Review

Analyzing the contribution of WhatsApp in enhancing English writing skills among undergraduate English as a Foreign Language (EFL) learners: A systematic review

Shugufta Khurram[1,2], Sarala Thulasi Palpanadan[1,*], Zulfiquar Ali Chachar[3]

[1] Center for Language Studies, Universiti Tun Hussein Onn Malaysia, Parit Raja 86400, Batu Pahat, Johor, Malaysia

[2] Benazir Bhutto Shaheed University Lyari, Karachi 75660, Sindh, Pakistan

[3] Department of Mathematics and Related Studies, Sukkur IBA University, Sukkur 65200, Pakistan

* Corresponding author: Sarala Thulasi Palpanadan, sarala@uthm.edu.my

Abstract: Social media is becoming a more active and accessible medium for learners all around the world to acquire the English language. A growing body of study is examining how people learn and use language in the digital age, and one such area of study is social media-based English language learning. This systematic review of the literature aims to provide an overview of social media, specifically WhatsApp, as a tool for learning English writing skills in existing literature. This review maps the experiences of learners with learning outcomes related to writing skills as they relate to WhatsApp. To examine the literature that was accessible for the study, a systematic review was conducted. This systematic review complies with the statement of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) standards. The review procedure included a thorough search of electronic databases like Web of Science, Google Scholar, Science Direct, and Scopus. The research articles, which were published between 2013 and 2022 were included in the search. The purpose of this systematic research is to investigate WhatsApp Messenger's potential to help undergraduate EFL learners improve their writing skills. The review gives a summary of the body of research on the use of WhatsApp for writing instruction, including studies examining the app's possible benefits for undergraduate EFL learners' writing skills. Out of $n = 90$ research studies $n = 20$ research studies met the inclusion criteria for this systematic review. Among all those 20 studies, researchers adopted ($n = 13$; 65%) quantitative research methodology. According to the results of this systematic review, WhatsApp gained popularity among researchers in 2019 and 2021, and at that time, there were more studies conducted. The country-wise context of the research studies revealed that Saudi Arabia ($n = 4$; 20%) has made a significant contribution to the body of studies in which it was discovered that WhatsApp is a highly useful learning tool for improving the writing abilities of undergraduate EFL learners. Future research should explore WhatsApp's impact on enhancing English writing skills among undergraduate EFL learners, considering diverse contexts and instructional strategies. Educators are encouraged to integrate WhatsApp for group projects, create engaging online environments, and continuously assess teaching methods. Additionally, research could investigate educators' perspectives on WhatsApp-based approaches and explore the role of other social media tools, like Instagram, YouTube, and Facebook, in enhancing various English language skills.

Keywords: writing skills; EFL (English as a foreign language) learners; WhatsApp messenger; systematic review; PRISMA

1. Introduction

Modern technology plays a pivotal role in enhancing educational outcomes. The incorporation of technological tools and platforms into educational environments has

revolutionized conventional methods of learning, providing students with novel opportunities for engagement. The influence of modern technology on the academic landscape is profound. Learning driven by technology emphasizes the practical application of knowledge delivery, bolstering learners' confidence to confront the challenges of 21st-century globalization (Raja and Nagasubramani, 2018). Francis (2017) states that the present age of learners has grown with technology, surrounding them in a consistently expanding way. Learners can benefit from dynamic and personalized experiences that are tailored to their unique learning methods through digital resources including interactive language learning applications, online tutorials, and virtual classrooms. According to Lakhal (2021), social media has evolved into a highly significant feature of technology and has been playing a vital role in educational systems. Social networking sites are seen to be advantageous for language acquisition in academics because they promote meaningful connections outside of the classroom and help spread authentic language. Many organizations have leaped on the social media trend and welcomed it as a tool for innovation. It has also been tested and used for educational purposes, particularly in the teaching and learning of English (Al-Jarrah et al., 2019; Ahmed, 2019; Chugh and Ruhi, 2018). Social media encompasses a wide range of platforms, including blogs, vlogs, Twitter, Instagram, Facebook, WhatsApp, and numerous more instant messaging apps that enable users to connect, engage, and share without being limited by time or location (Prestridge, 2019). According to Rao (2019), learning English is crucial for social media communication because it is the language used for every field and nearly all the material generated on social media platforms is in English.

1.1. Significance of learning the English language

Language serves as a primary source of communication, facilitating the exchange of perspectives and ideas among individuals. Across the globe, a multitude of languages exist, each country possessing a national language alongside various regional dialects comprehended and spoken by its populace. Notably, English emerged as the most-used language worldwide, underscoring its undeniable significance that transcends geographical and cultural boundaries, warranting meticulous scholarly consideration (Ilyosovna, 2020). According to Getie (2020), despite its foreign origin, English holds universal significance, being a language spoken, read, written, and comprehended by most individuals worldwide. The existence of English enables people from diverse corners of the globe to communicate effectively, fostering a sense of belonging within the global community. Ilyosovna (2020) posits that English, serving as the primary language for over 350 million and a secondary language for more than 430 million, holds the status of a global language. Widely spoken, it is utilized as a second language by an estimated one billion individuals and is recognized as a secondary official language in 27 countries, establishing its linguistic prominence in 67 countries globally. English, as a global lingua franca, holds a pivotal role in fostering cross-cultural communication. Recognized for its career and educational benefits. Both teachers and students leverage an array of resources, including technology, for immersive language experiences. Learners proficient in English not only excel academically but also showcase their professional aptitude globally. To

equip students, especially those learning English as a foreign language (EFL), for effective communication in both domestic and international arenas, emphasis must be placed on enhancing their English language skills to bolster their capabilities (Khan, and Maroof, 2020; Sci, 2019). Among all four skills of the English Language writing skill is the most important skill to learn because it is used as a means of communication across all social media networks.

1.2. Writing as a means of communication

In the contemporary communication landscape, Mehr (2017) asserts that writing is a fundamental skill to effective communication. The cognitive effort involved in crafting meaningful and expressive sentences is encapsulated within the skill of writing. Recognized as a fundamental ability in English as a foreign language (EFL), writing serves not only as a mode of communication but also as a mechanism for constructing knowledge. Writing well is a difficult skill for many students learning English as a foreign language (EFL). Grammar rules can be complicated, and finding appropriate expressions can be challenging for EFL learners when trying to communicate their ideas clearly (Afrilyasanti et al., 2016). Undergraduate EFL learners struggle with linguistic nuances including verb tenses, subject-verb agreement, spelling, prepositions, vocabulary, singular and plural noun forms, articles, and determiners when writing. Undergraduate students often discover that they need to improve their writing skills even though writing is essential for both academic and professional success. This is mostly because of their weak language ability, which leads to poorly constructed sentences (Kitchakarn, 2014; Wil et al., 2019; Adas and Bakir, 2013).

The writing skills of undergraduate EFL learners can be enhanced through different learning tools of modern technology such as social media networking sites.

1.3. Social media and writing skills of undergraduate EFL learners

Social media integration has become a fascinating area of study in the field of modern communication. People communicate with one another through various social media platforms, including WhatsApp, Facebook, Twitter, blogs, Instagram, Snapchat, and many more, to share their views and information (Slim and Hafedh, 2019; Ariantini et al., 2021). Lakhal (2021) contends that the internet and social media hold significant importance for contemporary youth, with writing skills playing a pivotal role in communication on these platforms. The interconnectedness between social media usage and writing skills underscores the critical nature of writing as an academic success skill, integral to effective communication. Mustafa et al. (2022) state that writing is a critical skill that needs to be practiced and planned to develop the necessary competency. The development of technology has brought about changes in language instruction methods. Because of social media as a technological tool, people seem to communicate with one another more closely than ever before, giving the impression that we have become socially integrated. Azlan and Yunus (2020) underscore the noteworthy contribution that Social Networking Sites (SNSs) make to improving writing skills in English. Their research indicates that using SNSs to help students write better in English has a beneficial effect on their proficiency in English as a

foreign language (EFL). By incorporating social networking sites (SNSs) into educational activities, educators and students can practice and improve their English writing skills. Among all these social networking sites WhatsApp is becoming the most widely used social media platform among students, particularly those in their teens. WhatsApp is now recognized by the younger generation as a means of establishing social presence and connections (Feng et al., 2019).

