Investigating Instagram as an EFL Learning Tool

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Abstract
Research on Computer Assisted Language Learning (CALL), Mobile Assisted Language Learning (MALL), and Computer Mediated Communication (CMC) has informed us that the adaptation of new technologies helps in overcoming some of the challenges faced in language classrooms; such as the limited classroom time (Cardoso & Collins, 2016). In light of CALL, MALL, and CMC research, the purpose of this corpus driven study was to investigate the potential of the Instagram platform in learning English as a foreign language (EFL): particularly whether the type of Instagram post (vocabulary or grammar) had an effect on the amount of learners' EFL output, the output accuracy, and the amount of feedback the learners received. The data was collected from authentic EFL use from the comments section of 15 Instagram accounts that were targeting the Saudi learners as their population. A total of 140 comments were analyzed (70 for vocabulary and 70 for grammar). A non-parametric Mann-Whitney test was carried out and indicated a statistical significance $Z (140)= -2.38$, p. = 017 for output, with a relatively small effect size ($d = .438$), showing that vocabulary posts elicited more output from the commenters. However, post types did not have any influence on learners' output accuracy and the amount of feedback they received. From a pedagogical standpoint, teachers are encouraged to use social media as means for creating language practice opportunities, and as a source of extra input outside the classroom.

Key words: EFL, instagram, language learning, social media

Introduction and Background Studies

Many professional fields, whether medical, commercial, or educational, were influenced by the introduction of new technologies. The field of education in general, particularly second/foreign language (L2) education, is undergoing rapid changes in teaching methodology due to the use of these new technologies, as they are adaptable to the interests and needs of students and teachers alike. Scholars believe that utilizing such technologies has the potential to solve several pedagogical problems that occur in the language classroom, such as the limited amount of time teachers have compared to the large number of students (Cardoso & Collins, 2016; Roblyer, 2003).

Indeed, the application and use of technology in the language classroom has demonstrated many advantages, as reported by a number of empirical studies, such as Computer Assisted Language Learning (CALL) research findings on the acquisition of lexical items (e.g., Smith, 2004), and grammar (e.g., Fiori, 2005). In addition to the positive impact of CALL use on L2 reading (e.g., Taylor, 2006; Taylor 2009; Taylor, 2013), writing (e.g., Suh, 2002) and pronunciation (e.g., Seferoglu, 2005; Lambacher, 1999). Some researchers have even proposed that the use of CALL may significantly promote the process of language learning in general. For example, Chapelle (2009) connects second language acquisition (SLA) theory to CALL, explaining that CALL is fully capable of facilitating and enhancing the acquisition of a second language, as it may increase opportunities for L2 input, interaction, and feedback. Chapelle also adds that while each SLA theory focuses on a single component of language acquisition, such as output, CALL is characterized by its comprehensiveness in simultaneously covering multiple areas required for language acquisition (e.g., input, output, feedback, and interaction).

Studies concerned with Mobile Assisted Language Learning (MALL) have also indicated a positive impact for technology use on language learning (e.g., Kondo et al., 2012; Liakin, Cardoso, & Liakina, 2015; 2017; Liu, Navarrete, Maradiegue, & Wivagg, 2014; Stockwell, 2010). For example, Stockwell (2010) investigated students' preferences in completing vocabulary activities on different platforms (including mobile devices and PCs). He found that participants' tendencies to finish learning tasks on their cellphones increased, and the use of both platforms resulted in high vocabulary scores. The study also indicated that using mobiles for vocabulary tasks did not pose any obstacles, and although tasks required slightly more time to complete on mobile phones, PCs and mobiles were alike when it comes to learners' speed in completing the activities.

Also, Jaradat (2014) investigated students' perceptions of using smart phones as a medium for extra readings for a French undergraduate course in Saudi Arabia. Participants were asked to complete surveys that focused on their attitudes towards using smart phones to complete exercises, access multimedia for additional reading activities, and using email and voice-over protocol applications for learning purposes. Quantitative results showed that the utilization of MALL enhanced students' language (vocabulary), and indicated that the main advantage of mobile learning is the accessibility afforded by the technology, as it is unrestricted by place or time. The study concluded that mobile technology has the potential to improve students' interaction, as well as their overall learning experience. Recognizing the potential of MALL even encouraged a call

for considering Mobile-Assisted Language Use (MALU) an alternative for CALL (e.g., Jarvis & Achilleos, 2013).

