

Tiktok as a Microlearning Platform for Improving Vocabulary Mastery and Student Engagement at State Islamic Senior High School

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ABSTRACT

The rapid development of digital technology has encouraged the integration of innovative and interactive media into English language learning. However, vocabulary mastery and student engagement remain relatively low among Grade XI Social Science students at MAN 1 Soppeng. This study aims to investigate the effectiveness of TikTok as a microlearning platform in improving students' English vocabulary mastery and learning engagement. A quantitative approach employing a pre-experimental one-group pre-test-post-test design was used. The participants consisted of two Grade XI Social Science classes selected through purposive sampling. Data were collected using vocabulary tests and student engagement questionnaires, then analyzed through descriptive statistics, paired-sample *t*-tests, and percentage analysis. The findings are expected to demonstrate that TikTok-based microlearning significantly enhances students' vocabulary mastery while increasing their active participation and engagement in English learning. By presenting vocabulary through short, interactive, and engaging videos, TikTok offers meaningful learning experiences that encourage continuous practice beyond the classroom. This study is expected to provide practical insights for English teachers seeking to integrate social media into technology-enhanced vocabulary instruction and promote more engaging, student-centered EFL learning environments.

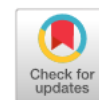
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INTRODUCTION

The rapid advancement of digital technology has transformed educational practices by expanding access to flexible, interactive, and student-centered learning environments. In English as a Foreign Language (EFL) education, digital learning has become increasingly important because it enables learners to access authentic materials, engage in self-directed learning, and develop language skills beyond the classroom. One emerging approach within digital learning is microlearning, which delivers instructional content in short, focused, and easily accessible learning units. Microlearning has gained considerable attention because it reduces cognitive overload, promotes continuous learning, and improves knowledge retention, making it particularly suitable for vocabulary acquisition. Recent studies have shown that digital microlearning environments can enhance students' motivation, engagement, and language achievement through concise and multimedia-rich content. Among various digital platforms, TikTok has attracted growing interest in education due to its short-video format, interactive features, and widespread popularity among adolescents. Its ability to present vocabulary in meaningful, contextualized, and visually engaging ways makes it a promising medium for English language instruction. However, despite the increasing educational use of TikTok, empirical studies examining its effectiveness as a microlearning platform for simultaneously improving vocabulary mastery and student engagement remain limited, particularly among Indonesian senior high school students.

Therefore, this study investigates the effectiveness of TikTok-based microlearning in enhancing students' English vocabulary mastery and learning engagement.

The development of digital technology has brought significant changes to various aspects of life, including education. In today's digital era, the learning process no longer relies solely on textbooks and conventional teaching methods but also incorporates technology and digital media to create more innovative and interactive learning experiences (Bond & Bergdahl, 2022; Kustandi, C., & Darmawan, 2020). These technological advancements provide educators with opportunities to design learning environments that are more engaging, effective, and aligned with the characteristics of today's learners. As digital natives, Generation Z students are highly familiar with technology and tend to prefer learning through visual, audio, and social media-based content (Denoijean-Maiiret et al., 2024).

In English language learning, vocabulary mastery serves as the foundation for developing the four essential language skills: listening, speaking, reading, and writing (Padaloliii & Nanning, 2021). Students with limited vocabulary often experience difficulties in understanding learning materials, expressing ideas, constructing sentences, and communicating effectively in English. Therefore, selecting appropriate instructional strategies is essential to support vocabulary acquisition and improve students' language proficiency (Selpi & Nanning, 2018; Sunubi & Nurfitri, 2018). Strengthening vocabulary mastery not only enhances students' linguistic competence but also contributes to their overall success in learning English.

However, initial observations conducted at MAN 1 Soppeng revealed that many students still have limited English vocabulary mastery, particularly those in Grade XII Social Studies. Students often experience difficulties in understanding word meanings, pronouncing English vocabulary correctly, and using vocabulary appropriately in simple sentences. Interviews with English teachers further indicated that classroom instruction continues to rely predominantly on conventional teaching methods, including lectures, textbooks, and routine assignments. As a result, students' average English achievement remains below the school's Minimum Mastery Criterion (KKM), with an average score of 70 compared to the required score of 75. These conditions also contribute to low student engagement, as learners tend to listen passively to the teacher's explanations rather than actively participate in classroom activities. Consequently, limited vocabulary mastery reduces students' participation and confidence in learning English (Tong, 2004).