1.4. WhatsApp is a learning tool to enhance writing skills

In the developing world, the WhatsApp app has recently taken over as the preferred method of communication (Shahid, 2019). According to Javed et al. (2022), WhatsApp is the most popular and widely used communication tool. Consequently, the number of users of closed social networks approaches 1.5 billion. Not only does it have a huge user base, but it also has the most active users of any social network at any given time (Two Billion Users 2020). WhatsApp, being a widely adopted communication platform among students, holds the potential to facilitate language learning within the context of English as a Foreign Language (Alabsi and Alghamdi, 2019). For WhatsApp communication users need to be good enough in English writing skills because writing has been serving as a means of communication through WhatsApp chatting (Mehr, 2017). Writing competence captures the mental effort needed to construct the phrases and make the connections between them in a meaningful and expressive way. WhatsApp is an effective tool in increasing students' writing achievement and all aspects of writing (Nurwala, 2020). One could consider writing to be a fundamental EFL skill. It is regarded as a communication tool as well to increase knowledge. One of the most crucial tasks for EFL learners, according to Joseph and Khan (2020), is writing. Teachers that are teaching writing to their students need to integrate technology. The use of devices like laptops, tablets, and cell phones has attracted students to the writing curriculum. Learners can express their thoughts, opinions, recommendations, dreams, and observations to friends and classmates through digital writing, which also helps them become better writers. There are few studies conducted to arrange a systematic study of WhatsApp about the teaching and learning of writing skills as a critical language skill via social media, specifically WhatsApp. To fill this gap, this study methodically gathers, summaries, analyses, and synthesizes data from prior research that was published between 2011 and 2022.

2. The present study

This systematic review of the peer-reviewed literature has been carried out to develop a thorough comprehension of WhatsApp as a learning tool concerning the writing skills of undergraduate English as a foreign language learner. It is a review of a clearly defined subject using methodical techniques to find, select, and evaluate relevant research as well as gather and examine data from earlier studies focusing only on WhatsApp usage as a learning tool for writing skill development.

2.1. Objectives of the study

The objective of this review is to offer a comprehensive insight into the role of WhatsApp as an educational tool in augmenting the writing skills of undergraduate

students studying English as a Foreign Language (EFL). In addition, the choice to focus on studies with undergraduate EFL learners as participants of the selected studies is threefold: (1) to examine and analyze the previous research available focusing on the role of WhatsApp as a language learning tool. (2) The second objective of the study is to present comprehensive, empirical data based on the relevant field. (3) The third and final objective of the study is to identify information gaps, recommend additional research, and discuss the difficulties and restrictions associated with using WhatsApp as a learning tool for writing skills. To provide more weight to these objectives, the following research questions have been put forth.

2.2. Research questions

Research Question 1: What is the current available literature on utilizing WhatsApp as a learning tool for enhancing the writing skills of English as a Foreign Language (EFL) learners?

Research Question 2: What are the principal outcomes derived from existing studies that investigate the use of WhatsApp as a tool for learning English writing skills specifically among undergraduate EFL learners?

2.3. Significance of the study

This systematic review holds significant importance for students, teachers, policymakers, and researchers because they all can benefit from this systematic review since it provides a complete overview of the tactics and advantages associated with utilizing WhatsApp for English language acquisition, particularly the writing skills of undergraduate EFL learners. By highlighting the errors made by undergraduate EFL learners in their writing skills and showing how WhatsApp aids in rectifying these mistakes, the review offers actionable insights for teachers to tailor their instructional approaches, it emphasizes the practical implications and gives educators useful advice at a time when digital technologies are essential to education. Furthermore, the systematic nature of the review ensures a rigorous and methodical examination of the available literature. This enhances the reliability of the findings, providing a solid foundation for future research and decision-making in educational settings. It also facilitates the identification of gaps in current knowledge, encouraging further investigation into specific aspects of WhatsApp-mediated language learning.

Overall, the present systematic review is an attempt to contribute scholarly analysis on technology-enhanced language education, specifically the contribution of WhatsApp in improving writing skills. The findings not only validate the potential of WhatsApp in addressing sentence errors but also provide a basis for refining pedagogical practices and developing targeted interventions to optimize language learning outcomes.

3. Research methodology

3.1. Protocol registration

The protocol for this review was registered as a "Systematic Literature Review that is relevant to the usage of WhatsApp as a learning tool for writing skills among

undergraduate EFL learners". The procedure of selecting the studies was carried out in an organized and transparent way. At first, reference management software was used to weed out irrelevant content.

3.2. Inclusion and exclusion criteria

To maintain the integrity and applicability of this systematic review, precise inclusion and exclusion criteria were applied. The primary requirements for eligibility were:

- Studies that examined the relationship between WhatsApp and the writing skills of undergraduate EFL learners.
- Peer-reviewed research articles, conference papers, and academic publications.
- Research studies that were solely published in English.
- Research that specifically focuses on analyzing the Contribution of WhatsApp in enhancing English writing skills among Undergraduate EFL Learners
- Studies that were published in journals between 2013 and 2022.
  Subsequent standards were utilized to exclude research studies:
- Research released before 2013 was not included.
- Studies that were not written in English were not included.
- Studies that were judged unnecessary were not included.
- Excluded studies had poor methodological rigor or inappropriate research design.

3.3. Coding process

Two researchers independently applied coding to the $n = 90$ articles using a bottom-up approach, guided by the two research questions. The classification of publications considered factors such as publication years, journals, and authors' affiliations. The researchers evaluated the abstracts and titles to determine whether they matched the inclusion criteria and were pertinent to the study question. The reviewers discussed and reached a consensus to resolve any inconsistencies. A full-text evaluation of the retained papers was conducted to determine their eligibility for inclusion in the systematic review. The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) standards were followed during the research selection process, offering a standardized framework for thorough and stringent selection methods (Moher et al., 2009). The researchers followed the screening and selection process adapted from (Turan and Akdag-Cimen, 2020; Muhammad, 2022).

3.4. Database search

A comprehensive search of scholarly literature and academic databases was done to perform this systematic study. The screening and selection process is well explained in **Figure 1**, given below. **Figure 1** demonstrates that the databases Scopus ($n = 20$), Science Direct ($n = 20$), Web of Science ($n = 20$), and Google Scholar ($n = 30$) were utilized by this search engine. A total of ($n = 90$) research papers were reviewed and screened. After evaluation, $n = 55$ research studies were removed due to duplicate titles, irrelevant topics, and not being written in English. A total of $n = 35$ research studies were full-text reviewed studies. After quality assessment, $n = 20$ research studies were selected for final inclusion criteria, and the remaining $n = 15$ studies were

