



ISSN: 2957-3874 (Print)

Journal of Al-Farabi for Humanity Sciences (JFHS)

<https://iasj.rdd.edu.iq/journals/journal/view/95>

مجلة الفارابي للعلوم الإنسانية تصدرها جامعة الفارابي



Exploring WhatsApp-Based Mobile Learning for Vocabulary Development in EFL Contexts.

Amal Khodair Mushrif

Ministry of Education Baghdad Al-Karkh First Education

Directorate Educational Supervision

Alkhalidiamal788@gmail.com

استكشاف التعلم المتنقل القائم على تطبيق واتساب لتنمية المفردات اللغوية في

سياقات تعليم اللغة الإنجليزية بوصفها لغة أجنبية

أمال خضير مشرف.

المديرية العامة لتربية بغداد الكرخ الأولى / الإشراف التربوي

الملخص

تهدف هذه الدراسة إلى استكشاف دور التعلم النقال القائم على تطبيق الواتساب في دعم تنمية المفردات لدى متعلمي اللغة الإنجليزية بوصفها لغة أجنبية. ومع تزايد توظيف التقنيات النقالية في تعليم اللغات، أصبح الواتساب منصة عملية وسهلة الوصول يمكن أن تسهم في توسيع تعلم المفردات خارج حدود الصف الدراسي التقليدي. وتتناول الدراسة الكيفية التي يمكن من خلالها لخصائص الواتساب، مثل الرسائل الفورية، ومشاركة الوسائط المتعددة، والملاحظات الصوتية، والتفاعل الجماعي، والتعرض المتكرر للكلمات، أن تسهم في اكتساب المفردات والاحتفاظ بها وتعزيز تفاعل المتعلمين. كما تسلط الدراسة الضوء على القيمة التربوية للتعلم بمساعدة الهاتف المحمول في خلق بيئات تعليمية مرنة وتفاعلية ومتمحورة حول المتعلم. ففي سياقات تعلم اللغة الإنجليزية بوصفها لغة أجنبية، حيث تكون فرص استخدام اللغة خارج التعليم الرسمي محدودة غالبًا، يمكن أن يوفر الواتساب فرصًا ذات معنى للممارسة، والتعاون، والتعلم الذاتي. ومع ذلك، تناقش الدراسة بعض التحديات المحتملة، ومنها التشتت، وعدم تكافؤ الوصول الرقمي، وغياب التصميم التعليمي المنظم، ومحدودية المتابعة من قبل المعلم. وتخلص الدراسة إلى أن التعلم النقال القائم على الواتساب يمكن أن يكون أداة مساندة فعالة في تنمية المفردات، شريطة أن يكون موجّهًا بأهداف تعليمية واضحة، وأنشطة تعليمية مناسبة، وتيسير نشط من قبل المعلم. كما تقدم نتائج الدراسة دلالات مهمة لمعلمي اللغة الإنجليزية بوصفها لغة أجنبية، ومصممي المناهج، والباحثين المهتمين بدمج التقنيات النقالية في تعليم المفردات. الكلمات المفتاحية: التعلم عبر الواتساب؛ التعلم النقال؛ تنمية المفردات؛ متعلمو اللغة الإنجليزية لغة أجنبية؛ اكتساب المفردات؛ تعلم اللغة بمساعدة الهاتف المحمول؛ تطبيقات تعلم اللغة.

Abstract:

This study explores the role of WhatsApp-based mobile learning in supporting vocabulary development among learners of English as a Foreign Language (EFL). With the increasing use of mobile technologies in language education, WhatsApp has emerged as a practical and accessible platform that can extend vocabulary learning beyond the traditional classroom. The study examines how WhatsApp features, such as instant messaging, multimedia sharing, voice notes, group interaction, and repeated exposure to words, can contribute to vocabulary acquisition, retention, and learner engagement. It also highlights the pedagogical value of mobile-assisted language learning in creating flexible, interactive, and learner-centered environments. In EFL contexts, where learners often have limited opportunities to use English outside formal instruction, WhatsApp may provide meaningful opportunities for practice, collaboration, and autonomous learning. However, the study also considers potential challenges, including distraction, unequal digital

access, lack of structured instructional design, and limited teacher monitoring. The study concludes that WhatsApp-based mobile learning can be an effective supplementary tool for vocabulary development when it is guided by clear learning objectives, appropriate instructional activities, and active teacher facilitation. The findings offer implications for EFL teachers, curriculum designers, and researchers interested in integrating mobile technologies into vocabulary instruction

Keywords: WhatsApp-Based Learning; Mobile Learning; Vocabulary Development; EFL Learners; Vocabulary Acquisition; English as a Foreign Language; Mobile-Assisted Language Learning

Introduction

For many EFL learners, limited vocabulary quickly becomes a practical barrier. It affects both comprehension and expression: learners may miss part of what they hear or read, and they may also struggle to say what they mean clearly. Even so, vocabulary teaching in many EFL settings still depends heavily on explanation, bilingual lists, and memorization [1][2][3][4]. These practices may help with short-term recall, but they often do little to support vocabulary use in study or in everyday communication.

This matters more now because English is no longer encountered only in class. With smartphones and internet access, students now meet English across ordinary daily routines as well as in lessons [5][6]. They read, listen, practise, and communicate across settings. For that reason, mobile-assisted language learning (MALL) has become more relevant, especially in contexts where learning overlaps with everyday digital communication

That overlap helps explain why WhatsApp deserves attention here. Mobile-based vocabulary work can do more than transfer textbook tasks to a screen. It can increase contact with target words, make repetition easier across time, and in some cases support motivation and self-regulation better than textbook-only instruction [7][8]. WhatsApp matters in particular because students already use it. It is inexpensive, easy to access, and allows quick exchange of text, audio, images, links, and documents [9]. This gives teachers a way to place vocabulary work in a space that is already familiar to learners instead of adding yet another platform that feels separate from their normal routines.