In contrast, most students actively use social media, particularly TikTok, in their daily lives. TikTok is a short-video platform that offers interactive features, including audio, text, visual effects, and multimedia content, making it highly appealing to the digital generation (Siraji, 2025; Taubah, 2020). Beyond entertainment, TikTok has increasingly been recognized as a potential educational platform. Its short-video format aligns well with the concept of microlearning, which delivers instructional content in brief, focused, and easily understandable learning units (Hug, 2010). Through microlearning, students can learn vocabulary gradually, allowing them to better understand, retain, and apply new information over time (Mohammed et al., 2018; Shail, 2019).

The use of TikTok as a microlearning platform is considered highly relevant to the characteristics of today's digital generation because it provides a more engaging, flexible, and interactive learning experience (Conde-Caballero et al., 2024). Through short videos, TikTok enables students to learn vocabulary by presenting pronunciation, meanings, example sentences, and authentic language use in everyday contexts. Furthermore, students can access learning materials anytime and anywhere using their smartphones, allowing for greater flexibility and continuous learning. The integration of visual, audio, and repetitive multimedia content also supports students in understanding, retaining, and recalling new vocabulary more effectively.

Previous studies have demonstrated that TikTok can enhance students' learning motivation, creativity, and academic achievement in English language learning (Khasanah, 2022; Nurhayati, 2023). Likewise, microlearning delivered through social media has been found to increase student engagement by promoting active participation and sustained

attention during the learning process (Tirtayasa, 2019). However, existing studies have generally examined TikTok as a learning medium without specifically investigating its implementation as a microlearning platform for vocabulary instruction. Limited attention has been given to how TikTok is integrated into classroom learning, how students respond to its use, and how it influences vocabulary mastery and student engagement throughout the learning process.

Moreover, previous research has rarely explored the implementation of TikTok-based microlearning within specific educational contexts, particularly at MAN 1 Soppeng, where students have unique learning characteristics and classroom conditions. In addition, most existing studies have employed qualitative or descriptive approaches, providing limited quantitative evidence regarding the effectiveness of TikTok in improving vocabulary mastery and student engagement. Therefore, a research gap remains concerning the quantitative evaluation of TikTok as a microlearning platform for enhancing English vocabulary mastery and student engagement among Grade XII Social Studies students at MAN 1 Soppeng.

Through this study, the researchers hope to provide a clearer picture of the effectiveness of TikTok as a microlearning platform in vocabulary learning, students' level of engagement during the learning process, and the improvement of students' vocabulary mastery after using TikTok as a microlearning platform. Based on these conditions, there is still a research gap regarding studies that examine the effect of using TikTok as a microlearning platform on improving students' vocabulary mastery and student engagement using a quantitative approach, particularly among students at MAN 1 Soppeng. Therefore, this study was conducted to determine whether the use of TikTok is effective in improving students' vocabulary mastery and student engagement in English learning.

This study employed a quantitative method using a pre-experimental one-group pretest-posttest design. The research was conducted by administering a pretest before the implementation of TikTok-based learning, followed by a posttest after the treatment to measure the improvement in students' vocabulary mastery. In addition, a questionnaire was administered to determine the level of students' engagement during the learning process using TikTok as a microlearning platform. Based on this description, the research problem of this study is whether the use of TikTok as a microlearning platform is effective in improving the vocabulary mastery of Grade XII.1 and XII.2 students at MAN 1 Soppeng, whether there is a significant improvement in students' vocabulary mastery after using TikTok, and how the use of TikTok affects student engagement in English learning.

In line with the research problems, this study aims to determine the effectiveness of TikTok as a microlearning platform in improving students' vocabulary mastery, to measure the improvement in students' vocabulary mastery after using TikTok, and to examine the effect of TikTok on student engagement in English learning at MAN 1 Soppeng. This research is expected to make a positive contribution to the development of technology-based learning media, particularly in English language learning. In addition, the findings are expected to serve as a reference for teachers in utilizing social media as an innovative, engaging, and appropriate learning medium in accordance with technological developments in the digital era.

