

Integrating Messenger with Traditional Pedagogy to Support the Learning of Language (Grammar) and Online Peer and Teacher Interaction: A Mixed Method Approach

Dr. Muhammad Rashid

rashid99@student.usm.my

School of Distance Education, Universiti Sains Malaysia, Assistant Professor of English
Government Sadiq Egerton Graduate College, Bahawalpur

Amna Ahmad

amnaqazi158@gmail.com

MPhil Scholar, Department of English, Allama Iqbal Open University, Islamabad.

Romasa Qadir

romaisaqadir8@gmail.com

MPhil Scholar, National College of Business Administration & Economics

Corresponding Author: * Dr. Muhammad Rashid rashid99@student.usm.my

Received: 09-04-2025	Revised: 10-05-2025	Accepted: 15-06-2025	Published: 23-07-2025
-----------------------------	----------------------------	-----------------------------	------------------------------

ABSTRACT

The study aims to investigate the effectiveness of Messenger based text chatting to support organization and mechanics in descriptive essay writing. The study employed a mixed method to investigate the potential of Messenger as an addendum to traditional pedagogy. The participants were 60 students selected through convenience sampling. Employing Messenger, the experimental group (N = 30) was exposed to online text based chatting. However, the control group (N =30) did receive only traditional lectures. The findings of this mixed method study highlighted: (a) the participants in the intervention group outperformed their counterparts with regard to descriptive essay writing in terms of grammar, (b) the participants in the treatment group displayed a positive attitude towards the use of Messenger, and (c) text chatting helped foster online interaction that supported the learning of grammar within descriptive essay writing. Pedagogical implications focus on the potential of Messenger based text chatting contexts as useful platforms for active collaborative learning of writing and other skills.

Key Words: Social media; Facebook Messenger; interaction; descriptive essay writing; organization and mechanics

INTRODUCTION

With ubiquity of mobile phones in EFL classes has emerged Mobile Assisted Language Learning (Şad, Özer, Yakar, & Öztürk, 2020). Although, MALL is an offshoot of Computer Assisted Language Learning CALL, both come under an umbrella term Information Communication Technology (ICT), a wider term that covers all technologies that are useful for information communication especially in education. Today, everything is becoming mobile and mobile technology has gained unprecedented expansion and pervasiveness in the recent age (Chavoshi & Hamidi, 2019). The last many years' advances in technology have intruded in every field like education, medicine, society and economy (Jeno, Vandvik, Eliassen, & Grytnes, 2019). Mobile devices have become essential for innumerable people in the world (Pérez-Paredes, Ordoñana Guillamón, & Aguado Jiménez, 2018). With advancement in technology and diminishing costs of mobile devices, more and more students have access to smartphones and portable devices (De Jong, Grundmeyer, & Anderson, 2018). The youth of 21st century spend a great deal of their time using mobile phones (Troussas, Krouska, & Sgouropoulou, 2020).

Given that we are under the spell of technology, educators and academics tend to use technological advances (Crompton & Burke, 2018) such as mobile devices, web-based tools, mobile applications and personal computers to facilitate teaching and learning process whereby mobile devices have surpassed computers (Troussas et al., 2020). Thus, students are experiencing new ways of seeking knowledge defined as 'learning across multiple contexts, through social and content interaction, using personal electronic devices' (Jeno et al., 2019). That is, the last two decades have seen an unprecedented advancement in the mobility of communication technology and with such advancement in technology, the academics' interest in manipulating these technologies for language learning has increased manifold (Wrigglesworth & Harvor, 2018). In addition to this, the rapid increase in handheld mobile technologies has facilitated the learners with freedom of place and time (Loewen et al., 2019).

Against this backdrop of mobile innovation (Hoi, 2019) and a miraculous surge of technology in 21st century, the use of social media has also proliferated. The widespread use of social media has urged the academics to investigate its use as teaching and learning tool (Awidi et al., 2019). It has the potential to establish and maintain a meaningful interaction with others and likely is deemed to optimize academic performance (Datu et al., 2018). Although the range of social media is quite broad, the sole focus of this study is on Facebook Messenger. Facebook has become popular among college students socially and academically. It has become a critical vehicle for the youth to maintain social presence and extend social connection (Feng et al., 2019). Although some researchers (Sarapin & Morris, 2015) have skeptical opinions about the usage of Facebook for educational purposes, its pedagogical values have been increasingly explored due to 'authentic audience, technical flexibilities and interactive features' (Barrot, 2020).

In the educational institutions of Pakistan, students have been using android phones on massive scale. Every student uses some kind of social media tool either for socialization or for academic purposes (Khalid, 2017). In line with these changes, students, however, need scaffolding and guidance in manipulating these tools for academic purposes (Waqas et al., 2016; Butt & Qaisar, 2017; Zulfikar et al., 2018). More recently, the importance of social media or other technology tools for teaching has increased manifold after COVID-19 has brought disruptive changes in the social, health and economic landscape of the whole world including Pakistan with massive jolt to educational systems. Therefore, the present study deals with Pakistani students to see the effects of Facebook Messenger based text chats on their descriptive essay writing generally organization and mechanics especially. It attempts to provide answers to the following research questions.

RQ1: Is there any significant difference in descriptive essay writing pre-test and post-test mean scores between undergraduates who are in the treatment groups (Facebook Messenger) and those who are in the control group in terms of language?

RQ2: How do the participants in the treatment group experience Facebook Messenger as supporting tools for interaction and descriptive essay writing in terms of language?

RQ3: How the patterns of interaction (fostered during chat) are supportive in improving students' descriptive essay writing with respect to language?

LITERATURE REVIEW

Owing to its myriad potential to develop and improve English language skills, Facebook has become the most popular and essential supplemental tool to traditional face to face teaching practice (Alberth, 2019). In this context, Simpson (2017) reported the influence of Facebook on students enrolled in English for Business in Thailand. The pre-test and post-test findings of the study uncover positive relation between Facebook and development in English writing skill. The participants with low, medium and high level of

English writing proficiency showed better results in writing after they had interaction on Facebook platform.

Al-Tamimi et al. (2018) investigated the impact of Facebook on improving writing skill and increasing vocabulary of university senior students. To this goal, they engaged thirty students and formed experimental and control group consisting of 15 students. The students in the experimental group were taught writing skill with the help of Facebook whereas students in the control group learnt writing skill through conventional teaching. The results indicated positive impact of Facebook on students in experimental group in terms of vocabulary enrichment and writing development. The study ended with recommendation that teachers should focus on Facebook usage to teach writing skill and vocabulary.

In another study, Altunkaya and Topuzkanamis (2018) investigated the impact of Facebook on writing achievement, attitude, anxiety and self-efficacy. They employed pre-test, post-test quasi-experimental design and engaged two groups, experimental and control. The students in the experimental group were shared written assignments on Facebook and written homework assignments were assigned to the students in the control group. The findings of the study revealed that Facebook had positive impact on the participants in terms of writing achievement and attitude when compared with the control group. However, it did not indicate positive impact in terms of self-efficacy and writing anxiety.

