Effects of Twitter-Assisted Learning on Developing Literacy Skills and Motivation for Learning in EFL Settings

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Abstract

This investigation examines the pedagogical potential of using Twitter as a tool to assist learning reading and writing in EFL college students in Saudi Arabia. A Twitter-assisted learning approach was designed as a social network tool for social interaction, peer collaboration, assignment instructions, discussion and monitoring. This model has been grounded in social learning theory and experiential learning theory. The study aimed to check for improvements in literacy skills and motivation as a result of learning by the Twitter-assisted approach. Sixty participants, randomly assigned to two equal groups, were engaged in an 8-week instruction literacy course. One week before the course began they were pre-tested on reading and writing. After one week of instruction using the Twitter approach for the experimental group, and the traditional method for the control group, the participants were tested for motivation for the course, and one week after the 8 weeks of instruction, they were post-tested on reading and writing and motivation for learning. Findings using t-test analyses and MANOVA indicated the Twitter-assisted learning group outperformed the control group in mean scores on reading and writing on the post-test. Improvements in motivation were also noted for the experimental group. Results were discussed against a background of growing research in the West on the pedagogical potential of Twitter, with implications for pedagogy.

Introduction

Considerable attention has been given to the use of social network media in learning and/or teaching environments. Significantly, this occurs more off campus than on campus as a result of the widespread distribution of social media networks. In addition, students' learning needs are changing as they increase their digital skills. Among these popular social networks is Twitter®, which EFL instructors and learners can utilize to keep their in-class conversations and interactions going on off campus (Nat'l Edu Assoc. 1). This is consistent with the fact that EFL learning needs and curricular provisions should be adapted to match the new social network media and the 'net generation' in order for these to be acquired and maintained regularly to improve communicative competence (Borau et al. 78).

According to Kwak et al., Twitter provides an appropriate virtual milieu that develops an online discourse community for people to communicate and share their ideas, news and feelings. As a medium of communication, it serves both anonymity and celebrity for those who may not like to express themselves in public or for celebrated writers as well.

Integration of technology into formal learning seeks to improve learning efficiency in a useful, practical and interesting way by structuring course content within well-organized blended learning platforms (Lee and Rha 374). The new technology tools, Twitter being an important one, make available both synchronous and asynchronous communication, which effectively maintains collaborative discussions, interactions and problem solving, embedded in critical thinking (Yang 181). Therefore, these technologies are sought for integration in modern classrooms (Borau et al. 80).

The pedagogical foundation for these new technologies is that they provide an enhanced social presence, a feature that is highly emphasized in second language acquisition theory. According to several authors (Dunlap et al. 135; Yang 182), Twitter can help language instructors in the development of learners' writing and reading skills by observing the writing performance and reading comprehension of students in their learning. According to Bart, Twitter helps in enhancing reading and writing skills such as summarization, communication, grammar, and vocabulary.

Researchers examining the effects of these technologies in the EFL classroom have indicated significant improvements in literacy skills and attitudes towards foreign language learning (De Larreta-Azelain 128). Therefore, there has been a growing body of research on the educational applications of Twitter to EFL instruction in different settings (Barack 15; Pennay 19; Davis and Yin 401; Davis and Fisher 1; Huffman and Huffman 584; Galagan;

Moody 8; Shafer 42; Strickland; Waller). The studies vary in scope and sequence but consistently show Twitter to be a powerful social media and microblogging tool, and conducive to enhanced writing (Carpenter 104; McArthur & Bostedo-Conway 286) and by subscribers' reading these tweets in real time (Rouse).

Dawley and Moody each conducted their research on the effects of integrating social media in classroom environments, and indicated that Twitter is pedagogically beneficial as it induces efficient and time-saving communication rooted in sound educational practice (Dawley 109; Moody 1). In addition, Morris asserted that Twitter and other social media provide learners with the opportunity to voice their ideas with some degree of anonymity or low profile, ''Because of Twitter's easy access and quick response time, it also has become more common for students to use instead of using traditional outlets such as e-mail and phone'' (36).

In a similar vein, Kurtz showed that using Twitter on a daily basis could enhance learners' skills in reading and writing as they engage in a process in which they read and work on fluency, phrasing, editing, and revising, especially by focusing on word choice, punctuation, and ideas (3).

