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THE CORRELATION BETWEEN MOBILE LEARNING TECHNOLOGY USAGE AND STUDENTS' ENGLISH LEARNING RESULTS AT SMA NEGERI 5 TUALANG

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ABSTRACT

Mobile learning technology has become increasingly common in secondary English classrooms because it offers flexibility, accessibility, and opportunities for independent learning. However, its contribution to students' academic achievement remains uncertain and requires empirical investigation. This study aimed to examine the correlation between students' use of mobile learning and their English learning outcomes at SMA Negeri 5 Tualang. The research employed a quantitative correlational design involving 65 twelfth-grade students selected through cluster random sampling. Data were collected through a questionnaire measuring mobile learning usage and documentation of students' English report card scores. Since the data were not normally distributed, Spearman's rank-order correlation test was used for analysis with SPSS. The results showed a significance value of 0.245 ($p > 0.05$) and a correlation coefficient of 0.146, indicating no significant relationship and only a very weak positive correlation. This finding may be influenced by the relatively homogeneous distribution of students' scores and the limited integration of mobile learning into structured instructional practices. In addition, the impact of mobile learning depends largely on teacher guidance, student motivation, and effective classroom implementation.

Keywords: Correlational Study, Mobile Learning Technology, English Learning Results, High School.

1. INTRODUCTION

The rapid development of digital technology has significantly influenced various aspects of education, including the process of learning English. In recent years, mobile devices such as smartphones and tablets have become widely used tools that support flexible learning. These devices allow students to access learning materials, instructional videos, online exercises, and language learning applications anytime and anywhere. As a result, learning activities are no longer limited to traditional classroom settings but can also occur independently through digital platforms. The integration of mobile technology into education has given rise to the concept of mobile learning, which enables students to learn in a more flexible, interactive, and personalized manner. However, despite the increasing availability of mobile devices among students, the extent to which mobile learning contributes to students' academic achievement, particularly in English learning, remains a topic that requires further empirical investigation.

Mobile learning has attracted considerable attention from researchers in the field of language education. Previous studies have reported several benefits of mobile learning in improving students' engagement and language skills. For example, Hongjin (2021) found that mobile learning can increase students' motivation and support vocabulary development among English as a Foreign Language (EFL) learners. Similarly, Alameir (2023) reported that mobile-based learning encourages autonomous learning and positively influences students' academic performance. Furthermore, Chen (2022) demonstrated that the use of mobile applications in language learning enhances students'

motivation and improves their academic achievement. Another study conducted by Anuyahong et al. (2023) indicated that mobile learning promotes active student participation and facilitates independent learning processes. These studies highlight the potential of mobile technology as an effective tool to support language learning.

Although previous research has shown promising results, most studies on mobile learning have been conducted in higher education contexts. As a result, empirical evidence regarding the implementation of mobile learning at the secondary school level remains limited. Secondary school students often face different challenges compared to university students, such as varying levels of digital literacy, limited access to stable internet connections, and the need for stronger guidance from teachers. These factors may influence how effectively mobile learning can be integrated into classroom learning activities. Therefore, research focusing on the relationship between mobile learning usage and students' academic outcomes in secondary education is still necessary.

In the Indonesian educational context, mobile learning has begun to gain attention as an alternative approach to support digital learning environments. Malik (2024) emphasized that mobile learning has the potential to improve students' English learning outcomes if supported by adequate technological infrastructure and effective instructional strategies. Moreover, recent studies also indicate that mobile learning applications can enhance students' participation and facilitate interactive learning experiences. Ding and Zhu (2025) reported that mobile applications significantly increase students' engagement in second language learning. In addition, Hamid and Chrysty (2024) found that students who utilize mobile devices in language learning show improvements in their listening and speaking skills. These findings suggest that mobile learning can provide meaningful learning opportunities when it is integrated effectively into the teaching and learning process.

Despite the potential benefits of mobile learning, its implementation in many secondary schools is still not optimal. Based on preliminary observations conducted at SMA Negeri 5 Tualang, most students already own smartphones that could potentially be used as learning tools. However, in practice, these devices are more frequently used for communication and entertainment rather than academic purposes. In addition, several challenges hinder the effective integration of mobile learning in the classroom, including unequal internet access among students, differences in students' digital literacy levels, and limited teacher readiness to integrate mobile technology into instructional activities. These conditions may influence how mobile learning contributes to students' English learning results.

Considering these issues, it is important to examine whether the use of mobile learning technology is related to students' academic achievement in English learning, particularly at the secondary school level. Understanding this relationship can provide valuable insights into how mobile learning can be utilized more effectively to support English language learning. Therefore, this study aims to investigate the correlation between mobile learning technology usage and students' English learning results at SMA Negeri 5 Tualang.

