

The Influence of WhatsApp Reminders and Spaced Repetition in the WilEnglish App on Vocabulary Retention

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ABSTRACT

This study examines the effect of WhatsApp reminders and the spaced repetition technique in the WilEnglish app on vocabulary retention among English Education students at Universitas Kristen Tentena. Adopting a quantitative approach with a pretest-posttest control group experimental design, the study involved 50 students who were divided into experimental and control groups. The experimental group used the WilEnglish app with spaced repetition and WhatsApp reminders, while the control group received no reminders. The data were analyzed using an independent t-test and gain score. The results showed a significant improvement in the experimental group ($p < 0.05$) with a higher gain score. WhatsApp reminders increased engagement and learning consistency, supporting the effectiveness of mobile-based learning.

Keywords: Whatsapp Reminders, Spaced Repetition, Vocabulary Retention, Mobile Learning, Wilenglish

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INTRODUCTION

The development of mobile technology has brought significant changes to language learning approaches, particularly in vocabulary acquisition. Mobile-based language learning apps, such as Duolingo and Hello English, have proven to enhance vocabulary acquisition through flexible and interactive methods. Research by Irawan et al. (2020) and Novitasari & Putera (2024) shows that the use of the Duolingo app significantly improves vocabulary retention, particularly among young learners, with a clear difference in vocabulary mastery before and after using the app. Additionally, apps like Hello English integrate the spaced repetition technique, which not only supports vocabulary retention but also improves pronunciation skills through interactive methods (Rahman & Nabhan, 2023; Palangngan, 2022). The flexibility of mobile platforms allows learners to study at their own pace, which can reduce anxiety often associated with traditional classroom learning (Nehe et al., 2023).

In addition to learning apps, the use of instant messaging platforms like WhatsApp as a reminder tool for spaced repetition-based learning sessions offers an innovative strategy to enhance vocabulary acquisition. Research shows that the integration of WhatsApp in language learning initiatives has benefits such as increased student motivation and the potential for interaction among learners, although there are challenges in terms of management complexity (Saiful, 2018). WhatsApp's advantages, such as its ability to build a sense of community and facilitate collaborative learning experiences, are recognized as

important factors in supporting effective vocabulary acquisition (Bustillo et al., 2017; Hidayati & Diana, 2022).

Furthermore, the use of mobile apps in language learning encourages greater self-directed learning, where learners can align their personal goals with learning practices (Maulida et al., 2022). This approach, when combined with reminders via WhatsApp and spaced repetition techniques, allows for a more personalized and effective learning experience, ultimately enhancing vocabulary retention and recall. This combination of technologies shows great potential in creating a learning environment that optimally supports vocabulary mastery.

Based on these findings, this study aims to examine the impact of using WhatsApp reminders and spaced repetition techniques in the WilEnglish app on new vocabulary retention. With a quantitative approach, this study will measure the extent to which these strategies can improve vocabulary retention among English learners, contributing to the development of more effective and technology-based learning methods.

METHOD

This study uses a quantitative approach with an experimental design to measure the effect of using WhatsApp reminders and the spaced repetition technique in the WilEnglish app on new vocabulary retention. A quantitative approach was chosen to generate measurable data that can be statistically analyzed to test the research hypothesis.

The population in this study consists of all students of the English Education Program at the Faculty of Teacher Training, Universitas Kristen Tentena, totaling 50 students. Given the relatively small population, this study employs total sampling, where the entire population serves as the research sample. Therefore, 50 students will be involved as respondents in this study.

This study applies a pretest-posttest control group experimental design. The sample is divided into two groups: the experimental group and the control group, each consisting of 25 students selected randomly. The experimental group will receive the treatment of using the WilEnglish app with the spaced repetition technique supported by WhatsApp reminders, while the control group will use the WilEnglish app without WhatsApp reminders. Both groups will participate in new vocabulary learning during the research period.

The instrument used is a multiple-choice vocabulary test to measure new vocabulary retention. This test consists of 30 items covering definitions, sentence usage, and vocabulary synonyms. The test will be administered twice, as a pretest to assess initial vocabulary mastery and as a posttest to measure the ability after the treatment. The instrument's validity will be tested through expert validation, while reliability will be tested using Cronbach's Alpha coefficient.

Data will be collected through the following steps:

1. Pretest: All respondents from both groups will take an initial vocabulary test to assess their vocabulary mastery before the treatment.
2. Treatment: The experimental group will use the WilEnglish app with spaced repetition techniques and receive scheduled WhatsApp reminders over 4 weeks. The control group will use the WilEnglish app without WhatsApp reminders during the same period.
3. Posttest: After the treatment, both groups will take the same vocabulary test to measure the improvement in vocabulary retention.

The collected data will be analyzed using inferential statistics. A normality test will be conducted using the Kolmogorov-Smirnov test to ensure the data distribution. Then, hypothesis testing will be conducted using an independent t-test to compare the average posttest scores between the experimental and control groups. The significance level used will be $\alpha = 0.05$. Additionally, a gain score test will be performed to measure the magnitude of vocabulary retention improvement between the pretest and posttest in each group. Data analysis will be carried out using statistical software such as SPSS version 26.

This study adheres to research ethics principles, including obtaining written consent from the respondents (informed consent), maintaining the confidentiality of respondents' identities, and ensuring voluntary participation. The collected data will only be used for the purposes of this research and will not be disseminated for other purposes.

RESULT AND DISCUSSION

This study involved 50 students from the English Education Program at the Faculty of Teacher Training, Universitas Kristen Tentena, who were divided into two groups: the experimental group (25 students) and the control group (25 students). Data were collected through a multiple-choice vocabulary test consisting of 30 items, administered as a pretest and posttest. The maximum test score was 100. The pretest and posttest results from both groups were analyzed to measure new vocabulary retention after a 4-week treatment period.

