



**RESEARCH PAPER**

**Examining the Impact of Mobile-Based Extramural Activities on Vocabulary Development among EFL Learners: A Mixed-Methods Investigation**

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**ABSTRACT**

The main objective of this research was to investigate the effect of Extramural English exercises on developing word-stock in higher secondary school EFL students using a mixed-methods methodology. From two language learning schools, 48 participants were eligible and willing to participate, twenty-four were male students, while twenty-four were females. Vocabulary development was assessed through pre- and post-tests. Semi-structured interview enabled us to explore all aspects of participants' inclination and attitude towards EE-based exercise. The experimental group's results showed that the activities that are based on Extramural English have a significant impact on improvement in learners' vocabulary acquisition ( $p < 0.001$ ). Furthermore the findings indicated, in female and male learners, there were no discernible variations in the word knowledge ensuing EE exercise ( $p = 0.27$ ). Research indicates that participants preferred a variety of mobile-based EE activities that helped them expand their vocabulary. In light of these conclusions, the research suggests that teachers should successfully incorporate mobile technology into language instruction to boost students' language skills.

**Keywords:** Extramural Activities, Mobile Applications, Vocabulary Knowledge, Vocabulary Learning, Whatsapp

**Introduction**

According to Benson (2011), learning Extramural English (EE), incorporates naturalistic learning, self-guided learning, and self-taught learning. Activities such as playing mobile games, watching films, listening songs, and engaging in extracurricular English interactions have greatly enhanced interest of learners in English language and their pursuit of achieving academic excellence.

In the context of Pakistan, the researchers have found substantial disparity in expertise between students actively engaged in EE activities and those who are not. Advancements in technology and the Internet have significantly expanded opportunities for practicing English outside the classroom compared to two decades ago. Additionally, social media and online communication tools have made daily language use more accessible to students. In modern digital era, WhatsApp (WA) has gained popularity across various academic disciplines. Introduced in 2009 as a messaging app, WA now has billions of active users worldwide.

However, the learning landscape has broadened to encompass different unconventional settings, especially for English language, now accessible online, in different media sources and through the fast expanding entertainment sector. According to Kassem

(2018), mobile games are tools that students can embrace if teachers choose them carefully based on their students' proficiency and level. These categories also include mobile apps such as Twitter, which offer a kind of vocabulary acquisition through microblogging while also providing social networking aspects that might increase learners' motivation (Yang, 2013).

Internet, a blessing, has facilitated access to many languages, and offers variety of communication tools in the target languages. Unlike the conventional learning standards, the focus of this study is digitally boosted language learning in avocational and extramural setting connected to educational institutions (Sylvén&Sundqvist, 2017). Studies also suggests that gaming videos, which entertain people of all ages, can foster English language competency. Earlier studies have demonstrated a positive link between frequent gaming and improved performance on the tests of English language vocabulary among EFL learners (Brevik, 2016; Sundqvist&Wikström, 2015; Sundqvist, 2009; Sylvén&Sundqvist, 2012; Olsson, 2016).

In the Pakistani EFL context, however, the significant role of extramural acquisition in improving language skills, particularly vocabulary development, requires further investigation. Thus, this study seeks to examine the connection between EE-based activities and level of EFL students' language knowledge, focusing specifically on the receptive vocabulary proficiency of intermediate learners at English Language Learning Institutes in the Pakistani EFL context. Another major deficit in the context of L2 acquisition is unavailability of a good academic mobile messaging app that can be integrated into the curriculum. The research gap prevents the impactful utilization of the potential offered by the users of such apps in learning process.

Much of the language acquisition could be expected to take place beyond the classroom environment, within learners' homes, and that WhatsApp might be included in the language learning syllabi for learners of all ages. Learners of grown age who use to spend extended periods in classrooms studying English often report signs of fatigue and disengagement (Dong, 2004). Acquisition of vocabulary necessitates enthusiasm, which can be strengthened by connecting it to meaningful associations (Miramontes et al., 1999). Acknowledging the gap in research concerning mobile messaging applications' role in development of vocabulary among L2 learners in Pakistan, Objective of this study is to explore the impact of EE in fostering vocabulary proficiency in Pakistani EFL students.

Additionally, the study examines whether notable dissimilarities exist between male and female Pakistani EFL students during e-learning process. This research offers valuable insights to language educators and policymakers as it focuses on the importance of WhatsApp as an e-learning tool and the connection between extramural English exercises and vocabulary development.