2. METHODOLOGY

This study employed a quantitative correlational research design to examine the relationship between students' mobile learning technology usage and their English learning results. A correlational approach was chosen because the study aimed to determine whether there was a significant relationship between the two variables without manipulating the research setting. The

independent variable in this study was mobile learning technology usage, while the dependent variable was students' English learning results. The research was conducted at SMA Negeri 5 Tualang, located in Siak Regency, Riau Province, Indonesia. The participants of this study were 65 twelfth-grade students in the academic year 2024/2025. The population consisted of all students in grade XII, and the sample was selected using a cluster random sampling technique because the number of participants was manageable and accessible for the researcher. In total, 65 students participated in this study. Two instruments were used to collect the data. The first instrument was a questionnaire designed to measure students' mobile learning technology usage. The questionnaire was distributed online using Google Forms to make it easier for students to access and respond. The questionnaire consisted of 23 items that were developed based on several indicators related to mobile learning activities, such as frequency of use, types of learning activities, learning motivation, learning effectiveness, and learning accessibility. Each item was measured using a four point Likert scale ranging from strongly disagree (1) to strongly agree (4). The questionnaire aimed to capture students' perceptions and experiences in using mobile devices, such as smartphones or tablets, for English learning activities.

The second instrument used in this study was document of students' English learning results. The data were obtained from the students' official English report card scores provided by the English teacher. These scores were used to represent students' English learning outcomes and served as the dependent variable in the study. Before conducting the data analysis, the collected questionnaire responses were tabulated and scored based on the Likert scale. Each response was assigned a numerical value from 1 to 4, and the total score for each respondent was calculated. Higher scores indicated higher levels of mobile learning technology usage.

The data were analyzed using statistical analysis to determine the correlation between the two variables. The Spearman rank Correlation technique was used to measure the strength and direction of the relationship between students' mobile learning technology usage and their English learning results. The analysis was conducted using statistical software to ensure accuracy in the calculation process. To interpret the correlation coefficient, the results were compared with the standard interpretation of correlation values. A positive correlation coefficient indicates that higher levels of mobile learning usage are associated with better English learning results, while a negative coefficient indicates the opposite relationship. If the significance value (p-value) is lower than 0.05, the correlation is considered statistically significant. Through this method, the researcher aimed to determine whether mobile learning technology contributes to students' English learning results. The findings of this study are expected to provide insights for teachers and educators regarding the role of mobile learning technology in supporting English language learning in secondary school contexts.

Tabel 1. Instrument of Mobile Learning

No	Indicator	Description	Item Numbers	Total Items
1	Perceived Convenience	Students' perceptions of the convenience of using mobile learning for English learning anytime and anywhere.	1–4	4

Mobile Learning	Mean	Median	SD	Max	Min
(Score)	71,45	70,00	8,299	90,00	39,00

No	Indicator	Description	Item Numbers	Total Items
2	Perceived Ease of Use	Students' perceptions of how easy the mobile learning system is to operate and interact with.	5–10	6
3	Perceived Usefulness	Students' perceptions of the benefits of mobile learning in improving their English learning performance and effectiveness.	11–16	6
4	Attitude Toward Using	Students' attitudes and positive feelings toward using mobile learning in English learning activities.	17–20	4
5	Continuance Intention to Use	Students' intention to continue using mobile learning for English learning in the future.	21–23	3
	Total			**23 Items**

3. RESULTS

This section presents the findings of the study regarding the relationship between students' mobile learning technology usage and their English learning results at SMA Negeri 5 Tualang. The data were collected through two instruments: an online questionnaire distributed via Google Forms to measure students' mobile learning technology usage, and students' English report card scores to represent their English learning results. After the data were collected, the questionnaire responses were tabulated and analyzed using the Statistical Package for the Social Sciences (SPSS) version 26. Descriptive statistical techniques were applied to summarize the data, including the calculation of the mean and standard deviation. These statistical analyses were used to describe the level of students' mobile learning technology usage and their English learning results. Furthermore, correlation analysis was conducted to determine whether there is a significant relationship between the two variables. The results of the analysis are presented in the following section;

a. Descriptive Statistics of Mobile Learning

Tabel 4 shows that the average mobile learning technology usage by students is 71.45 with the lowest score of 39 and the highest score of 90, with a standard deviation of 8.299.

b. Descriptive Statistics of English Learning Results

Table 4.1 shows that the average mobile learning technology usage by students is 95.08 with the lowest score of 51 and the highest score of 96, with a standard deviation of 5.569.

c. Normality Test

Data normality testing has the aim of investigating the distribution of research data collected from the research population. Data normality testing is done with the kolmogorov-Smirnov Test. The provisions used in the test are if the p value> 0.05, then the distribution or distribution of the data is normal.