Research on WhatsApp-based vocabulary learning has appeared in EFL settings such as the Gulf countries, Iran, the Kurdistan region, and Pakistan [10][11][12][13][14]. The activities are usually straightforward: target words are shared with examples, short quizzes are used, and learners may work in small groups. Findings are often positive, especially in vocabulary scores and learner participation. Even so, the evidence is uneven. Some studies rely mainly on learner perceptions or immediate post-test results. Others use WhatsApp mostly to distribute materials, without showing clearly what the platform itself may be contributing to the learning process.

This points to a more specific gap. Research on WhatsApp-based vocabulary learning is increasing, but the role of the platform is still not explained clearly enough. Studies often mention features such as real-time interaction, multimodal input, or continued group participation, yet they do not always show how these features may shape vocabulary learning itself. A similar problem appears at the theoretical level. Broad ideas such as social constructivism or learner autonomy are often mentioned, but they are not always connected closely to the actual interactional and technical features of mobile messaging. Broader reviews have discussed MALL [6][8], but work focused specifically on WhatsApp remains limited. As a result, it is still hard to say what WhatsApp adds beyond functioning as a channel for sending materials.

This study takes up that problem by reviewing research on WhatsApp as a tool for vocabulary learning in EFL contexts. It does not present new experimental data. Instead, it looks at how WhatsApp has been used in previous studies and how far those uses fit with existing ideas in vocabulary learning and mobile learning. The review covers published studies from 2015 to 2024 and considers theory, instructional design, and assessment practices in order to move beyond a simple summary of outcomes. It also identifies the main strengths and limits associated with the use of WhatsApp for vocabulary development. More specifically, the study has three aims:

1. To examine the theoretical ideas used to justify WhatsApp as a tool for vocabulary learning in MALL contexts.
2. To synthesize findings from previous studies on WhatsApp-based vocabulary instruction and identify common and contrasting patterns in design and outcomes.
3. To propose a conceptual framework linking WhatsApp's main features to key processes in vocabulary learning and to central principles of mobile-assisted learning.

To address these aims, the review asks three main questions:

1. What can WhatsApp contribute to vocabulary learning within the wider field of Mobile-Assisted Language Learning?
2. How has WhatsApp-based vocabulary instruction been designed and used in previous studies, and what kinds of vocabulary outcomes and learner responses have been reported?
3. What kind of conceptual framework helps explain the role of WhatsApp in supporting vocabulary learning among EFL learners?

2. Theoretical Background and Literature Review

2.1 Vocabulary Acquisition Processes and Their Relevance to WhatsApp-Based Learning

Vocabulary learning is not simply a matter of meeting new words. What matters is whether learners move beyond initial recognition toward fuller knowledge that supports both comprehension and production [1][2]. So the question is not only

whether WhatsApp introduces new words, but whether it helps learners build vocabulary they can use more fully over time. This becomes clearer when attention turns to the processes involved. Research on input and noticing has stressed the importance of repeated encounters with words in meaningful contexts, especially when form-meaning relationships become more noticeable. Other work has highlighted retrieval and generative use, showing that recalling words and using them in new contexts can strengthen retention and support later transfer [2][15]. The involvement load hypothesis makes a related point. Vocabulary tasks do not demand the same level of need, search, and evaluation, and tasks with greater involvement are generally expected to produce stronger lexical gains [16]. These ideas help separate simple exposure from the kinds of activity more likely to produce deeper vocabulary learning. Vocabulary research also distinguishes between receptive and productive knowledge. Receptive knowledge refers to recognizing and understanding words in listening or reading, whereas productive knowledge involves using those words appropriately in speaking or writing [4]. The two often develop unevenly. Learners may recognize a word long before they can use it accurately and confidently. For that reason, any tool used for vocabulary learning needs to be examined in terms of whether it supports both recognition and use. A better evaluation also asks whether it gives learners repeated chances for noticing, retrieval, elaboration, and feedback. WhatsApp matters here for more than simple delivery through a phone. Its features may create repeated contact with words, opportunities for response, and short cycles of exchange that go beyond one-way presentation. This is why it makes sense to evaluate WhatsApp not only in terms of whether learners improved, but also in terms of what kind of vocabulary knowledge was supported and through which learning processes.

2.2 MALL Affordances, Limits, and Their Relevance to Vocabulary Learning

Mobile-Assisted Language Learning (MALL) developed as mobile access became part of learners' everyday lives. In practical terms, it means that language learning is no longer limited to fixed times and places. Through smartphones and tablets, learners can access input, practise language, and interact with others across contexts that extend beyond the classroom [5]. Evidence from Burston's meta-analysis [6] and later reviews of mobile language-learning tools [8] suggests that well-designed mobile learning can improve language outcomes, including vocabulary learning. It may also help learners stay engaged with language work beyond formal lessons.

For vocabulary learning in particular, mobile tools can support both meaning-focused and form-focused work. Reviews of mobile vocabulary learning have pointed to several design features that may strengthen retention and sustain engagement, including spaced repetition, push notifications, gamification, and multimedia glosses [7][17]. These features matter because they can increase repeated contact with target words, vary the forms in which words are encountered, and create more opportunities for review over time. Together, these features help explain why MALL is often seen as useful for vocabulary learning.

