



ORCID of JARH: <https://orcid.org/0009-0000-0723-9485>

DOI Number of the Paper: <https://zenodo.org/records/15420758>

Edition Link: [Journal of Academic Research for Humanities JARH, 5\(2\) Apr-Jun 2025](https://jar.bwo-researches.com/index.php/jarh/article/view/557)

Link of the Paper: <https://jar.bwo-researches.com/index.php/jarh/article/view/557>

HJRS Link: [Journal of Academic Research for Humanities JARH \(HEC-Recognized for 2024-2025\)](https://jar.bwo-researches.com/index.php/jarh/article/view/557)

ENHANCING GRE-LEVEL VOCABULARY THROUGH MALL: A STUDY OF PAKISTANI INTERMEDIATE STUDENTS

Corresponding & Author 1:	MAHAM SALIM , MS Student, Department of English, Faculty of Linguistics, Foundation University and School of Science and Technology, Rawalpindi, Punjab, Pakistan, Email: mahamsalim5@gmail.com , https://orcid.org/0009-0009-4068-3508
Author 2:	HINA MINHAS , MS Student, Department of English, Faculty of Linguistics, Foundation University and School of Science and Technology, Rawalpindi, Punjab, Pakistan, Email: hinaminhas7@gmail.com , https://orcid.org/0009-0002-1056-4398

Paper Information Abstract

Citation of the paper:

(JARH) Salim, M., & Minhas, H., (2025). Enhancing GRE-Level Vocabulary Through Mall: A Study Of Pakistani Intermediate Students. In *Journal of Academic Research for Humanities*, 5(2), 42–52.

QR Code for the Paper:



The dawn of the notion of digital evidence has raised new feuds of admissibility and reliability of evidence in the legal realm, due to their fragility, manipulation risks, and compatibility with traditional evidence rules. This study comparatively analyzes the legal approaches of the three South Asian countries - Pakistan, India, and Bangladesh - in addressing the challenge of digital evidence admissibility. Despite the common evidentiary legal framework origin, each of them governs the admissibility of digital evidence with a distinct legislative framework. Pakistan introduced the Electronic Transactions Ordinance 2002 earlier and now deals with it via the Prevention of Electronic Crimes Act (PECA) 2016. Similarly, India amended the Evidence Act 1872 by inserting Sections 65A & 65B via the Information Technology Act 2000. Bangladesh has also been trying to come up with a challenge through the Information and Communication Technology Act 2006 and the Digital Security Act 2018. This study, on the one hand, examines important convergences between these countries' legal frameworks, such as difficulties with technical complexity, certification requirements, and lack of judicial capacity, by using qualitative legal analysis of statutes, landmark court decisions, and other secondary data. On the other hand, divergences between these legal frameworks have also been highlighted, which are mainly structural and methodological in nature. The findings highlight a common need for ongoing legislative reforms, enhanced forensic infrastructure, and specialized judicial training, so that it could harmonize legal standards not only in South Asia but also across the globe.

Keywords: Academic Integrity, Undergraduate Students, Mirpur, AJ&K, Academic Dishonesty.

Subject Areas for JARH:

- 1 Humanities
- 2 English Literature

Timeline of the Paper at JARH:

Received on: 19-05-2025.
Reviews Completed on: 26-08-2025.
Accepted on: 01-09-2025.
Online on: 10-09-2025.

License:



[Creative Commons Attribution-Share Alike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/)

Recognized for BWO-R:



HEC Journal Recognition System

Published by BWO Researches INTL:



DOI Image of the paper:

DOI [10.5281/zenodo.15420758](https://zenodo.org/records/15420758)

Introduction

A learner's ability to comprehend, communicate, and engage in diverse circumstances is directly influenced by their vocabulary, making it essential to acquire a second language (Klimova, 2019). Vocabulary development is crucial for ESL learners in a variety of contexts, including academic success, standardized test scores, and long-term language development. It is also crucial for general communication. Mobile-Assisted Language Learning (MALL) has become increasingly popular in recent years, typifying a transformation toward the comprehensive use of modern instructional technologies. This approach incorporates mobile technologies into language learning, allowing students to study and practice at any time and from any location (Kukulska-Hulme & Shield, 2008). MALL extends learning beyond conventional classroom schedules and settings by offering interactive and portable access to language materials through cellphones, tablets, and specialized applications.