METHOD

Research Design

This study used a quantitative method with a pre-experimental one-group pretest-posttest design. This design was chosen because the study aimed to measure the effectiveness of a treatment on a single group without using a control group (Sugiyono, 2013). In this design, one group of students was given a pretest to measure their initial ability, followed by the treatment, and then a posttest to measure their improvement after the treatment. The research design is illustrated as follows:

Table 1. One Group Pre-Test and Post-Test Research Design

Pre-Test	Treatment	Post-Test
O1	X	O2

Based on the table above, O_1 represents the pretest conducted before the treatment, X represents the treatment, namely the use of TikTok as a microlearning platform, and O_2 represents the posttest conducted after the treatment.

Description:

O_1 = Pretest

X = Treatment (the use of TikTok as a microlearning platform)

O_2 = Posttest (administered after the treatment)

Population and Sample

The population of this study consisted of all Grade XII Social Studies students at MAN 1 Soppeng, comprising four classes. The research sample was selected using a purposive sampling technique, in which participants were chosen based on specific considerations that aligned with the objectives of the study. Based on the results of the initial observations, which indicated that students in two classes still experienced difficulties in mastering English vocabulary, the researcher selected Grade XII.1 and Grade XII.2 as the research sample.

Table 2. Research Sample Distribution

Yes	Classes	Number of Students
1	XI IPS 1	25
2	XI IPS 2	25
	Total	50

The total sample in this study consisted of 50 students from two Grade XII Social Studies classes at MAN 1 Soppeng. Both classes were assigned as the experimental group and received the treatment in the form of vocabulary learning using TikTok as a microlearning platform.

Research Instruments

The instruments used in this study consist of two types, namely a vocabulary test and a student engagement questionnaire.

Vocabulary Test

The vocabulary test is used to measure students' English vocabulary mastery before and after the treatment. This test consists of a pretest and a posttest, each containing 25 multiple-choice questions. The pretest is administered before the use of TikTok as a learning medium, while the posttest is administered after the students receive the treatment. Each correct answer is assigned a score of 1, whereas each incorrect answer is assigned a score of 0. Therefore, the maximum score that students can obtain is 25. The test items cover word meanings, synonyms, antonyms, and the use of vocabulary in sentence contexts that are aligned with the learning materials for Grade XII Social Studies.

Student Engagement Questionnaire

The student engagement questionnaire is used to determine the level of students' engagement during the vocabulary learning process using TikTok. This questionnaire consists of 20 statements developed based on five aspects of student engagement, namely attention, participation, motivation, interest, and engagement (Conde-Caballero et al., 2024). Each aspect is represented by four statements using a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree).

Table 3. Student Engagement Questionnaire Instrument Grid

Yes	Aspects	Item Number	Quantity
1	Caution	1, 2, 3, 4	4

2	Participation	5, 6, 7, 8	4
3	Motivation	9, 10, 11, 12	4
4	Interest	13, 14, 15, 16	4
5	Engagement	17, 18, 19, 20	4
	Total		20

Data Collection Procedure

The data collection procedure in this study was carried out through the following four stages: In the first stage, the researcher administered a pretest to all students in Grade XII IPS 1 and Grade XII IPS 2 to measure their initial vocabulary mastery before the treatment. The pretest consisted of 25 multiple-choice questions and was completed within 45 minutes. In the second stage, the researcher provided the treatment in the form of vocabulary learning using TikTok videos as a microlearning platform. The treatment was conducted over several meetings, during which students learned English vocabulary, including pronunciation, meaning, example sentences, and the use of vocabulary in daily life. The TikTok videos were selected and curated according to the learning materials and were presented in a short format (15–60 seconds) that was engaging and easy for students to understand. In the third stage, after all treatments had been completed, the researcher administered a posttest to measure the improvement in students' vocabulary mastery after using TikTok as a microlearning platform. The posttest used the same format and level of difficulty as the pretest. In the fourth stage, the researcher distributed a student engagement questionnaire to all students to determine their level of engagement during the vocabulary learning process using TikTok.