Thus, Twitter is now thought to be an effective tool that can be used to support learning English, especially via chatting. Borau et al. pointed out the utility of Twitter in teaching and learning English (78). Twitter is characteristically ubiquitous; EFL learners can communicate and interact via text-messaging anywhere, anytime over notebooks or via mobile devices like iPads or smart phones. In addition, Twitter can mesh with a variety of students of varied English proficiency levels, given that they can identify a theme commensurate with their level of proficiency and choose appropriate lexicon and grammatical structures to express these themes. Furthermore, Twitter creates an active, interactive online learning community which can further language learning by getting learners to share their ideas and integrate into that community (Borau et al. 78-79).

In the context of higher education in Saudi Arabia, there is a growing tendency to integrate modern technology and its applications to language education. The widespread use of Twitter encourages educators to integrate it into literacy skills courses, which is even now informally used yet infrequently.

The present study is, thus, designed to recognize the effects of Twitter-assisted language learning on developing reading and writing skills as well as improving motivation for learning in a sample of EFL college students based on a suggested model grounded in social learning theory and experiential learning theory.

Literature Review

Twitter® helps to equip EFL learners with the opportunity to practice English in communications for real life purposes, and therefore, it has been treated as a microblogging medium (Grosseck and Holotescu). The brevity and fast-spreading nature of tweets necessitates writers to concentrate their messages to cater for linguistic accuracy and communicative precision (Cheng 2).

Being essentially a microblogging tool, Twitter helps foreign language students to use the language they learn in semi-real situations. Microblogging is a recent form of blogging which helps (language) users to publish terse and concise updates typically less than 140-200 characters as well as post working links to videos and images (Domizi 43). The microblogging services available through Twitter can enable language learners to create real-time interactions with members of an online community. Users can monitor other users' tweets and can become followers for them (Gao 783).

The features of microblogging exclusive to Twitter involve higher frequency of personal updates, thus differing from wikis, discussion boards, or blogs in that it provides instant broadcasting of information briefly and simply. Twitter provides a platform for rapid communication that can facilitate and improve language learning by means of improving target language communicative ability and literacy skills (Borau et al. 85).

In technology-enabled settings, the assumption underlying the use of Twitter lies in the researchers' observation that ''integration of technology [into the classroom] frequently relates technology to the improvement of writing'' (Shafer 42). This assumption further lies in a new theory which explicates the role of Personal Learning Environment in education (Attwell, Castañeda and Buchem iv; Fiedler and Väljataga).

Twitter as a Personal Learning Environment

According to Tur and Marín, Personal Learning Environments (PLEs) are seen as the activities, connections and resources that one has for learning (46). These activities are threefold: reading to access new information, reflecting and writing one's own ideas, and finally sharing with others the expression of these ideas via new media. Twitter, Tur and Marín maintain, is influential in this threefold process of knowledge construction and knowledge sharing (46). Earlier, Reed claimed that Twitter is the most effective central PLE among all social media (2). A line of studies further indicated the role of Twitter as a PLE by citing it as an influential pedagogical platform that enhances literacy development and boosts knowledge construction and knowledge sharing (Couros; Downes; Rajagopal et al.; Purcell; Simoes and Mota; Wheeler). Purcell, for instance, the rationalized use of Twitter on a

pedagogical foundation provides opportunities for language learners to construct knowledge, communicate and collaborate with peers on learning tasks and activities (46). Morgan also suggested that teaching by using Twitter can motivate students, create more opportunities for students to express thoughts, help develop digital literacy, encourage collaboration, and improve reading and writing skills.

In addition to the cognitive stimulation and affective roles of Twitter in language pedagogy, it can also create a sense of modeling which triggers the third psychomotor dimension of learning (Galagen). In this sense, language learners are engaged in discussions that require their mobility across online discourse communities by answering group questions responding to and thoughtfully commenting on others' posts (Grosseck and Holotescu).

Twitter for Collaborated, Scaffolded Learning

In EFL learning, students need efficient social interaction to learn by modeling in an authentic language use environment that creates contextual situations for practicing the foreign language (Lave and Wenger 3). In Twitter-assisted language learning, students collaborate with their peers on real-life resources and assignments interesting and motivating enough to get them involved in constructive, scaffolded, and collaborative learning (Eskrootchi and Oskrochi 236), but for this to take place, much planning should be done on instructional designs and curricular provisions.

The Twitter-assisted language learning approach is grounded in a constructivist sociolinguistic view of language learning theory. This view presumes that language learners can discover knowledge and develop knowledge-getting skills on their own while the role of the instructor is only that of a guide, a facilitator and a monitor or mentor. According to Bruner, knowledge is processed and retrieved through tasks and activities stimulating students' skills of organizing and integrating information and through providing students with sufficient opportunities to experience and apply knowledge and skills in real-life environments (ix-x). According to this view, learning takes place cognitively by connecting prior knowledge to new knowledge and socially by getting learners to collaborate in a positive healthy interactive environment which provides ample scaffolding in the social setting (Lubliner et al. 353).

