) (Figure 1). Davis (1989) defined PU as the degree of usefulness that a particular system or technology provides which enables a person to improve their performance, while PEOU is the degree to which a person believes a given technology can be used without effort. Eight of the survey items, four each, pertained to PU and PEOU, with the remaining two related to BI. The students were asked to rate their level of agreement towards the questionnaire items according to a 5-point Likert scale. The reliability of the survey was verified with Cronbach's alpha (α), with sub-scale values all > 0.8 (PU = .844; PEOU = .865; BI = .814), indicating a good level of internal consistency (George & Mallery, 2003).

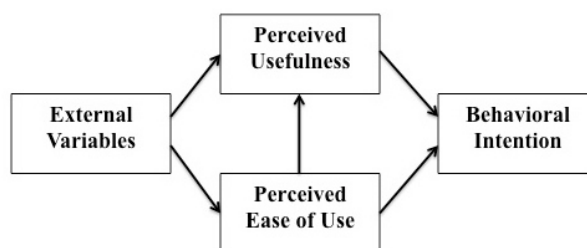


Figure 1. The technology acceptance model.

3.5. Variables

The independent variables in this study were the two web 2.0 tools that were investigated: Facebook and blogs. A total of three dependent variables were examined to measure any writing gains that were made: (1) writing fluency, or the number of words written on the pre- and post-tests, (2) lexical richness, i.e., the ratio of words

written beyond level 1 of the New General Service List (Browne, 2013) and the words written on the writing assessments, and (3) syntactic complexity, measured by subordination as was demonstrated by Nation (1989). For writing fluency, it was decided to measure word count instead of syllable count in order to keep in line with conventions established by other researchers (e.g. Nakatsukasa, 2009). The average number of comments made per week by each student outside of class was also examined to see if there was a significant difference in the level of interaction between the learners of each group. Qualitatively, the students' attitudes towards the PU, PEOU, and BI to use blogs or Facebook for English writing were measured to assess their views of the Web 2.0 technologies.

3.6. Data collection and analysis

The bulk of the data for the study was collected from the Facebook and Blogger class pages. The comments that the students posted on these two websites were used to gather data to determine the interaction level of the learners. Both pre- and post-tests were conducted on the respective websites in order to keep in the theme of facilitating a class-based activity centered on CMC. In order to gauge student perceptions of Facebook or Blogger, the students also completed a TAM-based online survey via surveymonkey.com; the contents of which asked students various questions about the PU, PEOU, and BI of the Web 2.0 tools based on a 5-point Likert scale.

Lexical richness data was analyzed using the New General Service List (NGSL) version of VocabProfile, an online vocabulary profiler based on Laufer and Nation's (1995) Lexical Frequency Profile. This version of VocabProfile breaks down English text into five categories: the first three levels of the NGSL, which is comprised of the 2,801 most important highly frequently used words in the English language (Browne, 2013), the New Academic Word List, and off-list vocabulary, words that do not fall into any of the previously mentioned categories. Because of this, proper nouns as well as non-English words were removed prior to analysis as their inclusion would have skewed the results of the analysis.

Non-parametric statistical tests were employed to analyze the pre-and post-test writing data due to the small sample size. The Sign test was used to determine if significant writing improvements were made within each group while the Mann-Whitney U test was used to assess if there were significant differences between the groups in relation to any gains which were made. The latter was also used to determine if there was significant difference in the interaction level, i.e., the average number of student comments, between the learners who used Facebook and those that wrote on blogs. Descriptive statistics of the survey data, detailing the mean and SD values of the each survey item as well as the TAM constructs, were provided to illustrate the learners' views of Facebook or blogs.

4. Results

4.1. Writing fluency

Results from the Mann-Whitney U test indicate that the writing fluency of the Facebook group (Mdn = 45) did not significantly differ from the blog group (Mdn = 60) on the pre-test, $U = 47.5$, $p = .483$. In other words, the groups were equivalent in terms of writing fluency ability prior to the start of the treatment. Both the Facebook ($Z = 3.05$, $p = .002$) and the blog group ($Z = 2.33$, $p = .019$) showed significant increases in average word count from pre- to post-test, with the blog group making larger gains. However, the improvements between the Facebook group (Mdn = 19) and the blog group (Mdn = 30) were not significantly different, $U = 48.5$, $p = .528$.