Moreover, Computer-Mediated Communication (CMC) studies view technology as a communication tool that decreases the pressure usually experienced in real-life, face-to-face interactions (Arnold, 2007; Baralt & Gurzynski, 2011; Bradley & Lomicka, 2000). Consequently, positive effects on learning via CMC were discussed in the literature, similar to what has been reported in CALL and MALL studies. For example, Kern (1995) quantitatively and qualitatively compared students' production in two teacher-led class discussions: one in the classroom and the other was online (CMC). The study reported that students' production increased in the CMC modality, and discussions were more student-centered. The results were attributed to the affordances of CMC in reducing communication anxiety.

In addition to the attested benefits of CALL, MALL, and CMC on language acquisition, research on using Social Media (SM) applications for language teaching/learning has recently begun to receive more attention (e.g., Babaee, 2012; Borau, Ullrich, Feng, & Shen, 2009; Ekoc, 2014; Hattem, 2014; Wang & Vasquez, 2014). SM is a unique medium for learning as it combines the benefits discussed in the literature regarding CALL, MALL, and CMC, given that it is accessible through both personal computers and mobile phones. SM applications fall under the umbrella of Web 2.0 sites, where users are the creators of the website's content (Richardson, 2010). Users can write and share posts about their everyday lives, access each other's content, and express their opinions and views. Most SM applications are available for free and, in most cases, only an email address is required for registration, as well as a Wi-Fi Internet connection or Internet from a mobile service provider. When used for learning, these applications can be categorized under Beatty's (2003) definition of "edutainment," since students will use them for entertainment in addition to educational purposes.

Furthermore, Kessler (2013) argues that SM is a huge linguistic corpora, characterized by authenticity and availability, and offers dense interaction opportunities for learners to develop their language skills. He adds that social media has the ability to present language in a stimulating and valuable way. Studies also revealed (e.g., Jones, 2015; Mondahl & Razmerita, 2014) that the type of language-learning prone environment that web 2.0 applications provide is the most reported technology advantage mentioned in the literature (Wang & Vasquez, 2012).

Research Focus
The combination of learner's output and reception of feedback are key elements for effective language learning and are well attested in the literature. Swain (1997) states that producing language provides learners with opportunities to notice their weaknesses, as it requires deep processing levels that enable students to revise their language hypotheses. Various studies have examined the quality and quantity of such output in CALL or CALL related platforms (e.g., Wang & Vasquez 2014). The effectiveness of feedback has also been investigated in CALL environments. For example, research indicated that the feedback that highlights and explains the exact errors to students is the most successful feedback type that leads to uptake in learning (Heift, 2004). In addition, Collentine and Collentine (2015) believe that an output approach in CALL supported by feedback and meaningful language use leads to substantial development in learning

complex grammatical features. Research also indicated that feedback in CALL, especially contrastive feedback, helped Korean learners reduce the over passivization errors (Kim, 2009).

The author's personal observations revealed that Saudi students use Instagram frequently for learning English as a foreign language (EFL). Instagram is an SM application that supports audios, images and videos. Mainly, users "Comment" on or "Like" pictures or videos that have been posted by other users. The application also has a direct messaging ("DM") feature where users can privately send messages to one another. The number of EFL Instagram accounts dedicated to the Saudi population is increasing, and most of these accounts are created and managed by experienced learners, not certified teachers. Therefore, exploring the potential of Instagram as a learning tool would be valuable. Instagram is an SM application that does not constrain the posts or comments to a limited number of characters (cf. Twitter), and the EFL posts found on Instagram address different language features (e.g., vocabulary, grammar, and pronunciation lessons), which offers an opportunity to compare the learners' output amount, in addition to the types and amount of feedback the learners receive in this platform, if there is any.