Data Analysis Technique

The data obtained from the pretest and posttest were analyzed using quantitative data analysis techniques through the following steps:

Mean Score

First, the researcher calculated each student's score by converting the raw score into a scale of 100 using the following formula:

$$\text{Score} = \frac{\text{raw score}}{\text{maximum score}} \times 100$$

Next, the researcher calculated the mean score of the pretest and posttest results to determine whether there was an improvement in students' vocabulary mastery after the treatment.

Paired Sample T-Test

The second step involved using a paired-samples *t*-test to determine whether the difference between the pretest and posttest scores was statistically significant. The hypotheses tested were as follows:

H_0 : There is no significant difference between the pretest and posttest results.

H_1 : There is a significant difference between the pretest and posttest results.

The decision-making criterion was as follows: if the Sig. (2-tailed) value was less than 0.05, H_0 was rejected and H_1 was accepted, indicating that there was a statistically significant difference between the pretest and posttest results.

N-Gain Score

The third step involved calculating the N-Gain score to measure the effectiveness of the treatment using the Hake formula: $g = (\text{Post-test Score} - \text{Pre-test Score}) / (\text{Maximum})$

Score - Pre-test Score). The N-Gain scores were then categorized according to the following criteria:

Table 4. N-Gain Score Criteria

N-Gain Value	Categories
$g \geq 0.70$	Height
$0.30 \leq g < 0.70$	Medium
$g < 0.30$	Low

Student Engagement Questionnaire Analysis

Data from the student engagement questionnaire were analyzed using percentages to determine the level of student engagement in each aspect. The mean score for each aspect was calculated and then converted into a percentage using the following formula: Percentage = (Mean Score / Maximum Score) $\times$ 100%. The percentage results were then categorized according to the following criteria:

Table 5. Student Engagement Category

Percentage	Categories
68% - 100%	Height
34% - 67%	Medium
0% - 33%	Low

FINDINGS AND DISCUSSION

Findings

This section presents the results of the analysis of the pretest and posttest data on the vocabulary mastery of Grade XII Social Studies students at MAN 1 Soppeng before and after the implementation of TikTok as a microlearning platform.

Table 6. Descriptive Statistics of Pre-Test and Post-Test

Statistics	Pre-Test	Post-Test
N	50	50
Red	17,28	23,78
Std. Deviation	4,11	1,67
Minimum Score	10	19
Maximum Score	26	26
Mean Score	69,12	95,12

Table 6 shows that the mean pretest score of the students was 69.12, while the mean posttest score increased to 95.12. The pretest standard deviation of 4.11 indicates that the students' initial vocabulary mastery varied considerably, whereas the lower posttest standard deviation of 1.67 indicates that their performance became more consistent after the treatment. The minimum pretest score was 10, which increased to 19 in the posttest, while the maximum score on both tests was 26. The results indicate a substantial improvement in students' mean scores after the implementation of TikTok as a microlearning platform in vocabulary learning. The difference between the mean pretest and posttest scores was 26 points, suggesting that the use of TikTok had a positive effect on improving students' vocabulary mastery.

Table 7. Comparison of Pre-Test and Post-Test Mean Scores

Classes	N	Mean Pre-Test	Mean Post-Test	Differences	Remarks
XI.1 and XI.2	50	69,12	95,12	26,00	Increase

Based on Table 7, the combined mean pretest score of Grade XII.1 and Grade XII.2 students was 69.12, which increased to 95.12 in the posttest. The difference of 26 points indicates a substantial improvement in students' vocabulary mastery after they received the treatment using TikTok as a microlearning platform.

Table 8. Paired Sample T-Test Results

Variable	t-count	df	Sig. (2-tailed)	Remarks
Pre-Test vs Post-Test	11,713	49	0,000	Significant

Table 8 shows the results of the paired-samples *t*-test, with a calculated *t*-value of 11.713 and a significance value (Sig. 2-tailed) of 0.000, which is lower than the significance level of 0.05. This result indicates that there is a statistically significant difference between the students' pretest and posttest vocabulary mastery scores. Therefore, it can be concluded that the use of TikTok as a microlearning platform had a significant effect on improving the vocabulary mastery of Grade XII Social Studies students at MAN 1 Soppeng.

