

THE IMPACT OF MOBILE-ASSISTED INTENSIVE READING ON EFL STUDENTS' MOTIVATION AND READING FLUENCY

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ABSTRACT

This study inspects the impact of Mobile-Assisted Intensive Reading (MAIR) on the motivation and reading fluency of EFL students. The study used a quasi-experimental approach that consisted of an experimental and a control group. A questionnaire was used to assess students' motivation and reading fluency. The result of analysis data showed both motivation and reading fluency increasing score compared to the control group. Statistical analysis showed that the average motivation scores were from 68.45 to 82.30, while the reading fluency scores increased from 72.10 to 85.75 after the implementation of MAIR. In contrast, the control group showed only slight improvements, with the motivation score from 69.10 to 72.15, and reading fluency from 71.85 to 74.20. The MANOVA results revealed a statistically significant difference between the experimental and control groups on the combined dependent variables, $F(2, 57) = 38.75$, $p < 0.001$, Wilks' $\Lambda = 0.421$. The effect size (Partial $\eta^2 = 0.579$) indicates a large effect, suggesting that the treatment had a substantial impact. Besides that, MAIR had a significant effect on students' motivation ($p < 0.001$). MAIR also had a significant effect on reading fluency ($p < 0.001$). Both variables confirm the effectiveness of the treatment. These findings suggest that MAIR fosters a more engaging learning environment, encourages learner independence, and allows for repeated interaction with the text, all of which are important for improving EFL students' reading fluency. Future researchers are advised to explore long-term impact of MAIR on students' reading comprehension, vocabulary growth, motivation, and reading fluency..

Keywords: MAIR practice, Motivation, Reading Fluency, Technology Integration.

INTRODUCTION

The swift advancement of digital methods, particularly in language technology has changed educational acquisition. Mobile devices like

smartphones and tablets are being more frequently incorporated into classroom teaching as they offer convenient access to educational resources anytime and anywhere. In English as a Foreign Language (EFL) context, mobile technology provides chances for students to interact with genuine resources, track their advancement, and obtain instant feedback (Sung et al., 2019). As a result, mobile-assisted language learning (MALL) has attracted significant interest as a novel method for enhancing language abilities.

Driven by the potential to establish portable, contextually aware, location-sensitive, multifunctional, and omnipresent learning settings, the deployment of mobile-assisted language learning (MALL) tools, such as smartphones, tablets, and e-readers, has so far demonstrated effectiveness in enhancing EFL learners' language abilities (Burston, 2020 ;(Hwang & Fu, 2019 ; Li, 2022 ; Shadiev et al., 2020).

Compare the four language skills, reading is essential for academic achievement as it allows learners to gain knowledge, expand vocabulary, and improve comprehension skills (Grabe & Stoller, 2020). Reading involves complex cognitive ; encompasses word recognition,

understanding, interpretation, and fluency (Hudson et al., 2019).

Despite its importance, many EFL encounter major reading difficulties due to factors such as phonological deficits, restricted vocabulary, and inadequate decoding skills (Alqahtani, 2020), traditional teaching methods on textbook-based instruction and teacher-centered approaches (Richards, 2019). Consequently, learners may read slowly, lose motivation.

Motivation serves as another crucial element impacting EFL reading development Dörnyei (2020). Students with low motivation in reading frequently show minimal engagement and decreased reading practice, which adversely impacts their reading fluency (E. Satriani, 2018).

Reading fluency is the ability to read with proper speed, accuracy, and expression (Hudson et al., (2019). It acts as a bridge between word recognition and comprehension, allowing readers to focus on meaning rather than decoding.

Therefore, innovative approaches such as Mobile-Assisted Intensive Reading (MAIR) are needed to improve learners' reading performance. However, traditional intensive reading practices, which often emphasize detailed analysis of texts, may not provide enough opportunities for repeated reading and

fluency development (Satriani et al., 2025 ; Day & Park, 2018 ; Renandya, 2019). In this study, Mobile-Assisted Intensive Reading (MAIR) with the capabilities of mobile technology that can significantly increase reading motivation and fluency (Renandya, 2019 ; Sung et al., 2019).

Despite the growing body of research on mobile-assisted language learning, there is still limited focus on the application of mobile technology in intensive reading context (Hazaea & Alzubi, 2018 ; Keezhatta, M. S., & Omar, 2019). Most studies have concentrated on extensive reading or general language learning, leaving a gap in understanding how mobile-assisted approaches can be applied to intensive reading (Lin, 2021; Yang, 2020). Furthermore, few studies

have simultaneously examined the impact of mobile-assisted intensive reading on both motivation and reading fluency. This gap highlights the need for further investigation to provide empirical evidence on the effectiveness of MAIR in EFL classrooms (Pratiwi & Firdaus, 2025).