Twitter and the ZPD and Social Interaction Theory

The notion of scaffolding is firmly grounded in Vygotsky's zone of proximal development (ZPD) theory in which able learners motivate less able learners in a collaborative medium of social interaction, such as Twitter. The cooperative swaps and scaffolded learning trigger off cognitive development

through collaborative work where the affective filter is low enough to stimulate language learners' creative language powers (Vygotsky 86).

According to Vygotsky, social interaction is a major factor in stimulating cognitive development (87). In language learning, students' communicative competence expands when they receive guidance and mentoring from teachers and peers that are more able. The ZPD theory posits that learners have potential for learning (e.g. a language) especially when others aid them. This theory further posits that mental development occurs as a result of helpful interventions, within collaborative groups, on the part of more knowledgeable, more able peers (Coreil et al. 14).

In addition, Twitter offers a sufficient opportunity for intensive interaction in the zone of proximal development in that tweeting can help and guide learners to read and reply, and share one or others' ideas as well as enhance social presence (Dunlap and Lowenthal 131). Thus, EFL language instructors can assign themes and topics for EFL learners to get actively involved in by inspiring them to express their opinions, access new information and updates and share with their peers what they read and write. On Twitter, social interaction is on prodding the constructive, cognitive process to stream in a self-exploratory series of experiences. Learning takes place during these interactions through the process of knowledge building and knowledge sharing (Borau et al. 83). In microblogging through Twitter, learners can monitor their posts and compare them with earlier ones to recognize mismatches or incompatibility, and in time, they make appropriate modifications by modeling and evaluation feedback as they communicate in a clearer, more concise and smoother fashion (Cho et al. 4).

In addition, learners' cognitive processes and knowledge structuring tasks are not only observed by their teachers, but also by peers, which helps in building scaffolded learning through elaborating shared knowledge and evaluation of ideas during the learners' participation on Twitter and their contributions (Mendenhall and Johnson 264). For instance, learners can identify, construct knowledge about and solve poorly structured problems using their judgment in collaborative work in the social environment of Twitter (Ng, Cheung, and Hew 115).

Learning activities announced on Twitter can be designed to initiate collaborative reading and writing activities, such as sending links to full-coverage articles or videos, storytelling, news exchanges, topics for discussion together with guided activity instructions (Wheeler). Instructors can also tweet hashtags typically like what they do in traditional or technology-enabled classroom settings in order to raise debates on specific content and activities that require group responses (McArthur and Bostedo-Conway 287). In this

fashion, Twitter can be used to stimulate social interaction akin to that in face-to-face classroom activities as ‘‘back channels’’ introduced to students to get them acquainted with the learning aims of their lessons (Zhao and Rosson).

In this vein, Twitter enhances scaffolded learning and guided practice through providing guided exercises, modeling, and purposeful assignments in a way that cuts down on learning anxiety by encouraging shy and low-profile students to participate in the communication process (Domizi; Lin, Hoffman, and Borengasser; Purcell; Stephansen and Couldry).

In teaching reading and writing skills, Twitter offers ample opportunities in the form of discussion boards, blogs, or even video/audio conferences (Saeed, Yang, and Sinnappan 98-100) in a way that increases precise writing and improves word choice, grammar, syntax, and punctuation marks as learners perceive that their writing has a purpose and a real life audience with real life purposes (Davis and McGrail 74; Greenhow and Gleason 463; Kurtz 2; Morgan). In addition, Twitter fosters editing, develops literacy skills, and gives language learners the opportunity to revise their thinking. Twitter also facilitates students’ summarizing skills by encapsulating their ideas with concise and precise syntactic structure and vocabulary in their tweets (Bart). Twitter is also beneficial for developing reading skills, as learners are involved in reading tweets to send out observations and questions to the group while engaged in-group learning activities. Comprehensive reading exercises are condensed to a series of vocabulary tests and grammatical drills.

In Twitter-assisted learning, the method of engaging in social interaction, discussion, and collaborative learning is based on an asynchronous form of written communication (Borau et al.; Dunlap and Lowenthal). Students’ posts via Twitter can help language teachers track students’ writings as they develop their ideas. Finally, Twitter is a very helpful tool for assessing opinion, organizing ideas, reflecting and sending notes, managing meet-ups, promoting serendipitous discovery, looking for outlying ideas etc. (Gosseck and Holotescu). Other research showed that instructors shared their tweets with each other to provide a wide variety of questions and expressions through chatting and revealed improvements in writing skills, communicative language learning and enhanced attitudes to EFL (Caruso; Eleta Mogollon; De Larreta-Azelain; Cheng).