removed. Finding scholarly articles and peer-reviewed research that were released between 2013 and 2022 was the aim of the search.
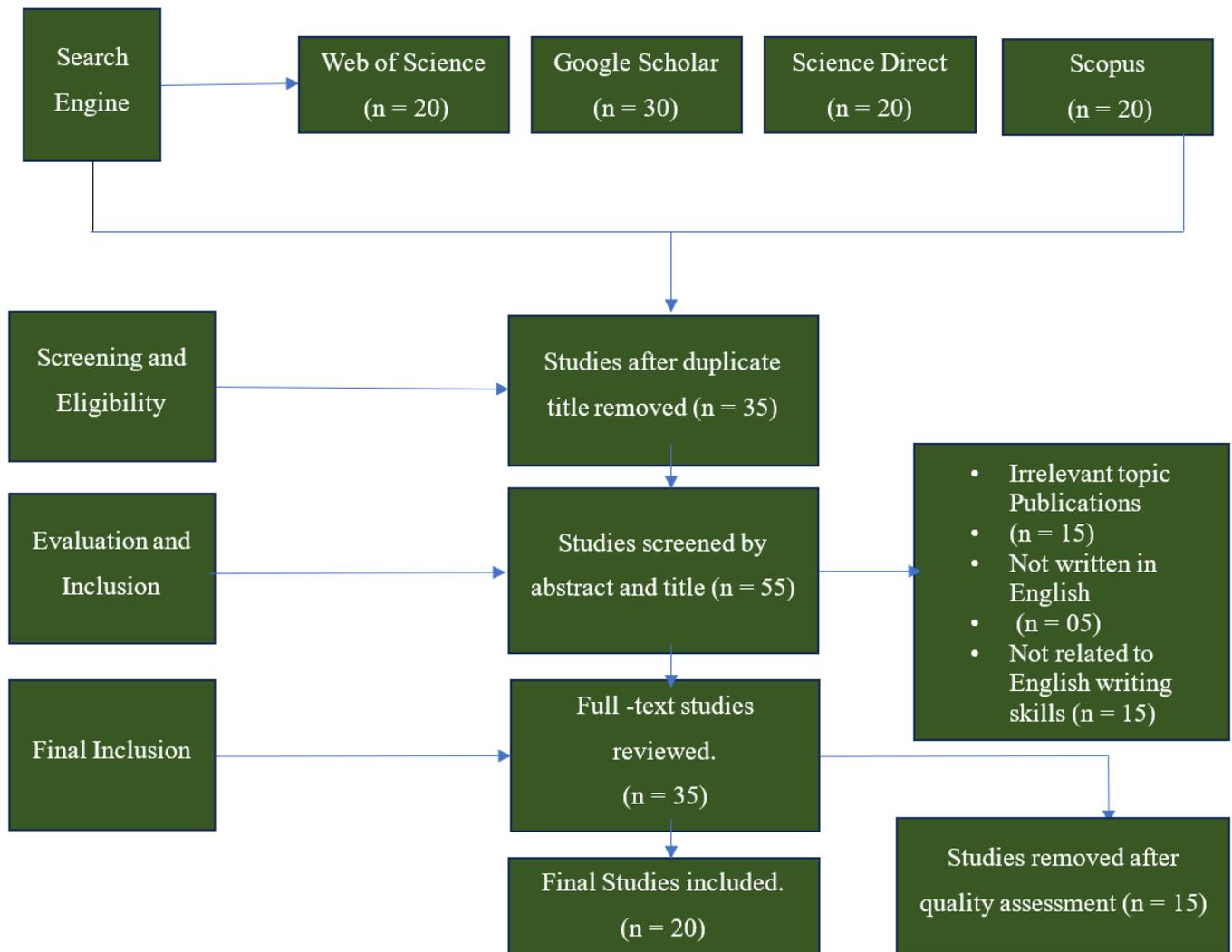
| Search Engine | Web of Science (n = 20) | Google Scholar (n = 30) | Science Direct (n = 20) | Scopus (n = 20) |

Screening and Eligibility → Studies after duplicate title removed (n = 35)

Evaluation and Inclusion → Studies screened by abstract and title (n = 55)

- Irrelevant topic Publications
- (n = 15)
- Not written in English
- (n = 05)
- Not related to English writing skills (n = 15)

Final Inclusion → Full -text studies reviewed. (n = 35)

Studies removed after quality assessment (n = 15)

Final Studies included. (n = 20)

Figure 1. Screening and selection process. Source: Turan and Akdag-Cimen (2020), Muhammad (2022).

To refine search queries, pertinent keywords, and Boolean operators like AND and OR were employed. Among other terms, the search was done with "Writing Skills," "Social Media," "WhatsApp," and "EFL Learners". This approach guaranteed the retrieval of relevant material that investigated the relationship between writing proficiency and WhatsApp usage.

3.5. Quality assessment of the studies

To ensure the included studies were methodologically sound, a quality evaluation was conducted. The overall rigor, sample size, sample size distribution, and research design of each study are evaluated in this process. The assessors were assigned scores or ratings based on predefined criteria for assessing the quality. Research with lower methodological quality was considered when interpreting the results in general, rather than being ignored.

3.6. Extraction of data

A standardized data extraction form was used to systematically collect pertinent data from the included research. The form contained sections devoted to study features, methods, main conclusions, and relevant statistical information. Data was taken from the paper by two impartial reviewers, and discrepancies were settled by discussion.

3.7. Synthesis of the data

The data from the research studies that were included were synthesized thematically, with major findings being briefly summarized and highlighting recurring themes and patterns found in the literature. The systematic study sought to provide a thorough picture of the contribution of WhatsApp to enhancing English writing skills among undergraduate EFL learners by clarifying the key trends, obstacles, and opportunities in the field of current research.

4. Results

4.1. An overview of the reviewed articles

Based on **Table 1** given below, out of 90 selected research articles 20 research articles were reviewed and analyzed which met the inclusion criteria. The studies were carried out in Oman, Saudi Arabia, Malaysia, Lebanon, Turkey, Ghana, Indonesia, Jordan, Pakistan, Yemen, and among other countries. The current review centered on the significance of writing skills for undergraduate EFL learners through WhatsApp around the globe.

The findings of the published research studies are highlighted, along with the research focus, methodology, and participants. Following the inclusion criteria, the following summarizes the pertinent and current studies best in **Table 1**.

Table 1. Findings of the published articles.

Study	Research Focus	Methodology	Participants	Results
Ahmed, (2019)	To assess WhatsApp's influence on improving students' skills in writing and reading in English.	Experimental Research approach	Undergraduate EFL learners of Aden University, Yemen	The results indicated that WhatsApp proved highly effective in fostering the development of both reading and writing skills.
Alabsi and Alghamdi, (2019)	To investigate the viewpoints and attitudes of students regarding the role of WhatsApp communication in EFL settings.	Descriptive survey method	Undergraduate EFL learners of Saudi Arabia	The results show that, in an EFL setting, students overwhelmingly choose WhatsApp as a communication tool, which suggests that WhatsApp could improve language acquisition.
Allagui, (2014)	To investigate if undergraduate students in higher education may improve their writing skills by using WhatsApp for instant texting.	Exploratory Research	EFL learners of Oman	The findings demonstrated that the student's motivation to write was raised when WhatsApp was used in the classroom.

Table 1. (*Continued*).