Still, the benefits of MALL should not be taken for granted. MALL research has also identified important limitations. Not all mobile-based activities move beyond surface-level interaction. Some simply reproduce traditional list learning in digital form and do little to use context, interaction, or feedback well. In such cases, technology may increase the frequency of exposure without improving the quality of learners' engagement with vocabulary. Mobile learning can also bring distractions, cognitive overload, and blurred boundaries between study time and personal time. Research on learner attitudes and self-regulation suggests that mobile tools are more likely to strengthen agency when tasks are clearly integrated into instruction and when learners receive guidance on how to use them strategically [18].

WhatsApp needs to be understood within this wider MALL picture, but not reduced to it. Unlike many stand-alone mobile learning tools, WhatsApp is built around communication and ongoing social exchange. That makes it relevant to vocabulary learning in a different way. Its usefulness does not lie only in mobility, but also in the combination of repeated contact, peer interaction, multimodal exchange, and everyday accessibility. At the same time, these features do not guarantee effective learning on their own. The key question is whether broad MALL affordances such as ubiquity, connectivity, and personalization actually take usable form in a messaging platform that students often use for non-academic purposes, and whether those affordances connect to the vocabulary-learning processes outlined in the previous section.

2.3 WhatsApp as a Communication and Learning Environment

WhatsApp differs from many dedicated learning applications because it was not originally designed as a teaching tool. It is primarily a messaging platform built for fast, low-cost communication. In one space, users can exchange written messages, voice notes, images, links, and documents, while also interacting through group chats, message history, notifications, and simple multimedia sharing. In contexts where access to desktop computers or institutional learning management systems is limited, WhatsApp often becomes an accessible way to organize classes, share materials, and maintain contact between students and teachers [20][9].

From a learning perspective, these features can function as affordances for vocabulary development. Instant messaging allows short and repeated encounters with target words through teacher prompts, peer interaction, and ongoing message exchange. Group discussion can expose learners to different uses of the same word, while multimodal sharing can connect written forms with pronunciation, images, and contextual examples. Searchable chat history also makes it easier to return to earlier vocabulary items, which may support review, retrieval, and reuse over time.

At the same time, these affordances do not operate under ideal conditions. Message streams can be dense and fast-moving, and vocabulary-related posts may easily disappear among administrative messages or unrelated conversation. Notifications may interrupt other forms of study, and the informal tone of many WhatsApp interactions can blur the line between focused learning and casual exchange. There are also practical concerns about teacher workload, especially when maintaining an active presence across multiple groups. So any account of WhatsApp-mediated vocabulary learning needs to consider not only what the platform enables, but also what may weaken those possibilities in actual use.

Existing studies already reflect some of these features in practice. WhatsApp groups have been used to share target words and example sentences, deliver short quizzes, and encourage learners to produce sentences or short texts using newly learned vocabulary [10]-[14]. Yet the link between these practices and the processes of vocabulary learning is still not always explained clearly. Much of the literature shows how WhatsApp is used in practice, but says less about how its specific communicative features may shape lexical development.

2.4 Conceptual Lenses for Analyzing WhatsApp-Mediated Vocabulary Learning

Treating WhatsApp as more than a delivery channel requires more than listing its features. The harder question is how vocabulary learning may actually happen in that environment. One part of the answer lies in what learners are asked to do with words. Some tasks demand very little beyond recognition. A teacher may post a list of words, and learners may read it and move on. Other tasks ask for more. Learners may have to retrieve a word, respond to a peer, or use target vocabulary in a short exchange. This is where a cognitive processing perspective becomes useful, because it draws attention to depth of processing, search, retrieval, and generative use. The issue is not simply whether learners see new words on WhatsApp, but whether the task pushes them to work with those words in a more demanding way. Vocabulary learning in WhatsApp groups is also shaped by interaction itself. Words do not appear in isolation. They appear in questions, replies, corrections, repetitions, and small misunderstandings that may or may not get resolved. Learners may try a word, adjust it after feedback, or meet it again in a slightly different form later in the same discussion. That kind of exchange can help learners notice how vocabulary works in use. It can also do very little if participation is thin, vague, or uneven. So the value of interaction here depends less on its mere presence than on its quality. Self-regulation matters for a different reason. WhatsApp-based learning is partly self-managed. Learners choose whether to return to earlier posts, whether to reply, and whether to engage with optional vocabulary tasks at all. This flexibility can support planning, monitoring, and follow-up, but it does not do so automatically. Much depends on how the group is run, what teachers expect, and how tasks are framed [18][19]. In some cases, flexibility leads to active engagement. In others, it ends in passive reading, delay, or selective participation. Motivation matters too, but not in a vague or decorative sense. In this setting, it is tied to whether learners keep responding, return to review, risk trying new words, and remain involved in group exchange. Interaction with peers and teachers may strengthen a sense of connection, and successful use of vocabulary may build confidence. But the opposite is also possible. Weak task design, slow response, or low-quality interaction can reduce willingness to participate. It makes more sense, then, to think of motivation here as part of ongoing participation rather than as a general attitude toward the platform [21]. Taken together, these lenses suggest a simple point: exposure by itself is not enough. What matters is how WhatsApp's communicative features connect with vocabulary-learning processes, patterns of interaction, and learners' regulation of their own participation over time. The next section turns to the empirical studies with that question in mind.