In their study, Altunkaya and Topuzkanamis (2018) investigated the effectiveness of Facebook on university students writing achievement, writing efficacy, writing attitude and writing anxiety. The findings from this pre-test post-test quasi-experimental research paradigm demonstrated that unlike conventional method, incorporating Facebook in teaching practice improved students' performance markedly in terms of writing achievement and writing attitude. However, despite positive impact of Facebook, it did not exercise any marked influence on writing anxiety and writing self-efficacy.

Altakhaineh and Al-Jallad (2018) explored the comparative impact of Facebook and Twitter on students' mechanics of writing in English. The findings from this pre-test and post-test experimental research design revealed that there was statistically no significant difference between two groups in terms of errors though, Facebook group produced less error in post-test. The focus group semi structured discussion provided further insights in post-test in terms of comparative influence of Facebook and Twitter on mechanics of writing.

Similarly, Alberth (2019) reported the impact of incorporating Facebook into traditional writing class to determine four variables, for example intrinsic motivation, self-efficacy, writing performance and immediate direct corrective feedback. The findings from pre-test and post-test showed that students' intrinsic motivation, self-efficacy and writing performance improved significantly. The findings also revealed that direct feedback was liked by the students. The study concludes that Facebook, if incorporated into traditional teaching practice, can improve students' academic performance. It also boosts their intrinsic motivation which helps them study writing and writing self-efficacy crucial in foreign language learning.

Likewise, Sakkir and Dollah (2019) posited the impact of Facebook on Indonesian students' performance in English writing ability. Twenty students of a private university were chosen through purposive sampling and engaged in the treatment. The findings from this quantitative pre-experimental research paradigm revealed that students' performance in writing improved as pre-test post-test demonstrated difference at significant level. Simpson's (2017) results are in line with (Sakkir & Dollah, 2019) except its difference within the groups in terms of writing performance.

Though Facebook is an informal tool for socialization, Alam and Mizan (2019) conducted a study to explore its impact on teaching writing course to university first semester students in a formal educational environment. For this purpose, they selected three different classes of the same level and formed three Facebook groups. These three groups were engaged through Facebook to learn an English language

course designed to improve different writing skills such as movie review, book review, paragraph writing, formal and informal writing. Data collected through questionnaire and interview revealed that Facebook proved useful in supporting writing skill though the students faced certain challenges. The study ended with some suggestions to implement Facebook as an instructional tool.

Recently, Syafrizal et al. (2020) emphasized the importance of Facebook as an effective tool to teach writing skill to senior high school students. To this end, they employed quasi-experimental design and divided the sample into treatment (Facebook) and control group. For data collection, they used interview, tests and observation. The results revealed that both Facebook and classroom collaborative activities had positive impact on the students' writing skills. Although, the researchers have inferred some insights from this study regarding the educational potential of Facebook, we don't find any definite conclusion that has been drawn from other studies such as Barrot (2020) and Al Qunayeer (2020). However, the findings of this study are supported by other parallel studies.

As an e-portfolio to develop ESL learners writing skill, Barrot (2020) explored the effectiveness of Facebook. Findings from this quasi-experimental research paradigm extend the previous reports on Facebook efficacy in improving writing skills. The findings revealed that two classes in the treatment group (exposed to Facebook based e-portfolio) outperformed other two classes in the control cohort (exposed to traditional portfolios) in terms of coherence and cohesion, lexical resource, mechanics and accuracy. Moreover, the qualitative results show that interactive features of Facebook portfolio also increased the interest and motivation of students to write better.

Situated in a case study research paradigm, Al Qunayeer (2020) also investigated the impact of Facebook on peer interaction and writing. The findings of this study revealed that Facebook platform has the potential to ignite comments or interactions which help distant students improve their writing skill. The findings also evidenced that Facebook based discussion was helpful in fostering collaboration and socialization among the participants. The study ended with suggestions for practitioners and researchers. Therefore, teachers need incorporate Facebook in their teaching practice.

More recently, using a descriptive correlational research design, Tarihoran et al. (2022) aimed to find out the effectiveness of Facebook as mediating tool to support writing performance. The study finding revealed that students perceived Facebook as a useful tool to support their writing performance. The results were favorable in the time of crisis such as COVID 19 since the study indicated a positive correlation between students' CALL attitude and their utilization of Facebook.

Likewise, the use of social media for fostering interaction among the peers and teachers has also gained importance in the present scenario. Interaction has been considered as the pivotal point in quality education (Madland & Richards, 2016). Interaction is a process that engages people who work together and influence each other (Oviawe, 2020) and aims to facilitate information exchange and impede communication breakdown (Ellis, 1989).

In this study three interactions such as student-teacher, student-student and student-content are expected to support descriptive essay writing in terms of language. Since availability of online resources prompts interaction with varied characteristics (Hsieh, 2020), the integrated model of interaction in this study proposes Facebook Messenger as effective tool to foster interaction, student-student, student-teacher and student-content. As it has been suggested by (Bervell et al., 2020) that the nature of interaction provides the learners with independence and convenience with which they can collaborate with their peers more informally, the learners' additional construction of knowledge by interaction with content leads/stimulates to further interact with fellow students. Additionally, questions and misconceptions created in the minds of the learners after they have interacted with material or content online integrate them with their instructors to seek answers (Bervell et al., 2020). Therefore, Messenger is considered appropriate for fostering online interaction.

In this context, Jung et al. (2002) states that interaction between students and teachers commences as soon as the learners interact with online material. Thus, they have an opportunity to interact with their teacher online where he/she is in better position to explain the concepts that have not been clearly stated by the materials. Although there is sufficient literature on the use of social media for supporting writing skill and stimulating interaction among the learners, the students' experience differs based on geographical and academic grounds. Therefore, in this study, the researcher intends to investigate how Facebook Messenger fosters interaction among students when they complete their descriptive essay writing and how this interaction is useful in supporting their descriptive essay writing in terms of language in a college setting in Pakistan.

The study adopts integrated model of interaction (Golonka et al. 2017 & Alghasab et al. 2019) that primarily draws on (Moore, 1989) who categorized interaction into three types; learner-content interaction, learner-tutor interaction and learner-learner interaction. Influenced by Moore and emerging online learning, Jung (2001) presented three types of web-based interactions; student-teacher interaction, collaborative peer interaction and interpersonal interaction with teacher and peer. Guided by the founding models on interaction, Golonka et al. (2017) also presented their model of interaction which provides peers opportunities of learning language. This model is based on various moves such as language related assistance, negotiation of meaning, self-correction; partner-correction, partner as resource and partner providing encouragement. Similarly, Alghasab et al. (2019) presented student-teacher and student content interaction which are based on different moves such as praising, guiding the writing steps, promoting joint construction of meaning and form, giving formative feedback, suggesting resources, promoting individual contributions, prescribing the content and form and adopting the monitoring role. All these moves provide opportunities of collaboration among the students and teachers. These opportunities of collaboration are useful in better performance in writing. The two models of interaction (Golonka, 2017 & Alghasab, 2019) were integrated and recontextualized, to test the efficacy of social media tools such as Facebook Messenger in ascertaining how interaction, student-student, student-teacher and student content, yield better results in context of better writing performance. It was adapted at minor level to fit the research objectives and questions in this study.

