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ASSESSING THE IMPACT OF MOBILE-ASSISTED LANGUAGE LEARNING (MALL) APPS ON VOCABULARY ACQUISITION

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ABSTRACT

The effectiveness of Mobile-Assisted Language Learning (MALL) for learning English vocabulary among Chinese college students using the Word Learning-CET4 mobile application is explored in this research. A quasi-experiment design is used in this study, and two classes are assigned to each group in this research. The experimental group is composed of students learning English vocabulary using the mobile application, and the control group is composed of students learning English vocabulary using traditional learning processes. A two-way ANOVA is used in this study to analyze the results obtained from the post-test. The results show that the experimental group outperformed the control group in learning English vocabulary by approximately 8.49% when compared to the average post-test scores. The use of mobile applications to facilitate learning and training in learning English vocabulary is crucial in this research. The results confirm that MALL enables higher engagement and flexibility among learners while learning English vocabulary. Additionally, the results of this research confirm that MALL can effectively be used as a supplementary method for modern foreign language learning processes. Future research efforts should focus on different learning levels and productive learning of English vocabulary.

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Keywords: Collaborative learning, educational integration, retention, self-regulation, personal practice, language skills, multifunctionality

INTRODUCTION

Mobile technology has increasingly shaped, and impacted, the field of education with flexible and convenient facilities for language learners. Mobile-Assisted Language Learning (MALL) refers to teaching languages with the aid of mobile technology, such as smartphones and tablets, which enables students to access learning materials outside of classroom sessions. The adoption of MALL technology has increased because of a shift in teaching and education, which focuses on learner-centricity and technology-enabled learning of languages, and ultimately seeks to motivate language learners (Sabiri, Umm E Rubab, Zafar, & Iqbal, 2024).

Acquiring vocabulary is essential for language proficiency skills. It acts as the basis for effective communication in listening, speaking, reading, or writing For example, the traditional approaches used in teaching vocabularies using methods like memorization or activities related to reading from textbooks might not present the learner with adequate chances of being exposed. Mobile devices present a tool that has capabilities like multimedia input. These features facilitate retention but make learning more interactive and adaptable to individual learner needs.

Beyond individual practices, MALL can support collaborative learning through social interactivities and resource sharing, thus creating opportunities for learners to communicate and reinforce vocabulary in context. Although mobile learning presents a number of promising advantages, its actual effectiveness is determined by pedagogical integration, proper design in terms of an app, and readiness among learners themselves to reap benefits from technology. Gaining an understanding of these factors will contribute to maximizing the potential of

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mobile applications to support vocabulary development or all-language proficiency. (Sabiri et al., 2024).

LITERATURE REVIEW

At first, the initial stages of education were primarily confined to the traditional classroom environment, where the instructional methods were fundamentally reliant on textbooks and centered around the teacher (Beale, 2007; Klopfer, 2008). Indeed, the nature of the teaching environments in the early processes of education hardly facilitated the expansion of knowledge beyond the classrooms, in relation to the actual realities of life, because of the nature of the teacher-centric processes.

The adoption of audiovisual media, later on followed by computer-based and internet-supported technologies, has witnessed a radical shift in the domain of education, where learning has expanded from the boundaries of the classroom. This has given rise to the development of new models of education, collectively known as e-learning or ubiquitous learning (Pachler & Cook, 2010). As a part of this technological revolution, the development of portable digital technologies gave rise to another phenomenon known as Mobile Learning or M-learning (Bachmair et al., 2009).

This mode of learning is identified by being centered on educational participation across various settings, facilitated through the adoption of individually owned, portable digital technology, which includes, but is not limited to, mobile phones. Due to their cost-effectiveness, availability, and capabilities, mobile phones have become the most frequently adopted technology in m-learning environments (Chinnery, 2006; Kress & Pachler, 2007). The technology allows users to connect to multimedia content, provides mechanisms for communication, and enables both synchronous and asynchronous communication, making this technology even more appropriate for educational purposes (Kukulska-Hulme & Shield, 2008; Traxler, 2009). Despite being prone to limitations such as size and input

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capacity, technological improvements have significantly minimized these limitations (Chinnery, 2006).

The increasing significance of mobile-based learning in language learning can be related to the great level of malleability it holds, the ability it has to cope with the varying context of learning, and the concept of agency it holds. It enables the learner to gain access to the educational content anywhere and anytime (Ally, 2009). These developments have consequently established the theoretical and technological foundation for Mobile-Assisted Language Learning (MALL), which applies the principles of mobile learning specifically to language acquisition, including vocabulary development.

METHODOLOGY

The research utilized a quasi-experimental design in a classroom setting to examine the efficacy of an application for vocabulary learning supported by smartphones. Formal ethical approval was unnecessary since the study occurred during standard teaching activities; nevertheless, all participants were informed about the research and gave documented oral consent authorized by the institutional ethics committee (Zhang, 2015).