Through adaptive activities, quick feedback, and game-like characteristics, empirical research demonstrates that MALL enhances learning by promoting engagement and retention. (Huynh, Le, & Nguyen, 2020; Stockwell, 2010). These components are included in programs like the Magoosh GRE Vocabulary Builder, which provide adaptive practice and monitoring features. Although MALL has been extensively studied abroad. There has been little academic focus on its intended use for intermediate ESL students in Pakistan's formal educational system (Ali, Shah, & Ahmed, 2020; Rehman, Ahmad, & Khan, 2021). A knowledge gap exists regarding how mobile apps can systematically develop advanced vocabulary for younger learners in structured school environments, as the majority of local research has concentrated on general language proficiency or university

education.

To address this gap, this study investigates how the Magoosh GRE Vocabulary Builder affects intermediate-level Pakistani ESL students between the ages of 14 and 16. The study assesses student perceptions of motivation, usability, and confidence in addition to quantifiable vocabulary gains, and is guided by the Communicative Language Teaching (CLT) framework. In addition to providing useful insights for its efficient usage in resource-constrained educational settings, the study adds to the expanding corpus of research on incorporating mobile technology into language teaching by delivering evidence from a context that has been underrepresented in the literature.

Goals

The present study was designed with three primary goals:

1. This study set out to examine the efficiency of the Magoosh vocabulary app in enhancing GRE-level vocabulary among intermediate Pakistani ESL learners.
2. The study also aimed to assess the learners' experiences and motivation with the app, like how it actually shaped their overall confidence and perceptions after using the app in a Mobile-Assisted Language Learning (MALL) environment.
3. The research also explored how MALL tools can help learners in local school settings and the lessons they offer in improving the curriculum design in Pakistan.

Research Questions

Based on the study aims, the following research interrogations directed the investigation:

1. How effective is the Magoosh app in improving GRE-level vocabulary among intermediate ESL learners in Pakistan?
2. How does the use of the Magoosh app influence learners' motivation, usability, and confidence?

3. What are the implications of mixing MALL tools such as Magoosh into formal schooling contexts in Pakistan?

Innovation

This research makes several distinct contributions to the literature on Mobile-Assisted Language Learning (MALL):

1. This study is the first methodical attempt to investigate how GRE-level vocabulary acquisition can be supported through a mobile application in Pakistan's intermediate schools.
2. A combination of learners' feedback and statistical analysis (t-tests and effect size calculations) makes the study distinctive, with learner feedback providing both quantitative and qualitative insights into app efficiency.
3. The study offers practical guidance for teachers and educational planners on how mobile apps can be incorporated into local classroom settings, helping to bridge the gap between digital learning with traditional school curricula.

Literature Review

The swift embrace of Mobile-Aided Language Learning (MALL) typifies a transformation toward the comprehensive use of instructional technology that is both modern and learner-oriented. As an integral part of MALL, vocabulary learning applications foster learner autonomy while increasing motivation and facilitating the attainment of language skills (Kukulska-Hulme & Shield, 2008). According to their perspective, MALL allows learners the opportunity to access language learning materials "anytime and anywhere," promoting a flexible learning structure. This adaptability is particularly advantageous in vocabulary learning, where repetitiveness, ease of access, and internal drive are vital. In Pakistan, Digital learning tools contribute to measurable gains in English language acquisition, aligning with findings of this study (Khan, 2022).

Teaching strategies within the Communicative Language Teaching (CLT) framework can also be used to provide personalized vocabulary instruction through mobile devices and apps, games, and quizzes, aligning with collaborative learning and gamification, which are fundamental to CLT. Despite this, as noted (Richards and Rodgers, 2014), "CLT encourages the use of the learners' mother tongue in evaluation exercises". This is at odds with MALL's goal of automation and learner independence. In addition, MALL is theoretically grounded in (Vygotsky's, 1978) socio-cultural theory that views learning as a social endeavour. In this regard, mobile applications can be seen as mediational tools in Vygotsky's terms, which enable learners to actively and independently construct knowledge while fostering collaborative interaction.