Despite positive impact of Facebook on writing performance and online interaction, the researchers have also highlighted negative impact of Facebook on students' writing achievement. For instance, a study conducted by Wissam (2021) found that messaging through Facebook had negative impact on students' academic writing. Similarly, Bouamrani (2019) reported that frequent use of Facebook chatting left negative impact on university students' academic writing.

Finally, it is important to state that a large number of studies were found related to Facebook and its use to support writing skill and interaction in educational context. The studies are congruent with many of the benefits highlighted by the research on the use of social media and writing. It is promising to report that most of the studies pertaining to social media and writing are helpful, supportive and encouraging. This reaffirms the idea that social media has the potential to support writing skill and interaction. However, no studies were reported on the use of Facebook Messenger to support descriptive essay writing skill and online interaction. Moreover, there were no studies related to descriptive essay writing in public sector Graduate colleges in southern Punjab, Pakistan. To address this research gap, the current study employs a mixed-method research design to investigate the impact of using Facebook Messenger, rather than Facebook, on undergraduates' descriptive essay writing performance and their online interactions that may support these writing skills.

MATERIAL AND METHOD

Participants and setting

Participants were fourth-semester students enrolled in Mathematics, and Computer Science classes from a public sector Graduate College in Southern Punjab, Pakistan. The learners' age ranged between 19 and 21 years. Using convenience sampling, 60 students from two intact classes were selected and assigned to either a control group (N=30) or a treatment group (N=30) for the intervention trial. The treatment group participants had at least three years of experience using Facebook Messenger and came from various L1 backgrounds (e.g., Punjabi, Saraiki, and Urdu), having studied English as a compulsory subject for at least 12 years. To minimize pedagogical differences, the same teacher instructed both the control and intervention groups.

Pretest and post-test descriptive essays

To determine baseline knowledge of the participants or assess their pre-existing writing skill, a paper pencil pre-test was administered to the participants in both groups. The topic (s) of essay was in accordance with the institutional syllabus. The topic questions guided by Dabbagh and Janebi Enayat (2019) were adapted and piloted. The students were given forty minutes time to write a descriptive essay on any one given topics in the light of analytical rubrics developed and introduced by (Jacobs, 1981) and revised by Polio (2013) with five components namely content, organization, vocabulary, mechanics and specifically language (grammar). The words limit was set from 250 to 300 words as it was followed in their actual exams. During the test, students were not allowed to collaborate or discuss with their peers or teachers or any other reference material such as dictionary or mobile. To measure the impact of Facebook Messenger on the participants' descriptive essay writing, a paper pencil post-test was administered to all students. To ensure the comparability of the pre-test and post-test, the students were administered tests with the same writing conditions such as the same text type (descriptive essay), setting (classroom), length of the essay (250-300 words), duration of test (40 minutes) and so on.

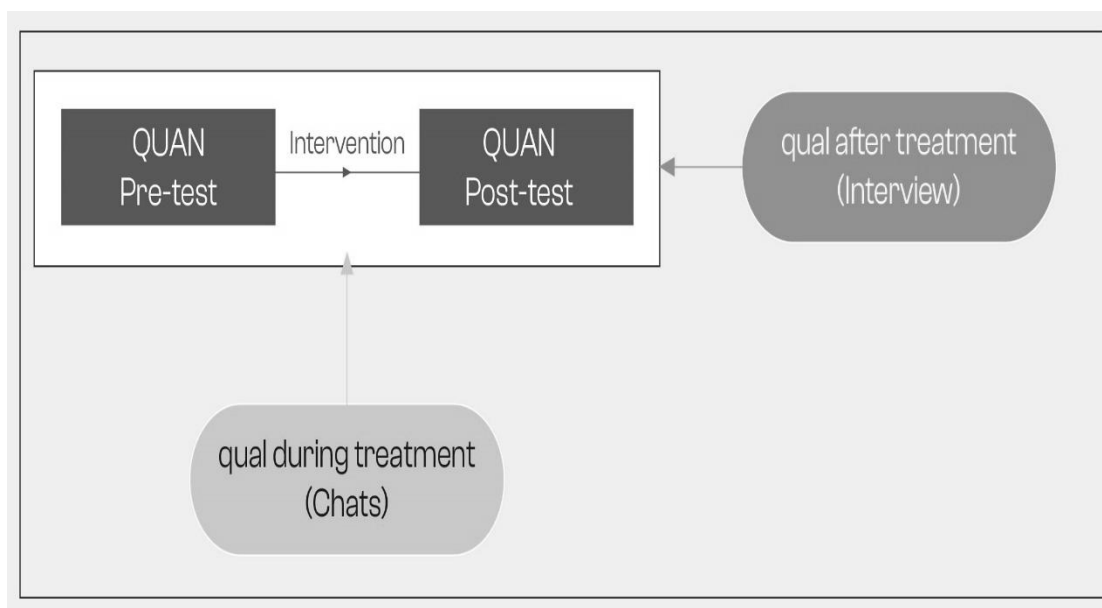
Written chats on Messenger

During treatment, the participants in the experimental group produced written chats while addressing the topic and every question raised by the teacher and peers. One clear benefit of employing this chat was to scaffold students in terms of language whenever needed. It is important to note that these chats fostered online interaction among the participants.

Semi-structured interview

To answer the research question two (RQ2), a semi structured interview, was conducted after treatment with an aim to embed students' views into quantitative findings. Twelve intervention participants were interviewed one by one after the treatment groups (Creswell, 2014) which were expected to represent the main characteristics of the participants (Morgana, 2018). The interview was scheduled at participants' convenience and carried out in the classroom at the campus after the treatment.

Figure 1: An Embedded Mixed Method Research Design (Creswell, 2011)



Intervention

All of the students agreed to attend a one-hour lesson via Messenger for twenty four working days. So the teacher, drawing on open educational materials and practices (Borthwick & Gallagher-Brett, 2014), posted the topic on the platform at four o'clock every day to start a conversation. The teacher had already formed this group by inviting students from experimental class. Students and the teacher posted and responded to the topic on their smartphones, respectively. The teacher used questions to start an online discussion with the pupils on the first day. As a result, in order to support peers and pupils, a conversation amongst them regarding language-related aid was promoted, utilizing a partner or teacher as a resource. This was an hour-long session. The teacher provided supportive materials, customized instructional videos, and online content in the form of PDFs and Docs, and helpful links to assist students improve their descriptive essay writing skills in the same virtual space the next day. In the meantime, the instructor watched the students' reactions to see if they enjoyed the information that was presented and if they also shared any helpful links and resources. This too was an hour-long session. The instructor also gave links to helpful grammar and several sample essays on descriptive writing on the third day. On the next day of class, the students used paper and pencil to write an essay in English on the subject that had been covered in person on Messenger platform. They then gave their work to the teacher for comments. Throughout the treatment period, the control group received additional handouts from the teacher, such as sample essays, however, the main distinction between the treatment and control classes was a Messenger chat activity. The control group was taught how to write descriptive essays in the classroom by the instructor using the lecture technique.