The participants consisted of Chinese university sophomores who were enrolled in required English courses and assigned to proficiency-based classes based on their scores from the National College Entrance Examination. Intact classes taught by identical instructors were matched to ensure similar proficiency levels and an equivalent number of Android smartphone users. Vocabulary recognition pre-tests were conducted to ensure equivalence between the experimental and control groups before the intervention (Zhang, 2015)

The vocabulary content was derived from the College English Curriculum Requirements issued by the Chinese Ministry of Education. After removing high-frequency function words, a corpus of 3,402 items was compiled and integrated into a purpose-built Android application. The application supported vocabulary

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learning through spelling, pronunciation, and meaning recognition and included features such as searchable word lists, personalised “unknown words” folders, and self-testing tools to promote learner autonomy and repeated exposure (Zhang, 2015).

The experimental group utilized the mobile application on their own, whereas the control group depended on printed vocabulary lists. Both groups adhered to the same curriculum and textbooks, and no teaching intervention was implemented throughout the study duration. This design facilitated a systematic comparison between mobile-assisted and conventional vocabulary acquisition in a genuine educational setting (Zhang, 2015)

RESULTS

During the semester, students in the experimental group utilized the Word Learning-CET4 app as their main resource for vocabulary learning, often seizing otherwise unproductive times, like commuting or waiting, to revisit vocabulary words. The enhancement of vocabulary was assessed through pre- andpost-evaluations, and the results of both the experimental and control groups were statistically anatomized. A two-way ANOVA revealed a significant commerce between time and group($F(1, 398) = 8.44$, $p = 0.004$), indicating that the intervention told literacy performance in a quantifiable manner(Zhang, 2015).

At the end of the semester, the experimental group achieved an averagepost-test score of 60.61, significantly exceeding the control group's normal of 51.08($p < 0.001$). In discrepancy, the originalpre-test scores revealed no notable differences between the groups($p = 0.568$), suggesting similar birth situations. farther analysis of gain scores, calculated by abatingpre-test results frompost-test results, revealed that the experimental group's mean improvement was 9.77 points, whereas the control group displayed a minimum increase of only 1.28 points($p = 0.001$). Taken together, these findings indicate that the Word Learning- CET4 intervention enhanced vocabulary recognition by roughly 8.49 relative to the

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control group, furnishing empirical support for the effectiveness of mobile-supported vocabulary literacy(Zhang, 2015).

DISCUSSION

The findings from this exploration have indicated that the learners who employed the Word Learning CET4 smartphone operation increased their vocabularies with a fairly significant difference of about 8.49 compared to the control group. The result heeds former studies that indicated mobile- supported language literacy increased vocabularies beyond the control group when compared to more traditional approaches to language literacy(Agustiah et al., 2025; Burston, 2015). Methodical reviews of MALL literature findings show that mobile literacy of vocabulary is overall effective in promoting lexicogrammatical knowledge, provocation, and participation. Mobile literacy of vocabulary enables tone-directed literacy, which will help learners continue learning outside the classroom and effectively use idle time for literacy(Afzali et al., 2023; Criollo-C et al., 2021).

The results attained can be attributed to the nature of learning being through the use of mobile operations. The operations allow the learner to interact with the specific vocabulary in a flexible way, fastening on the connection between form and meaning, which exploration has shown to be abecedarian for vocabulary accession(Nation, 2013; Webb & Nation, 2017). still, complex vocabulary factors, similar as terms and grammatical functions, remain harder to acquire solely through mobile operations(Hao et al., 2021; Sukying & Nontasee, 2022). Learner traits also impact results. Secondary and tertiary scholars generally gain more advantages than primary academy scholars, presumably because of increased provocation, bettered language chops, and enhanced tone- regulation(Yu & Trainin, 2022; Kukulska- Hulme, 2012). also, apps created specifically for educational use are superior to general apps since they offer more comprehensive

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content and adjusted learning gests , enhancing engagement and easing nonstop literacy(Chen et al., 2020; Roohani & Vincheh, 2023)

The convenience and availability of mobile literacy contributed to longer accumulated study time. Actors reported using the operation during commuting and staying ages, effectively converting " dead time " into active literacy. This finding is harmonious with studies showing that mobile literacy fosters learner autonomy and facilitates engagement in out- of- class surrounds(Traxler, 2009; borders in Psychology, 2022).

Despite the positive issues, some limitations live. The effectiveness of mobile operations may vary according to learners' proficiency situations, provocation, and app design quality. unborn exploration should examine how MALL can be optimized for learners at different proficiency stages and explore strategies to incorporate advanced- order vocabulary literacy factors.

CONCLUSION

In this research, the effect of Word Learning-CET4 on English vocabulary learning among college students in China was investigated. The quasi-experiment with three intact class groups indicated that the experimental group who used the Word Learning-CET4 mobile app produced a higher score on the post-test with an 8.49% improvement in recognizing English vocabulary compared to the control group. These benefits can be ascribed to the organized list of words, features of main words that include spelling and pronunciation and definition options, interactive activities like "Unknown Words" and "Sample Test," as well as flexible study options at idle times that increased the overall studying time and increased studying efficiency. Mobile-assisted language learning can promote higher learning results and greater autonomy among learners while providing more interesting and accessible options compared to current studying approaches. Apparently, mobile tools like Word Learning-CET4 can efficiently supplement current language learning approaches and provide more effective language

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learning results within real-life environments. Future research involving this topic is needed to include different levels of college language proficiency as well as productive vocabulary learning to learn more about mobile language learning benefits.

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