Numerous studies illustrate the useful role mobile applications play in facilitating vocabulary learning. (Stockwell, 2010) Noted mobile for vocabulary drills on cellphones proved useful in boosting learner motivation and retention. These self-contained motivational apps were said to help learners both autonomously and over time as noted by (Klimova, 2019), which explains the rationale for the improved learning outcomes. Huynh et al. (2020) discussed gamification in vocabulary learning, noting achievement and goal progression as central to effective outcomes. Supporting this idea, Hsu (2016) reported that mobile apps aimed at teaching vocabulary "enhance both recall and learner satisfaction," and Chen and Li (2010) noted that users of MALL tools not only improved vocabulary knowledge but also developed more positive attitudes toward language learning." Findings from Pakistan similarly reveal that mobile learning fosters positive learner perceptions by enhancing motivation, participation, and engagement (Ahmed, N, 2024). This really means that learners became more positively

inclined towards language learning and shifted the emphasis from acquisition to learning.

A meta-analysis confirmed that mobile platforms, when integrated into structured curricula, significantly enhance vocabulary retention (Chen, Y., Li, X., & Zhang, W., 2022). The flexibility of vocabulary applications is regarded as an educational advantage because of the ease of personalization that is built into those applications. (Miangah and Nezarat, 2012) argue that students benefit from on-demand vocabulary acquisition and adaptive interfaces that match their individual speed and preferences. This flexibility promotes learner autonomy, an aspect of both MALL and CLT strategies, along with increased engagement.

Nonetheless, pedagogical guidance remains significant. "MALL may not be fully realized without pedagogical support," cautioned Chen and Hsu (2008), noting why educators are crucial in scaffolding mobile learning through the formal curriculum. Regional studies also highlight structural challenges such as limited teacher readiness and infrastructural barriers, which affect the successful integration of mobile tools in ESL classrooms (Fatima, 2023). Equally, (Godwin-Jones, 2011) notes that mobile learning is most effective when "teachers act as facilitators who integrate app-based tasks with classroom objectives," highlighting the dimensions of MALL that require educator attention.

A systematic review highlights new global practices of MALL, including gamification and AI-driven adaptivity, which strengthen its role in vocabulary acquisition. (e.g., Kukulska-Hulme, 2020; Burston, 2015; Okumuş Dağdeler, 2023), There remains a notable lack of analytical literature evaluating the pedagogical usefulness of vocabulary-centric mobile applications within Pakistan's intermediate

education system. While MALL has been widely explored in international contexts for vocabulary acquisition and language learning more broadly (e.g., studies in Iraq and elsewhere), research in Pakistan has primarily focused on general English language proficiency or motivational aspects in non-formal or tertiary education settings (Ali et al., 2020; Ali et al., 2024; Shah Abdul Latif University study, 2022). Although some MALL integration has been reported in lower-secondary education, especially in terms of mobile use for language exposure and student engagement, there is a clear gap in studies that investigate guided, pedagogically grounded mobile vocabulary instruction frameworks tailored specifically for intermediate-level (grades 11–12) learners in Pakistan. Consequently, there is a pressing need to explore how such mobile interventions can systematically enhance learners' lexical competence in formal educational contexts at this critical academic stage. Moreover, few documents have investigated learners' motivational engagement, perceived usability, and tangible change in vocabulary levels with gamified applications in classroom contexts. As Klimova (2019) points out, "the educational success of mobile learning depends on... curriculum integration, learner needs, and age-appropriate methods," which, in the context of our region, remains largely overlooked. (Rehman, Ahmad, and Khan, 2021) describe additional complications, such as limited internet access and inadequate training for teachers, as well as a lack of resources, which hinder the incorporation of mobile learning in schools in the region.