Study	Research Focus	Methodology	Participants	Results
Alouch et al., (2021)	Explore the impact of WhatsApp on enhancing students' writing skills and discern students' attitudes toward using WhatsApp for learning writing in the classroom.	Mixed-method research design	Malaysian undergraduate EFL learners	The results of the study indicated that EFL learners were encouraged to use WhatsApp to improve their writing skills.
Alsaleem, (2013)	To evaluate the effects on Saudi Arabian undergraduate students' writing ability, vocabulary choice, and voice expression of including WhatsApp electronic journaling as a new smartphone application.	Quantitative, quasi-experimental research	EFL Undergraduates of Saudi Arabia	For students who used WhatsApp for journaling, the results indicated a substantial difference in their overall writing scores. Furthermore, statistically significant increases in vocabulary word choice and voice two critical writing components—are revealed by analyzing individual item scores.
Anissa et al., (2017)	To devise the implementation of a blended learning model through WhatsApp Group Discussions to enhance English writing skills in Indonesia.	Experimental Research	Indonesian EFL learners	The study results indicated that implementing WhatsApp Group Discussions could enhance students' English writing skills.
Awada, (2016)	to investigate the efficiency of mobile technology (WhatsApp) in enhancing EFL students' ability to write critical analyses and boosting their enthusiasm for studying.	Mixed-Method Research design	Undergraduate EFL learner in Lebanon	The participants' ability to write critiques and their drive to learn were both enhanced by using WhatsApp mediation, according to the results, which outperformed standard training.
Fattah, (2015)	to evaluate the efficacy of utilizing WhatsApp Messenger as a mobile learning tool for improving the writing skills of learners.	Quantitative Experimental research	EFL learners from Saudi Arabia	The study's findings unveiled that the use of the WhatsApp technique had a notable impact on students' writing skills.
Hamad, (2017)	To investigate the effectiveness of WhatsApp to improve the writing skills of EFL learners	Analytical descriptive method	EFL undergraduates at King Khalid University, Saudi Arabia	According to findings, WhatsApp can improve learning, improve English proficiency, expand vocabulary, and let one learn from the mistakes of others.
Handayani and Aminatun, (2020)	To focus on role the of WhatsApp in enhancing English writing skills	Qualitative Descriptive Research Approach	Indonesian EFL learners	The results demonstrate that employing a WhatsApp group for teaching writing yields positive effects and benefits in the teaching and learning process.
Hani, (2014)	to ascertain whether Jordanian EFL students' written vocabulary, word choice, and voice have been significantly impacted by the recent introduction of WhatsApp on cell phones.	Quasi-experimental research design	Jordanian undergraduate EFL learners	The findings reveal a significant difference in EFL learners' overall writing scores, with noteworthy improvements in vocabulary choice and voice and key writing elements.

Table 1. (*Continued*).

Study	Research Focus	Methodology	Participants	Results
Haron and Kasuma, (2022)	To determine the teacher's contribution to low-proficiency university students' WhatsApp argumentative writing performance in English.	Qualitative research design	Malaysian undergraduate EFL learners	Results show students' attitudes and writing skills were positively improved by teacher involvement. It is advised to use WhatsApp for writing assistance, highlighting the critical role that teachers play in inspiring students to study effectively.
Hassan and Ahmed, (2018)	To examine the efficacy of WhatsApp in boosting motivation, content knowledge, and grades among students enrolled in the "Syntax" writing courses.	Experimental research	Saudi Arabian undergraduate EFL learners	The research demonstrated that WhatsApp serves as an effective tool for offering supplementary support, motivating students to study diligently, and achieving higher grades in their writing course.
Mulyasari and Putri, (2020)	to find out if using WhatsApp Group as a teaching tool could improve undergraduate students' writing skills.	Experimental Research	Indonesian undergraduate EFL learners	The findings revealed that WhatsApp Groups are a great substitute for traditional classroom settings. They help students learn on their own and work together to improve their language skills.
Noyan and Kocoglu, (2019)	to investigate how university students' ability to write is influenced by WhatsApp and Pen/Paper dialogue journal writing strategies.	Experimental Research	Undergraduate EFL learners of Turkey	Results revealed a noteworthy improvement through WhatsApp in overall writing output.
Okocha et al., (2017)	To assess WhatsApp's impact on writing skill development and investigate its relationship with the writing competence of the University of Ghana undergraduates.	Quantitative	Undergraduate EFL learners of university of Ghana	Results show that learners have improved their writing skills, even though they do not use WhatsApp to develop their skills. It's obvious that using WhatsApp constructively might improve their writing skills.
Saleh, (2019)	Examining the impact of WhatsApp as a language-learning aid on Yemeni EFL students' motivation and the growth of their writing and reading abilities.	Experimental Research	Yemeni EFL learners	The findings revealed that WhatsApp was a very successful tool in increasing pupils' drive to get better at reading and writing. It aided in their development of writing, grammar, vocabulary, and reading comprehension.
Saputra et al., (2021)	This study explores students' sentence errors in English tales on WhatsApp and elucidates how the platform aids in rectifying these mistakes.	Systematic review	Different research articles	The evaluation emphasizes how students can use WhatsApp to help them communicate more effectively in English and generate better sentences.
Wijaya, (2018)	To assess students' attitudes toward using WhatsApp for English (reading and writing skills) across different course levels.	Qualitative research methodology	EFL learners of Surabaya, Indonesia	The results showed that while the primary learning barrier was self-effort to gain an internet connection, WhatsApp helped students enhance their skills in writing and reading.
Yuliantini et al., (2021)	To investigate the effectiveness of WhatsApp as a cooperative learning method for writing classes.	Quasi-experimental research	Iranian undergraduate EFL learners	Based on the findings, it can be inferred that employing the WhatsApp Cooperative Learning method is more effective for teaching writing to undergraduate EFL learners.

Table 1 elaborates on the different research studies which were carried out in different parts of the world. These research studies focus on the importance of WhatsApp as a learning and helping tool to enhance the writing skills of undergraduate EFL learners. The selected studies according to inclusion criteria are discussed below.

Ahmed (2019) conducted a study aimed at evaluating WhatsApp's impact on enhancing learners' English writing and reading skills. Using an experimental research design, the study included Yemeni undergraduate EFL students at Aden University. The findings showed that WhatsApp was quite successful in helping the participants improve their writing and reading skills. Regarding WhatsApp communication in an EFL context, Alabsi and Alghamdi (2019) conducted a study to find out what perspectives and attitudes students have on the matter. The study comprised undergraduate EFL students from Saudi Arabia and used a descriptive survey approach in an EFL setting. WhatsApp may help with language acquisition, as seen by the overwhelming preference of students for this communication platform, according to the data. Another study was carried out by Allagui (2014) with an exploratory research method to find out if utilizing WhatsApp for instant messaging may help undergraduate students in higher education become better writers. The participants were Omani EFL students. The results showed that integrating WhatsApp into the classroom greatly increased students' motivation to write. According to Alouch et al. (2021), the impact of WhatsApp on improving students' writing abilities is very positive and the attitudes of students about utilizing WhatsApp to study writing in the classroom are highly recommended. The study included Malaysian undergraduate EFL students and used a mixed-method research methodology. The findings showed that using WhatsApp to hone writing abilities was recommended for EFL students. Alsaleem (2013) executed a quantitative, quasi-experimental study to assess the impact of integrating WhatsApp electronic journaling as a new smartphone application on Saudi Arabian undergraduate students' writing skills, word selection, and voice expression. Saudi Arabian undergraduate EFL learners were among the participants in the study. Students who used WhatsApp for journaling had a significant difference in their overall writing scores, with notable improvements in language choice and voice—two important writing components. To improve Indonesian students' English writing abilities, Anissa et al. (2017) conducted a research study to focus on the impact of WhatsApp group discussions to develop a blended learning paradigm that would be implemented through WhatsApp group discussions. This study involved EFL students from Indonesia using an experimental research approach. Based on the study's findings, students' English writing abilities could be improved by using WhatsApp Group Discussions. Awada (2016) examined how effective mobile technology, specifically WhatsApp, is at improving EFL students' critical analysis writing skills and igniting their passion for learning. Undergraduate EFL students in Lebanon participated in the study, which used a mixed-method research methodology. The findings demonstrated that utilizing WhatsApp mediation improved the participants' capacity to write critiques and their desire to learn, surpassing the benefits of traditional training.