English Learning Results	Mean	Median	SD	Max	Min
(Score)	95,08	96,00	5,569	96,00	51,00

Table 5 Kolmogorov-Smirnov Normality Test

One-Sample Kolmogorov-Smirnov Test			
		Mobile Learning	English Learning Results
N		65	65
Normal Parameters[a,b]	Mean	71.45	95.08
	Std. Deviation	8.299	5.569
Test Statistic		.188	.479
Sig. (2-tailed)		.000	.000

a. Test distribution is not Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

Source: SPSS Version 26

The table above shows that the Mobile Learning variable has a Kolmogorov Smirnov test probability value of p = 0.000 (p < 0.05), while the English Learning Results variable has a probability value of p = 0.000 (p < 0.05). This means that both variables are not normally distributed because their p values are less than 0.05. Therefore, further data analysis needs to use non parametric statistical methods.

d. Linearity Test

The linearity test aims to determine whether two variables have a linear relationship or not significantly. Linearity test with a significance level of 0.05 or p < 0.05. The details can be seen from the following table:

Table 4.6 Linearity Test on Mobile Learning to English Learning Results

Source: SPSS Version 26

The ANOVA table shows that there is a significant relationship between the Mobile Learning variable and English Learning Results, with an F value of 369.044 and significance of 0.000 (p < 0.05). This means that there are significant differences in English learning outcomes between groups based on variations in Mobile Learning, so it can be concluded that Mobile Learning has a significant relationship with English learning outcomes in the sample studied.

e. The Result of Hypothesis Testing

To address the first research question, which aims to examine whether there is a significant correlation between students' mobile learning technology usage and their English learning results, the researcher employed the Spearman rank correlation test. This statistical test was used because the data in this study were not normally distributed. The results of the hypothesis testing are presented in the following table;

Table 6

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
English Learning Results * Mobile Learning	Between Groups	(Combined)	1976.261	25	79.050	369.044	.000
	Within Groups		8.354	39	.214		
	Total		1984.615	64			

Correlational Analysis on Mobile Learning to English Learning Results

Nonparametric Correlations

			Mobile Learning	English Learning Results
Spearman's rho	Mobile Learning	Correlation Coefficient	1.000	.146
		Sig. (2-tailed)	.	.245
		N	65	65

English Learning Results	Correlation Coefficient	.146	1.000
	Sig. (2-tailed)	.245	.
	N	65	65

Source: SPSS Version 26

Based on Table 4.7, the correlation analysis between mobile learning usage and students' English learning results shows a significance value of p = 0.245 (p > 0.05). This result indicates that the null hypothesis (H_0) is accepted and the alternative hypothesis (H_a) is rejected. In other words, there is no significant correlation between mobile learning and students' English learning results in this study. The Spearman correlation coefficient (r) is 0.146, which indicates a very weak or low level of correlation between the two variables. To examine the direction of the relationship, a scatter plot diagram was used to illustrate whether the relationship between the variables is positive or negative. The direction of the correlation based on the scatter plot can be seen in the following figure.

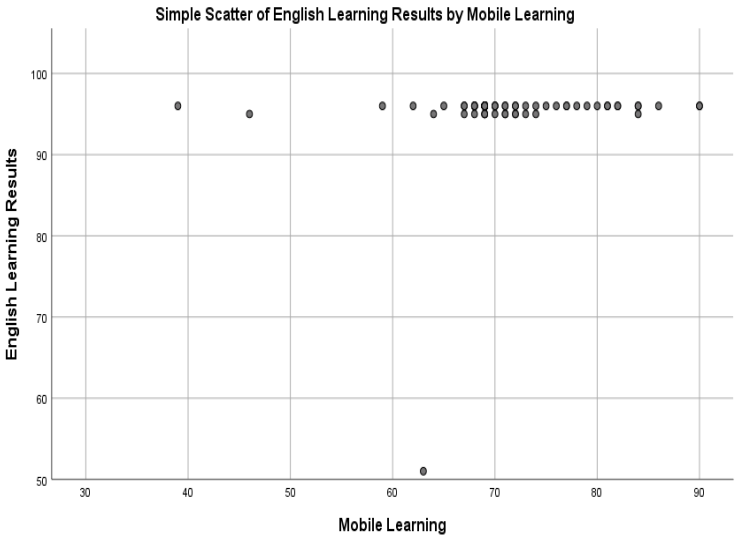

Figure 1 The Direction of Correlation

Based on the scatter plot above, the relationship between mobile learning usage (X) and students' English learning results (Y) can be observed. Most of the data points are clustered at the top of the graph, indicating that the majority of students achieved very high English scores, ranging from 95 to 96. These scores remain relatively stable even though students' mobile learning usage varies from low to high levels. This suggests that mobile learning usage does not show a noticeable difference in students' English learning results, as most students obtained similar scores. In addition, one data point appears as an outlier at the lower part of the graph. This point represents a student who has a moderate mobile learning score (around 63) but achieved a much lower English learning result (51) compared to other students. The direction of the correlation can also be identified from the SPSS output of the Spearman correlation value. A positive value without a negative sign (–)

indicates a positive correlation between the variables, while a value with a negative sign (–) indicates a negative correlation.