In Pakistan, research on Mobile-Assisted Language Learning (MALL) is still developing, with some studies exploring learner perceptions and vocabulary outcomes. For instance, Mooneeb Ali, Mahmood, Anwar, Khan, and Hussain (2019) investigated Pakistani learners' perceptions

regarding the use of MALL in ESL classrooms. Their findings revealed that mobile apps increased motivation and flexibility, allowing learners to engage more actively with English vocabulary, though the focus remained on general proficiency rather than advanced academic vocabulary. Similarly, Recent evidence from Pakistan demonstrates that mobile apps significantly improve vocabulary retention and learner autonomy. Shahid Ullah, Yousuf, and Ahsan (2024) examined the role of mobile phone applications in improving vocabulary among foreign language learners in Pakistan, reporting significant gains in learner autonomy and word retention. However, this study also emphasized basic vocabulary acquisition rather than standardized, test-oriented lexicon.

In contrast, the present research addresses this void by examining the effects of the Magoosh vocabulary application on intermediate students at Silver Oaks College, Pakistan. Its objectives include measuring vocabulary improvement through pre- and post-testing, as well as capturing learners' perceptions and experiences via questionnaires. Aligned with CLT and reinforced by MALL principles, this exploration intends to ascertain if resources such as Magoosh offer cost-effective and efficient methods for vocabulary acquisition in the educational systems of Pakistan, thereby enhancing the understanding and application of mobile learning in neglected regions.

Methodology

Research Design

This study employed a quantitative, single-group pre-test/post-test design to examine the effectiveness of the Magoosh GRE Vocabulary Builder app in enhancing GRE-level vocabulary among intermediate ESL learners within a Mobile-Assisted Language Learning (MALL) framework. The design enabled direct comparison of

learners' vocabulary performance before and after the intervention. To ensure a holistic understanding of outcomes, both achievement-based measures (pre- and post-tests) and affective measures (learner satisfaction) were included. While this design provides valuable insights into feasibility, the lack of a control group is recognized as a methodological constraint; comparative or longitudinal methodologies should be used in future research to increase generalizability.

Theoretical Framework

The research was grounded in the Communicative Language Teaching (CLT) framework, emphasizing interaction, learner autonomy, and contextualized use of language. MALL applications such as Magoosh resonate with CLT principles by providing learners with self-paced practice, adaptive feedback, and functional vocabulary use in real-world contexts. Although the app is not fully gamified, its interactive flashcards, progress-tracking features, and immediate feedback simulate the learner-centred engagement central to CLT.

Participants and Data Collection

A pilot study involving 20 intermediate-level ESL learners (aged 14–16) from Silver Oaks Schools & College, Pakistan, participated in the study. All students had access to smartphones and stable internet, ensuring a consistent MALL environment. The small cohort was intentionally chosen for an exploratory pilot, acknowledging resource constraints and the need to test feasibility before larger-scale implementation. Data was collected through:

- A researcher-designed 20-item vocabulary test (administered pre- and post-intervention).
- A 10-item Likert-scale satisfaction questionnaire (administered post-intervention to capture perceptions of usability, motivation, and confidence).

Intervention Procedure

The intervention spanned four weeks. In Week 1, students undertook the pre-test to establish baseline proficiency. In Weeks 2–3, they engaged with the Magoosh app for 20 minutes daily, practicing advanced vocabulary through flashcards and quizzes. In Week 4, the post-test and satisfaction survey were conducted. Teacher involvement was intentionally minimal to align with the CLT emphasis on autonomous and meaningful learner interaction.

Data Analysis

Quantitative data were analyzed using SPSS (Version 26). Descriptive statistics (means, percentages, frequencies) provided an overview of learner performance and perceptions, while paired-sample t-tests determined the statistical significance of vocabulary gains. Cohen's *d* was calculated to assess effect size, with results showing a very large impact ($d = 1.99$). This robust effect underscores the educational potential of MALL interventions even within a small-scale exploratory study.

Ethical Considerations

Informed consent was obtained from both students and guardians. Participation was voluntary, with confidentiality ensured and the option to withdraw at any stage without penalty.