## **Literature Review**

Researchers have found that an incidental introduction to any language is advantageous for language acquisition. But, the intentional exposure to any language leads to fast progress, improved retention and higher level of proficiency (Schmitt & Schmitt, 2020). Extramural English has been found quite helpful for learning a new language. A number of researchers have found a healthy link between interaction with EE and language learning efficacy, displaying significance of extracurricular practices for securing better scores and proficiency in language (Sundqvist&Wikstrom, 2015; Sylvén&Sundqvist, 2012; Lai et al, 2015; Smemoe et al., 2012; Olsson,2016; Olsson, 2012). Advantages of vocabulary learning out-of-class are noteworthy (Nation, 2001). Studies have found that implicit acquisition, which highly mirrors L1 vocabulary cultivation, is more impactful than intentional vocabulary acquisition (Nation, 2001). It has been observed that young children can learn considerable vocabulary through engagement with target language

(Lindgren and Munoz, 2013; Jensen, 2017; De Wilde and Eycksmans, 2020). Study has discovered that children in Belgium who were not taking any classes or training in target language, got 66.20/108 scores on Peabody Vocabulary Test, showcasing the benefits of accidental acquisition (De Wilde and Eycksmans, 2020). It shows that how children learn L2 vocabulary mainly via extramural English, often via media (Lefever, 2010; Schmitt & Schmitt, 2020).

Social media platforms, online games and movies are a great source of acquiring incidental vocabulary. Different studies have seen a significant development in learning outcomes through a constant engagement with English language computer games (Peterson, 2016). There are many online platforms and websites which provide precise instructions regarding vocabulary learning (Schmitt & Schmitt, 2020). In future, Extramural English and its impact on language acquisition will be a significant area of research (Schmitt & Schmitt, 2020). While observing the students at Dutch secondary schools, De Wilde et al. (2020) found that there are three main sources of learning L2 and vocabulary acquisition: playing online video games, use of social media and speaking English. In recent years, numerous researches have been conducted on incidental learning of L2 via playing online games (Jensen, 2017; Kuppens, 2010; Sylvén&Sundqvist, 2012). It has been demonstrated that watching subtitled films is significant source of vocabulary learning (Koolstra&Beentjes, 1999; d'Ydewalle& Van de Poel, 1999). Watching an extended television program improves vocabulary learning process significantly (Webb, 2018).

Second language acquisition is a diverse field of research, even though; vocabulary learning through games also has got the attention of researchers (Jabbari&Eslami, 2019; Reinders, 2017). Ryu (2013) found gaming platforms helpful in language learning through constant exposure to L2 and intercommunication with English language speakers of target language in "massively multiplayer online games" (Peterson, 2016). In a recent research by Zeidean (2020), conducted a research on connection between EE activities and achievements among students of schools in Sweden, found that students who were involved in gaming performed better than non-gamers in vocabulary test. In modern era, mobile phones are a prominent source of incidental language acquisition. Salamat and Pourgharib (2013) conducted a research on improvement in EFL students' speaking skills via mobile phones, and found that the students who were mobile users performed well as compare to the students who were not engaged in mobile assisted learning. Various researches have been conducted on EE and its impacts on language acquisition.

In conclusion, while prior studies have highlighted the advantages of both unintentional and intentional vocabulary acquisition, EE activities, including gaming and exposure to media, have emerged as potential avenues for enhancing vocabulary learning. Further research is required to achieve a more profound grasp of how extramural English activities influence vocabulary growth among Pakistani English language learners. The focus of the study is to address this gap by exploring the impact of extramural English activities on vocabulary development within the Pakistani EFL context, highlighting existing literature's limitations, and justifying the need for this research.

## **Material and Methods**

### **Research Design**

Mixed-methods research methodology was used, merging quantitative and qualitative techniques, based on research questions. Main objective of integrating both methodologies is to get a greater knowledge of study challenges and complicated phenomena (Creswell and Plano Clark, 2017). Under this method, themes or categories from qualitative data are translated into quantitative measurements, matched with quantitative results, and compared at the study's interpretation stage.

## **Participants**

48 intermediate EFL students enrolled in Pakistani language schools, chosen randomly, took part in this study. There were twenty-four male and twenty-four female volunteers, with twelve of each gender split equally between the experimental and control groups. All participants, who were between the ages of 14 and 17, were learning English as a foreign language and they were native Urdu language speakers.

A few individuals participated in semi-structured interviews with informed consent to learn more about how they felt about EE-based activities. Seven men and seven women were selected for the qualitative stage out of the 48 participants. Since the responses from these 14 interviewees approached data saturation, no further interviews were carried out.