To narrow the gap, this study synthesized pieces of literature on MALL for EFL students' motivation and reading fluency. In particular, this study aims to (1) find out the significant effect of MAIR on EFL students' motivation and students' reading fluency (2) know the significant difference between students who are taught using MAIR and those who receive conventional instruction.

REVIEW OF RELATED LITERATURES

2.1 Mobile-Assisted Language Learning (MALL)

Mobile-Assisted Language Learning (MALL) involves using mobile devices such as smartphones and tablets to support language learning tasks. In contrast to traditional computer-assisted learning, MALL provides enhanced flexibility, portability, and accessibility, allowing students to study at any time and place (Kukulka-Hulme, 2020 ; Rao, 2019 ; Morchid, 2020). In EFL contexts, mobile technology has gained significance as it

enables learners to access authentic resources, engaging activities, and instant feedback outside the classroom.

The latest studies show that MALL positively affects students' language growth, particularly in enhancing vocabulary acquisition, reading comprehension, and learner engagement (Sung et al., 2019 ; Mayer, 2020 ; Li, 2022). Moreover, mobile applications generally provide immediate responses, which are crucial for enhancing learning

and correcting errors (Hwang & Fu, 2019). These benefits make MALL a powerful tool for improving intensive reading tasks in EFL environments.

Furthermore, many existing MALL studies focus primarily on extensive reading activities but limited attention to intensive reading instruction. This indicates a gap in understanding how mobile technology can specifically support intensive reading practices in EFL classrooms.

2.2 Intensive Reading in EFL Contexts

Intensive reading is a close-reading technique designed to deeply understand complex texts by focusing on detail, accuracy, grammar, and vocabulary involves analyzing sentence structures and identifying key information, which might not engage digital technologies (Koay, 2021; Day & Park, 2018 ; Guthrie & Klauda, 2018). Based on this characteristics, students might face decreased motivation and minimal advancement in reading fluency (Wigfield et al., 2019).

To overcome these constraints, this research proposes integrating technology into reading teaching. Mobile-assisted intensive reading (MAIR) presents a more interactive and student-focused (Lin &

Warschauer, 2020 ; Zhang, 2022). This integration could change intensive reading into a more engaging and efficient learning process.

2.3 Motivation in EFL Learning

Motivation is broadly acknowledged as a crucial factor influencing success in learning a language. (Dörnyei, 2020 ; Ryan & Deci, 2020). Several studies indicate that learning environments replete with technology can boost learners' motivation. Mobile learning, especially, offers engaging and tailored experiences that can enhance the enjoyment and significance of learning. (Sung et al., 2019 ; (Hwang & Fu, 2019). Elements such as game playing, immediate feedback, and multimedia resources enlarge engagement and promote ongoing motivation. (Mayer, 2020). Consequently, combining mobile technology into intensive reading can potentially tackle the EFL students' low motivation.

2.4 Reading Fluency and Its Development

Reading fluency is an essential aspect of reading skills, involving precision, pace, and expression (Rasinski, 2018 ; Hudson et al., 2019). Proficient readers can handle texts effectively, enabling them to concentrate on understanding rather than deciphering

(Kuhn et al., 2019). In EFL settings, enhancing reading fluency is crucial for advancing overall language skills and academic success (Grabe & Stoller, 2020).

Nevertheless, numerous EFL students face challenges in reading fluency because of insufficient exposure to English materials and a lack of practice (Chang, 2019). Conventional reading instruction frequently prioritizes comprehension rather than fluency, leading to slow and arduous reading (Renandya, 2019). For enhancing fluency, students require chances for repeated reading, ample practice, and access to captivating texts (Rasinski, 2018 ; Hwang & Fu, 2019). Elements like text highlighting, audio functionality, and customizable reading speeds can assist learners in enhancing their reading precision and speed (Mayer, 2020). Furthermore, mobile apps frequently feature interactive activities that reinforce understanding and fluency at the same time (Sung et al., 2019).

.METHODS

3.1 Research Design

This study employs a quasi-experimental design with a non-equivalent

2.5 Previous Studies on Mobile-Assisted Reading

Several studies have emphasized the significance of mobile technology in encouraging self-directed learning. Lai (2019) locates that mobile-assisted learning promotes learner responsibility, resulting in heightened motivation and improved results. Additionally, (Burston, 2020) highlighted that mobile learning offers adaptable and personalized educational experiences that cater to the unique needs of each learner.

Regardless of these encouraging results, the research use of mobile-assisted intensive reading remains scarce. Many current studies emphasize extensive reading or general language acquisition, creating a gap in comprehension regarding how mobile technology can improve intensive reading methods (Zhang, 2022). Moreover, limited research has concurrently investigated the influence of mobile-assisted reading on both motivation and reading fluency (Lin, 2021).

control group to explore the influence of Mobile-Assisted Intensive Reading (MAIR) on the motivation and reading

fluency of EFL students (Creswell, J. W., & Creswell, 2018). The research included two groups: experimental group that was given MAIR treatment and control group with conventional technique.