Twitter could be used in an academic setting to create an interactive environment about a specific topic (De Larreta-Azelain 127). Twitter can be used as an educational tool between teachers and students, students and students in the same class, students and students in another country, for an entire class or for pair/group work (Cheng 3).

Research Questions

Two research questions guided this study:

1 - What are the effects of using Twitter-assisted language learning on developing EFL literacy skills?

2 - What are the effects of using Twitter-assisted language learning on enhancing motivation for reading and writing?

Hypotheses

1 - There are statistically significant differences between the mean scores of the experimental group and the control group on reading, writing, and total score with higher scores for the experimental group.

2 - There are statistically significant differences between the improvements in mean scores of the experimental group and the control group on reading, writing, and total score from pre-testing to post-testing with greater improvement for the experimental group.

3 - There are statistically significant differences between the mean scores of the experimental group and the control group on motivation on post-testing.

4 - There are statistically significant differences between the mean scores of the experimental group and the control group on improvements in motivation from pre-testing to post-testing.

Methodology

This research was conducted using qualitative and quantitative methods to analyze EFL learners' writing competence, reading comprehension, and summarization skills to examine whether the social media of Twitter had a positive impact on EFL learners' literacy skills and motivation.

Design of the Study

To investigate whether Twitter enhances learners' reading comprehension as well as their writing competence in English pretests and post-tests were conducted on the experimental and control groups used for the study. A t-test was used to analyze whether the results for the two groups were statistically significant. Surveys were conducted with the two groups to assess differences in motivation at the beginning and end of the course and t-tests were used to assess whether the differences found were significant. The purpose of the survey was to investigate whether Twitter triggered learning motivation for language learning.

Participants

The sample used for this study was 60 male students in the College of Languages and Translation at King Khalid University, in Abha, Saudi Arabia, who were majoring in English and enrolled in Writing 3 and Reading 3. The participants expressed their willingness to participate in this research and were randomly assigned to two groups: an experimental group of 30 students, and a control group of 30 students.

Instruments

The Literacy Test

This reading/writing measurement was developed based on the course-books Effective Academic Writing 3 and Well-Read 3. Two identical serial versions of the test were developed and validated for the study. Serial 1 was used for the pre-test and Serial 2 was used a post-test. Both versions included reading comprehension with multiple-choice questions and writing tasks, which involved measurement of vocabulary, grammar, reading, and writing skills. Reading performance was assessed by the students' scores on the multiple choice questions dealing with comprehension of the reading texts used in the study. Writing skills were graded based on a holistic rubric developed by the English department faculty involved in writing instruction. The rubric contained grading criteria for assessing writing content, vocabulary range, grammatical errors, consistence and flow of ideas, coherence, cohesion and organization. The reading score was taken independently out of 100 and the writing score was also treated as an independent score out of 100.

The estimated internal consistency reliability via the K-R 21 Formula for the Reading Component was 0.573. The Kuder-Richardson 21 Reliability Coefficient for the Writing Component was 0.506.

The Motivation Survey

Experimental and control participants were administered a motivation survey for learning English (MSLN). The MSLN was developed by the author based on a review of pertinent literature as a self-report tool for students about their motivation and learning strategies in language learning. Students responded to 25 items on a 3-point Likert scale with the most positive responses to all items providing for a maximum possible score of 75.

The MSLN was sent to members of a jury of academic staff experienced in EFL who recommended wording suggestions and these were considered in the final write-up of the survey. Cronbach's alpha was used to test reliability in the present study. The Cronbach's alpha coefficient was 0.889, indicating that

internal consistency of the Motivation is very good. The MSLIN has also demonstrated validity through criterion-related studies. After ascertaining that the scales are reliable and sufficient to measure our data, a correlation analysis was further conducted to ensure whether the variable at issue tend to vary together or not. The results of the correlation analysis of the present research variables may be seen in Table (1) below. As seen in Table (1), there is a significant correlation (at the $p < 0.001$ level) between the total score for motivation and motivation characteristics.