Table 3. Writing fluency results				
Group	Pre-test		Post-test	
	Mean WC	SD	Mean WC	SD
Facebook	53.15	30.07	74.38	43.90
Blog	60.78	19.41	96.78	41.03

NB: WC = word count

4.2. Lexical richness

Similar to writing fluency, a significant difference was not found between the Facebook group (Mdn = .071) and the blog group (.054) as it pertains to lexical richness at the outset of the study, $U = 42.5$, $p = .298$. As shown below in Table 3, both groups were able to make slight gains from the pre-test to the post-test. However, the improvements made within the Facebook group ($Z = 1.94$, $p = .052$) and the blog group ($Z = 1.66$, $p = .095$) were not significant. Moreover, the difference between each group's gains (Facebook Mdn = .026, Blog Mdn = .034) were not found to be significant, $U = 57$, $p = .944$.

Table 4. Lexical richness results				
Group	Pre-test		Post-test	
	Mean LR	SD	Mean LR	SD
Facebook	6.5%	3.7%	9.4%	4.0%
Blog	5.2%	2.7%	8.4%	3.5%

NB: LR = lexical richness

4.3. Syntactic complexity

According to the Mann-Whitney U test, the Facebook (Mdn = 1) and blogging (Mdn = 3) groups were statistically different for data taken during the pre-test ($U = 24.5$, $p = .025$). Essentially, this means that the blogging group was using more subordinate clauses than the Facebook group from the outset of the study. The Sign test showed the Facebook group ($Z = 2.53$, $p = .011$) exhibited significant improvements in their use of clauses. In addition, the blogging group ($Z = 2.33$, $p = .020$) also showed scores that signify significant improvement in syntactic complexity. When data from the Facebook (Mdn = 1) and blog group (Mdn = 3) are compared, though, there does not seem to be a significant difference between them, $U = 37$, $p = .162$.

Table 5. Syntactic complexity results				
Group	Pre-test		Post-test	
	Mean SC	SD	Mean SC	SD
Facebook	3.11	1.27	6.22	1.72
Blog	1.62	1.33	3.23	2.13

NB: SR = syntactic complexity

4.4. Interaction

As explained above, the interaction between students was measured by the average number of times they commented on posts every week. The Facebook group (Mdn = 1.69) and the blog group (Mdn = 2.17) were found to be statistically different, $U = 22$, $p = .038$. In other words, the blogging group was observed to be creating significantly more comments on average each week for the duration of the study.