Fattah (215) conducted quantitative experimental research to focus on the efficacy of utilizing WhatsApp Messenger as a mobile learning tool for improving the writing skills of learners. The participants in the study were EFL students from Saudi

Arabia. The findings revealed that the WhatsApp strategy had a significant effect on students' writing skills. Another study was done by Hammad (2017) using an analytical descriptive approach, investigated how well WhatsApp helped EFL learners with their writing. Undergraduate EFL students from King Khalid University in Saudi Arabia participated in the study. The results showed that WhatsApp helps with learning, increasing vocabulary, improving English competence, and allowing one to learn from the mistakes of others. Handayani and Aminatun (2020) employed a qualitative descriptive study approach to examine WhatsApp's contribution to improving English writing skills. The study involved Indonesian EFL students, and the findings showed that using a WhatsApp group to teach writing had advantageous effects on both the teaching and learning process. Hani (2014) performed a quasi-experimental research study to determine whether the recent release of WhatsApp on cellphones had a major impact on vocabulary, word choice, and voice writing by Jordanian EFL students. Jordanian undergraduate EFL students participated in the study. The results showed a substantial difference in the total writing scores of EFL learners, with notable increases in vocabulary choice and voice—two important writing components. Haron and Kasuma (2022) found the role of the instructor in the argumentative writing on WhatsApp of low-proficiency university students in the English language through their research study. Malaysian undergraduate EFL students participated in the study, where a qualitative research approach was employed by the researchers. The findings demonstrated that teacher participation had a favorable impact on students' writing abilities and attitudes. The study recommended using WhatsApp to help with writing, emphasizing the vital role that educators play in motivating learners to study well. According to Hassan and Ahmed (2018), WhatsApp plays a vital role in supporting and motivating EFL learners to enhance their writing skills. Hassan, and Ahmed (2018) implemented experimental research to investigate whether WhatsApp can improve students' grades, motivation, and content knowledge in the Saudi Arabian "Syntax" writing course. EFL undergraduate students from Saudi Arabia participated in the study. The findings demonstrated that WhatsApp was a useful tool for providing extra help, encouraging students to work hard in class, and helping them get better grades in writing.

Mulyasari and Putri (2020) conducted experimental research focused on finding out if using WhatsApp Group as a teaching tool could improve undergraduate students' writing skills. The population of the study was undergraduate EFL learners of Indonesia. The findings of the study revealed that WhatsApp Groups are a great substitute for traditional classroom settings. They help students learn on their own and work together to improve their language skills. Noyan and Kocoglu (2019) carried out experimental research to find out how writing styles used in Pen/Paper dialogue journals and WhatsApp affect university students' writing abilities. Turkish undergraduate EFL students participated in the study. The findings showed a significant increase in overall writing production via WhatsApp. Okocha et al. (2017) conducted a quantitative research study to evaluate the influence of WhatsApp on the development of writing skills and explored its connection to the writing proficiency of University of Ghana undergraduates. The study included University of Ghana undergraduate EFL students as participants to collect the data. The findings exhibited

that students' writing abilities increased if they used WhatsApp positively. It was clear that they might improve their writing abilities by making good use of WhatsApp.

Saleh (2019) carried out an experimental study to investigate the impact of WhatsApp as a language-learning tool on the motivation of Yemeni EFL students as well as the development of their writing and reading skills. Yemeni EFL students participated in the study. The findings revealed that WhatsApp significantly increased students' motivation to improve their reading and writing skills. Their writing, grammar, vocabulary, and reading comprehension all improved as a result. A systematic review by Saputra et al. (2021) examined the sentence faults made by students in English stories on WhatsApp and explained how WhatsApp helps them correct these errors. The review, which contained a variety of research publications, focused on how students could utilize WhatsApp to improve their English communication skills and sentence construction.

To gauge how students felt about using WhatsApp for English (reading and writing skills) at various course levels, Wijaya (2018) performed a qualitative research study where EFL students from Surabaya, Indonesia participated in the study. The findings demonstrated that, although the main obstacle to learning was the need for independent effort to establish an internet connection, WhatsApp assisted students in improving their writing and reading abilities. Another study, through a quasi-experimental research study, was carried out by Yuliantini et al. (2021) to examine WhatsApp's efficacy as a cooperative learning tool for writing classes. Iranian undergraduate EFL students participated in the study, and the results suggest that using the WhatsApp Cooperative Learning approach is a more successful way to teach writing to EFL students at the undergraduate level.

In summary, the combined knowledge gained from the research projects emphasizes WhatsApp's importance as a useful teaching and learning tool for improving undergraduate EFL students' writing abilities. These investigations, which have been carried out in different countries of the world and educational environments, typically show favorable results. WhatsApp helps promote language learning, writing motivation, vocabulary expansion, and group education. The results demonstrate how adaptable the platform is and how it can be used to promote better communication, interactive learning, and general writing skills in a variety of linguistic and cultural contexts. With more and more data to support it, it's clear that WhatsApp is a useful tool for language learners, providing a vibrant and stimulating environment in which to hone their writing skills.

4.2. Chronological publications landscape

The review period of the current study is limited to journal papers and spans from 2013 to 2022. The inclusion criteria for the selection of studies for each year among all 10 years is given below in **Table 2**.

Based on **Table 2**, a graphic representation of the distribution of the studies during the specified period is presented in **Figure 2**. There were varying numbers of publications for each of the ten years (2013 to 2022) across 20 studies. These studies meet the selection criteria for the current study. The highest number of publications was 04 in 2019.

Table 2. Reviewed publications for each year.

S.No	Year of Published Research Studies	Total No. of Research Studies
1.	2013	01
2.	2014	02
3.	2015	01
4.	2016	01
5.	2017	03
6.	2018	02
7.	2019	04
8.	2020	02
9.	2021	03
10.	2022	01
Total		20
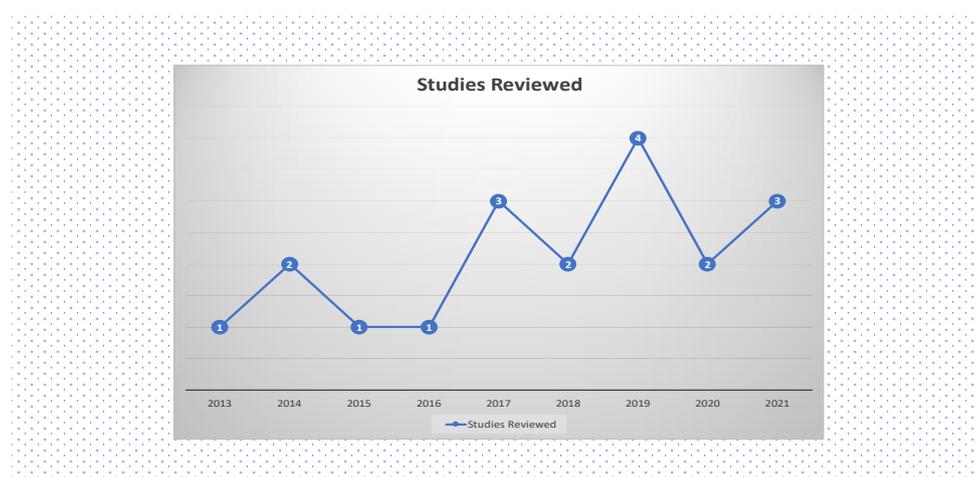
Figure 2. Graphic representation of a number of the reviewed studies.

4.3. Research methodologies in the selected studies

The wide diversity of research approaches used in the evaluated studies is depicted in **Figure 3**, which was created from **Table 1**. Different methodologies, including qualitative, quantitative, and mixed methods, were used in these investigations exploring the use of WhatsApp as a learning aid for improving the English writing skills of undergraduate EFL learners. **Figure 3** is particularly noteworthy because it shows how common quantitative research methods are adopted. 13 out of 20 papers used this methodology ($n = 13$; 65%). Most of this research used questionnaires for data collection coupled with pre-and post-tests. Pure experimental and quasi-experimental designs predominated in this quantitative domain, although three investigations ($n = 03$; 15%) adopted a qualitative perspective. Finally, four research investigations ($n = 04$; 20%) chose to use a mixed-method study design.
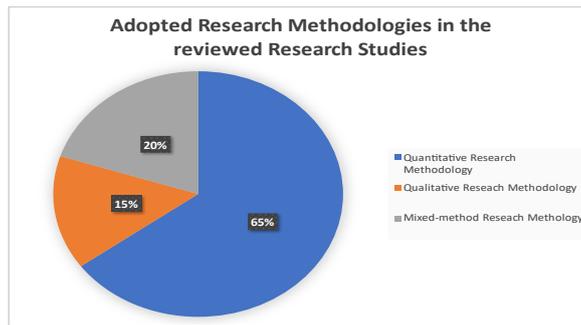
Figure 3. Research methodologies in the reviewed studies.