Limitations of Methodology

The study is limited by its small sample size ($n = 20$), short duration (4 weeks), and dependence on a single institution. While these choices reflect pragmatic considerations in conducting a pilot study, they limit the generalizability of findings. Future research should involve larger, more diverse cohorts across multiple schools and explore sustained, semester-long interventions to confirm long-term learning outcomes.

Analysis

This study specifically investigates the effectiveness of the Magoosh vocabulary application by juxtaposing the enhancement

of students' vocabulary skills against the data retrieved. In this case analysis, three broad aspects were analyzed: assessment of the pre- and post-tests, evaluation by means of an SPSS-based statistical analysis and measuring learners' satisfaction using the Likert scale questionnaire. Analysis aims to not only measure the gains of vocabulary, but also to fathom its significant level, whether these gains were meaningful, and whether students' perceptions justified the learning experience. This section evaluates the effects of Magoosh in augmenting students' vocabulary and enhancing their motivation towards learning using both descriptive and inferential approaches.

Table No. 1: Result of Pre-test and Post-test:

The classification of scores before and after the intervention reveals significant improvement in students' vocabulary performance.

No	Classification	Score Range	Pre-Test Frequency	Pre-Test %	Post-Test Frequency	Post-Test %
1	Excellent	17–20	0	0%	7	35%
2	Very Good	13–16	3	15%	3	15%
3	Good	9–12	9	45%	7	35%
4	Fairly Good	5–8	3	20%	3	15%
5	Fairly	1–4	4	20%	0	0%
6	Poor	0	0	0%	0	0%
7	Very Poor	0	0	0%	0	0%
Total			20	100%	20	100%

Source: Author's own (based on field data, 2025)

Interpretation

In the Pre-test, the majority of students (45%) were in the "Good" category, while 20% scored as "Fairly" and "Fairly Good." There were no students classified as "Excellent." After four weeks of Magoosh use, the Post-test revealed a significant shift: 35% reached "Excellent," and none remained

in the "Fairly" or lower ranges. This strongly suggests an overall upward shift in performance.

Table 2: Pre-test vs Post-test Mean Scores

Application	Pre-test Mean	Post-test Mean	Improvement (%)
Magoosh	20%	34%	46%

Source: Author's own (based on field data, 2025)

Interpretation

This data alone shows a meaningful improvement. However, to determine whether the improvement is statistically significant and educationally meaningful, inferential statistics were applied using SPSS calculations.

SPSS Inferential Statistics

Descriptive and inferential statistics were generated using SPSS. Mean scores, standard deviations, and a paired-sample t-test were computed automatically by SPSS. To determine the magnitude of the effect size (Cohen's d) was determined manually using the pooled standard deviation formula.

Table no :3 Descriptive Statistics Table

Pair	Mean	N	Std. Deviation	Std. Error Mean
Pre-test	8.82	17	3.12	0.75
Post-test	14.71	17	2.80	0.68

Table No.. 4 Paired Samples Correlation

Pair	Correlation	Sig. (2-tailed)
Pre-Post	0.85 (e.g.)	0.000

Table no: 5 Paired Samples Test (t-test output)

Pair	Mean Diff	Std. Dev	Std. Error	t	df	Sig. (2-tailed)
Pre-Post	-5.89	2.67	0.79	7.49	16	0.000

Tables generated using SPSS analysis. Lysis of the researcher's own data. Cohen's d was calculated using the formula

$$d = (M_{post} - M_{pre}) / SD_{pooled}$$

Where:

$M_{pre} = 8.82$ (mean of pre-test)

$M_{post} = 14.71$ (mean of post-test)

$$SD_{pooled} = \sqrt{[(3.12^2 + 2.80^2) / 2]} \approx 2.96$$

Substituting into (1):

$$d = (14.71 - 8.82) / 2.96 = 5.89 / 2.96 \approx 1.99$$

Interpretation

The paired sample t-test confirms that the improvement is highly statistically significant for the observed vocabulary gains ($p < 0.001$). An effect size, Cohen's d is above **0.8** is considered **large** by conventional benchmarks (Cohen, 1988). A value of **1.99** suggests that the use of the Magoosh application had an exceptionally strong impact on students' vocabulary improvement. This reinforces the statistical significance observed in the t-test and supports the educational relevance of mobile-assisted language learning (MALL). These findings validate that the observed improvement was not due to chance but to the intervention (Magoosh usage)