Research Design and Data Analysis

The study employed a quasi-experimental mixed-method approach (Creswell, 2012). In the quantitative part, the learners' pre-test and post-test scores were compared and differentiated to explain the participants' development of descriptive essay writing in terms of language in the experimental group. A single-factor ANOVA was conducted to compare the effect of social media (Facebook Messenger) with

the control group on undergraduates' descriptive essay writing skills. For qualitative data, Braun and Clarke's (2006) thematic analysis method was used to analyze the interview data and text chats.

FINDINGS

Results of Research Q1

Table 1 below answers the research question, 'is there any significant difference in descriptive essay writing pre-test and post-test mean scores between undergraduates who are in the treatment groups (Facebook Messenger) and those who are in the control group in terms of language?'

The table shows Mean and Standard Deviation (SD) before and after treatment. A two factor ANOVA was conducted to compare the effect of Messenger in comparison with the control group on undergraduates' descriptive essay writing skill in terms of language. The Mean scores of students in the treatment groups (Messenger) were before ($M=1.90$; $SD=.712$) and ($M=3.13$; $SD=.730$), after treatment. Although Mean scores of the students in the control group, who received no treatment, was ($M=1.90$; $SD=.759$) before, this value increased to ($M=2.17$; $SD=.913$) after the treatment. This suggests that the students in both treatment and control group learnt descriptive essay writing at significant level but students in Messenger groups enjoyed learning as stipulated in the qualitative findings. Moreover, the duration of the study was short. Therefore, a longer study may result in decisive findings. However, it did not show any meaningful increase in mean scores in comparison with the treatment scores. The results of the two-factor ANOVA that was made to see if the changes in the scores of students in two separate environments showed a meaningful difference in terms of language are given in table1. Since there is significant difference in mean scores of the students in the treatment group and the control group, the study retained the alternative hypothesis.

Table 1 Descriptive Statistics pre-test and post-test in terms of language

	Treatment & Control	Mean	Std. Deviation	N
Scores in language before treatment	Messenger	1.90	.712	30
	Control	1.90	.759	30
	Total	1.98	.687	60
Scores in language after treatment	Messenger	3.13	.730	30
	Control	2.17	.913	30
	Total	2.80	.894	60

Results of Research Q2

To answer the research question two, thematic analysis of interview data was conducted. The most important contribution of the social media tools identified through interview data is an improvement in language/grammar because both students and a teacher participated in this process of learning. The majority of the participants stated that Messenger improved their grammar or language as the participants and teacher frequently provided formative feedback on their writing. So, an important coding category that led the researcher to the conclusion was formative feedback that the learners received from their teacher as well as classmates.

An interviewee stated that his structure as well as content improved on the Messenger platform since it provided him an opportunity of formative/corrective feedback:

Yes, Messenger helped me improve descriptive essay writing because it is a better platform for chatting and there is a strategy of corrective feedback and the other participants, each and every participant encourages in solving problems of tense (P12).

During the intervention, the students encouraged each other on producing better content and mistakes free writing. To this end, they provided formative feedback if anyone did any grammatical mistake in describing an event, object or person. Encouragement and formative feedback led the participants to a better interactive environment for learning of language. A respondent said that:

On this platform, one appreciates other students and if someone commits a mistake somewhere then other classmates guide him towards the correction. This correctiveness leads us towards better interactive relationship. It is a prestigious platform to exchange the ideas. I learned grammar because teacher gave us feedback on our writing in the form of correct use of verb, or article or tense (P 11).

Another coding that the researcher believed to be associated with the main theme was ‘polishing productive skill’ that is descriptive essay writing. On Messenger, the learners came to know their weaknesses of language which they rectified where necessary. Multiple students stated that rectification of grammar mistakes was the biggest benefit they obtained from students as well as the teacher on Messenger. For example, a respondent from Messenger said that:

I came to know what points of grammar that I'm weak and how I can polish these writing skills and how I can describe things in a good way (P3).

Learning grammar was another coding category that the researcher felt contributed to the improvement of descriptive essay in terms of language. The teacher and classmates made learning of grammar easier on social media platform, because they provided help wherever it was needed. An interviewee stated:

Yes, it helped me a lot because I made some mistake, uh, I also made mistakes while writing on the given topic. So, at that time, when I made mistakes, my teacher and some of my friends and also pointed out the mistakes and made it easier (P11).

Another respondent stated that:

Yes, because, uh, my friends point out my mistakes and my grammatical mistakes. So, it can improve my descriptive essay writing (P 10).

The students gave some comments/suggestions on others’ writing which also helped them in improving grammar. P7 stated that:

Yes, my descriptive essay writing can become better because we can discuss it with our friends. They comment on our writing and gave suggestions which improved our grammar (P9).

Other participants also helped in learning grammar. A respondent said that:

When I share my ideas, and if there is any grammar mistakes in my ideas, other participants help me to correct my errors (P11).

Feedback from the teacher is always vital in improving grammar, a respondent reported that:

Yes I learned grammar because our grammar improves as teacher gives us feedback (P1).

Apart from the teacher, the students also helped each other in pointing out mistakes in grammar and punctuation:

Yes, sir they highlight my mistakes and they tell me about my grammar mistakes in my writing and my punctuation (P 2).

In face-to-face classroom, a respondent reported, it was not possible to practice grammar on daily basis, but Messenger made it possible. Moreover, both the teacher and students rectified the error of language. One interviewee stated:

Yes, my grammar also got better as compared to classroom. My classmates and my teacher improve my grammar mistakes and they give, they give ideas and they correct my grammar mistakes (P11).

A respondent from Messenger stated that:

Yes, Facebook Messenger has helped me a lot. After joining the group, I have come to know about my mistakes on verb and article and, uh, I have learned many things about grammar' (P 7).

Another student added that the teacher was a better guide for him in learning grammar:

It can become better because our teacher can be good guide for us and he can correct grammatical mistakes in the group' (P 10).

Interviewee 14 stated that Messenger was a better source in learning vocabulary, punctuation and grammar:

Yes sir, Facebook Messenger helped me learn descriptive essay writing because it gives opportunities to talk with others about writings; it improves our vocabulary, grammar punctuation as well as content. It also encourages us to revise our work.

The accounts of these students indicated that Messenger provided the students with an interactive environment in which they freely provided corrective/formative feedback on mistakes and errors. This formative feedback shows the potential of these tools that they can bring improvement in grammar/language. The students may not enjoy this free feedback in face-to-face classroom.