Based on the discussion above, and as a response to Godwin-Jones (2015) call for language teachers to develop abilities and skills that enable them to evaluate new technologies in order to judge whether or not these technological advances cater to their students' needs and the teaching/learning context, the purpose of this study is to investigate the appropriateness of Instagram as an EFL tool. The goal of this study is to reveal if these learners are provided with opportunities to use the language (output), and whether they receive the needed feedback to enhance their language production. Thus, the current study addresses the following research question: does Instagram lesson content affect the language production opportunities (output), accuracy, and feedback that EFL learners receive?

Method
Corpus Design and Data Collection
This is a corpus-driven study of written data collected from natural occurring EFL use in the Instagram application. Instagram is a social media application that is widely used by millions of people coming from different ages and various backgrounds, mainly to publish life details or updates through posting pictures. Users can share their accounts with family, friends, or everyone if they choose to, as they can control sharing through the privacy option. Anyone who accesses to the account can either like posts (press the like button) or write a comment. In this study, a *post* refers to the lesson content that is in a picture form, which the account holder has created for teaching purposes. The *poster* refers to the account holder and creator of the content. *Commenters* are learners who write using EFL in their comments.

This study followed a global data collection procedure (i.e., that data came from a large scale of learners, gathered around the same period of time). Data (posts and comments) were randomly selected from 15 Instagram accounts/profiles that were created for teaching EFL to Saudi population who speak Arabic as their first language (L1). The data was collected from multiple accounts in order to eliminate the teacher effect.

Posts selection. Only two types of posts were included in the data pool, which were grammar and vocabulary. Posts were categorized as grammar if they specifically stated that they are about grammar, such as having "Grammar Lesson 1" as a headline. Preposition posts were categorized under grammar, in addition to posts that compared or contrasted tense uses such as the future "will/going to". The total number of grammar posts included in the corpus was 28 (see Table 1).

Table 1

Corpus Data Summary

Posts types	Accounts	Posts	Comments
Grammar	15	28	70
Vocabulary	15	27	70

Similarly, only posts that were labeled as vocabulary lessons, such as "Vocabulary #23" were included in the vocabulary data. If a lesson did not fit these criteria of categorization, it was excluded from the data pool and was immediately discarded. The total number of vocabulary posts included in the data pool was 27 posts (Table 1), which made the total number of posts 55 (including the grammar posts).

Comments and feedback selection. Comments were collected from the comment section of the posts that were included in the data pool. A total of 140 comments were gathered from the grammar and vocabulary posts, 70 comments were gathered from the vocabulary lessons, and 70 comments were collected from the grammar posts (Table 1). The inclusion criterion was set to accept only EFL comments that used the highlighted target feature in the post. All comments that simply thanked the poster for the content, or copied and pasted the post content or its examples were immediately overlooked, in addition to those that were written in the L1 or discussed previous posts or unrelated language topics. Feedback was collected from replies and mentions only and it included poster and peer feedback (from other commenters). Researcher interaction with commenters and posters was completely avoided in order to eliminate the researcher effect. The researcher role was simply to collect, categorize and code data.

Corpus Data Coding and Analysis

The coding did not depend on any previous coding materials as a new coding scheme was implemented to better serve the purposes of the study. Two sub-corpora were created, one for vocabulary comments and the other for grammar comments. A chart on Excel was created for the entire corpus data for coding purposes. No particular software was used to code the data as coding was done by the author, in addition to a secondary coder. Grammar posts were defined as any lesson that uses explicit terminology in the instruction, for example, nouns, verbs and present perfect, or had grammar explanations similar to this format (S + V+ O = Sentence). Vocabulary posts were defined as any lesson that provided a word, phrase, expression or idiom with its explanation either in the L1 (Arabic) or in EFL, or had an Arabic translation for the concerned word. The posts were coded nominally, with V for vocabulary and G for grammar.