3.2 Participants

The participants in this research comprised EFL students at the university level, particularly those in their first semester within an English Education program. 60 students took part in the study, with 30 assigned to the experimental group and 30 to the control group. The technique employed for sampling was purposive sampling, with participants chosen due to their comparable levels of English proficiency and have taken intensive reading classes.

3.3 Research Instruments

The instruments used in this study were classified into a reading fluency test and a motivation questionnaire. Before doing distribution to participants, the instruments are subjected to a validation process to confirm their validity and reliability. Content validity was assessed using expert evaluation from two English education lecturers specializing in reading instruction and educational assessment. The specialists examined the tools regarding relevance, clarity, language

suitability, and conformity with the research goals. Changes were implemented according to their recommendations and comments.

3.3.1. Motivation Questionnaire

A Likert-scale questionnaire was used to measure students' motivation toward reading. The questionnaire was adapted from established motivation scales based on Self-Determination Theory (Dörnyei, 2020)). It consisted of 25 items covering key dimensions such as: intrinsic motivation, extrinsic motivation, learning engagement, and self-efficacy.

Each item was rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was administered before and after the treatment to assess changes in students' motivation levels.

3.3.2. Reading Fluency Test

Reading fluency was measured using a reading aloud test and a timed silent reading test, which assessed students' reading speed, accuracy. Reading speed was measured in words per minute (WPM), while accuracy was evaluated based on pronunciation and error rates.

To ensure the quality of the instruments, both validity and reliability

tests were conducted. Content validity was established through expert judgment by two lecturers in English education, ensuring that the instruments aligned with the research objectives.

3.4 Data Collection Procedures

The data collection process was conducted in several stages:

- Pre-test Phase

Both experimental and control groups were given the motivation questionnaire and reading fluency test to determine their initial levels.

- Treatment Phase

The experimental group received instruction through Mobile-Assisted Intensive Reading for 6 weeks, while the control group was taught using conventional methods.

Throughout the treatment sessions, various mobile-assisted learning apps were incorporated to enhance students' intensive reading tasks.

- ReadTheory provided graded reading texts accompanied by comprehension questions and immediate feedback. This tool assisted students in honing their skills in recognizing main concepts, detailed information, vocabulary definitions, and

understanding texts based on their reading proficiency levels.

- Quizizz was used to develop engaging reading quizzes, vocabulary activities, and grammar-oriented comprehension assignments. By combining gamified elements like points, leaderboards, and real-time scoring, Quizizz enhanced students' involvement, participation, and enthusiasm during intensive reading tasks.
- The Duolingo English Test Practice was utilized to enhance students' reading fluency and vocabulary skills via brief reading tasks, sentence completion exercises, and timed comprehension activities. The app motivated students to read more effectively while enhancing their grasp of sentence construction and contextual significance.

Furthermore, digital reading platforms combined with interactive learning tasks were employed to enhance collaborative and student-focused learning. These platforms offered digital content with highlighting tools, online dictionaries, annotation options, discussion boards, and

comprehension activities. These interactive features motivated students to examine texts more thoroughly, engage in discussions about the reading material with classmates, and take an active role in the learning experience during the MAIR treatment sessions.

- Post-test Phase

After the treatment, both groups were administered the same instruments to measure improvements in motivation and reading fluency.

3.5 Data Analysis Technique

RESULTS AND DISCUSSION

Results

4.1. Descriptive Statistics

The descriptive statistics were calculated to summarize the students' motivation and reading fluency scores in both experimental and control groups before and after the treatment.

Table 1. Descriptive Statistics of Motivation Scores

Group	Test	N	Mean	SD
Experimental	Pre-test	30	68.45	6.21
Experimental	Post-test	30	82.30	5.48
Control	Pre-test	30	69.10	6.05
Control	Post-test	30	72.15	5.90

The collected data were analyzed using SPSS. The analysis included both descriptive and inferential statistics:

- Descriptive Statistics
- Normality and Homogeneity Tests
- Inferential Statistics (MANOVA)
- *Effect Size*

Effect size was calculated using Partial Eta Squared (η^2) to determine the magnitude of the treatment effect. Values of 0.01, 0.06, and 0.14 were interpreted as small, medium, and large effects, respectively.

Table 2. Descriptive Statistics of Reading Fluency Scores

Group	Test	N	Mean	SD
Experimental	Pre-test	30	72.10	7.02
Experimental	Post-test	30	85.75	6.10
Control	Pre-test	30	71.85	6.88
Control	Post-test	30	74.20	6.45

The data indicate that both groups had relatively similar baseline scores in the pre-test. However, after the treatment, the experimental group showed a substantial increase in both motivation and reading fluency compared to the control group.