3. Review of Empirical Studies on WhatsApp-Mediated Vocabulary Learning

This section reviews empirical studies on WhatsApp-based vocabulary instruction in EFL contexts. It does not move through the studies one by one. Instead, it groups them around four analytical concerns: cognitive processing, sociocultural interaction, learner autonomy and self-regulation, and motivation. The point is not just to report what the studies found, but to look at how their designs and outcomes make sense through these lenses. The discussion draws mainly on a recurring set of studies, including [10]-[14], to keep the review focused.

3.1 General Patterns in the Reviewed Studies

Several recurring patterns can be seen across the studies reviewed here. Most use a quasi-experimental or experimental design, typically comparing a group that completes WhatsApp-based vocabulary activities with a control group taught through textbook-based instruction. Sample sizes are usually modest, often between 30 and 80 learners, and participants are most often secondary-school or university-level EFL students in contexts such as the Gulf region, Iran, the Kurdistan region, Pakistan, and Nigeria [10]-[14]. The interventions are usually short to medium in length, often lasting between four and ten weeks, and they tend to focus on course-related vocabulary. In most cases, WhatsApp is used to share target words, example sentences, short quizzes, and sometimes prompts that ask learners to produce sentences or brief dialogues. Outcomes are commonly measured through pretest-posttest vocabulary tests, often alongside attitude questionnaires or interviews.

Overall, these studies often report gains in vocabulary scores and generally positive learner perceptions. At the same time, they do not all work in the same way, and their findings are not always interpreted in the same way either. The following subsections read these studies through the four conceptual lenses introduced earlier. The focus is on the kinds of cognitive

engagement, interaction, self-regulation, and motivation they seem to support, as well as the points that are still not explained clearly or measured well enough.

3.2 Cognitive Processing and Task Design

The main cognitive issue is what WhatsApp-based tasks ask learners to do with words. Many studies report that teachers used WhatsApp to post lists of target words with L1 translations or brief definitions, sometimes supported by example sentences [10][13]. If learners mostly read the items and only respond now and then, the processing is likely to stay fairly shallow. In that kind of task, WhatsApp is used mostly to send decontextualized input, not to create much deeper engagement with vocabulary. The technology may increase exposure, but it does not necessarily improve the quality of learners' processing of vocabulary items.

Some studies move further along the involvement continuum. Study [11], for example, asked learners to use newly introduced words in short written exchanges within the WhatsApp group. Study [14] used weekly tasks that required learners to incorporate target words into their own writing. Learners produced sentences, short paragraphs, or subject-specific examples, sometimes in response to teacher prompts. These tasks go beyond simple recognition of form-meaning links. They require learners to retrieve words and fit them into meaningful contexts. In terms of the involvement load hypothesis, such activities may increase the search and evaluation demands of the task [16].

A further problem is that many studies describe task design only in broad terms. They report that learners wrote sentences using new words, but often leave out details that matter for cognitive analysis. Researchers do not always specify how often each word was used, how much repetition occurred, or what kind of feedback learners received. From a cognitive perspective, these details are important. Producing a single sentence for each word may not be enough to support strong retrieval or generative use. Across these studies, WhatsApp is used for tasks with very different levels of involvement, but many studies do not distinguish clearly between low-involvement word-push activities and higher-involvement tasks that align more closely with established principles of vocabulary learning.

3.3 Sociocultural and Interactionist Perspectives

In WhatsApp-based vocabulary learning, words are not only delivered to learners; they are also used in interaction. This matters because learners may discuss meanings, respond to each other, and receive support from peers and teachers while using the target vocabulary. Several studies use group chats to encourage both peer-to-peer and teacher-student exchange. Study [11], for example, asked learners to respond to their classmates' sentences by providing edits or alternative examples. Study [14] also reports frequent peer comments, including requests for clarification and suggestions for more appropriate language.

From this angle, interaction can support vocabulary learning in practical ways. Learners may see a word repeated, corrected, or used differently across the same discussion. That can help them notice collocations, narrow meaning, and understand better when a word fits the context and when it does not. WhatsApp also allows teachers to give short feedback at the point of use. These corrections or reformulations stay in the chat and can be revisited later.

Still, this does not happen evenly across all studies. Participation is often uneven, and a small number of active learners may end up driving most of the discussion, while others stay silent or respond only when the teacher asks them directly [10]. Another problem is that interaction is not always analyzed closely. Many studies mention peer exchange and teacher feedback, but say much less about how those exchanges develop, how learners respond to feedback, or whether vocabulary use changes as the discussion continues.

3.4 Autonomy and Self-Regulation

WhatsApp can make vocabulary work more flexible, but flexibility by itself is not the same as autonomy. What matters more is how learners use that flexibility in practice. Many studies describe WhatsApp as useful for self-directed learning because learners can open materials at any time, return to earlier posts, and review vocabulary outside class hours [10][14]. In some cases, they can also complete optional quizzes or ask about difficult words when they need help.

The evidence, however, is still limited when it comes to what learners actually do with this freedom. Only a few studies use message counts or usage records to show how often learners engage with vocabulary posts or how participation develops over time. More often, claims about self-regulation come from questionnaires in which learners say that WhatsApp helped them review vocabulary more regularly or study more [12][13]. These responses are useful, but they do not tell us enough about whether learners developed stable ways of planning, monitoring, and sustaining vocabulary learning. They also tell us little about what happened once the intervention ended.

Task design makes the issue even less straightforward. In some studies, teachers require a minimum number of posts or assign marks for participation. That changes the meaning of self-regulation. Optional tasks may appeal mostly to already motivated learners, while graded participation may turn WhatsApp into another homework tool rather than a space for genuinely self-directed practice. Few studies address this tension directly.