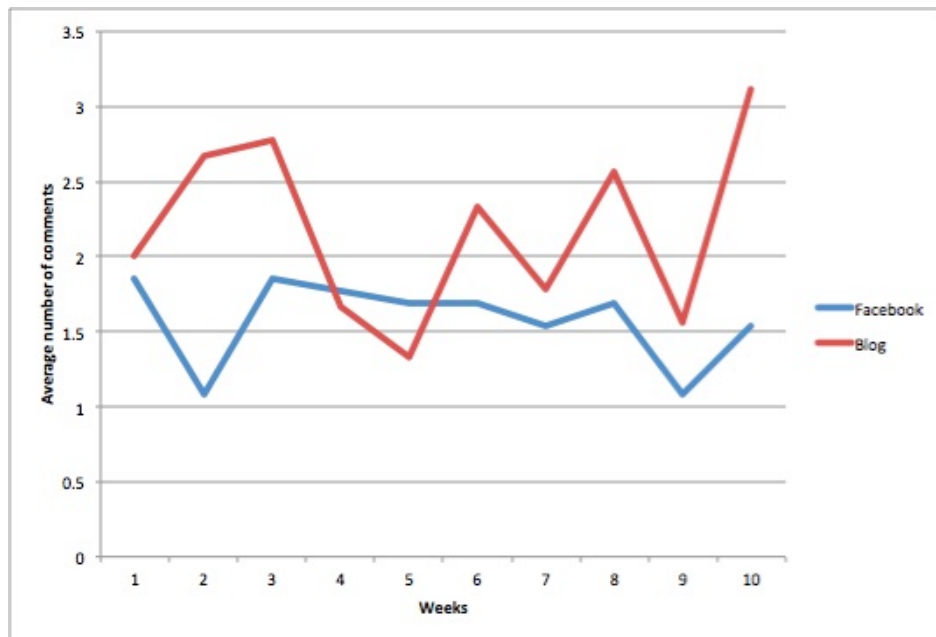


Figure 2. Average number of comments per week.

From the line graph above, it can be observed that both groups started out week one of the study with comment counts that were quite similar. However, during the first half of the treatment, the number of comments from the blog group fluctuated, rising or falling behind the Facebook group sporadically. Over the last five weeks of the study, the students in the blog group consistently commented more often than those in the Facebook group. Interestingly, the blog group showed more fluctuations in the number of comments posted, but the Facebook group comments stayed relatively even.

4.5. Student attitudes

As shown in Table 5, the blog group had higher levels of agreement on eight out of the ten items of the questionnaire. Six of these items had an agreement rating of 4.0 or higher, whereas the Facebook group rated one statement (PU2) with a similar level of agreement. Accordingly, the blog group also had higher levels of agreement on each survey construct: PU, PEOU, and BI. The only item which rated higher for the Facebook

group was statement one, which related to writing speed. The first item related to PEOU resulted in the lone tie, with both groups having the same level of agreement towards the ease of use to write on Facebook/blogs.

#	Statement	Facebook		Blog	
		Mean	SD	Mean	SD
PU1	I was able to write more quickly on Facebook/the blog.	3.92	0.95	3.56	0.53
PU2	Writing on Facebook/the blog improved my writing performance.	4.00	0.71	4.33	0.71
PU3	Writing on Facebook/the blog made it easier to write in English.	3.77	0.93	4.22	0.67
PU4	Facebook/Blog writing was useful in my class.	3.92	0.76	4.00	0.71
PU Mean		3.90	0.82	4.03	0.82
PEOU1	It was easy for me to write on Facebook/the blog.	3.00	1.08	3.00	0.50
PEOU2	It was easy for me to become skillful at writing on Facebook/the blog.	2.92	1.04	3.33	0.71
PEOU3	Learning how to write on Facebook/the blog was easy for me.	3.54	1.05	4.00	0.50
PEOU4	The Facebook group/class blog page was clear and understandable.	3.69	0.95	4.11	0.60
PEOU mean		3.29	1.05	3.61	1.05
BI1	I intend to take more classes using Facebook/blog writing in the future.	3.54	1.27	4.22	0.44
BI2	If I am offered, I intend to write more English posts and comments on Facebook/blogs.	3.31	1.03	3.78	0.67
BI mean		3.42	1.14	4.00	0.59

5. Discussion

5.1. Are there significant differences in writing fluency, lexical richness, or syntactic complexity between students who use Facebook or blogs?

All groups who took part in the study were observed to have statistically significant gains in writing fluency and syntactic complexity. These findings are in line with previous literature on Web 2.0 tools in terms of writing output (Dizon, 2016; Fellner & Apple, 2006; Wang & Vásquez, 2014). However, when the level of improvements were compared, there were no significant differences. In regards to lexical richness, both

groups did not make significant improvements, which contradicts the lexical gains made in other studies (Fellner & Apple, 2006; Miyazoe & Anderson, 2009; Nakatsukasa, 2009). Judging by this data, it can be concluded that both writing on Facebook and blogging had the same level of effect on the students. In other words, the methods were equally as effective when analyzing the written texts that students produced in an EFL setting.