## **Research Instrument**

Semi-structured interviews were held to know about participants' opinions regarding the competency level of EE activities in fostering vocabulary learning, and the Nation's online vocabulary test was utilized to evaluate higher secondary schools' EFL students' vocabulary knowledge in order to collect the necessary data for this study. As a predictive tool, the test assessed participants' pre-study proficiency levels. Four questions for semi-structured interviews were created for the qualitative stage. These questions focused on a chosen number of participants and sought to examine how experimental group learners perceived the disposition and practicality of vocabulary acquisition through extramural activities.

## **Data Collection Procedure**

Following the pretest, chosen students took part in the study's activities for six weeks. The experimental group (EG) engaged in EE activities that were distributed over WhatsApp throughout this time. They used electronic media to learn vocabulary over the course of 12 sessions, which were held twice a week. Each session focused on four new terms. A variety of techniques, including movies, video games, music, and subtitles, were used to contextualize the intended language. Every EG participant belonged to the same group on WhatsApp. The control group (CG), on the contrary, got the same vocabulary instructions via traditional classroom techniques. Through practice, repetition, and exercises like fill-in-the-blank and sentence completion tasks based on the targeted words, the CG participants gained knowledge.

Following six weeks of EE exercises, participants took a posttest, which was a counterbalanced, rearranged version of the pretest to ensure consistency. A delayed posttest was also given one and a half months later to make sure the results were reliable. Semi-structured online interviews were held for qualitative phase in order to collect participants' personal ideas and perspectives on learning English through extracurricular activities. The researcher conducted the four-question interviews with each participant, which lasted roughly fifteen minutes. After being recorded, the responses were transcribed for analysis. The transcripts were translated into English for additional research even though the interviews were done in Urdu.

## **Data Analysis Procedure**

An independent samples T-test was used to analyze the performances of the experimental and control group in the pretest and posttest phases were analyzed through independent samples t-test. During the qualitative phase, the experimental participants' opinions about EE-based activities were investigated using Boyatzis's (1998) thematic analysis. First step in the analysis procedure was to transcribe the interviews.

Following the interview transcriptions, the interviewers thoroughly reviewed carefully and familiarized themselves with collected data. In order to properly comprehend the participants' viewpoints and experiences about extracurricular English activities and vocabulary development, it was necessary to read the transcripts several times.

Finding preliminary codes or labels that reflected important ideas in the data was the following stage. The interviews were transcribed, codes were found and arranged into themes, these themes were refined, and the data within each theme was analysed to produce significant findings. This methodical approach offered a thorough examination of participants' experiences and insightful information about how extracurricular English activities contribute to vocabulary acquisition for EFL learners from Pakistan (Table 1).

**Table 1**  
**Outcomes of the independent samples t-test for assessing male and female pretest scores within the Experimental group and the control group**

	F	Sig	T	Df	Sig.(2-tailed)	Mean difference	SE difference	95% confidence	
								Lower	Upper
Pretest equal variance assumed	0.17	0.514	0.635	49	0.33	0.27	0.36	-0.47	1.24
Equal variance not assumed			0.635	49.23	0.33	0.27	0.36	-0.47	1.24

**Table 2**  
**Outcomes of the independent sample t-test for assessing male and female pretest scores of the experimental group**

	F	Sig	T	Df	Sig.(2-tailed)	Mean difference	SE difference	95% confidence	
								Lower	Upper
Pretest equal variance assumed	0.04	0.69	0.895-	34	0.22	0.44	0.47	1.57-	0.49
Equal variance not assumed			0.895-	32.84	0.22	0.44	0.47	1.57	0.49

There was no statistically significant difference in the experimental and control groups' performance, according to Tables 1 and 2. The linguistic proficiency of male and female participants before the intervention did not differ significantly either.

**Table 3**  
**Outcomes of the independent samples t-test for assessing post-test scores of the control group and experimental group**

	F	Sig	T	Df	Sig.(2-tailed)	Mean difference	SE difference	95% confidence	
								Lower	Upper
Posttest equal variance Assumed	12.33	0.000	-4.17	47	0.000	-3.72	0.81	-4.21	-2.26
Equal variance not assumed			-4.17	34.82	0.000	-3.72	0.81	-4.20	-2.24

Prior to the intervention, the experimental (EG) and control (CG) groups did not significantly differ in their vocabulary knowledge, as indicated in Table 1. But according to the posttest results, which are shown in Table 3, the intervention significantly improved the groups' vocabulary knowledge.

**Table 4**  
**Outcomes of the independent sample t-test for assessing male and female post-test scores in the experimental group**

	F	Sig	T	Df	Sig.(2-tailed)	Mean difference	SE difference	95% confidence	
								Lower	Upper
Pretest equal variance assumed	0.08	0.81	0.93	31	0.27	1.12	1.20	-1.59	3.80
Equal variance not assumed			0.93	29.85	0.27	1.12	1.20	-1.59	3.80

Table 2 demonstrates that there was no discernible difference in the language proficiency of the male and female groups before the intervention. Likewise, Table 4 shows that neither the male nor female participants' language knowledge was significantly affected by the intervention.

