

ANALYZING USE OF TECHNOLOGY-ASSISTED LANGUAGE LEARNING AND THE EFFECT ON STUDENTS' ENGLISH SPEAKING SKILLS

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Abstract: English speaking skill is crucial, yet it's still low. One of factors contributed is teaching method. This study aims to determine: 1) how Technology-Assisted Language Learning is used to teach speaking English; and 2) how students' English speaking skills are affected both before and after Technology-Assisted Language Learning is used, 3) to determine whether using Technology-Assisted Language Learning significantly affects the students' ability to speak English. The study used a pre-experimental design with a single group pre-test and post-test. The 295 students in the tenth grade at SMA Negeri 8 Padangsidempuan make up the population of this study. Purposive sampling was used to select a sample of 31 students from class X-8. Tests and observation sheets are the tools used to gather data. With a mean score of 85.88%, the observation reveals that the use of Technology-Assisted Language Learning is classified as "Very Good". When students use Technology-Assisted Language Learning, their speaking becomes "Good" from "Enough". Asymp. Sig. (2-tailed) = 0.000 < 0.05 is the Wilcoxon Signed Ranks Test result, indicating that H_a is accepted. We may conclude that students' English speaking is significantly impacted by Technology-Assisted Language Learning.

Keywords: *Technology-Assisted Language Learning (TALL); students' ability; speaking English skill; teaching method; The effect*

1. INTRODUCTION

English is recognized as a foreign language in Indonesia, and its learning has been implemented across all levels of education given its role as a global means of communication. Among the four language skills, speaking is considered one of the most essential yet most challenging skills for students to master. Speaking requires students to simultaneously manage grammar, pronunciation, fluency, and vocabulary, making it a complex productive skill that demands consistent and long-term practice.

Speaking itself is a fundamental part of daily life used to share and receive information. Speaking is a communication tool that makes it easier to share thoughts, feelings, information, and opinions with other people (Pricilia and Rahmansyah, 2025), (Rochma et al., 2024). In this sense, speaking is not merely about producing words but also about conveying meaning effectively in real communicative situations.

In practice, however, many students at a senior high school in Padangsidempuan still face significant challenges in English speaking. Students tend to have low interest in speaking activities and struggle with grammar, pronunciation, and limited vocabulary, all of which hinder their overall communicative progress. Fluency and confidence are also critical aspects that remain underdeveloped among learners. On the other hand, teachers are often less innovative in selecting appropriate teaching methods, which leads

to a less effective learning process. The continued use of traditional teaching models results in low student engagement, limited attention during speaking classes, and persistent anxiety about making mistakes when speaking English in front of others.

To address these problems, this study proposes the use of technology as a learning medium in English Speaking Instruction. Technology, broadly defined, refers to the application of knowledge through tools, machines, or processes to solve practical problems. Over the past few years, technology-assisted learning techniques have become more and more popular (Kaur & Kaushal, 2023; Bobkina & Dominiguez, 2025).

In the context of language learning, Technology-Assisted Language Learning (TALL) offers a relevant and promising solution. Coskun and Marlowe (2020) argue that TALL has gained increasing recognition as various technology-based approaches, including the use of mobile devices and computers, have opened new opportunities for more efficient and engaging language learning experiences. Students respond well to adopting new technology, and they view it as an appropriately integrated and well-designed learning tool (Hasan, et, al, 2022). Then, they gain control over their education, advance their language proficiency, and strengthen their international communication abilities by using technology (Guenier, 2023; Mayer, 2021).

Based on the identification of the problem, this study focuses on external factors that contribute to students' low speaking ability, particularly the lack of varied and engaging teaching media used by teachers. Therefore, this research applies TALL as the primary learning medium, with a focus on its definition, types, and implementation in speaking instruction. The speaking ability examined in this study covers its definition, components, and its application in the context of narrative text.