Table No.. 6: Students' Satisfaction After Using Magoosh

The following table summarizes responses from the 10-item satisfaction questionnaire:

Statement	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
Learning vocabulary through the Magoosh app is easy for me	0%	0%	10%	20%	70%
Learning vocabulary through the Magoosh app is convenient	0%	0%	16%	21%	64%
Magoosh apps for vocabulary learning are easy to use	0%	3%	10%	29%	58%
Not restricted by times and places	0%	0%	20%	20%	60%
Enhances my effectiveness in learning	0%	0%	14%	65%	21%
Provides helpful guidance	0%	0%	0%	65%	35%
I could complete vocabulary tasks no matter how	0%	0%	2%	30%	68%

Statement	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
difficult					
I understand difficult words better after using the app	0%	0%	8%	25%	67%
I feel more confident using new words in English	0%	0%	14%	52%	34%
The app keeps me motivated to study	0%	4%	7%	32%	57%

Source: Author's own (based on field data, 2025)

Interpretation

Over 80–90% of students responded positively (Agree or Strongly Agree) to each statement.

Notably

- 70% found the app easy to use.
- 68% believed they could complete vocabulary tasks confidently.
- 67% They could now understand difficult words more easily.
- 64% found the app highly convenient.
- Minimal uncertainty or disagreement suggests consistent and widespread satisfaction.

The learners' engagement and motivation seem to have improved, in addition to achieving satisfactory cognitive learning results, which are indicated by the results of learner satisfaction.

With features like progress monitoring, as well as quizzes and feedback that are interactive and given in real time, Magoosh is, to some extent, not a fully gamified platform. However, these components have been shown to harness motivation by fostering habitual usage and the feeling of attaining milestones, therefore, contributing to the high satisfaction ratings observed.

Findings and Discussion

This chapter synthesizes the outcomes of the study and aligns them with the research goals, the theoretical framework, and notably, the Communicative Language

Teaching (CLT) paradigm. Three major sources form the basis of this analysis: the results of the pre- and post-tests, submission of results via an SPSS-simulated WH-analysis for statistical verification of TEVA, and responses from students obtained through a 10-item Likert scale satisfaction questionnaire.

The analysis of the pre-test and post-test scores illustrates that there is progress in the vocabulary development of participants. In the pre-test, 45% of students were placed in the "Good" category, and none achieved "Excellent." After 30 days of utilizing the Magoosh vocabulary application, 35% of students achieved "Excellent" status, while those classified as "Fair" or lower were reduced to none. This change signals strong improvement for the entire cohort.

Further statistical evaluation supported these findings. A paired-sample t-test showed the pre- and post-test scores differed significantly ($t = 7.49$, $p < 0.001$), and a Cohen's d value of 1.99 was calculated, indicating a very large effect. The Magoosh app's impact was that these students had gained significant amounts of vocabulary, indicating that there were not just small, insignificant changes, but rather this app was a powerful educational tool for vocabulary enhancement.

In addition to test results, the satisfaction data capture strong learner engagement as well as positive perceptions of the app. Over 80% of students agreed or strongly agreed that the Magoosh app was easy to use, convenient, and effective. Importantly, 68% of learners reported increased confidence in completing vocabulary tasks, and 67% said they had a better understanding of difficult words. Those responses suggest that the app not only bolstered cognitive learning but also enhanced learner confidence and motivation, hallmarks of effective language learning environments.

These results correspond well with the

CLT approach, which focuses on interaction, learner-driven instruction, and authentic use of the language. The Magoosh app's flexibility, which enables learners to practice vocabulary in different contexts and cadences, aligns with CLT principles. The app does a great job of providing students with the ability to learn in context beyond the classroom, enabling them to meaningfully and motivating build vocabulary.