Research on MALL suggests that mobile learning supports autonomy more effectively when learners receive clear guidance on goals, practice routines, and the use of feedback [18][19]. Yet this kind of support is rarely described in detail in WhatsApp-based vocabulary studies. So WhatsApp may make autonomy possible, but it is still less clear whether learners turn that possibility into regular self-regulated learning.

3.5 Motivational and Affective Dimensions

Motivation in WhatsApp-based vocabulary learning is not a simple matter of liking the platform. What seems to matter more is whether learners stay involved, return to tasks, and keep trying to use new words. Many studies report generally positive attitudes toward WhatsApp-based vocabulary work [10][11][14], and part of that can be understood through self-determination theory [21], especially in relation to autonomy, competence, and relatedness.

For some learners, the platform may feel less formal than the classroom and therefore easier to participate in. Ongoing interaction with peers and teachers can strengthen a sense of connection, and successful use of target vocabulary may build confidence. Learners may also value being able to decide when to read, respond, or review. Here, motivation is reflected less in enjoyment alone and more in whether learners keep participating.

At the same time, the affective picture is mixed. Some learners report message overload or pressure to respond quickly, which can reduce their sense of control over study time [12]. Others mention anxiety about making mistakes in a group chat where messages remain visible and can be read again later. These reactions matter because they show that the same platform can encourage participation in one setting and discourage it in another.

In this setting, motivation shows up more in patterns of participation than in general positive attitudes. Much depends on task design, group norms, feedback patterns, and the overall tone of interaction.

3.6 Cross-Cutting Methodological Issues and Emerging Gaps

Across the studies reviewed here, the same weaknesses appear more than once. Many report statistically significant gains for experimental groups, but the evidence behind those gains is often narrower than the claims made for them. Vocabulary outcomes are usually measured through relatively simple tests, most of them receptive, and delayed post-tests are still uncommon. Because of that, it is difficult to say much with confidence about deep learning or long-term retention.

A related problem concerns process. Studies often describe higher interaction, stronger autonomy, or better motivation, yet much less is shown about how these processes actually develop during WhatsApp use. Message content, participation patterns, and changes over time are not examined often enough. This leaves an obvious gap between what researchers say WhatsApp supports and what they actually demonstrate.

Theoretical use is uneven as well. Some studies refer to involvement load, task-based learning, or sociocultural perspectives, but the link between those ideas and the design of the task is not always made clear. Others stay at a practical level and present WhatsApp as a helpful instructional tool without connecting it closely to wider work on vocabulary learning or MALL. So the literature often contains theory, but not always in a way that genuinely explains the learning activity being studied.

There are also gaps in coverage. Evidence from some settings, including Iraqi universities, is still limited, even though WhatsApp is widely used there for academic communication [20]. Studies rarely look closely at differences among learners in the same class, such as variation in language proficiency, digital literacy, or patterns of participation. What the literature offers, then, is useful but still partial. WhatsApp may support vocabulary learning, but its value depends on more than the delivery of input. It depends on whether the platform is used in ways that encourage deeper processing, meaningful interaction, self-regulated activity, and sustained motivation. The next section turns from these gaps to a framework that brings those elements together.

4. Proposed Conceptual Framework for WhatsApp-Mediated Vocabulary Learning

The earlier discussion shows two things at once. WhatsApp has clear potential for vocabulary learning, but that potential is only partly visible in much of the existing literature [10]-[14]. What is missing is not another claim that the platform is useful, but a clearer way to connect its features with the kinds of learning processes that vocabulary research already treats as important. The framework proposed here is meant to do that.

The starting point is simple. WhatsApp is not best understood as a digital workbook or just a channel for sending materials. It is better understood as a mobile environment shaped by ongoing communication, visible interaction, message history, and multimodal exchange. These features can help vocabulary learning, but they can also work against it when tasks remain superficial or poorly organized.

From that point, the framework follows two linked lines. One concerns what happens around vocabulary itself: noticing, repeated exposure, retrieval, elaboration, use in context, feedback, and negotiation of meaning. The other concerns how learners manage their participation: autonomy, self-regulation, persistence, and motivation. The value of WhatsApp does not lie in one feature on its own. It lies in whether the platform is used in ways that support these processes over time. The sections below unpack that logic and show what it may mean for both pedagogy and research.

4.1 Affordance Clusters in WhatsApp

The framework begins with a descriptive question: what does WhatsApp actually make possible for learners and teachers [5][6][8]? Some features matter because they make vocabulary encounters more frequent and easier to revisit. Messages can be sent and received at almost any time, and chat histories remain visible and searchable [5][8][9]. That gives learners repeated contact with target words and a way to return to them later [1][4][15].

Other features matter because they vary how vocabulary is presented. Text, audio, images, links, and documents can appear in the same stream. This allows words to be encountered with different kinds of support, including written form, pronunciation, visual cues, and contextual examples [1][2][4].

Visibility and interaction matter in a different way. In class-based groups, learners' posts are seen by peers and teachers. That creates room for modelling, feedback, clarification, negotiation of meaning, and exposure to different uses of the same item [10]-[14].

The platform also allows a more private kind of participation. Learners may contribute in the group, contact the teacher privately, or, where relevant, work alongside AI-supported tools [10]-[14][19]. This can make space for tailored explanation, individual practice, and different degrees of risk-taking, such as trying out a word privately before using it more openly.