Learners' production opportunities (output) were defined according to the number of words per comment and the accuracy of using the L2 in writing the comment. The number of words per comment was coded intervally to measure learners' production, and the number of errors per

comment was coded intervally as well in order to measure the learners' output accuracy. Numbers were excluded from counting words per comment. For example, the total number of words in "I have 2 brothers" was considered as three words. Contractions were de-contracted and then coded. For example, "I'm" was calculated as 2 words (I + am). Proper nouns and names of cities or countries were given 1. For instance, New York equaled 1, and Saudi Arabia equaled 1 as well. In measuring accuracy, only errors that indicated pragmatics, grammar or vocabulary mistakes were counted. Spelling errors were overlooked as it was assumed that learners were writing in an informal platform and intentionally make errors, like writing "u" instead of "you". Negative feedback was operationalized as any attempt to notify the commenters of an error, while positive feedback was defined as encouraging the commenters to provide more output. Feedback occurrences were coded intervally, but feedback types were nominal (1: positive, 2: negative, 3: mixed). Feedback sub-types were also coded nominally (Recast, explicit, mixed).

Twenty percent of the data was randomly selected and coded by a native speaking coder (35 items out of 140). Cronbach's alpha was used to measure inter-coder reliability and resulted in 1.00 as the level of agreement on production (number of words), and .95 for accuracy (number of errors), indicating a high agreement level between the coders. Feedback inter-coder reliability was measured by simple percentage agreement of 100%, as the number of feedback occurrences in the randomly selected data was too low to run quantitative reliability tests.

The total number of vocabulary words was compared to the total number of grammar words in order to measure which lesson content elicited more output. Also, the total number of errors in the comments was calculated to compare the accuracy of output between the two lesson types. The amount and type of feedback on vocabulary posts were also compared to the amount and type of feedback found in the grammar posts to verify which lesson content provided more feedback to the commenters (learners). Alpha was reduced to p. = .017 instead of p. = .05 (.05/3) in order to account for running the inferential statistics on three DVs (production, accuracy, and feedback) in order to avoid the possibility of Type I error.

Results

Table 2 summarizes the descriptive statistics of the corpus data, and as shown below, the vocabulary posts elicited more output (Mean 7.53) from the commenters compared to the grammar posts (Mean 6.04). Because the data did not meet the assumptions of parametric tests, a non-parametric Mann-Whitney test was carried on output, and resulted in Z (140) = -2.38, p.= 017, indicating a statistical significance. In addition, the vocabulary comments received more feedback (Mean .67) and reflected a higher amount of error. However, Mann-Whitney indicated Z (140)= -1.389, p.= 165 for feedback, and Z (140) = -.849, p.= 396 for accuracy, showing no statistical significance.

Table 2
Descriptive Statistics of the Corpus Data

Dependent variables	Vocabulary posts		Grammar posts	
	Mean	SD	Mean	SD
Number of words (output)	7.53	3.99	6.04	2.67
Number of errors (accuracy)	.67	.95	.47	.65

Feedback	.29	.74	.10	.34

Cohen's *d* was obtained for output and indicated *d* = .438, a relatively small effect size. As for accuracy and feedback, Cohen's *d* values were *d* = .256, and *d* = .328 respectively, showing no major effect sizes to report.

To summarize, the answer for the research question, "Does Instagram lesson content affect the language production opportunities, accuracy, and feedback that EFL learners receive?" is yes in favor of the vocabulary posts. The vocabulary posts elicited more output from the learners and indicated a statistical significance (p. = 017), with a small effect size (*d* = .438). As for accuracy of the output and the amount of feedback, the Mann-Whitney results showed no statistical significance, indicating that they were not influenced by the two types of posts.

Discussion

The quantitative analysis indicated a statistical significance Z (140)= -2.38, p. = 017 for output, with a relatively small effect size (*d* = .438), showing that vocabulary posts elicited more output from the commenters. However, post types did not have any influence on learners' accuracy and the amount of feedback they received. Although no control group was implemented in this study, the findings regarding output quality were similar to the results of Wang and Vasquez (2014), as they indicated that the social media group produced more output, but there was no difference in the quality of writing between the control group and the experimental group.