Results of Research Q3

To answer the research question three, thematic analysis of chats was conducted. The data demonstrated that different moves of student-student and student-teacher interaction were helpful in supporting students descriptive essay writing. Here, self-correction as a code was associated with interaction that led to learning descriptive essay writing. For example, self-correction helped the participants improve their language and mechanics. All identified instances of self-correction in this study were initiated by the participant himself/herself. Mostly, the participants marked their self-corrections with an asterisk. Self-correction was identified in terms of subject-verb agreement, prepositions and pronouns. That is, on Messenger the participants self-corrected their errors of subject verb agreement and incorrect usage of article in the following instance:

1. 7:04 PM: *There is a beautiful shower in my garden when it sprinkles, it looks so beautiful.
This is the thing that attract me most*
2. 7:05 PM: **attracts me the most. (self-correction)*

The above instance of text chat show that students were conscious of the errors and therefore rectified them. It implies that students can correct only those mistakes which they understand well and have knowledge about them. On the other hand, they cannot rectify the mistakes about which they have no knowledge. They can be rectified by more knowledgeable others either peers or the teacher.

Another category in student-student interaction is partner correction which supported language while the participants were engaged in writing descriptive essays. All identified errors in this study were initiated by

a partner/participant in the learning of descriptive essay writing. Mostly, partner correction was provided in terms of grammar only. Some instances of partner correction from the Messenger platform have been included. The participants helped each other in terms of language. For instance, a student wrote a grammatically incorrect sentence in the description of his/her friend, whereas his/her partners corrected him/her in terms of subject-verb agreement in the following chat:

1. 6:50:21pm, *He treats me like a brother and help me in my all problems*
2. 6:50:31pm, *Helps me in all problems, (partner correction)*

Another student rephrased the whole sentence and thus assisted his peer in terms of grammar:

3. 6:50:41pm, *He treats me as a brother in my every problem (partner correction)*

One of the peers provided assistance in terms of appropriate use of noun in the following chat:

1. 7:06:32pm *There are also restaurant in front of Noor Mahal building*
2. 7:07:17pm *Restaurants bro use plural noun, (partner correction)*

Besides, helping one another in learning descriptive essay writing, students' also encouraged (providing encouragement, another code) one another during writing activities. They provided encouragement on providing grammatically correct sentences, for instance. In the following example, two students produced grammatically correct sentences and the other two encouraged them:

1. 7:42 PM: *Hira is my best friend. She is a very nice girl. She is very intelligent and hardworking*
2. 7:43 PM: *The person whom I share my feeling, my thoughts, is my best friend Adeen Fatima. she is very kind, polite and sweet by nature'.*
3. 7:45 PM: *Wao.*
4. 7:45 PM: *Good.*

Giving formative feedback (another code) refers to the teacher's corrective feedback on writing. The teacher provided formative feedback in terms of language errors, spelling and punctuation. The teacher provided formative feedback on the Messenger platform. For instance, the students received formative feedback in terms of language errors and vocabulary while completing their descriptive writing tasks. Formative feedback was provided on subject-verb agreement in the following chats:

1. 8:06:27pm, *He is caring and loving. He support me in every situation. He is very simple. He encourage me to achieve my goals.*
2. 8:07:14pm, Prf. *He encourages me (formative feedback)*
3. 8:06:53pm, Prf. *He supports me, (formative feedback)*
4. 8:16:15pm, *He always ready to help me. He knows me inside and outside. He is not selfish*
5. 8:16:47pm, Prf. *He is always ready to help me, (formative feedback)*

Another example in which the teacher provided formative feedback on subject-verb agreement is as follows:

6. 6:55:10pm, *According to me...I feels good environment of my garden because my garden is full with fresh air every time*
7. 6:55:23pm Prf. *I feel not feels, (formative feedback)*

The instances of these text chats show that the more knowledgeable peers may correct the errors of their partners. These errors are related to an appropriate use of verbs, nouns, pronouns and words.

DISCUSSION

The primary objective of this study was to investigate the effectiveness of Facebook Messenger applications in improving grammar within the descriptive essay writing of the undergraduates. Based on this objective, the first research question was designed in an attempt to investigate whether there is any significant difference in the linear combination of descriptive essay writing pre-test and post-test mean scores between undergraduates who are in the treatment group (Facebook Messenger) and those who are in the control group (traditional teaching). Results of pre-test and post-test revealed that there was statistically significant difference between the experimental groups and control group in terms of overall scores.

To begin with, the students who used Facebook Messenger as additional tools to support their learning outperformed those who used only conventional pedagogy. These findings do not come as a surprise since, as mentioned in the literature, previous studies such as (Bataineh et al., 2018; Kaid Mohammed Ali & Rashad Ali Bin-Hady, 2019; Noyan & Kocoglu, 2019) suggest that social media chatting supports students writing skills in English. The study also concluded parallel results with (Barrot, 2021a; Simpson, 2017) suggesting Messenger chatting to improve the students' performance in descriptive essay writing. The results with regard to the Messenger group are also supported by the findings of the study conducted by Barrot (2020) who explored the efficacy of Facebook in improving writing skills. This study indicated that the experimental groups that studied writing skills through Facebook outperformed the control groups in the post-test in terms of accuracy. In their study, Syafrizal et al. (2020) emphasized the importance of Facebook as an effective tool to teach writing skills to senior high school students. The results revealed that both Facebook and classroom collaborative activities had a positive impact on the students' writing skill. Although the researchers have inferred some insights from this study regarding the educational potential of Facebook, this study differs from other studies such as Barrot (2020) and Al Qunayeer (2020) in terms of the participants who are from high school as compared to university students in these studies.

In the current study, Messenger as mediating tools has been administered to the regular classes of the fourth semester for supporting descriptive essay writing skills, they provided the learners with a formal environment of learning of its own type. In this context, the results of our study are consistent with that of Alam and Mizan (2019) who concluded that there was a positive relationship between writing skills and Facebook even if it was introduced in a formal environment of learning. The results of our study are also consistent with those of some other studies (Al-Tamimi et al., 2018; Alberth, 2019; Altunkaya & Topuzkanamis, 2018; Karal et al., 2017; Sakkir & Dollah, 2019) which indicate that Facebook has the potential to support the learning of writing skill. This may be attributed to the teaching methodology adopted by the teacher, but findings also suggest that the use of Messenger had additive effects since the treatment groups have outperformed the control group in overall performance. That is, Messenger, in the current study, have been used in a novel way in which these tools not only supported writing skills but also fostered online interaction through chats that helped them improve their descriptive essay writing skills.

Considering the improvement in the language (grammar) in descriptive essay writing, the results of our study are consistent with other researchers who reported positive contributions of Facebook. While this study verifies Andujar (2016), in terms of grammar, Fattah (2015) in terms of sentence structure, Al-Hamad et al. (2019) in terms of content, organization, and language, and Suhaimi and Maslawati (2019) in terms of content for the efficacy of WhatsApp, it contrasts with Hasanah and Pebriantini (2022) indicating that it was not found a useful tool in the improvement of grammar due to communication overload and

internet connection problem and Suhaimi et al. (2019) indicating that WhatsApp did not help improve the learners' grammar.