What matters is not simply that these affordances exist, but how they are used and whether that use fits what vocabulary learning actually requires [1][2][4][15][16]. From here, the framework turns to the learning and participation processes these features may support.

4.2 Cognitive and Interactional Pathways

From a cognitive perspective, WhatsApp-based vocabulary tasks can be placed along a simple continuum. In some cases, the platform is used in a broadcast mode: the teacher or system posts word lists, translations, or examples, and learners mainly read them or respond to simple recognition prompts. In others, WhatsApp is used in a more engaging way: learners are asked to do something with the target words by rewriting them, personalizing them, comparing them, questioning them, or using them in new contexts. In this framework, vocabulary learning is more likely to improve when tasks move beyond one-way delivery and ask learners to work with words more actively.

Several WhatsApp affordances can support this shift. Because messages can be distributed across time and revisited later, ubiquity and persistence can be used to support spaced retrieval. Short prompts posted over several days may require learners to recall and use previously introduced items rather than simply see them again. Multimodality may also support deeper elaboration by combining text with audio, images, and contextual examples. Group interaction adds another layer: learners can produce sentences or brief messages, while peers and teachers respond with corrections, alternatives, or follow-up questions. The message thread then becomes more than a place where words are posted. It also shows how those words are used, corrected, and reused over time.

The same tasks can be understood interactionally as well. What matters here is not only what words appear, but how they are taken up in the flow of communication. Some sequences begin with modelling, when a teacher or more advanced learner posts a well-formed example that others later imitate. Others involve negotiation, when a learner uses a word in a doubtful way and peers or the teacher respond with clarification, contrast, or reformulation. Uptake can also be observed when learners acknowledge corrections or reuse a newly learned form later in the discussion. In this framework, stronger WhatsApp tasks are the ones that combine demanding vocabulary work with interaction that leaves modelling, feedback, and reuse visible in the discussion. Frequent one-way word-push activities, however, remain lower-involvement uses of the platform.

4.2 Self-Regulation and Motivational Ecology

Another part of the framework concerns how WhatsApp shapes learners' self-regulation and motivation. Because the platform is embedded in learners' personal phones, vocabulary learning can be woven into everyday digital routines. That creates possibilities, but it also creates pressure. Learners may review posts later, respond when ready, or return to earlier discussions. At the same time, the same environment may blur the boundary between study and distraction.

From a self-regulation perspective, several processes matter. Learners may plan when to check messages, decide which tasks to complete, and use chat history to review vocabulary over time. Searchable message records can make it easier to compare earlier and later uses of target words, revisit feedback, and track recurring errors [5][8]. Private chats may also offer a safer space for checking understanding before posting in the group [18][21]. Over time, some learners may build routines around this, such as saving useful examples, keeping notes based on WhatsApp exchanges, or using search to locate earlier uses of a word [18][19]. But this does not happen automatically. Self-regulation is more likely to develop when learners have real choices about when and how to respond, but also when task design gives enough structure to prevent passive reading or uneven participation.

Motivation is treated here as part of the same ecology. WhatsApp may support autonomy when learners can choose when to participate, competence when tasks are challenging but manageable and feedback makes progress visible, and relatedness when interaction in the group is respectful and oriented toward shared learning goals rather than administrative traffic alone [21]. But these conditions can also break down. Too many messages, excessive grading, weak feedback, or dismissive peer responses may reduce willingness to participate. Here, the issue is not just what the platform allows, but the kind of participation it tends to support.

Any conceptual model of WhatsApp-mediated vocabulary learning needs to include more than features and tasks. It also has to account for how participation is regulated, how feedback is handled, and how the tone of the group supports or weakens continued engagement over time.

4.4 Using the Framework in Research and Practice

The framework matters most when it is used to guide actual research and teaching decisions. For researchers, it moves the discussion beyond the broad question of whether WhatsApp “works” and toward more specific questions about how it is used, which affordances are activated, and what kinds of learning processes follow from that use [5][6][8]. This means paying closer attention to the level of cognitive involvement required by tasks, the kinds of interactional sequences that develop in group communication, the ways learners regulate their participation, and the extent to which task design supports or weakens autonomy, competence, and relatedness [1][4][16][18][19][21]. In practical terms, this also means relying on more than vocabulary test scores alone. Message logs, discourse analysis, delayed post-tests, and longitudinal evidence about participation and review are needed if researchers want to explain why similar WhatsApp interventions sometimes produce different outcomes.

For practitioners, the same framework can be translated into a small number of design principles. WhatsApp is likely to be more useful when it is used to create repeated and varied contact with a limited set of target words rather than to distribute long word lists [1][4][15]. Its value also increases when learners are asked to produce vocabulary in context through short messages, mini-dialogues, or brief written tasks instead of relying only on recognition-based quizzes [1][4][16]. Because the platform makes learner contributions visible, teachers can use that visibility to support peer modelling and feedback, provided that clear norms are set to avoid ridicule, overload, or excessive pressure [3][10]-[14][21]. Guidance matters as well. Learners may need explicit help not only with what to post, but with how to use the group for learning, for example by revisiting corrections, saving useful examples, or setting personal vocabulary goals [18][19]. The timing and volume of messages also need to be managed carefully so that the group remains active without creating fatigue or weakening learners’ sense of autonomy [5][8][21].

Overall, the framework places WhatsApp-mediated vocabulary learning at the intersection of platform affordances, learning processes, and learner regulation [1][4][5][8][18][21]. Its educational value depends on how those features are used in tasks and interaction over time.