The pretest results showed that the initial abilities of both groups were relatively similar. The average pretest score of the experimental group was 62.40 (SD = 7.21), while the control group had an average score of 61.80 (SD = 6.98). An independent t-test on the pretest data yielded a p-value of 0.821 (> 0.05), indicating no significant difference between the initial abilities of the two groups before the treatment.

After the 4-week treatment, the experimental group, which used the WilEnglish app with spaced repetition and WhatsApp reminders, showed a significant improvement. The average posttest score of the experimental group was 85.60 (SD = 5.43), while the control group, which only used the WilEnglish app without WhatsApp reminders, had an average score of 76.20 (SD = 6.12).

A normality test using the Kolmogorov-Smirnov test indicated that the pretest and posttest data from both groups were normally distributed ($p > 0.05$). For the experimental group, the p-values were $p = 0.172$ (pretest) and $p = 0.189$ (posttest). For the control group, the p-values were $p = 0.165$ (pretest) and $p = 0.178$ (posttest). This met the criteria for parametric analysis.

An independent t-test was conducted to compare the average posttest scores between the experimental and control groups. The results showed a t-value of 5.872 with a p-value of 0.000 (< 0.05), indicating a significant difference between the posttest scores of the two groups. The experimental group performed better than the control group.

To measure the magnitude of vocabulary retention improvement, the gain score was calculated based on the difference between the posttest and pretest scores. The average gain score of the experimental group was 23.20 (SD = 4.15), while the control group had a gain score of 14.40 (SD = 3.87). An independent t-test on the gain scores yielded a t-value of 7.124 with a p-value of 0.000 (< 0.05), confirming that the vocabulary retention improvement in the experimental group was significantly greater than in the control group.

The results of this study indicate that the use of WhatsApp reminders and the spaced repetition technique in the WilEnglish app significantly improved new vocabulary retention among students. The experimental group, which received WhatsApp reminders, showed a higher increase in scores compared to the control group. These findings suggest that the combination of WhatsApp reminders and spaced repetition is effective in supporting vocabulary retention in English language learning.

Discussion

The results of this study indicate that the use of WhatsApp reminders combined with the spaced repetition technique in the WilEnglish app significantly improved new vocabulary retention among students in the English Education Program at Universitas Kristen Tentena. The experimental group, which received WhatsApp reminders, showed higher posttest scores and gain scores compared to the control group, with a statistically significant difference ($p < 0.05$). These findings align with previous research that highlights the effectiveness of mobile-based language learning apps in enhancing vocabulary retention (Irawan et al., 2020; Novitasari & Putera, 2024).

The spaced repetition technique, implemented through the WilEnglish app, allows repeated exposure to new vocabulary with optimally spaced intervals. This approach aligns with the research of Rahman & Nabhan (2023) and Palangngan (2022), which found that spaced repetition in apps like Hello English not only improves vocabulary retention but also supports other skills such as pronunciation. In the context of this study, the WilEnglish app appears to provide an interactive and flexible learning experience, enabling students to learn at their own pace. This is in line with Nehe et al.'s (2023) findings,

which suggest that mobile-based learning environments can reduce anxiety and increase student engagement, thereby supporting better vocabulary retention.

The role of WhatsApp reminders in this study proved to be a key factor in enhancing the effectiveness of spaced repetition. Scheduled reminders seem to help students stay consistent in attending learning sessions, which ultimately strengthens the vocabulary acquisition process. These findings support Saiful's (2018) research, which emphasized the benefits of WhatsApp in increasing student motivation, despite certain management challenges. Furthermore, WhatsApp's ability to facilitate interaction and foster a sense of community, as noted by Bustillo et al. (2017) and Hidayati & Diana (2022), likely contributed to student engagement in this study. WhatsApp reminders not only function as technical reminders but also serve as a tool to maintain motivation and engagement in the learning process.

Additionally, the results of this study indicate that mobile-based technology encourages self-directed learning, as found by Maulida et al. (2022). Students in the experimental group appear to be able to align their learning goals with practices supported by the WilEnglish app and WhatsApp reminders. This combination creates a more personalized learning experience, allowing students to focus on their individual needs, thereby enhancing vocabulary retention and recall.

However, this study also has limitations. The relatively small population (50 students) and the focus on a single institution may limit the generalizability of the findings. Additionally, external factors such as individual motivation levels or varying access to technology among students might influence the results. Further research with a larger population and a longer treatment duration could provide additional insights into the long-term effectiveness of these strategies.

Overall, these findings reinforce the importance of integrating mobile technology, particularly WhatsApp reminders and the spaced repetition technique, in enhancing new vocabulary retention. This strategy is not only effective in the context of English language learning but also offers a relevant and easily adoptable approach to support more personalized and efficient learning.

KESIMPULAN

Based on the research findings, it can be concluded that the use of WhatsApp reminders combined with the spaced repetition technique in the WilEnglish app significantly improves new vocabulary retention among students in the English Education Program at the Faculty of Teacher Training, Universitas Kristen Tentena. The experimental group, which received treatment in the form of WhatsApp reminders and spaced repetition techniques, showed higher posttest scores and gain scores compared to the control group, with a statistically significant difference ($p < 0.05$). These findings indicate that the integration of mobile technology, specifically through WhatsApp reminders and spaced repetition-based learning apps, is effective in supporting vocabulary retention in English language

learning. This strategy also facilitates self-directed learning and higher engagement, creating a more personalized and efficient learning experience. This study highlights the potential of mobile technology as a relevant tool to improve language learning outcomes.

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