Theoretically, the current study demonstrated the importance of social media assisted mobile learning environment. Based on sociocultural and online collaborative learning paradigms, the investigation of social media tools adds to our knowledge of and brings new insights into how knowledge of L2 writing is co-constructed by the learners working interactively on a WhatsApp and Messenger platforms to complete writing tasks. During intervention, the participants' various activities on Messenger reflected social constructivism and collaborative learning environment in which scaffolding and collaboration hold crucial importance.

In this study, the experimental group showed evidence of scaffolding. That is, within group collaborative activities, the more knowledgeable or capable learner assisted the weaker student in improving his/her actual proficiency level. This is when the weaker learners in both groups were provided help by the teacher or more capable learner in various forms such as formative feedback in terms of spellings, subject-verb agreement, appropriate use of adjective and adverb and use of five senses to make description more vivid and concrete. In many situations, scaffolding was provided by the teacher or more capable without request from the weak learner which shows an additive effect of Messenger as mediating tool. In contrast to this scaffolding is provided on request from the less knowledgeable in face-to-face learning environment. In this vein, Keogh (2017) concluded his research whereby the analysis of students interactions highlighted examples in which learners benefitted from scaffolding and expanded their knowledge and WhatsApp online discussions enabled more scaffolding.

Regarding research question (2), aimed at seeking the experiences of the participants with respect to the effectiveness of Facebook Messenger in supporting the development of descriptive essay writing skills in terms of language, students from the treatment group reported positive and negative opinions. The qualitative findings of interviews strongly supported the quantitative findings suggesting that Messenger is beneficial in terms of learning grammar.

Through thematic analysis of interview data, the present study found that most of the participants reported that Messenger supported their learning of descriptive essay writing in terms of grammar. Both the students and teacher provided comments whereby mistakes and errors were pointed out and rectified. The formative/corrective feedback from the teacher as well as students proved useful in supporting descriptive essay writing. Our participants believed that Messenger was better platforms for learning a language. This platform was useful for them in the form of the appropriate use of the word, the correct form of verb, subject-verb agreement and so on to support the learning of descriptive essay writing. These findings are consistent with Suhaimi et al. (2018) and Soria et al. (2020) who believed that WhatsApp was an easy and convenient platform where peers could offer feedback which helped them learn the language (grammar).

Our participants mentioned the affordances Messenger made learning of language in descriptive essay writing easier. They reported that Messenger provided them hesitation-free learning of descriptive essay writing without any restriction of time and place. This finding aligns with the advantages of ubiquitous learning provided by Facebook (Putri & Aminatun, 2021). The students further reported that they felt their self-esteem was not at stake while completing writing tasks via Messenger. They enjoyed learning of descriptive essay writing without any restriction of time and locale which corresponded to the findings of Suadi (2021) and Datko (2021). The results of our study are also in line with Loan (2019) and Šliogerienė et al. (2019) who presented the learners' views regarding the potential of Facebook to offer learning autonomy.

Relating to third research question, the students reported that Facebook Messenger provided them opportunities of collaboration and interaction. They mentioned that Messenger was better platform for interaction with their peers and teacher. The results of our study corroborated to the findings of Alghamdy

(2019) and Wongsu and Son (2022) in which WhatsApp and Facebook provided learners with an interactive and flexible learning environment where they could actively collaborate with their fellows and teachers. This finding is in line with Akkara et al. (2020) who stated that these tools provided not only time and locale-free learning, but they also created a conducive environment of interaction and collaboration outside of classroom context.

During the completion of writing tasks under the supervision of the class teacher, the learners in our study freely discussed with their peers as well as the teacher. These collaborative activities led the learners to productivity in the form of descriptive essay writing tasks. This finding aligns with Binti Mistar and Embi (2016) who reported that WhatsApp discussion increased students' engagement in learning.

The students reported that Messenger provided them flexible learning environment where learning of grammar was an interesting activity for them in contrast to face-to-face learning. In consideration of the related literature, these results are supported by other researchers who reported positive satisfaction and motivation to the use of social media. For example, Friatin (2018) reported positive opinions of the learners regarding Facebook in teaching and learning writing skills.

CONCLUSION

Guided by Vygotskian (1989) concepts such as scaffolding, mediation and Zone of Proximal Development, the current study was conducted to examine the effectiveness of Messenger mediated lessons to support the learning of descriptive essay writing in terms of grammar. Overall, the findings indicated that students exposed to Messenger platform performed better than those in the control group, showcasing Messenger's potential as a pedagogical tool in L2 writing classrooms. The results also indicated positive perception of students regarding Messenger as mediating tool to support grammar and online interaction. Finally, the results showed that text based chatting fostered an online interaction and contributed to the learning of descriptive essay writing, allowing for unrestricted learning and prompting gains in grammar.

The study's implications are multifaceted: theoretically, it enhances our understanding of Messenger's role in L2 writing classrooms, emphasizing crucial factors and affordances. Pedagogically, it provides insights into systematic integration of Messenger into writing teaching methodologies, supplementing traditional approaches. Methodologically, it contributes to clarifying the efficacy of social media tools like Messenger in enhancing descriptive essay writing skills.

Despite its contributions, the study has limitations worth addressing in future research. These include the relatively small sample size and the use of intact groups, suggesting a need for larger and more diverse participant pools through random sampling. Furthermore, future studies could explore social media tools' pedagogical affordances from teachers' perspectives, offering a comprehensive view of their potential in language teaching and learning contexts.

REFERENCES

- Akkara, S., Anumula, V., & Mallampalli, M. (2020). Impact of whatsapp interaction on improving L2 speaking skills. *International Journal of Emerging Technologies in Learning (iJET)*, 15(3), 250-259.
- Alam, M., & Mizan, F. B. (2019). Facebook as a Formal Instructional Environment in Facilitating L2 Writing: Impacts and Challenges. *International Journal of Language Education*, 3(2), 41-48.