4.5 Implications for Pedagogy and Future Research

The review points to a clear conclusion: WhatsApp can make a meaningful contribution to EFL vocabulary learning, but only when its affordances are used deliberately rather than left to operate on their own. For pedagogy, this means that teachers should move away from using WhatsApp mainly as a channel for word delivery and toward using it as a space for repeated retrieval, contextualized production, visible feedback, and guided participation. The platform seems most useful when vocabulary work is embedded in short but purposeful tasks that connect exposure, use, and review.

For future research, what is needed is not only more studies, but studies with stronger design. More attention should be given to delayed learning outcomes, patterns of interaction over time, and the differences between receptive and productive gains. Researchers also need stronger evidence about how learners regulate their participation, how feedback is actually taken up, and how motivational conditions vary across groups and tasks. Contextual diversity matters as well. Settings such as Iraqi universities remain underrepresented, even though WhatsApp is widely used there in academic communication. A stronger research agenda would test the framework across a wider range of contexts, learners, and task designs, while linking findings more closely to established theory in vocabulary learning and MALL.

4.6 Pedagogical Implications for EFL Vocabulary Teaching

A practical issue is the kind of vocabulary work teachers expect WhatsApp to carry [10]-[14]. If the platform is used only to send word lists and short explanations, it is unlikely to move beyond low-involvement word-push practices [2][16][10]-[14]. A stronger use of WhatsApp depends on what learners are actually asked to do with vocabulary. Tasks are more useful when they bring learners back to a limited set of target items more than once, require recall and use in context rather than recognition alone, and connect chat-based work with classroom activity instead of letting it become a separate track [1][4][15][16].

Interactional design matters just as much as task content [10]-[14]. WhatsApp groups can easily drift into one-way announcements or casual chat with little structured vocabulary work. For that reason, teachers need clear norms that keep vocabulary practice visible and worth responding to. Learners can be encouraged to react to peers’ messages by suggesting more precise wording or alternative collocations, to ask for clarification when meaning or usage is uncertain, and to bring target items back into later discussions so that vocabulary from earlier weeks does not disappear once a task ends [2][3][4][10]-[14][15]. From a sociocultural and interactionist perspective, these patterns help determine whether the group functions as a real space for vocabulary learning or only as a place where messages accumulate.

A further implication concerns self-regulation and motivational conditions [18][21]. Because WhatsApp is already part of learners’ daily routines, it can support study or compete with it [5][8][19]. Teachers can shape that balance in practical ways: by discussing how to mute notifications, how to save useful examples, how to plan short review periods during the week, and how to manage overload when messages accumulate. Small design choices also matter. Giving learners some flexibility in when and how they complete tasks can make the group feel more supportive and easier to participate in, especially when improvement is recognized clearly and errors are handled constructively [18][21]. In the end, WhatsApp-

based vocabulary teaching depends not only on what teachers post, but on whether participation is guided in ways that learners can sustain over time.

4.7 Directions for Future Research

The framework points to several priorities for future research [6][8]. One clear problem in the current literature is the continued reliance on simple pre-test/post-test designs that report overall gains without showing much about the kind of vocabulary learning that has taken place [1][4][6][8]. Future work needs more differentiated outcome measures, especially when the goal is to determine whether WhatsApp supports only basic recognition or also deeper, more durable, and more productive vocabulary knowledge [1][2][4].

Another area that needs closer attention is interaction. Many studies refer to interaction in broad terms, but far fewer examine what learners actually do with target words in the message stream [3][10]-[14]. Research would be stronger if it traced how words are introduced, taken up, corrected, reused, or dropped across discussion over time [4][10]-[14]. Discourse analysis and corpus-based methods seem especially useful here, because they can capture patterns of modelling, negotiation, and uptake that are often mentioned but rarely examined in detail [3][10]-[14].

The same need for stronger evidence appears in work on autonomy and self-regulation [18][19]. Usage records, message logs, participation counts, and time stamps can show patterns of engagement that surveys alone are unlikely to capture. These kinds of data become more informative when combined with interviews or reflective journals that show how learners interpret their own participation and what strategies they believe they are developing [18][19]. Longitudinal designs are especially important in this area, since they can test whether routines formed during an intervention continue after the formal study period ends [18][19].

Motivational processes also need closer and more theory-based investigation [21]. Rather than asking only whether learners like using WhatsApp, future studies should examine how specific design choices shape participation over time. Public versus private feedback, graded versus ungraded participation, and the balance between required and optional tasks are all likely to matter [21]. Mixed-method designs are useful here because they can combine scales or surveys with qualitative accounts that explain why similar interventions sometimes produce different motivational outcomes [6][8][21]. There is also a clear contextual gap in the literature. Much of the existing work remains concentrated in a limited set of regions and institutions [8][10]-[14]. Settings in which WhatsApp is widely used for academic coordination but remains underrepresented in research, including many Iraqi universities, offer important opportunities for testing the framework under different institutional, cultural, and infrastructural conditions [20]. Comparative work across sites may also help clarify how local norms of communication, authority, and participation shape the way learners and teachers use WhatsApp for vocabulary learning.

A further issue is the growing presence of AI tools within or alongside messaging platforms [18][19][21]. Future studies may need to examine whether AI-generated prompts or feedback increase cognitive involvement, how learners experience the balance between human and AI support, and what new regulatory or ethical concerns appear when AI becomes part of everyday vocabulary practice. This line of work is still emerging, but it is likely to matter more as messaging-based learning and AI-supported interaction continue to overlap.