Table (1)
Correlation analysis for each item on the MSLN, and motivation characteristics

No	Motivation	Correlation	significant
1	I enjoy the discussions and circulation of information related to Reading/Writing course materials and tasks	.332**	0.010
2	I will be able to use language/material learned in this course in my everyday life.	.441**	0.000
3	Getting a good grade in this class is the most important element for me during this course.	.562**	0.000
4	The processes used in this course enable me to take control of my own learning to a greater extent than other courses I have taken.	.506**	0.000
5	The processes of learning/teaching help me improve my grades in reading and writing.	.670**	0.000
6	The processes of learning/teaching help me to better enjoy reading topics and debates.	.493**	0.000
7	The processes of learning/teaching help me understand arguments and views of other students.	.508**	0.000
8	The processes of learning/teaching help in getting me more involved as a participant in classroom discussions on the course.	.506**	0.000
9	I enjoy learning (about) reading and writing via the processes used for learning/teaching in this course.	.620**	0.000
10	The processes of learning/teaching make me better able to see the potential of technology in education.	.579**	0.000

Cont/ Table (1)
Correlation analysis for each item on the MSLN, and motivation characteristics

No	Motivation	Correlation	significant
11	Instructor and colleague communications help me understand the course content as thoroughly as possible.	.622**	0.000
12	Communications between students help keep me updated about course assignments and tasks.	.322*	0.012
13	The processes of learning/teaching help me keep updated about the tasks/requirements that I can learn from even if they don't guarantee a good grade.	.703**	0.000
14	I like the subject matter of this course and related discussions.	.706**	0.000
15	Understanding the subject matter of this course is very important to me.	.491**	0.000
16	Doing well in this class is important because I can show my communicative ability to colleagues and teachers.	.595**	0.000
17	I work with other students to complete the course assignments.	.386**	0.002
18	I make use of the processes followed in this course in other activities outside.	.509**	0.000
19	I allow sufficient time to discuss the course material with peers and teacher.	.415**	0.001
20	Teacher instructions and guidelines help me much with understanding and doing the course tasks/activities.	.502**	0.000
21	I expect to continue to use the processes used in this course in language communications after I complete my program.	.601**	0.000
22	I can reach other students at any time to request help if I need it.	.401**	0.001
23	I can easily ask the instructor at any time to clarify concepts I don't understand.	.431**	0.001
24	When course assignments, activities and tasks are difficult, I tend to ignore them or only study what I am interested in.	.474**	0.000
25	The processes used in this course are more interesting and enjoyable than other language courses I have taken.	.617**	0.000

Procedures

All students were enrolled in Effective Academic Writing 3 and Well-Read 3. Those in the experimental group with no Twitter accounts were requested to register for a Twitter account to receive postings regarding the Writing 3 and Reading 3 courses as well as supplementary materials and articles from Effective Academic Writing 3 and Well Read 3.

The materials sent through Twitter were reading and discussion exercises, video tubes and discussion threads. For instance, in each class, participants were given links to content material, which they were requested to summarize or respond to on Twitter. All students had to tweet their responses and read others' responses and interact with them to evaluate their reading comprehension and consolidate their writing skills. Students' tweets were checked on a daily basis to evaluate writing mechanics, relevance to discussion threads, brevity and précis writing, grammaticality and punctuation, coherence and cohesion and students' interaction to postings of other students in order to check reading comprehension. In class, the Writing 3 and Reading 3 instructor chose selected tweets, showed them to the students via data show, and discussed them briefly. The instructor discussed the projected tweets on the basis of their relevance to writing topics, syntacto-grammatical accuracy, and writing mechanics (brevity, relevance, cohesion, coherence, and simplicity) as well as the quality of writing content based on a rubric of writing assessment.

Reading assignments were based on writing tasks and tweets communicated by the experimental group using Twitter. These reading assignments were taken from the course-work in Writing 3 and Reading three courses. Control participants had the same materials from the same textbooks, but they were instructed in a conventional way with written work completed in conventional form. Assignments in reading and writing were given in class.

Group Equivalence

To check for group equivalence pre-tests were conducted for the experimental and control groups on reading and writing. Mean scores for each group are shown in Table 1 below together with results on the motivation survey administered at the end of the first week of the course. T-tests for these results indicated that the minor differences found were not significant.

Table (2)
Mean Pre-test Scores on Reading, Writing and Motivation for the Experimental and control Groups

Assessment	Groups	N	Mean	SD	T value
Reading	Experimental	30	46.10	1.494	1.023
	Control	30	46.53	1.776	
Writing	Experimental	30	46.00	1.819	-.619
	Control	30	45.70	1.932	
Pre-testing Total Score	Experimental	30	92.10	1.900	.214
	Control	30	92.23	2.837	
Motivation	Experimental	30	40.00	5.571	.537
	Control	30	40.73	4.982	

Findings

Mean scores on the reading and writing post-tests are shown in Table 2 above. These scores are substantially higher on both tests and on total scores for the experimental group. To verify the hypotheses of the study, t-tests were computed for each test and for the total combined scores.