**Table 5**  
**Thematic responses to the 1<sup>st</sup> interview question**

Statements	Frequency	Percent
It has resulted in my conversation improvement	6	42.9
It has helped the improvement of my vocabulary	8	57.1
It made me improve my grammar	5	35.7

Of the participants, 42.9% believed that using social media and extracurricular activities outside of classroom environment may bring improvement in their conversational abilities (Table 5). Furthermore, 57.1% of respondents thought that using social media outside of the classroom could help them expand their vocabulary. Additionally, 35.7% of participants reported that social media helped them get better at grammar.

**Table 6**  
**Thematic responses to the 2<sup>nd</sup> interview question**

Statements	Frequency	Percent
Less teacher imposition	5	35.7
Learner learning-time management	3	21.4
Stress-free learning opportunities	6	42.8

Five participants believed that using social networks for learning relieves pressure, which results in reduced stress and more effective learning, as indicated in Table 6. Notably, three respondents brought up the need of time management in extracurricular activities carried out through social media. Furthermore, 42.8% of the respondents emphasized the stress-free educational opportunities offered by extracurricular activities via social media.

**Table 7**  
**Thematic responses to the 3<sup>rd</sup> interview question**

Statements	Frequency	Percent
Beyond the classroom activities result in more learning	8	57.1
Beyond the classroom activities reduce mental stress	6	42.8
Since they are optional, there is more improvement	4	28.6

Table. no 7 indicates that 57.1% of interviewees thought extracurricular activities could increase learning. Furthermore, according to 42.8% of participants, these activities aid in stress reduction, which can improve learning. Additionally, 28.6% of participants recommended that because after-class activities are optional and allows students to tailor their learning experience based on their current level of skills, they should be used as a roadmap for progress.

**Table 8**  
**Thematic responses to the 4<sup>th</sup> interview question**

Statements	Frequency	Percent
There is no stress, so learning is more resounding	4	28.6
There is the problem of frequent internet disruption	5	35.7
Such activities result in improvement in conversation	6	42.8
They result in more vocabulary learning	7	50

Table 8 demonstrates that 28.6% of interviewees thought that social network-based extracurricular activities could promote deeper learning since they were stress-free. Nevertheless, 35.7% of participants voiced worries that these exercises might not be as successful because of problems like internet outages and disconnections, which might cause fear and trepidation. Furthermore, 42.8% of participants concurred that extracurricular activities could improve students' ability to have conversations. Additionally, half of the interviewees believed that these social media activities could help people learn more language.

## Conclusion

The connection between extramural English activities and vocabulary development in educational institutions where English is spoken in Pakistan, along with the potential influence of gender on EE learning in this context, was investigated in first two study questions. Results suggest that participating in EE activities considerably enhanced, students' vocabulary development, on the basis of the contrast of pre- and post-test findings. These results have been found consistent with research by GoonibandShooshtari et al. (2013), which indicated how well mobile apps can teach semi-literate children English vocabulary. Furthermore, Taki and Khazaei (2011) held research on written and visual presentation of language on mobile devices, and discovered that learning vocabulary with the help of visual aids improved performance over learning without annotations.

Replies of the participants during interview indicated that participants preferred to participate in extracurricular EE activities in regard to the third study issue. Jensen (2017), Ryu (2013), and Zeidan (2019) have found that EE app preferences are unique to individuals and that using different apps leads to different levels of L2 development. This conclusion is consistent with their findings.

To sum up, the experimental group (EG) demonstrated that EE-based activities had a significant impact on enhancing vocabulary acquisition in students ( $p < 0.001$ ). The findings also showed that following EE exercises, no appreciable variations were found in the vocabulary expertise of both genders' students. In accordance with themes identified during qualitative phase, participating students preferred EE-based activities because it helped them improve their speech, pronunciation, grammar, and vocabulary while also lowering mental stress. Participants favored a range of mobile-based EE activities, including viewing films, mobile online gaming, and listening to music, all of which helped them expand their vocabulary.

### **Recommendations**

- i. More online and virtual EE activities should be included by language teachers to supplement conventional vocabulary instruction strategies.
- ii. Instructors should accept the necessity of abandoning conventional vocabulary instruction in favour of online and virtual learning strategies.
- iii. Material designers should understand that they can improve the quality of their educational resources by integrating EE applications and introducing new EE-based methodologies into their course materials.



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