4.4. Country-wise context of research studies

Based on **Table 1**, **Figure 4** explains the country-by-country setting of the research projects. This picture illustrates the geographic dispersion of studies that employ WhatsApp as a teaching tool to help undergraduate EFL learners improve their English writing skills. The scientific landscape is enriched by contributions from multiple countries, demonstrating the studies' global reach. The multinational aspect of the project is highlighted in **Figure 4**, which depicts various educational contexts and practices from various geographical locations of the world. The country-wise graphic representation of the reviewed studies is given below in **Figure 4**.
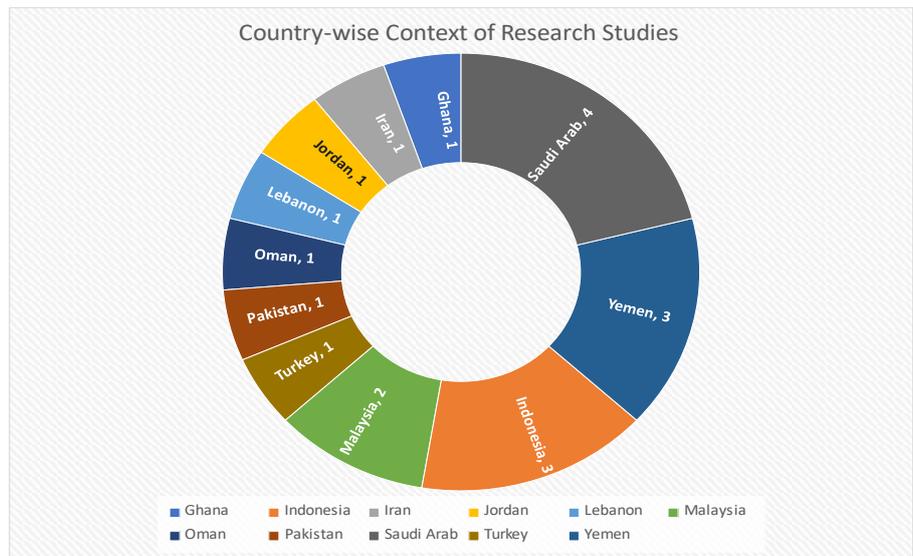

Figure 4. Country-wise context of the research studies.

Figure 4 illustrates that Ghana has been the focus of one (5%) research study investigating the use of WhatsApp as an instructional tool for enhancing English writing skills among undergraduate EFL learners. Three studies (15%) have examined the usefulness of WhatsApp in enhancing undergraduate EFL learners' English writing abilities, highlighting Indonesia as a major research hub. One (5%) study focused on Iran and helped expand on knowledge of how WhatsApp may be used to improve English writing abilities in an EFL setting. One study (5%) that looked at the effects of WhatsApp on undergraduate EFL learners' writing abilities focused on Jordan. One research study (5%) that looks at the role of WhatsApp in language instruction globally includes Lebanon. Two research papers (10%) that examine

Malaysia have helped to provide a more complex understanding of the usage of WhatsApp in the teaching and learning of English writing skills. One study (5%) that focused on Oman sheds light on the possible advantages of using WhatsApp to teach English as a foreign language. One study (5%) looks at Pakistan and shows how WhatsApp can be used to help undergraduate EFL learners improve their English writing abilities. With four studies (20%) examining the usefulness of WhatsApp in enhancing English writing abilities among undergraduate EFL learners, Saudi Arabia has made a substantial contribution to the field of research. One research project (5%) that focused on Turkey has added to the global conversation over the use of WhatsApp in language instruction. Three research papers (15%) have examined Yemen, offering insightful information about how undergraduate EFL learners might utilize WhatsApp as a learning tool to improve their English writing abilities.

This breakdown by country highlights the variety of research being done worldwide on WhatsApp's impact on learning languages, with each country adding its insights and conclusions to the body of knowledge.

5. Discussion

The objective of this systematic review of the literature was to provide the reader with the most recent information on WhatsApp's impact on improving undergraduate EFL learners' writing skills across the globe. A quantitative summary of the scientific studies on the use of social media (namely, WhatsApp) to improve undergraduate EFL learners' writing skills has been presented following a careful examination of the publications from many angles. The data analysis provides interesting new information on how well WhatsApp works as a teaching tool for writing instruction to undergraduate EFL students. The results show how well the tool works to improve the writing skills of learners and create a positive learning atmosphere.

First and foremost, the fact that learners who used WhatsApp as a learning tool showed a discernible improvement in writing skills points to the platform's collaborative and interactive features as a benefit to learning. The learners' writing skills seem to be greatly impacted by the idea sharing and helpful criticism within the WhatsApp virtual learning group. Furthermore, the information demonstrates higher levels of enthusiasm and engagement among students who used WhatsApp to improve their writing skills. The study showed that WhatsApp is a useful tool for providing extra help, encouraging students to study hard, and helping them get better grades in their writing courses. A more dynamic and engaged learning environment appears to be produced by the platform's instantaneous and casual communication style, which also promotes a feeling of community and common learning objectives. Students' increased motivation can be ascribed to the social component of education, as it fosters a sense of belonging and responsibility among peers.

Furthermore, the evidence suggests that WhatsApp has a good impact on students' collaborative knowledge-building. The sharing of resources, brainstorming sessions, and group problem-solving that are evident in the data are indicative of a collaborative learning environment that is enabled by the WhatsApp platform.

Our research further demonstrated that there is a wide range of collecting data strategies used in the evaluated papers on WhatsApp as a medium for EFL learners to

learn and improve their writing skills. The most common methods for collecting data have been described as surveys, interviews, tests with reflections, observations and posts, interviews, questionnaires, and documentation, as well as pre-and post-tests. The need to thoroughly examine WhatsApp's potential as a teaching tool may be the reason for the multiplicity of data collection strategies. Furthermore, this review of research evaluating WhatsApp's effect on undergraduate EFL students' writing skills using pre- and post-tests confirmed the benefits of integrating WhatsApp and demonstrated the superiority of technology-enhanced instruction over conventional methods.

Based on the compilation of research studies presented, the systematic review of the role of WhatsApp in enhancing the writing skills of undergraduate EFL learners reveals several noteworthy findings with significant implications for educators, learners, and policymakers. A few of them are discussed below.

Identification of Common Sentence Errors: One of the key findings is the systematic identification of common sentence errors prevalent among students using writing as a means of communication for WhatsApp chatting. Understanding these errors provides valuable insights into the challenges learners face in a digital language learning environment.

WhatsApp's Role in Error Rectification: The review sheds light on how WhatsApp works as a useful tool to correct these highlighted problems. The interactive features and instantaneous communication of the platform seem to play a significant role in the process of correction, enabling prompt feedback and enhancement through improvement.

Beneficial Impact on Writing Skills: Taken as a whole, the studies show that WhatsApp has a beneficial impact on EFL learners' writing skills, greatly enhancing their writing ability.

Preference and Motivation Enhancement: WhatsApp is the communication method of choice for students, who overwhelmingly prefer it. Using WhatsApp also increases writing motivation, which in turn promotes excitement for language study.

Improved Vocabulary and Voice Expression: When WhatsApp is used, especially for electronic journaling, EFL undergraduates' writing skills, vocabulary selection, and voice expression all significantly increase.