Table 9. N-Gain Score Analysis Results

Statistics	Value	Categories
Mean Gain (Raw Score)	6,50	
SD Gain	3,92	
Mean Gain (Value)	26,00	
Red N-Gain	0,8189	Height

Based on Table 9, the mean N-Gain score was 0.8189, which falls into the high category. According to Hake's criteria, an N-Gain score greater than or equal to 0.70 is classified as a high level of improvement. These results indicate that the use of TikTok as a microlearning platform was highly effective in improving students' vocabulary mastery.

Discussion

The results of this study show that the use of TikTok as a microlearning platform was effective in improving the vocabulary mastery of Grade XII Social Studies students at MAN 1 Soppeng. The mean score increased from 69.12 in the pretest to 95.12 in the posttest, with a difference of 26 points, indicating that students experienced a significant improvement in vocabulary mastery after receiving the treatment using TikTok. These findings are consistent with the study conducted by Syaifuddin (2021), which reported that the use of TikTok videos as a learning medium made a positive contribution to increasing high school students' motivation to learn English. This finding is further supported by Conde-Caballero et al. (2024), who stated that microlearning through TikTok in higher education has great potential to enhance student engagement and learning outcomes. Moreover, the short-video format of TikTok, which presents learning materials in small and focused units, is consistent with the concept of microlearning proposed by Hug (2010), making it easier for students to understand and retain new vocabulary.

The results of the paired-samples *t*-test showed a calculated *t*-value of 11.713 with a significance value of 0.000 ($p < 0.05$), confirming that the difference between the pretest and posttest scores was statistically significant. These findings support the study by Khasanah (2022), which reported that the use of TikTok as a learning medium significantly improved students' English learning outcomes. In addition, the N-Gain score of 0.8189, which falls into the high category, indicates that the effectiveness of the treatment was high.

The improvement in students' vocabulary mastery can be attributed to several factors. First, TikTok provides visual- and audio-based learning content that matches the characteristics of Generation Z students, who tend to prefer multimedia-based learning (Denojean-Mairet et al., 2024). Second, the microlearning approach implemented through short TikTok videos allows students to learn vocabulary gradually in small, easy-to-understand units (Mohammed et al., 2018; Shail, 2019). Third, TikTok's video replay feature enables students to review the learning materials repeatedly, thereby strengthening vocabulary retention.

These results also support the findings of Padaloiii & Nanning (2021), who showed that the use of technology-based learning media can improve students' vocabulary mastery. Furthermore, appropriate and innovative learning strategies, as emphasized by Sunubi &

Nurfitri (2018) and Selpi & Nanning (2018), have been shown to facilitate the effective improvement of students' vocabulary mastery. Furthermore, the decrease in the standard deviation from 4.11 in the pretest to 1.67 in the posttest indicates that the use of TikTok as a microlearning platform not only increased the mean score but also reduced the variation in students' vocabulary mastery. This finding suggests that TikTok as a learning medium can accommodate different levels of students' abilities and help those with lower initial vocabulary mastery improve their performance.

CONCLUSIONS

Based on the results of the data analysis, it can be concluded that the use of TikTok as a microlearning platform is effective in improving the vocabulary mastery of Grade XII Social Studies students at MAN 1 Soppeng. The findings showed a substantial increase in students' vocabulary achievement, with the mean score rising from 69.12 in the pre-test to 95.12 in the post-test, representing an improvement of 26 points. Furthermore, the paired-sample t-test produced a t-value of 11.713 with a significance level of 0.000 ($p < 0.05$), indicating that the improvement was statistically significant. The N-Gain score of 0.8189, which falls into the high category, further confirmed the strong effectiveness of TikTok as a microlearning platform. These findings suggest that integrating short, engaging educational videos into English instruction can enhance vocabulary learning and increase students' participation. Therefore, English teachers are encouraged to incorporate TikTok as an innovative learning medium. Future studies are recommended to employ experimental designs with control groups and qualitative methods to provide a more comprehensive understanding of TikTok's effectiveness in English language learning.

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