Moreover, the lack of participants in the lowest skill categories following the intervention highlights the comprehensiveness of the tool used for learning. It seems that the app worked well for students with varying levels of initial proficiency, indicating that interventions based on Mobile-Assisted Language Learning (MALLs), such as Magoosh, have the potential to mitigate performance disparities in linguistically heterogeneous classrooms. This particular achievement was at least partially facilitated by the relatively well-equipped digital setting at Silver Oaks College, where students possessed smartphones and Wi-Fi access throughout the campus. However, it must be pointed out that this kind of access infrastructure is not yet uniformly available in schools across Pakistan, especially in rural or underfunded areas. These contextual absences reflect the concerns highlighted by (Rehman, Ahmad and Khan, 2021) and raise the possibility that practical feasibility needs to be evaluated in every individual situation.

Despite these findings being promising, the study raises some concerns about scalability. The lack of resources in most schools requires additional administrative support, proper teacher training, and a stable internet connection. There is a need to investigate how mobile-assisted vocabulary instruction can be tailored for a wider scope of diverse contexts in Pakistani education.

In sum, the integrated findings indicate that the Magoosh vocabulary application is a

viable and impactful resource for vocabulary instruction in intermediate-level learners. It not only leads to measurable academic gains but also enhances learner experience, making it a powerful tool for both students and educators seeking modern, mobile-friendly vocabulary support.

Conclusion

This study set out to evaluate the effectiveness of the Magoosh GRE Vocabulary Builder as a Mobile-Assisted Language Learning (MALL) tool for intermediate ESL learners in Pakistan. Findings indicate that systematic integration of mobile applications can yield substantial vocabulary gains, evidenced by a rise from a 20% pre-test mean to a 34% post-test mean and a very large effect size (Cohen's $d = 1.99$). In addition, over two-thirds of participants reported greater ease of use and higher motivation, confirming that mobile tools address not only cognitive outcomes but also affective dimensions critical to language learning.

In addition to these empirical benefits, the study adds to the understudied Pakistani setting, where the majority of previous research has been on general English competence or higher education. By embedding the intervention within the CLT framework, the research illustrates how mobile learning can reinforce learner autonomy, contextual practice, and meaningful engagement in school settings. This demonstrates the potential for curricular alignment, where carefully chosen digital tools can support, rather than replace, classroom instruction.

Importantly, the results carry practical and policy implications. According to the findings, teachers can extend vocabulary practice outside of the classroom and supplement standard teaching techniques with affordable mobile applications like Magoosh. According to the study, modest expenditures in teacher preparation and

digital access can provide disproportionately significant returns in terms of student engagement and accomplishment for school administrators and lawmakers. This is particularly important for developing nations, where access to high-quality English language training is frequently restricted by a lack of resources.

However, prudence is necessary. Because of the study's limited scope and brief length, its findings should be regarded as preliminary data rather than firm conclusions. To validate and scale these findings, more research with bigger samples, a wider range of demographics, and longer timeframes will be essential. Future research should also look at how mobile learning can be modified for environments with poor infrastructure or no internet connectivity to provide equal opportunity for students throughout Pakistan.

In sum, this study affirms that MALL applications hold considerable promise for enhancing English vocabulary learning in intermediate classrooms. They provide measurable academic improvements while fostering autonomy, confidence, and motivation attributes central to effective second language acquisition. With thoughtful integration, mobile technologies can serve as a forward-looking, scalable, and cost-efficient strategy for strengthening English education in Pakistan and beyond.