- Alghasab, M., Hardman, J., & Handley, Z. (2019). Teacher-student interaction on wikis: Fostering collaborative learning and writing. *Learning, culture and social interaction*, 21, 10-20. <https://doi.org/10.1016/j.lcsi.2018.12.002>
- Al-Hamad, R. F., Al-Jamal, D. A., & Bataineh, R. F. (2019). The Effect of MALL Instruction on Teens' Writing Performance. *Digital Education Review*, 35, 289-298.
- Al-Tamimi, M. F., Al-Khawaldeh, A. H., Natsheh, H. I. M. A., & Harazneh, A. A. (2018). The effect of using Facebook on improving English language writing skills and vocabulary enrichment among University of Jordan sophomore students. *Journal of Social Sciences (COES&RJ-JSS)*, 7(3), 187-214. <https://doi.org/10.25255/jss.2018.7.3.187.214>
- Alberth. (2019). Use of Facebook, students' intrinsic motivation to study writing, writing self-efficacy and writing performance. *Technology, Pedagogy and Education*, 28(1), 21-36. <https://doi.org/10.1080/1475939X.2018.1552892>
- Alghamdy, R. Z. (2019). The impact of mobile language learning (WhatsApp) on EFL context: Outcomes and perceptions. *International Journal of English Linguistics*, 9(2), 128-135.
- Al Qunayeer, H. S. (2020). Exploring EFL Learners' Online Participation in Online Peer Writing Discussions Through a Facebook Group. *Journal of Information Technology Education: Research*, 19, 671-692. <https://doi.org/10.28945/4621>
- Altakhaineh, A. R. M., & Al-Jallad, M. Z. (2018). The Use of Twitter and Facebook in Teaching Mechanics of Writing to Arabic-Speaking EFL Learners. *International Journal of Emerging Technologies in Learning*, 13(9). <https://doi.org/10.3991/ijet.v13i09.8457>
- Altunkaya, H., & Topuzkanamis, E. (2018). The Effect of Using Facebook in Writing Education on Writing Achievement, Attitude, Anxiety and Self-Efficacy Perception. *Universal Journal of Educational Research*, 6(10), 2133-2142.
- Andujar, A. (2016). Benefits of mobile instant messaging to develop ESL writing. *System*, 62, 63-76. <https://doi.org/10.1016/j.system.2016.07.004>
- Awidi, I. T., Paynter, M., & Vujosevic, T. (2019). Facebook group in the learning design of a higher education course: An analysis of factors influencing positive learning experience for students. *Computers and Education*, 129, 106-121. <https://doi.org/10.1016/j.compedu.2018.10.018>
- Barrot, J. S. (2020). Effects of Facebook-based e-portfolio on ESL learners' writing performance. *Language, Culture and Curriculum*, 1-17. <https://doi.org/10.1080/07908318.2020.1745822>
- Barrot, J. S. (2021a). Effects of Facebook-based e-portfolio on ESL learners' writing performance. *Language, Culture and Curriculum*, 34(1), 95-111. <https://doi.org/10.1080/07908318.2020.1745822>
- Bataineh, R. F., Al-Hamad, R. F., & Al-Jamal, D. A. (2018). Gender and EFL writing: Does WhatsApp make a difference? *Teaching English with Technology*, 18(2), 21-33.
- Bervell, B., Umar, I. N., & Kamilin, M. H. (2020). Towards a model for online learning satisfaction (MOLS): Re-considering non-linear relationships among personal innovativeness and modes of online interaction. *Open Learning: The Journal of Open, Distance and e-Learning*, 35(3), 236-259.

- Binti Mistar, I., & Embi, M. A. (2016). Students 'perception on the use of WhatsApp as a learning tool in ESL classroom. *Journal of Education and Social Sciences*, 4(6), 96-104.
- Bouamrani, K. (2019). *The impact of facebook on learners' academic writing* Université Ibn Khaldoun-Tiaret-]. <http://dspace.univ-tiaret.dz:80/handle/123456789/934>
- Borthwick, K., & Gallagher-Brett, A. (2014). 'Inspiration, ideas, encouragement': teacher development and improved use of technology in language teaching through open educational practice. *Computer Assisted Language Learning*, 27(2), 163-183. <https://doi.org/10.1080/09588221.2013.818560>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Butt, I. H., & Qaisar, S. (2017). Readiness of Pakistani University Teachers and Students for M-Learning in a Public University. *Journal of Research & Reflections in Education (JRRE)*, 11(1).
- Chavoshi, A., & Hamidi, H. (2019). Social, individual, technological and pedagogical factors influencing mobile learning acceptance in higher education: A case from Iran. *Telematics and Informatics*, 38, 133-165. <https://doi.org/10.1016/j.tele.2018.09.007>
- Creswell, J. W. (2014). *Research Designs: Quantitative, Qualitative and Mixed Methods Approaches*. SAGE.
- Crompton, H., & Burke, D. (2018). The use of mobile learning in higher education: A systematic review. *Computers & Education*, 123, 53-64. <https://doi.org/10.1016/j.compedu.2018.04.007>
- Dabbagh, A., & Janebi Enayat, M. (2019). The role of vocabulary breadth and depth in predicting second language descriptive writing performance. *The Language Learning Journal*, 47(5), 575-590. <https://doi.org/10.1080/09571736.2017.1335765>
- Datko, J. (2021). Outcomes of homework on Facebook: A case study from an English for academic purposes course. *International Journal of Information and Education Technology*, 11(7), 324-331. [doi: 10.18178/ijiet.2021.11.7.1530](https://doi.org/10.18178/ijiet.2021.11.7.1530)
- Datu, J. A. D., Yang, W., Valdez, J. P. M., & Chu, S. K. W. (2018). Is facebook involvement associated with academic engagement among Filipino university students? A cross-sectional study. *Computer and Education*. <https://doi.org/10.1016/j.compedu.2018.06.010>
- Ellis, R. (1989). Second Language Learning and Second Language Learners: Growth and Diversity. *TESL Canada journal*, 7(1), 74-94.
- Friatin, L. Y. (2018). Students' perception on teaching writing through Facebook Groupin EFL class. *Vision: Journal for Language and Foreign Language Learning*, 7(1), 46-55.
- Fattah, S. F. E. S. A. (2015). The Effectiveness of Using WhatsApp Messenger as One of Mobile Learning Techniques to Develop Students' Writing Skills. *Journal of education and practice*, 6(32), 115-127.
- Feng, S., Wong, Y. K., Wong, L. Y., & Hossain, L. (2019). The Internet and Facebook Usage on Academic Distraction of College Students 134, 41-49. <https://doi.org/10.1016/j.compedu.2019.02.005>