4. DISCUSSION

The purpose of this section is to answer the research question of: is there any correlation between students' mobile learning technology usage and their English learning results at SMA Negeri 5 Tualang?. The results of the study show that there is no correlation between the use of mobile learning technology and English learning results at SMA Negeri 5 Tualang. This result can be seen from the probability value or Sig. (2-tailed) which is greater than 0.05 (0.245 > 0.05), which means that mobile learning has no significant relationship with students' English learning outcomes. The level of relationship between the two variables is classified as very weak with a correlation value of 0.146, which is in the range of 0.00-0.19. Although the direction of the relationship is positive because there is no negative sign (-) in the correlation value, because it is not statistically significant, an increase in the use of mobile devices cannot be said to have a real impact on the achievement of English learning outcomes in the subjects of this study.

These findings differ from several previous studies that reported a positive effect of mobile learning on learning outcomes. (Garzón et al. 2025) in a meta-analysis published in Computers & Education stated that mobile learning has a significant positive effect on improving learning outcomes, especially when supported by structured learning design. Similarly, (Rejas et al. 2024) in a systematic review published in Applied Sciences found that the systematic integration of mobile learning into the learning process can improve student learning outcomes and critical thinking skills. Furthermore, (Ahmed et al. 2025) reported that mobile-based learning systems combined with gamification and cloud computing can significantly improve student engagement and academic achievement.

The differences between the results of this study and previous studies can be understood from the differences in research design and context. Most previous studies used experimental or quasi-experimental designs with specially designed learning treatments. Meanwhile, in this study, the use of mobile learning was measured based on the general level of use without any structured learning intervention. This is in line with the opinion (Clark 1994) which states that learning media basically only functions as a means of delivery, while learning success is more determined by the learning strategies and methods used. Therefore, the use of technology without systematic learning design does not necessarily result in measurable improvements in learning outcomes.

In addition, data characteristics also need to be considered when interpreting the results of this study. Student learning scores show a high level of homogeneity, with most students scoring in the range of 95–96. This condition indicates very limited score variation. In correlation analysis, adequate data variation in both variables is necessary to detect a significant relationship. When score variation is limited, the ability of statistical analysis to find a strong relationship is reduced. Thus, the absence of a significant relationship in this study may be influenced by the limited data variation.

Learning outcomes are complex constructs influenced by various factors, such as intrinsic motivation, prior knowledge, and self-regulation skills in learning. (Chiu et al. 2021) emphasize that motivation and independent learning skills play an important role in determining students' academic success. Furthermore, (Luo et al. 2025) show that digital technology often has a greater impact on affective aspects, such as engagement and learning motivation, than on academic grades directly. Therefore, the insignificant relationship in this study does not necessarily indicate that mobile

learning is not beneficial, but rather shows that its impact is highly dependent on the learning design and student characteristics.

Overall, the results of this study indicate that mobile learning is not the sole factor determining English learning outcomes. Its effectiveness greatly depends on learning design, teaching strategies, student characteristics, and the suitability between technology use and learning objectives. These findings enrich the literature by providing a perspective that the impact of mobile learning is contextual and not always statistically significant in every educational situation. Further research is recommended to examine mediating variables such as instructional design quality, digital self-efficacy, and students' cognitive engagement levels to gain a more comprehensive understanding of the relationship between mobile learning and learning outcomes at the secondary school level.

5. CONCLUSION

Based on the results of the study, it can be concluded that there is no significant relationship between the use of mobile learning and the English learning outcomes of students at SMA Negeri 5 Tualang. The results of Spearman's rho correlation analysis show a Sig. (2-tailed) value of 0.245, which is greater than 0.05, with a correlation coefficient of 0.146, which is in the very weak category. This means that the frequency or intensity of mobile learning use does not have a statistically significant relationship with students' English academic achievement. Thus, learning success is not only determined by the use of technology, but also influenced by other factors such as learning methods, student engagement, learning motivation, and self-management skills in the learning process. Therefore, the use of mobile learning needs to be designed and integrated in a more structured manner in order to contribute more optimally to improving student learning outcomes.

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