5.2. Is there a significant difference in student interaction between the two groups?

Although interaction was promoted through the use of Web 2.0 technology, as indicated by the average number of comments made per week in both groups, blogging spurred students to interact with their fellow classmates more significantly than Facebook. This confirms the positive role that blogging has on communication between L2 learners (Nepomuceno, 2011; Pinkman, 2005), and casts some doubt on the effect of Facebook, as other researchers have lauded the impact of the SNS on student interaction (Alm, 2015; Jin, 2015; Mills, 2011; Mitchell, 2010). While Facebook may come with several benefits, it also comes with its own set of downsides for L2 students, including the fact that it has the potential to distract students from learning outcomes (Shih, 2011; Wang & Kim, 2014), which could have affected the learners in the Facebook group when commenting outside of class.

5.3. Are there differences in students' opinions of each web 2.0 tool?

Students' perceptions towards the use of Facebook and blogs were generally positive, reinforcing past findings on Web 2.0 tools (e.g., Nepomuceno, 2011; Shih, 2011). However, the blog group had higher levels of agreement towards PU, PEOU, and BI, which suggests that L2 students may prefer blogging over Facebook writing. As found by Kabilan et al. (2010), the overt social and recreational nature of Facebook may turn off some students to L2 writing on the SNS. In contrast, the blogs in the study were created and used for the sole purpose of improving English writing. Therefore, language instructors ought to train students on how to best leverage the features of Facebook for language learning purposes in order for it to be used effectively.

6. Limitations

First and foremost, one of the study's obvious limitations is the small sample size. Studies done by other researchers have used around 20 to 30 students for one class (e.g. Fellner and Apple, 2006; Nepomuceno, 2011). If this number were to be used as a baseline, then it could be considered that the current study did not gather enough participants to provide results that can be generalized to a larger student population. Non-parametric statistical analysis of the data was also used, which was not utilized by most previous studies. This could have also affected the generalizability of the data.

A further limitation was the fact that the two groups started the study at different levels of English as it pertains to syntactic complexity. In response to this, we decided to focus on the extent to which each group was improving throughout the course of the study. Other studies, such as Fellner and Apple (2006) used students that had a variety of English comprehension levels. Montero-Fleta and Perez-Sabater (2010) also included participants that were described to include students of English language comprehension levels.

While we included the number of blog and Facebook comments in the data analysis, we did not include the content of these comments. Other studies such as Nakatsukasa (2009) went in-depth into the linguistic makeup of these comments that could also help suggest English improvements. In further studies, it would be beneficial to look into what students are posting over the course of several weeks.

Lastly, some researchers advocate that broad comparisons, such as the one performed in this study, ought to be avoided (Levy & Stockwell, 2006). Instead, Levy and Stockwell (2006) recommend that more narrowly defined comparative studies be done in order to focus on the specific design features that help facilitate effective language learning. Given this, it would be worthwhile to examine whether design features within Web 2.0 tools such as privacy settings or automatic translation have significant effects on promoting L2 skills and interaction.

7. Conclusion

The primary goal of this study was to compare the influence that Facebook and blogs can have on L2 writing and interaction. In terms of writing improvements, the Web 2.0 tools were found to have equally positive and significant effects on writing fluency and syntactic complexity, while neither CMC method had any effect on lexical richness. These findings complement previous research and further demonstrate that Facebook and blogs both have the potential to improve the writing skills of L2 learners (Dizon, 2016; Fellner & Apple, 2006; Miyazoe & Anderson, 2009; Nakatsukasa, 2009; Shih, 2011; Wang & Vásquez, 2014). Evidence suggested that blogs were superior at enhancing interaction between the learners, indicating that the social and recreational nature of Facebook may distract learners from their language goals (Shih, 2011; Wang & Kim, 2014). Lastly, the data from the TAM-based questionnaire signified that the students in the blog group had more positive views towards the use of the Web 2.0 technology than those in the Facebook group. Although more empirical research on Facebook and L2 learning has been done in recent years, the use of blogs is still much more established in the field (Wang & Vásquez, 2012). Consequently, some students may be wary of the use of Facebook in formal learning contexts, especially since it is primarily used for recreation and non-academic communication. Given this, language instructors must carefully examine their own teaching contexts, placing special emphasis on the needs, abilities, and resources of their learners, before deciding to implement any Web 2.0 tool in the classroom.