Table (3)
t-test for mean score differences between the experimental group and the control group on reading, writing, and total score

Groups		N	Mean	Std. Deviation	t	Sig.
Reading after	Control Group	30	47.43	3.002	24.542	0.01
	Experimental Group	30	62.17	1.341		
Writing after	Control Group	30	46.73	3.423	23.351	0.01
	Experimental Group	30	62.17	1.177		
Total Score after	Control Group	30	94.17	5.688	27.242	0.01
	Experimental Group	30	124.33	2.106		

Table 3 above shows that there are statistically significant differences between the mean scores of the experimental group and the control group on

reading, writing, and total score with higher mean scores for the experimental groups for reading (M = 62.17, SD = 1.341, t = 24.542, p > .01), and for writing (M = 62.17, SD = 1.177, t = 23.351, p > .01), and for the total score (M = 124.33, SD = 2.106, t = 27.242, p > .01). The effect size values were 0.91, 0.90, and 0.93 for reading, writing and total score respectively; these values are high and indicate a strong effect of the intervention. As such, the first hypothesis is verified.

Table (4)
t-test for improvements in mean scores of the experimental group and the control group on reading, writing, and total mean score from pretesting to posttesting

Groups		N	Mean	Std. Deviation	t	Sig.
Reading	Control Group	30	.9000	2.89292	22.694	0.01
	Experimental Group	30	16.0667	2.24274		
Writing	Control Group	30	1.0333	3.40874	20.608	0.01
	Experimental Group	30	16.1667	2.13482		
Total improvement	Control Group	30	1.9333	5.69291	25.637	0.01
	Experimental Group	30	32.2333	3.08146		

Table 4 above shows that there are statistically significant differences between the improvements in mean scores of the experimental group and the control group on reading, writing, and total score from pre-testing to post-testing with greater improvement for the experimental group on reading (M = 16.0667, SD = 2.24274, t = 22.694, p > .01), and for writing (M = 16.1667, SD = 2.13482, t = 20.608, p > .01), and for the total score (M = 32.2333, SD = 3.08146, t = 25.637, p > .01). The effect size values were 0.90, 0.89, and 0.92 for reading, writing and total score respectively; these values are high and indicate a strong effect of the intervention. Consequently, the second hypothesis is verified.

Table (5)
t-test for differences in mean scores between the experimental and the control groups on motivation

Groups		N	Mean	Std. Deviation	t	Sig.
Motivation after	Control Group	30	41.20	5.875	9.285	0.01
	Experimental Group	30	54.10	4.838		

As shown in Table 5 above, the third hypothesis that there are statistically significant differences between the mean scores of the experimental group and the control group on motivation on post-testing was verified (M = 54.10, SD = 4.838, t = 9.285, p > .01). The effect size value for this administration was 0.60, which is also significantly high.

Table (6)
t-test for improvements in mean scores of the experimental and the control groups on motivation from pretesting to posttesting

Groups		N	Mean	Std. Deviation	t	Sig.
Motivation_improv	Control Group	30	.4667	2.55604	9.651	0.01
	Experimental Group	30	14.1000	7.30305		

Table 6 above shows that there are statistically significant differences between the improvements in the mean scores of the experimental group and the control group on improvements in motivation from pre-testing to post-testing (M = 14.1000, SD = 7.30305, t = 9.651, p > .01). The effect size value for was 0.62, which is significantly high, too.

In addition, a one-way MANOVA was used to evaluate pos-test scores in order to ascertain whether there are statistically significant mean differences among groups after adjusting the newly created DV for differences on one or more covariates. A one-way MANOVA was used because the groups were defined on one independent variable and three correlated dependent variables. Further on, Posthoc pairwise comparisons using the Bonferonni procedure were conducted to evaluate significant differences for the posttest subscale scores to evaluate hypotheses.

The following is the MANOVA using the Wilk's Lambda test. Using an alpha level of.05, we see that this test is significant, Wilk's = .023, F(1, 58) = 799.581, p < .001, multivariate Partial Eta Squared = .977. This significant F indicates that there are significant differences among the two groups (the Control and Experimental Groups) on a linear combination of the four dependent variables. The results of the MANOVA yielded a statistically significant main effect difference between the two groups on the composite pos-test score. The Wilks' Ë of.023 was significant (F (1,58) = 799.581a, p < .01, partial ç2 = .977).

Table (7)
Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Groups	Pillai's Trace	.977	799.581a	3.000	56.000	.000	.977
	Wilks' Lambda	.023	799.581a	3.000	56.000	.000	.977
	Hotelling's Trace	42.835	799.581a	3.000	56.000	.000	.977
	Roy's Largest Root	42.835	799.581a	3.000	56.000	.000	.977

As shown in Table 7 above, the results of MANOVA indicated significant differences among Groups. For example, the four multivariate tests all indicated significant differences among Groups at $p < 0.05$.