Assumption Testing

Before conducting MANOVA, the assumptions of normality and homogeneity were tested.

- Normality Test (Kolmogorov-Smirnov): All variables showed $p > 0.05$, indicating normal distribution.
- Homogeneity Test (Levene's Test): Results showed $p > 0.05$ for all variables, confirming homogeneity of variance.

These results indicate that the data met the assumptions required for MANOVA analysis.

4.3. MANOVA Results

A one-way MANOVA was conducted to examine the effect of the instructional method (MAIR vs. conventional) on students' motivation and reading fluency.

Table 3. Multivariate Test (MANOVA)

Test	Value	F	Sig.	Partial η^2
Wilks' Lambda	0.421	38.75	0.000	0.579

The MANOVA results revealed a statistically significant difference between the experimental and control groups on the combined dependent variables, $F(2, 57) = 38.75$, $p < 0.001$, Wilks' $\Lambda = 0.421$. The effect size (Partial $\eta^2 = 0.579$) indicates a

large effect, suggesting that the treatment had a substantial impact.

4.4. Tests of Between-Subjects Effects

To determine the effect of MAIR on each dependent variable, follow-up ANOVA tests were conducted.

Table 4. Tests of Between-Subjects Effects

Variable	F	Sig.	Partial η^2
Motivation	52.63	0.000	0.476
Reading Fluency	61.21	0.000	0.513

The results indicate that MAIR had a significant effect on students' motivation ($p < 0.001$). MAIR also had a significant effect on reading fluency ($p < 0.001$). Both variables showed large effect sizes, confirming the effectiveness of the treatment.

Discussion

The findings of this study demonstrate that Mobile-Assisted Intensive Reading (MAIR) significantly improves EFL students' motivation. It can be attributed to the interactive and flexible nature of mobile learning. Mobile devices provide access to multimedia resources, interactive exercises, and immediate feedback, which enhance learner engagement. This finding supports the theory of Self-Determination, which emphasizes that autonomy and competence contribute to increased motivation (Ryan & Deci, 2020). In this study, students in

the experimental group were able to control their learning pace and access materials independently, leading to higher levels of intrinsic motivation.

Furthermore, the use of mobile technology aligns with previous studies that found mobile learning environments to be more engaging than traditional classroom methods (Sung et al., 2019 ; Hwang & Fu, 2019). The incorporation of features such as digital annotation, online dictionaries, and interactive quizzes made the reading process more dynamic and enjoyable. As a result, students developed a more positive attitude toward reading activities.

Second, the availability of diverse reading materials and the opportunity for repeated practice allowed students to develop automaticity in reading. This finding is consistent with Rasinski, (2018) who emphasized that repeated exposure to texts is essential for developing reading fluency.

In addition, mobile-assisted learning supports the principles of Multimedia Learning Theory (Mayer, 2020), which suggests that combining visual and textual information enhances reading speed and accuracy (Lin, 2021).

Another important finding is the large effect size observed in both

motivation and reading fluency. This indicates that the impact of MAIR is not only statistically significant but also practically meaningful (Keezhatta & Omar, 2019). The strong effect suggests that integrating mobile technology into intensive reading instruction can produce substantial improvements in students' learning outcomes (Pratiwi & Firdaus, 2025; Huang & Yang, 2021).

In contrast, the control group showed only marginal improvements, which may be due to the limitations of traditional teaching methods. Conventional intensive reading often lacks interactive elements and may not provide sufficient opportunities for repeated practice. This supports previous research suggesting that traditional approaches may not effectively address students' motivational and fluency needs (Richards, 2019).

Despite these positive findings, several limitations should be considered. First, the duration of the treatment was relatively short (six weeks), which may not fully capture the long-term effects of MAIR. Second, the study was conducted with a limited sample size and specific context, which may affect the generalizability of the results. Future research is recommended to explore the long-term impact of MAIR and its

application in different educational settings and proficiency levels.

CONCLUSIONS

This study concludes that students who participated in MAIR activities demonstrated higher motivation and better reading fluency compared to those who received conventional reading instruction. The large effect size obtained in both variables also indicates that the impact of MAIR is not only statistically significant but practically meaningful in supporting students' reading development.

The research expands the collection of studies on mobile-assisted language learning by focusing on the use of mobile

technology in an intensive reading course. Integrating mobile technology into intensive reading teaching can foster more interactive, accessible, and student-focused learning experiences in EFL classrooms. Consequently, English instructors are urged to integrate mobile-assisted learning tasks as a different teaching approach to enhance student engagement and reading achievement. Future researchers should also explore the lasting impacts of MAIR and its use across various educational settings and language abilities.

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