Favorable Outcomes and Teacher Involvement: The favorable effects of instructional assistance are highlighted when teachers participate in WhatsApp-mediated activities, which enhance their attitudes, writing abilities, motivation, and general academic performance.

Collaborative and Interactive Learning Environment: WhatsApp is known for encouraging a collaborative and interactive learning environment. Its features let learners work together to improve writing accuracy.

Good Supplemental Help: WhatsApp is a useful tool for providing additional help to language learners. It improves motivation, content knowledge, and grades, among other aspects of the language learning process.

Cooperative Learning approach: By highlighting the platform's collaborative capabilities for better writing outcomes, the WhatsApp Cooperative Learning approach was found to be very beneficial for teaching writing to undergraduate EFL learners.

Challenges & Connectivity: The difficulties in obtaining internet access are recognized, highlighting the necessity of resolving accessibility concerns to maximize usage of WhatsApp in educational settings.

Contributions to Scholarly Discourse: The systematic approach of the current review strengthens the validity and dependability of its conclusions. Because it highlights the unique role WhatsApp can play in enhancing writing skills, the review thus makes a significant contribution to the scholarly discourse on technology-enhanced language acquisition.

Additional Research Opportunities: Despite these encouraging results, the review may potentially identify some areas that are needed for more research. Research endeavors in the future may be motivated by knowledge gaps or subtle differences in the impact of WhatsApp on various areas of language acquisition.

To sum up, the principal findings of this systematic review taken as a whole offer a thorough comprehension of the contribution of WhatsApp in improving the English writing skills of undergraduate EFL learners. These results greatly advance current conversations around the use of technology in language instruction and provide instructors with useful advice.

6. Conclusions

This study is important because it focuses on an essential English language skill that can be improved through social media, specifically WhatsApp, one of the key features of modern technology. According to Rautela and Singhal (2020), social media (WhatsApp) has captured and mesmerized the entire communication world. This systematic review is an attempt to add to the growing body of scholarly literature on designing WhatsApp learning environments. The current study offers guidelines to both novice and expert scholars on how to maximize WhatsApp's potential for improving writing skills and how to engage young people in the digital world to enhance their learning process and corresponding learning experiences. The study concludes by highlighting the significant impact that WhatsApp learning has had on improving writing skills among undergraduate English a Foreign Language learners worldwide. The observable enhancements in writing ability, heightened drive, and cooperative knowledge creation underscore WhatsApp's revolutionary capacity as an educational tool. These results highlight the benefits of using WhatsApp for writing instruction as technology integration in education develops, offering an invaluable and approachable resource for EFL students in a variety of cultural and linguistic situations. The study highlights the efficacy of WhatsApp learning while also shedding light on its wider implications for transforming writing instruction for EFL students worldwide.

7. Implementations

The implementations of this systematic review findings are manifold and hold significant implications for educators, policymakers, and practitioners of English language learning. Educators can leverage the positive impact of WhatsApp on writing skills by incorporating the platform strategically into their teaching methodologies. In determining the direction of future study, it is critical to investigate the rapidly changing field of technology-assisted language learning, namely WhatsApp's

contribution to undergraduate EFL learners' improved English writing skills. The following suggestions are focused on this systematic review for future research.

- Subsequent studies may examine WhatsApp's long-term efficacy in a variety of linguistic and cultural situations, considering instructional strategies, student involvement, and long-term learning objectives.
- Scholars could investigate how new features—like multimedia components or interactive features—are incorporated into the WhatsApp platform.
- It is suggested that educators carefully consider using WhatsApp as an additional resource in language classes, promote group projects, and create a vibrant online learning environment. Using WhatsApp to its fullest potential for the best possible language learning results will require constant adjustment and assessment of teaching methods.
- To provide a thorough knowledge of the complex effects on teachers and students, future research may also investigate the perspectives and experiences of educators when utilizing WhatsApp-based approaches.
- It is further recommended that future research be done to analyze the role of other tools of social media such as Instagram, YouTube, Facebook, and others to enhance the other skills of the English language.

Conflict of interest: The authors declare no conflict of interest.

References

Adas, D., & Bakir, A. (2013). Writing difficulties and new solutions: Blended learning as an approach to improving writing abilities. International journal of humanities and social science, 3(9), 254–266.

Afrilyasanti, R., Cahyono, B. Y., & Astuti, U. P. (2016). Effect of flipped classroom model on Indonesian EFL students' Writing skill across and individual differences in learning. International Journal of English Language and Linguistics Research, 4(5), 65–81.

Ahmed, S. S. (2019). WhatsApp and Learn English: a Study of the Effectiveness of WhatsApp in Developing Reading and Writing Skills in English. ELS Journal on Interdisciplinary Studies in Humanities, 2(2), 148–156. https://doi.org/10.34050/els-jish.v2i2.6419

Ahmed, S. T. S. (2019). Chat and Learn: Effectiveness of Using WhatsApp as a Pedagogical Tool to Enhance EFL Learners Reading and Writing Skills. International Journal of English Language and Literature Studies, 8(2), 61–68. https://doi.org/10.18488/journal.23.2019.82.61.68

Al-Jarrah, T. M., Al-Jarrah, J. M., Talafhah, R. H., et al. (2019). The Role of Social Media in Development of English Language Writing Skill at School Level. International Journal of Academic Research in Progressive Education and Development, 8(1). https://doi.org/10.6007/ijarped/v8-i1/5537

Allagui, B. (2014). Writing through WhatsApp: an evaluation of students writing performance. International Journal of Mobile Learning and Organisation, 8(3/4), 216. https://doi.org/10.1504/ijmlo.2014.067022

Alouch, M., Ganapathy, M., & Lin, D. T. A. (2021). Using WhatsApp to promote ESL students' writing. AJELP: Asian Journal of English Language and Pedagogy, 9(2), 54-65.

Alsaleem, B. I. A. (2013). The effect of "WhatsApp" electronic dialogue journaling on improving writing vocabulary word choice and voice of EFL undergraduate Saudi students. Arab World English Journal, 4(3), 213-225.

Anissa, R. N., Utami, S., Setiyani, R., et al. (2017). What's Up with WhatsApp? The Contribution of Blended Learning Through WA Group Discussion for Better English Writing in Indonesia. Advanced Science Letters, 23(8), 7539–7544. https://doi.org/10.1166/asl.2017.9517

Ariantini, K. P., Suwastini, N. K. A., Adnyani, N. L. P. S., et al. (2021). Integrating Social Media into English Language Learning: How and to What Benefits According to Recent Studies. NOBEL: Journal of Literature and Language Teaching, 12(1), 91–111. https://doi.org/10.15642/nobel.2021.12.1.91-111

Awada, G. (2016). Effect of WhatsApp on critique writing proficiency and perceptions toward learning. Cogent Education, 3(1), 1264173. https://doi.org/10.1080/2331186x.2016.1264173

Azlan, N. A. B., & Yunus, M. M. (2020). Undergraduates Student Perceptions' of Social Networking Sites to Improve English Writing Skills in Malaysia. International Journal of Learning, Teaching and Educational Research, 19(3), 329–351. https://doi.org/10.26803/ijlter.19.3.18

Chugh, R., & Ruhi, U. (2017). Social media in higher education: A literature review of Facebook. Education and Information Technologies, 23(2), 605–616. https://doi.org/10.1007/s10639-017-9621-2

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., et al. (2019). The Internet and Facebook Usage on Academic Distraction of College Students. Computers & Education, 134, 41–49. https://doi.org/10.1016/j.compedu.2019.02.005

Francis, J. (2017). The effects of technology on student motivation and engagement in classroom-based learning. All Theses and Dissertations, 121.