Univariate ANOVAs were then performed to determine which composite variables contributed to the overall multivariate significance, and these results are shown in Table 8 below.

Table (8)
Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Groups	Reading	3256.067	1	3256.067	602.334	.000
	Writing	3572.817	1	3572.817	545.277	.000
	Motivation	2496.150	1	2496.150	86.202	.000

a. R Squared = .912 (Adjusted R Squared = .911)
b. R Squared = .904 (Adjusted R Squared = .902)
c. R Squared = .598 (Adjusted R Squared = .591)

According to the Bonferroni adjustment, each ANOVA should be tested at a significance level of.0125, which was derived by dividing 0.05 by 4 (the number of dependent variables). Consequently, it was found that, based on groups, participants in the experimental groups showed significant improvements on reading, writing and motivation.

Discussion

The purpose of this research was to evaluate the use of social networks for language learning through using twitter. The approach is considered as a bridge to link language learning with the current lifestyle of students as twitter is considered as one of the most widely spread social networks. Students tweets can be read everywhere and at any time, so using them as a means of learning language can be a way to link native speakers and second language learners.

The present study showed significant differences between the mean scores of the experimental group and the control group on reading, writing, and total score for literacy, indicating that the use of Twitter was conducive to improvements in these skills. This finding is congruent with other previous research findings which revealed improvements in literacy and communication skills (Caruso; Cheng; De Larreta-Azelain; Eleta Mogollon). The reason for reported improvements in this study, presumably as in prior research, is that the Twitter medium provided more apt opportunities for mature, real-life interactions in the medium of discussion boards, blogging and swopping videos and audios.

The findings also showed significant differences between the improvements in mean scores of the experimental group and the control group on reading, writing, and total score from pretesting to post-testing with greater improvement for the experimental group on reading, writing and the total score of the literacy test which confirm prior research findings, too (Dunlap and Lowenthal; Couros; Downes). Improvements in literacy skills over the course of the study could be attributed to the innate advantages of using the microblogging features of Twitter and the opportunities provided for the learners to construct knowledge, communicate it and collaborate with peers on learning tasks and activities, and finally share their writings with others who read them in a friendly social setting.

The study also showed that there are statistically significant differences between the mean scores of the experimental group and the control group on motivation on post-testing comparisons, and from pre-testing to post-testing, too. The medium of Twitter helps motivate learners to do their learning activities with fun (Purcell 46). These improvements in motivation from pre-testing to post-testing and on post-testing to the advantage of the experimental group could also be explained bt the fact that using Twitter for educational purposes can motivate students, create more opportunities for students to express thoughts, help develop digital literacy, encourage collaboration, and improve reading and writing skills as Morgan observed. These results indicate

that the participants' enjoyment and motivation for reading and writing are significantly improved by using Twitter for learning. The students appreciated the use of Twitter in improving their reading and writing skills and in a more engaging way. They thought that the course materials were useful, interesting, and important for their learning and were very much motivated than those in the control group. This is consistent with other studies that have indicated that Twitter could enhance users' learning interest and linguistic competence through the process of tweeting in a framework of an online community (Borau et al.; Dunlap and Lowenthal; Grosseck and Holotescu; Stevens). A belief of control over their own learning has an influence on students' sense of engagement in participating and completing the tasks. A relatively high mean score for this item indicated that Twitter had an impact on the students' belief that they are responsible for their learning and outcomes. This phenomenon mirrors findings in the literature in which Twitter facilitates learning motivation and engagement in class.

The overall results indicating improvements in reading alone, writing alone, and on reading and writing mean scores can also be described according to the ZPD theory. The use of a helpful intervention, i.e., the Twitter medium and activities designed for twitter-assisted learning, were used by collaborative groups of learners where knowledgeable peers could help less knowledgeable colleagues in a scaffolded learning process of effective interactions between advanced and less competent students (Coreil et al. 14). The intensive interaction in the zone of proximal development could have guided learners to read and reply in a sharing-caring mode that enhanced the social presence of the learners ubiquitously over Twitter (Dunlap and Lowenthal, 2009) - a feature that was not available for the control group. Improvements in motivation can also be explicated by the theory of Personal Learning Environments (Tur and Marín 46). Students using Twitter as a learning medium for reading and writing helped them to find a real-life cause for reading and writing - that is, for communicating in English. This could have been a stronger impetus for acquiring reading and writing skills and the motivation for learning to communicate in an interesting way (Borau et al. 78).