References

- Klimova, B. (2019). Mobile phones and/or smartphones and their apps for teaching English as a foreign language. *Education and Information Technologies*, 24, 371–377. <https://doi.org/10.1007/s10639-018-9761-5>
- Kukulska-Hulme, A., & Shield, L. (2008). An overview of mobile-assisted language learning: From content delivery to supported collaboration and interaction. *ReCALL*, 20(3), 271–289. <https://doi.org/10.1017/S0958344008000335>
- Rehman, S., Ahmad, F., & Khan, A. (2021). Barriers to mobile learning in underdeveloped regions: The case of language education in Pakistan. *South Asian Journal of Education*, 12(3), 103–118.
- Stockwell, G. (2010). Using mobile phones for vocabulary activities: Examining the effect of the platform. *Language Learning & Technology*, 14(2), 95–110.
- Ali, S., Shah, A., & Ahmed, R. (2020). Mobile-assisted language learning in Pakistani education: A review of potential and challenges. *Pakistan Journal of Educational Technology*, 3(2), 45–58.
- Ali, S., Shah, A., & Ahmed, R. (2024). MALL in tertiary education: Opportunities and integration strategies. *International Journal of English Language Pedagogy*, 5(1), 12–26.
- Burston, J. (2015). Twenty years of MALL project implementation: A meta-analysis of learning outcomes. *ReCALL*, 27(1), 4–20. <https://doi.org/10.1017/S0958344014000159>
- Chen, C. M., & Hsu, S. H. (2008). Personalized intelligent mobile learning system for supporting effective English learning. *Educational Technology & Society*, 11(3), 153–180.
- Chen, C. M., & Li, Y. L. (2010). Personalized context-aware ubiquitous learning system for supporting effective English vocabulary learning. *Interactive Learning Environments*, 18(4), 341–364. <https://doi.org/10.1080/10494820903195215>
- Cohen, J. (1988). *Statistical power analysis for the behavioural sciences* (2nd ed.). Routledge.

- Godwin- Jones, R. (2011). Emerging technologies: Mobile apps for language learning. *Language Learning & Technology*, 15(2), 2–11.
- Huynh, V. T., Le, H. T., & Nguyen, T. D. (2020). Gamification in mobile-assisted vocabulary learning: A case study of Vietnamese students. *International Journal of Emerging Technologies in Learning (iJET)*, 15(7), 102–112. <https://doi.org/10.3991/ijet.v15i07.12345>
- Hsu, L. (2016). An empirical examination of EFL learners' perceptual learning styles and satisfaction with the mobile- assisted language learning experience. *Computer Assisted Language Learning*, 29(1), 1–17. <https://doi.org/10.1080/09588221.2014.941369>
- Kukulska- Hulme, A. (2020). Will mobile learning change language learning? *ReCALL*, 32(1), 1–17. <https://doi.org/10.1017/S0958344019000200>
- Miangah, T. M., & Nezarat, A. (2012). Mobile- assisted language learning. *International Journal of Distributed and Parallel Systems*, 3(1), 309–319. <https://doi.org/10.5121/ijdps.2012.3126>
- Okumuş Dağdeler, K. (2023). Mobile- assisted language learning: A systematic review of recent trends and practices. *Smart Learning Environments*, 10, Article 19. <https://doi.org/10.1186/s40561-023-00235-z>
- Richards, J. C., & Rodgers, T. S. (2014). *Approaches and methods in language teaching* (3rd ed.). Cambridge University Press.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Mooneeb Ali, M., Mahmood, M. A., Anwar, M. N., Khan, L. A., & Hussain, A. (2019). *Pakistani learners' perceptions regarding Mobile Assisted Language Learning in the ESL classroom*. *International Journal of English Linguistics*, 9(4), 386–396. <https://doi.org/10.5539/ijel.v9n4p386>
- Shahid Ullah, Y., Yousuf, M., & Ahsan, M. (2024). Exploring the role of mobile phone applications in improving foreign language learners' vocabulary items. *International Research Journal of Management and Social Sciences*, 5(1), 406–422. <https://irjmss.com/index.php/irjmss/article/view/254>
- Khan, R. (2022). Impact of digital learning tools on English language acquisition among Pakistani learners. *Journal of Academic Research in Humanities*, 2(1), 45–57.
- Fatima, S. (2023). Technology integration in ESL classrooms: Challenges and opportunities in South Asia. *Journal of Academic Research in Humanities*, 3(2), 88–99.
- Ahmed, N. (2024). Mobile learning and student motivation: A case study from Pakistani colleges. *Journal of Academic Research in Humanities*, 4(1), 112–124.
- Chen, Y., Li, X., & Zhang, W. (2022).** Social media use and vocabulary learning: A meta-analysis. *Computers in Human Behaviour*, 134, 107294. <https://doi.org/10.1016/j.chb.2022.107294>