One possible explanation for the findings is that vocabulary lessons naturally elicit a higher number of words. For example, one of the vocabulary posts was about the idiom "Out of the question" in "Sleeping early this week is out of the question", which had 9 words. Idioms naturally have a higher number of words compared to the verb "have" (in a grammar post) in "I have an amazing family", which consists of only 5 words. Regarding corrective feedback, Feedback occurrences were few because the Instagram accounts from which the data was collected were open to all users, not to a particular number of learners. One of the accounts that was included in the study had over 60,000 followers; therefore, providing feedback to this huge number of learners/users would be close to impossible. As for output quality, one issue that might have impacted the results is that we do not know anything about the posters' teaching training or the commenters' proficiency levels. Based on Krashen (1985) comprehensible input hypothesis, it is possible that providing learners with language features that are not suitable for their level would have an impact on their language performance (output), as learners might be not developmentally ready to acquire it, or even use it properly.

Despite the research findings, Instagram could still be used effectively in EFL teaching and learning through considering the following implications in order to achieve the required goals. Firstly, teachers are encouraged to follow a social constructivists approach to language learning, and to use Instagram as a source of extra input for foreign language learners. Social constructivists believe that learning is a result of real/authentic experience with the environment and interaction with interlocutors (Jonassen, Davidson, Collins, Campbell, & Bannan Haag, 1995; Jonassen, 1999). The social constructivist theoretical framework stresses that knowledge is not simply transmitted to the individual, but rather the collaborative construction of information is needed for

learning to take place; it also highlights the role of technology, and encourages its integration in the educational environment (Jonassen et al., 1995; Jonassen, 1999). Therefore, the use of Instagram could provide this opportunity, especially in an EFL context where opportunities for language input and practice are limited. Secondly, teachers are encouraged to use Instagram as a way to change traditional classroom activities and take the learning tasks to a more fun, friendly environment that is characterized as a learning prone platform (Wang & Vasquez, 2012). However, the number of students should be controlled via the privacy option in the application in order to provide them with more feedback and to interact with them effectively.

The research findings should be interpreted with care, as there were some limitations that could have affected the results. First of all, the corpus data was small; a larger corpus would better reflect the potential of the platform. Also, there was no information on how professional the account holders were in teaching English, or the learners' proficiency level. Future research should control these factors in order to report an accurate image about the affordances of Instagram for language learning. Also, researchers should investigate if actual learning takes place through means of experimental and control groups, to report the effectiveness of the platform in acquiring a second or a foreign language, and consider the use of pre tests, post tests, and delayed post tests in reporting the results. Another suggestion is looking into students' perceptions towards learning through social media to find out whether they would accept using Instagram for educational purposes, and what factors might affect their perceptions, such as the learners' age or proficiency level.

Conclusion
The purpose of this is study was to investigate the potentials of the Instagram platform in learning EFL, particularly whether the type of post (vocabulary or grammar) had an effect on the amount of output the learners provided, and their level of accuracy in language production. Also, whether the type of post had an effect on the feedback the learners received has also been investigated. The study was corpus driven, as the data was collected from authentic English as a foreign language use from the comments section of 15 Instagram accounts that were targeting the Saudi learners as their population. A total of 140 comments were analyzed (70 for vocabulary and 70 for grammar). A non-parametric Mann-Whitney test was carried out and indicated a statistical significance Z (140)= -2.38, p. = 017 for output, with a relatively small effect size ($d = .438$), showing that vocabulary posts elicited more output from the commenters. However, post types did not have any influence on learners' accuracy and the amount of feedback they received. What might be a possible explanation for the results is that some vocabulary lessons were naturally longer than grammar lessons. For example, idioms are longer than verbs as discussed above. Also, regarding the low amount of feedback, the investigated Instagram accounts were open to public (some had over 60.000 followers), therefore, providing feedback to this number of users is extremely challenging. In addition, the commenters' poor output quality might be a result of not being provided with input suitable to their language competence, since the Instagaram accounts that were included in the data pool were not managed by trained teachers. Therefore, controlling factors such as the commenters' (learners') level of proficiency and the posters' (teachers') language teaching training in the future is recommended.

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