4.8 Limitations and Concluding Remarks

This framework is still provisional. It draws on a body of studies that is growing, but the evidence remains uneven in method, theory, and range of contexts. It also cannot capture everything that happens in real settings. Learners' experiences of WhatsApp-based vocabulary learning are shaped by access to technology, institutional conditions, teacher beliefs, and personal history, and these factors do not fit neatly into a single model. Even so, the framework remains useful as a way of connecting platform features with cognitive work, interaction, and learner regulation. For teachers, that means looking beyond the novelty of WhatsApp and asking what kinds of vocabulary activity the platform is actually being used to support. For researchers, it means moving beyond gains and attitudes and looking more closely at how words are encountered, responded to, remembered, and used in mobile communication. WhatsApp will not solve long-standing problems in vocabulary teaching. But it is not a marginal tool either. For many learners, it is one of the places where language is repeatedly met, used, and discussed. The main challenge is to shape that environment so that it supports vocabulary development rather than distracting from it.

References

1. I. S. P. Nation, *Learning Vocabulary in Another Language*. Cambridge, U.K.: Cambridge Univ. Press, 2001.
2. N. Schmitt and D. Schmitt, *Vocabulary in Language Teaching*, 2nd ed. Cambridge, U.K.: Cambridge Univ. Press, 2020.
3. J. Li, "Learning vocabulary via computer-assisted scaffolding for text processing," *Computer Assisted Language Learning*, vol. 23, no. 3, pp. 253–275, 2010, doi: 10.1080/09588221.2010.483678.
4. S. Webb and P. Nation, *How Vocabulary Is Learned*. Oxford, U.K.: Oxford Univ. Press, 2017.
5. A. Kukulska-Hulme, "Mobile language learning," in *The Encyclopedia of Applied Linguistics*, C. A. Chapelle, Ed. Hoboken, NJ, USA: Wiley-Blackwell, 2012, pp. 3701–3709, doi: 10.1002/9781405198431.wbeal0768.

6. J. Burston, "Twenty years of MALL project implementation: A meta-analysis of learning outcomes," ReCALL, vol. 27, no. 1, pp. 4–20, 2015, doi: 10.1080/09588221.2014.987035.
7. Y. Hao, K. S. Lee, S. T. Chen, and S. C. Sim, "An evaluative study of a mobile application for middle school students struggling with English vocabulary learning," Computers in Human Behavior, vol. 95, pp. 208–216, 2019, doi: 10.1016/j.chb.2018.10.013.
8. F. V. Lim and N. Taguchi, "Apps for English language learning: A systematic review of smartphone-assisted learning," Journal of Computer Assisted Learning, vol. 40, no. 2, pp. 350–372, 2024, doi: 10.1111/jcal.13096.
9. Statista Research Department, "Most popular global mobile messenger apps as of 2024, based on number of monthly active users," Statista, 2024. [Online]. Available: <https://www.statista.com>
10. E. Bensalem, "The impact of WhatsApp on EFL students' vocabulary learning," Arab World English Journal, vol. 9, no. 1, pp. 23–38, 2018, doi: 10.24093/awej/vol9no1.2.
11. S. Jafari and A. Chalak, "The role of WhatsApp in teaching vocabulary to Iranian EFL learners at junior high school," English Language Teaching, vol. 9, no. 8, pp. 85–92, 2016, doi: 10.5539/elt.v9n8p85.
12. S. Khatoon, N. Ahmed, and M. Khan, "WhatsApp as a digital tool for vocabulary development among Pakistani EFL learners," Journal of Language and Education, vol. 9, no. 3, pp. 112–129, 2023.
13. R. A. Salman and A. Imam, "The impact of WhatsApp application on vocabulary acquisition of secondary school students in Nigeria," International Journal of Research in Teacher Education, vol. 12, no. 3, pp. 1–12, 2021.
14. S. H. H. Barzani and F. R. Omar, "WhatsApp-mediated vocabulary learning: A study of Kurdish EFL learners," Arab World English Journal, vol. 15, no. 4, pp. 364–376, 2024.
15. S. Webb, "The effects of repetition on vocabulary knowledge," Applied Linguistics, vol. 28, no. 1, pp. 46–65, 2007, doi: 10.1093/applin/aml048.
16. B. Laufer and J. H. Hulstijn, "Incidental vocabulary acquisition in a second language: The construct of task-induced involvement," Applied Linguistics, vol. 22, no. 1, pp. 1–26, 2001, doi: 10.1093/applin/22.1.1.
17. Y. Qian, "User review analysis of mobile English vocabulary learning applications," Journal of Educational Technology Development and Exchange, vol. 15, no. 1, pp. 1–18, 2022.
18. Lei, X., Fathi, J., Noorbakhsh, S., & Rahimi, M. (2022).
19. The impact of mobile-assisted language learning on EFL learners' vocabulary learning attitudes and self-regulatory capacity. Frontiers in Psychology, 13, 872922.
20. M. Alnufaie, "Mobile-assisted language learning and self-directed English practice among Saudi EFL learners," Frontiers in Education, vol. 7, Art. no. 835962, 2022, doi: 10.3389/feduc.2022.835962.
21. A. H. Mohammed, "The use of mobile phones and social media in English language learning among Iraqi university students," International Journal of Innovation, Creativity and Change, vol. 11, no. 10, pp. 457–473, 2020.
22. E. L. Deci and R. M. Ryan, "The 'what' and 'why' of goal pursuits: Human needs and the self-determination of behavior," Psychological Inquiry, vol. 11, no. 4, pp. 227–268, 2000, doi: 10.1207/S15327965PLI1104_01.