References

- Alm, A. (2015). Facebook for informal language learning. *EUROCALL Review*, 23(2), 3-18. Retrieved from <http://polipapers.upv.es/index.php/eurocall/article/view/4665/4791>
- Amir, Z., Ismail, K., Hussin, S. (2011). Blogs in language Learning: Maximizing Students' Collaborative Writing. *Procedia Social and Behavioral Sciences*, 18, 537-543. doi: 10.1016/j.sbspro.2011.05.079
- Browne, C. (2013). The new general service list: Celebrating 60 years of vocabulary learning. *The Language Teacher*, 37(4), 13-16.
- Castaneda Vise, D. A. (2008). The effects of wiki- and blog-technologies on the students' performance when learning the preterit and imperfect aspects in Spanish. *Dissertation Abstracts International: Section A. The Humanities and Social Sciences*, 69 (01), 0187.
- Crook, C. (2008). *Web 2.0 Technologies for Learning: The Current Landscape – Opportunities, Challenges and Tensions*. Retrieved from http://dera.ioe.ac.uk/1474/1/becta_2008_web2_currentlandscape_litrev.pdf
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340. Retrieved from jstor.org/stable/249008
- Dizon, G. (2016). A comparative study of Facebook vs. paper-and-pencil writing to improve L2 writing skills. *Computer Assisted Language Learning*, 29(8), 1249-1258. doi: 10.1080/09588221.2016.1266369
- Fellner, T., Apple, M. (2006). Developing writing fluency and lexical complexity with blogs. *The JALT CALL Journal*, 2(1), 15-26.
- George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference* (4th ed.). Boston, MA: Allyn & Bacon.
- Hammond, L. (1991). Using focused freewriting to promote critical thinking. In P. Belanoff, P. Elbow, & S. Fontaine (Eds.), *Nothing begins with N: New investigations of freewriting* (pp. 71-92). Carbondale, IL: Southern Illinois University.
- Harrison, R., & Thomas, M. (2009). Identity in online communities: social networking sites and language learning. *International Journal of Emerging Technologies and Society*, 7(2), 109-124.