Getie, A. S. (2020). Factors affecting the attitudes of students towards learning English as a foreign language. Cogent Education, 7(1). https://doi.org/10.1080/2331186x.2020.1738184

Greenhow, C., & Lewin, C. (2015). Social media and education: reconceptualizing the boundaries of formal and informal learning. Learning, Media and Technology, 41(1), 6–30. https://doi.org/10.1080/17439884.2015.1064954

Hamad, M. M. (2017). Using WhatsApp to Enhance Students' Learning of English Language "Experience to Share." Higher Education Studies, 7(4), 74. https://doi.org/10.5539/hes.v7n4p74

Handayani, E. T., & Aminatun, D. (2020). Students' point of view on the use of WhatsApp group to elevate writing ability. Journal of English Language Teaching and Learning, 1(2), 31–37. https://doi.org/10.33365/jeltl.v1i2.602

Hani, N. A. B. (2014). The impact of WhatsApp group's utilization on EF students 'vocabulary writing amelioration. International Journal of University Teaching and Faculty Development, 5(2), 73.

Haron, H., & Kasuma, S. A. A. (2022). The Role of Teachers in Assisting Low-Proficiency Students' Writing Performance via WhatsApp. International Journal of Virtual and Personal Learning Environments, 12(1), 1–18. https://doi.org/10.4018/ijvple.302098

Hassan, A. Q. A., & Salahuddin Ahmed, S. (2018). The Impact of WhatsApp on Learners' Achievement: A Case Study of English Language Majors at King Khalid University. International Journal of English Language Education, 6(2), 69. https://doi.org/10.5296/ijele.v6i2.13743

Ilyosovna, N. A. (2020). The importance of the English language. International Journal of Orange Technologies, 2(1), 22-24.

Javed, R. T., Usama, M., Iqbal, W., et al. (2021). A deep dive into COVID-19-related messages on WhatsApp in Pakistan. Social Network Analysis and Mining, 12(1). https://doi.org/10.1007/s13278-021-00833-0

Joseph, V., & Khan, N. (2020). Digital Literacy Tools to Enhance English Reading and Writing Skills: Detailed Literature. Global Language Review, 3, 21-33. https://doi.org/10.31703/glr.2020(V-III).03

Khan, S., Taj, S., & Maroof, R. Y. (2021). Effectiveness of CLT in developing technical English writing skills at undergraduate level in the context of Pakistan. FWU Journal of Social Sciences, 15(1), 81-89.

Kitchakarn, O. (2014). Developing Writing Abilities Of Efl Students Through Blogging. Turkish Online Journal of Distance Education, 15(4). https://doi.org/10.17718/tojde.64132

Lakhal, M. (2021). Social Media use and its Effects on writing Ability among Moroccan University EFL Students. International Journal of English Literature and Social Sciences, 6(3), 132–143. https://doi.org/10.22161/ijels.63.21

Mehr, H. S. (2017). The Impact of Product and Process Approach on Iranian EFL Learners' Writing Ability and Their Attitudes toward Writing Skill. International Journal of English Linguistics, 7(2), 158. https://doi.org/10.5539/ijel.v7n2p158

Moher, D. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. Annals of Internal Medicine, 151(4), 264. https://doi.org/10.7326/0003-4819-151-4-200908180-00135

Mohammed Alabsi, K., & M A Alghamdi, F. (2019). Students' Opinions on the Functions and Usefulness of Communication on WhatsApp in the EFL Higher Education Context. Arab World English Journal, 1(1), 129–143. https://doi.org/10.24093/awej/elt1.10

Muhammad, R. (2022). Using Facebook and WhatsApp to Teach and Learn English: A Comparative Systematic Review. e-Jurnal Bahasa dan Linguistic (e-JBL), 4(1), 16-41.

Muhammad, R., & Nagaletchimee, A. (2023). Effects of WhatsApp Based Lessons on Undergraduates' Writing Accuracy. E-Jurnal Bahasa Dan Linguistik (e-JBL), 5(1), 35–50. https://doi.org/10.53840/ejbl.v5i1.139

Mulyasari, F., & Putri, S. N. (2020). The Impact of WhatsApp Group on Undergraduate Students' Writing in the Indonesian Tertiary Context. Proceedings Universitas Pamulang, 1(1).

Mustafa, G., Khan, R. M. I., & Abbasi, A. A. (2022). Impact of social media on EFL Writing Learning. Pakistan Language and Humanities Review, 6(1), 1–11. https://doi.org/10.47205/plhr.2022(6-I)01

Noyan, E., & Kocoglu, Z. (2019). Developing EFL Writing Skills through WhatsApp Dialogue Journaling. Advances in Language and Literary Studies, 10(2), 38. https://doi.org/10.7575/aiac.alls.v.10n.2p.38

Nurwala, A. (2020). Using WhatsApp to Promote Students' Writing Achievement for the First Grade Students of Sman 3 Bandar Lampung. University of Lampung, Bandar Lampung.

Okocha, D. O., Sani, N., & Paul, C. N. (2017). Social Media revolution and its influence on contemporary writing skills: An empirical study of WhatsApp usage among undergraduate students at the University of Ghana. International Journal of Advanced Research in Science and Engineering, 6(10), 1060-1073.

Prestridge, S. (2019). Categorising teachers' use of social media for their professional learning: A self-generating professional learning paradigm. Computers & Education, 129, 143–158. https://doi.org/10.1016/j.compedu.2018.11.003

Raja, R., & Nagasubramani, P. C. (2018). Impact of modern technology in education. Journal of Applied and Advanced Research, S33–S35. https://doi.org/10.21839/jaar.2018.v3is1.165

Rao, P. S. (2019). The impact of social media on learning English: A critical study in English language teaching (ELT) context. Research Journal of English, 4(2), 266-274.

Rautela, S., & Singhal, T. K. (2020). Deconstructing the Seven Cs of Social Media: A Summative Perspective. International Journal of Interactive Mobile Technologies (IJIM), 14(03), 179. https://doi.org/10.3991/ijim.v14i03.10490

Saputra, U. R., Maulina, M., Nasrullah, R., et al. (2021). Students' Sentence Errors on WhatsApp Daily Status: A Literature Review. Celebes Journal of Language Studies, 23–31. https://doi.org/10.51629/cjls.v1i1.31

Shahid, S. (2018). Content Analysis of Whatsapp Conversations: An Analytical Study to Evaluate the Effectiveness of Whatsapp Application in Karachi. International Journal of Media, Journalism and Mass Communications, 4(1). https://doi.org/10.20431/2454-9479.0401002

Si, P. (2019). A Study of the Differences between EFL and ESL for English Classroom Teaching in China. IRA International Journal of Education and Multidisciplinary Studies, 15(1), 32. https://doi.org/10.21013/jems.v15.n1.p4

Slim, H., & Hafedh, M. (2019). Social media Impact on Language Learning for Specific Purposes: A study in English for Business Administration. Teaching English with technology, 19(1), 56-71.

Turan, Z., & Akdag-Cimen, B. (2019). Flipped classroom in English language teaching: a systematic review. Computer Assisted Language Learning, 33(5–6), 590–606. https://doi.org/10.1080/09588221.2019.1584117

Wil, C. S. C., Yunus, M. Md., & Suliman, A. (2019). The Use of Social Media to Assist Writing Skills among Secondary Pupils. International Journal of Academic Research in Progressive Education and Development, 8(3). https://doi.org/10.6007/ijarped/v8-i3/6388

Wijaya, A. (2018). Student Responses Towards the Use of WhatsApp in Learning. Journal of Teaching & Learning English in Multicultural Contexts, 2(1), 46-55.

Yuliantini, N. N., Paramita, I. G. A. D., Setyono, E. Y., et al. (2021). The use of WhatsApp cooperative learning to improve writing ability. Journal of Applied Studies in Language, 5(2), 245–251. https://doi.org/10.31940/jasl.v5i2.245-251