Twitter can change completely the kind of relationships and communication channels between teachers and students and between students and their peers. It can help teachers to stimulate more students to use a new language in personal and informal settings. Because of this, it is suggested that tweeting should be encouraged as an external activity that is complementary to the formal curriculum. Language learning should be significantly enhanced if students take tweeting as an extracurricular activity or as a type of daily learning task in the target language.

Social networks play an important role in the daily life of students and teachers. Therefore, a twitter-assisted pedagogy in foreign language education can build on this with significant benefits for language education.

Conclusion

The use of Twitter in literacy teaching has shown itself as an effectively growing tool in the EFL environment, in the form of trend called twitteracy, due to its widespread use and facility (Greenhow and Gleason 463). Not only does its popularity make it relevant to language learners, its conversational and concise style offers opportunities to practice specific language skills. Twitter is a microblogging tool which has a combination of different features of SMS text messages and blogs, thus providing a chance for the users to send tweets to each other that are also readable by the rest of the web. Using Twitter in learning a language is similar to a discussion forum in promoting constructive interchanges of ideas. It can be used anywhere and whenever the participants want. These advantages have made it a target for research efforts in the EFL classroom.

The present study described the positive effects of using Twitter as an important facilitator in foreign language teaching and learning. The study shows how social networks can also have a positive influence on motivation as well as learning in the classroom. It shows that the degree of autonomy in communications by students in the classroom and outside of it using their current language vocabulary and expressions can assist with both language acquisition and attitudes to learning. The use of Twitter as an effective tool for collaboration with and among students means that it can be used by product activities or could easily be mixed with other classroom or homework tasks. It provides a means for keeping students in contact with each other and with educational leaders or instructors, and supports their fluency in two-way communications. This has useful implications for potentially much wider use in other subjects and other educational applications.

Pedagogical implications

The study provides the following educational implications for EFL pedagogy:

1 - A capacity for creating accounts for the courses to be available for the students where the teachers are able to post anything related to a course and communicate with their students before and after the classes.

2 - For all students but particularly beginners such as level 1 and 2, teachers can create an account to improve their English and encourage them to tweet in English and use their new vocabulary.

3 - Teachers can cooperate with their students to create hashtags in English about exciting topics to be discussed weekly generally with other Twitter users.

4 - Teachers can make competitions between their students through Twitter to attract them to tweet in English.

5 - Tweeting can be used inside and outside the classroom. Therefore, it connects students to their courses even if they miss some of their classes.

6 - A project can be developed by EFL teachers and learners to create an application for English language learning, with the cooperation of Twitter.com, to be downloaded as any application onto the smart devices.

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The MSLN Survey

Statement	Disagree	Neutral	Agree
I enjoy the discussions and circulation of information related to Reading/Writing course materials and tasks			
I will be able to use language/material learned in this course in my everyday life.			
Getting a good grade in this class is the most important element for me during this course.			
The processes used in this course enable me to take control of my own learning to a greater extent than other courses I have taken.			
The processes of learning/teaching help me improve my grades in reading and writing.			
The processes of learning/teaching help me to better enjoy reading topics and debates.			
The processes of learning/teaching help me understand arguments and views of other students.			
The processes of learning/teaching help in getting me more involved as a participant in classroom discussions on the course.			
I enjoy learning (about) reading and writing via the processes used for learning/teaching in this course.			
The processes of learning/teaching make me better able to see the potential of technology in education.			
Instructor and colleague communications help me understand the course content as thoroughly as possible.			
Communications between students help keep me updated about course assignments and tasks.			
The processes of learning/teaching help me keep updated about the tasks/requirements that I can learn from even if they don't guarantee a good grade.			

Cont/ The MSLN Survey

Statement	Disagree	Neutral	Agree
I like the subject matter of this course and related discussions.			
Understanding the subject matter of this course is very important to me.			
Doing well in this class is important because I can show my communicative ability to colleagues and teachers.			
I work with other students to complete the course assignments.			
I make use of the processes followed in this course in other activities outside.			
I allow sufficient time to discuss the course material with peers and teacher.			
Teacher instructions and guidelines help me much with understanding and doing the course tasks/ activities.			
I expect to continue to use the processes used in this course in language communications after I complete my program.			
I can reach other students at any time to request help if I need it.			
I can easily ask the instructor at any time to clarify concepts I don't understand.			
When course assignments, activities and tasks are difficult, I tend to ignore them or only study what I am interested in.			
The processes used in this course are more interesting and enjoyable than other language courses I have taken.			

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