- Hashimoto, K. (2012). *Exploring the relationship between L2 blogging, learner autonomy, and L2 proficiency levels: A case study of post-secondary Japanese L2 learners* (Doctoral dissertation). Retrieved from Proquest, UMI Dissertations Publishing.
- Hwang, J. A. (2010). A case study of the influence of freewriting on writing fluency and confidence of EFL college-level students. *Second Language Studies*, 28(2), 97–134. Retrieved from <http://www.hawaii.edu/sls/wp-content/uploads/2014/09/Hwang.pdf>
- Jin, S. (2015). Using Facebook to promote Korean EFL learners' intercultural competence. *Language, Learning & Technology*, 19(3), 38–51. Retrieved from <http://llt.msu.edu/issues/october2015/action2.pdf>
- Kabilan, M. K., Ahmad, N., & Abidin, M. J. Z. (2010). Facebook: An online environment for learning of English in institutions of higher education? *Internet and Higher Education*, 13, 179-187. doi: 10.1016/j.iheduc.2010.07.003
- Kissau, S., McCullough, H., Pyke, J. G. (2010). 'Leveling the playing field:' The effects of online second language instruction on student willingness to communicate in French. *CALICO Journal*, 27(2). 277-297. doi: 10.11139/cj.27.2.277-297
- Laufer, B., & Nation, P. (1995). Vocabulary size and use: Lexical richness in L2 written production. *Applied Linguistics*, 16, 307–322. doi:10.1093/applin/16.3.307
- Lee, Y., Kozar, K. A., & Larsen, K. R. T. (2003). The technology acceptance model: Past, present, and future. *Communications of the Association for Information Systems*, 12, 752-780. Retrieved from aisel.aisnet.org/cais/vol12/iss1/50
- Levy, M., & Stockwell, G. (2006). *CALL Dimensions: Options and issues in CALL*. Lawrence Erlbaum: Mahwah, NJ.
- Mills, N. (2011). Situated learning through social networking communities: The development of joint enterprise, mutual engagement, and a shared repertoire. *CALICO Journal*, 28(2), 345-368. doi: 10.11139/cj.28.2.345-368
- Mitchell, K. (2010). A social tool: Why and how ESOL students use Facebook. *CALICO Journal*, 29(3), 471-493. doi: 10.11139/cj.29.3.471-493.
- Miyazoe, T., Anderson, T. (2009). Learning outcomes and students' perceptions of online writing: Simultaneous implementation of a forum, blog, and wiki in an EFL blended learning setting. *System*, 38, 185-199.
- Montero-Fleta, B., & Perez-Sabater, C. (2010). A research on blogging as a platform to enhance language skills. *Procedia Social and Behavioral Sciences*, 2, 773-777. doi: 10.1016/j.sbspro.2010.03.100
- Moore, K. & Iida, S. (2010). Students' perception of supplementary, online activities for Japanese language learning: Groupwork, quiz and discussion tools. *Australasian Journal of Educational Technology*, 26(7), 966-979. Retrieved from <http://www.ascilite.org.au/ajet/ajet26/moore.html>
- Nakatsukasa, K. (2009). The efficacy and students' perceptions of collaborative blogging in an ESL classroom. In Chapelle, C.A., Jun, H.G., Katz, I (Eds.), *Developing and evaluating language learning materials* (pp. 69-84). Ames, IA: Iowa State University.
- Nation, I. S. P. (1989). Improving speaking fluency. *System*, 17, 377–384. doi: 10.1016/0346-251X(89)90010-9
- Nepomuceno, M. (2011). Writing Online: Using Blogs as an Alternative Writing Activity in Tertiary ESL Classes. *TESOL Journal*, 5, 92-105.
- Pegrum, M. (2009). Communicative networking and linguistic mashups on Web 2.0. In M. Thomas (Ed.), *Handbook of research on Web 2.0 and second language learning* (pp. 20-41). IGI Global.
- Pinkman, K. (2005). Using Blogs in the Foreign Language Classroom. *The JALT CALL Journal*. 1(1), 12-24.
- Robinson, P. (2001). Task complexity, task difficulty, and task production: Exploring interaction in a componential framework. *Applied Linguistics*, 22(1), 27–57. doi: 10.1093/applin/22.1.27

Shih, R. C. (2011). Can Web 2.0 technology assist college students in learning English writing? Integrating Facebook and peer assessment with blended learning. *Australasian Journal of Educational Technology*, 27(5), 829-845. Retrieved from <https://eric.ed.gov/?id=EJ943540>

Sykes, J. M., Oskoz, A., & Thorne, S. L. (2008). Web 2.0, Synthetic Immersive Environments, and Mobile Resources for Language Education. *CALICO Journal*, 25(3), 528-546.

Tu, C., Blocher, M., & Ntoruru, G. (2008). Constructs for Web 2.0 learning environments: A theatrical metaphor. *Educational Media International*, 45(4), 253–269. doi: 10.1080/09523980802588576

Wang, S., & Kim, D. (2014). Incorporating Facebook in an intermediate-level Chinese language course: A case study. *IALLT Journal*, 44(1), 38-78. Retrieved from http://old.iallt.org/iallt_journal/incorporating_facebook_in_an_intermediate_level_chinese_language_course_a_case_study

Wang, S., & Vásquez, C. (2012). Web 2.0 and second language learning: What does the research tell us? *CALICO Journal*, 29(3), 412–430. doi: 10.11139/cj.29.3.412-430

Wang, S., & Vásquez, C. (2014). The effect of target language use in social media on intermediate-level Chinese language learners' writing performance. *CALICO Journal*, 31(1), p. 78-102. doi: 10.11139/cj.28.2.345-368

Warschauer, M. (2010). Invited Commentary: New Tools for Teaching Writing. *Language Learning and Technology*, 14(1), 3-8. Retrieved from <http://llt.msu.edu/vol14num1/commentary.pdf>