- Golonka, E. M., Tare, M., & Bonilla, C. (2017). Peer interaction in text chat: Qualitative analysis of chat transcripts. *Language Learning & Technology*, 21(2), 157-178. <https://dx.doi.org/10.125/44616>
- Hasanah, A., & Pebriantini, R. (2022). Is WhatsApp Beneficial Tool in Learning Writing? Proceeding of International Conference on Education. <https://doi.org/10.30631/picon.v1i.14>
- Hoi, V. N. (2019). Understanding higher education learners' acceptance and use of mobile devices for language learning: A Rasch-based path modeling approach. *Computers and Education*.<https://doi.org/10.1016/j.compedu.2019.103761>
- Hsieh, Y. C. (2020). Learner interactions in face-to-face collaborative writing with the support of online resources. *ReCALL*, 32(1), 85-105.
- Jacobs, H. L. (1981). Testing ESL Composition: A Practical Approach. English Composition Program. ERIC.
- Jeno, L. M., Vandvik, V., Eliassen, S., & Grytnes, J.-A. (2019). Testing the novelty effect of an m-learning tool on internalization and achievement: A Self-Determination Theory approach. *Computers & Education*, 128, 398-413. <https://doi.org/10.1016/j.compedu.2018.10.008>
- Jung, I. (2001). Building a theoretical framework of web-based instruction in the context of distance education. *British Journal of Educational Technology*, 32(5), 525-534. <https://doi.org/10.1111/1467-8535.00222>
- Karal, H., Kokoc, M., & Cakir, O. (2017). Impact of the educational use of Facebook group on the high school students' proper usage of language. *Education and Information Technologies*, 22(2), 677-695. <https://doi.org/10.1007/s10639-015-9428-y>
- Kaid Mohammed Ali, J., & Rashad Ali Bin-Hady, W. (2019). A study of EFL students' attitudes, motivation and anxiety towards WhatsApp as a language learning tool. *Arab World English Journal (AWEJ) Special Issue on CALL*(5). <https://dx.doi.org/10.24093/awej/call5.19>
- Khalid, H. (2017). The effects of social networks on Pakistani students. *Journal of Information Technology & Software Engineering*, 7(3), 5. DOI: [10.4172/2165-7866.1000203](https://doi.org/10.4172/2165-7866.1000203)
- Keogh, C. (2017). Using WhatsApp to create a space of language and content for students of international relations. *Latin American Journal of content & language integrated learning*, 10(1). <https://doi.org/10.5294/lacil.v10i1.7543>
- Loan, T. T. T. (2019). Using Facebook as a tool to improve writing skills for tertiary students. *Proceedings of ELT upgrades: a focus on methodology*.
- Loewen, S., Crowther, D., Isbell, D. R., Kim, K. M., Maloney, J., Miller, Z. F., & Rawal, H. (2019). Mobile-assisted language learning: A Duolingo case study. *ReCALL*, 31(3), 293-311. DOI: <https://doi.org/10.1017/S0958344019000065>
- Luk, J. C., & Lin, A. M. (2017). *Classroom interactions as cross-cultural encounters: Native speakers in EFL lessons*. Routledge.
- Luk, J. C., & Lin, A. M. (2017). *Classroom interactions as cross-cultural encounters: Native speakers in EFL lessons*. Routledge. <https://doi.org/10.4324/9781315095646>

- Madland, C., & Richards, G. (2016). Enhancing student-student online interaction: Exploring the study buddy peer review activity. *International Review of Research in Open and Distributed Learning*, 17(3), 157-175. <https://doi.org/10.19173/irrodl.v17i3.2179>
- Moore, M. G. (1989). Three types of interaction. *American Journal of Distance Education*, 3(2), 1–6. <https://doi.org/10.1080/08923648909526659>
- Morgana, V. (2018). The IPAD and the Development of Speaking and Writing in the Secondary EFL Classroom. Open University (United Kingdom).
- Oviawe, J. I. (2020). Effects of students interaction patterns on students academic performance in basic technology in EDO state secondary schools. *Journal of Technology and Operations Management*, 15(1), 1-14. DOI: <https://doi.org/10.32890/jtom2020.15.1.1>
- Perez, T. A., & Nagata, J. J. (2019). the digital culture of students of pedagogy specializing in the humanities in Santiago de Chile. *Computers and Education*, 133, 1-12. <https://doi.org/10.1016/j.compedu.2019.01.002>
- Putri, N., & Aminatun, D. (2021). Using Facebook to practice writing skill: What do the students think? *Journal of English Language Teaching and Learning*, 2(1), 45-50.
- Şad, S. N., Özer, N., Yakar, Ü., & Öztürk, F. (2020). Mobile or hostile? Using smartphones in learning English as a foreign language1. *Computer Assisted Language Learning*, 1-27. <https://doi.org/10.1080/09588221.2020.1770292>
- Sakir, G., & Dollah, S. (2019). Measuring students' writing skills using Facebook group application in EFL context. *International Journal of Humanities and Innovation (IJHI)*, 2(3), 69-74.
- Sarapin, S. H., & Morris, P. L. (2015). Faculty and Facebook friending: Instructor–student online social communication from the professor's perspective. *The Internet and Higher Education*, 27, 14-23. <https://doi.org/10.1016/j.iheduc.2015.04.001>
- Simpson, J. (2017). Using Facebook in an EFL business English writing class in a Thai university: did it improve students' writing skills? Proceedings Education and Language International Conference,
- Soria, S., Gutiérrez-Colón, M., & Frumuselu, A. D. (2020). Feedback and Mobile Instant Messaging: Using WhatsApp as a Feedback Tool in EFL. *International Journal of Instruction*, 13(1), 797-812.
- Šliogerienė, J., Masoodi, M., & Gulbinskienė, D. (2019). Facebook as a tool in university english language education.
- Suadi, S. (2021). Students' perceptions of the use of Zoom and WhatsApp in ELT amidst COVID pandemic. *Study of Applied Linguistics and English Education*, 2(1), 51-64.
- Suhaimi, N. D., Mohamad, M., & Yamat, H. (2019). The effects of WhatsApp in teaching narrative writing: A case study. *Humanities & Social Sciences Reviews*, 7(4), 590-602. <https://doi.org/10.18510/hssr.2019.7479>
- Syafrizal, S., Hardianti, S., & Gailia, N. (2020). Enhancing EFL students' writing skills on English through Facebook and classroom collaborative activities. *Journal for the Education of Gifted Young Scientists*, 8(3), 1163-1172.

- Tarihoran, N., Alhourani, A. Q., Ocaña-Fernandez, Y., Alanya-Beltran, J., & Hernández, R. M. (2022). "CALLing the process of writing": Facebook as language support learning tool in enhancing the EFL learners' online writing performance. *Journal of Language and Linguistic Studies*, 18.
- Troussas, C., Krouska, A., & Sgouropoulou, C. (2020). Collaboration and fuzzy-modeled personalization for mobile game-based learning in higher education. *Computers & Education*, 144, 103698. <https://doi.org/10.1016/j.compedu.2019.103698>
- Waqas, A., Afzal, M., Zaman, F., & Sabir, M. (2016). The impact of social networking sites' usage on the academic performance of university students of Lahore, Pakistan. *International Journal of Social Sciences and Management*, 3(4), 267-276. <http://orcid.org/0000-0002-5127-3207>
- Wissam, C. (2021). The Effect of Facebook Texting on Student's Academic Writing The case of Master One Students of English at Biskra University.
- Wongsa, M., & Son, J.-B. (2022). Enhancing Thai secondary school students' English speaking skills, attitudes and motivation with drama-based activities and Facebook. *Innovation in Language Learning and Teaching*, 16(1), 41-52. <https://doi.org/10.1080/17501229.2020.1853134>
- Vygotsky, L. S. (1980). *Mind in society: The development of higher psychological processes*. Harvard university press.
- Zulfikar, I., Zaheer, F., Baloch, Q., & Ahmed, F. (2018). The new face of learning: Social media innovating medical education. *International Journal of Educational and Psychological Researches*, 4(1), 1. DOI: [10.4103/jep.73_16](https://doi.org/10.4103/jep.73_16)