2. METHODOLOGY

This research was conducted at SMA Negeri 4 Padangsidimpuan, located in Kecamatan Padangsidimpuan Tenggara, Padangsidimpuan City. The population of this study consisted of all tenth-grade students of SMA Negeri 4 Padangsidimpuan, covering 10 classes with a total of 295 students. The sample was selected using purposive sampling technique, resulting in class X-8 with a total of 31 students as the research sample.

The post-test was administered after students had received treatment through Technology-Assisted Language Learning, specifically through Mobile-Assisted Language Learning using YouTube and TikTok as the primary learning platforms. The purpose of the post-test was to measure whether students demonstrated significant improvement in their speaking ability following the instructional treatment. Similar to the pre-test, the post-test was conducted in oral form and recorded using a mobile phone for scoring purposes. The post-test was administered after students had received treatment through Technology-Assisted Language Learning, specifically through Mobile-Assisted Language Learning using YouTube and TikTok as the primary learning platforms. The purpose of the post-test was to measure whether students demonstrated significant improvement in their speaking ability following the instructional treatment. Similar to the pre-test, the post-test was conducted in oral form and recorded using a mobile phone for scoring purposes.

3. RESULT

This chapter presents the analysis of the research findings based on the formulation of the problem. There are three research questions addressed in this study. The first is to determine the extent of the application of Technology-Assisted Language Learning (TALL) in teaching English speaking ability at the tenth grade level. The second is to examine students' English speaking ability before and after the implementation of Technology-Assisted Language Learning (TALL). The third is to find out whether there is a significant effect of Technology-Assisted Language Learning (TALL) on students' English speaking ability at the tenth grade level. To answer the first research question, an observation sheet was used as the primary instrument. To answer the second research question, a speaking test in the form of pre-test and post-test was administered to the students. Furthermore, to answer the third research question, inferential statistics were applied through the Wilcoxon Signed Ranks Test to determine whether the improvement was statistically significant.

a. Application of Technology-Assisted Language Learning (TALL) on Students' Speaking English Ability

Based on the observation sheet conducted during the research, the implementation of Technology-Assisted Language Learning (TALL) at the tenth grade level was assessed through 17 observation statements covering various aspects of the learning process. The analysis revealed a mean score of 85.88%, which falls under the "Very Good" category based on the scoring criteria established in Chapter III. This result indicates that TALL was effectively applied during the instructional process. During the learning sessions, students demonstrated a high level of enthusiasm and active engagement when Technology-Assisted Language Learning was implemented through YouTube and TikTok as the primary learning platforms. Students expressed that they enjoyed learning English speaking through video-based content from both platforms, which also contributed to a more conducive and interactive classroom atmosphere.

b. Students' Speaking skill Before and After Using Technology-Assisted Language Learning (TALL) on Students' Speaking English Ability

i. Before

Data were collected through a pre-test administered in the form of a speaking test. The results showed that the highest score obtained by students was 60 and the lowest score was 40 (see Appendix 5). Based on the overall pre-test data, the mean score was 45.00, which is categorized as "Enough", with a median score of 43.00 and a mode of 40.00. The detailed calculation is presented in the table below.

Table 1. The Score of Mean, Median, Mode on Students' Speaking Skill Before Using Technology-Assisted Language Learning (TALL)

No	Criteria	Score	Category
1	Mean	45.00	Enough
2	Median	43.00	Enough
3	Mode	40.00	Enough

The researcher shows the histogram as follows:

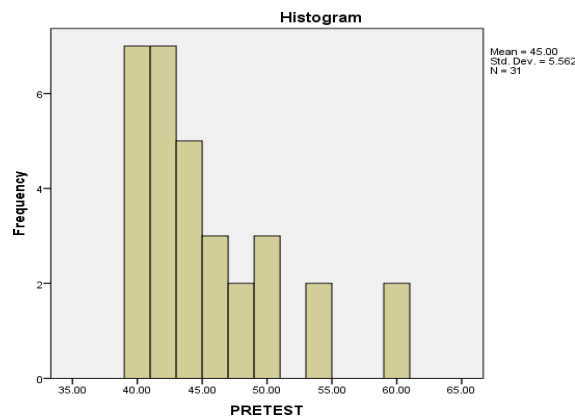


Figure 1: Histogram of Students' Pre-Test in Speaking Skill

Based on the histogram above, it showed that the majority of students scored within the interval of 40 to 42, with 14 students falling in this range. The lowest score recorded was 40 and the highest was 60. These results indicate that students' English speaking ability was still relatively low and needed to be improved through the implementation of Technology-Assisted Language Learning (TALL).

ii. After

After the instructional treatment using Technology-Assisted Language Learning (TALL) as an integrated technology-based learning medium, a post-test was administered to measure students' speaking ability. The results showed that the highest score obtained was 90 and the lowest score was 75.

The mean score increased to 79.22, which is categorized as "Good", with a median score of 78.00 and a mode of 78.00. The detailed calculation is presented in the table below.

Table 4. The Score of Mean, Median, Mode on Students' Speaking Skill Before Using Technology-Assisted Language Learning (TALL)

No	Criteria	Score	Category
1	Mean	79.22	Good
2	Median	78.00	Good
3	Mode	78.00	Good

The researcher shows the histogram as follows:

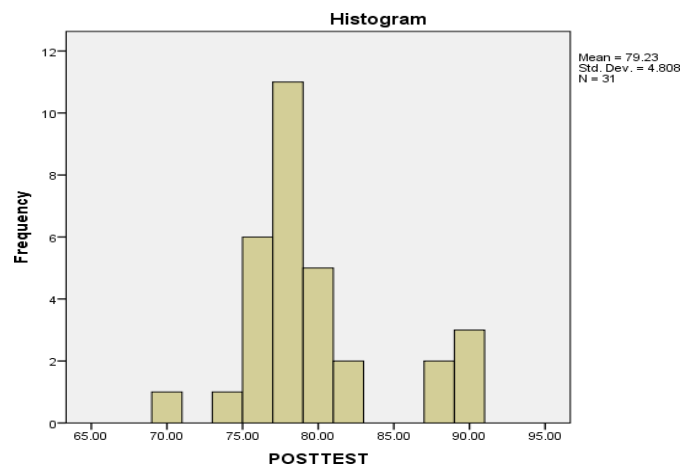


Figure 2: Histogram of Students' Post-Test in Speaking Skill

Based on the histogram above, it showed that the majority of students scored within the interval of 78 to 80, with 13 students falling in this range. The lowest score recorded was 70 and the highest score was 90. These results indicate that students' English speaking ability significantly improved after the implementation of Technology-Assisted Language Learning (TALL).

1. Test of Normality

The researcher shows the result of normality test on table below:

Table 7. Result of Normality Test

Description	Formula		(α)Taraf Signifikan	Explanation
	Kolmogorov-Smirnov ^a	Shapiro-Wilk		
Pretest	0.009	0.000	0.05	Not Normal Distribution
Posttest	0.001	0.002	0.05	Not Normal Distribution

Based on the Kolmogorov-Smirnov test, the significant value of the pre-test was 0.009 ($0.009 < 0.05$). Meanwhile, based on the Shapiro-Wilk test, the significant value of the pre-test was 0.000 ($0.000 < 0.05$). Therefore, it can be concluded that the pre-test data from both formulas did not follow a normal distribution.

Furthermore, the significant value of the post-test based on the

Kolmogorov-Smirnov test was 0.001 ($0.001 < 0.05$). Meanwhile, based on the Shapiro-Wilk test, the significant value of the post-test was 0.002 ($0.002 < 0.05$). Therefore, it can be concluded that the post-test data from both formulas also did not follow a normal distribution.

2. Wilcoxon Signed Rank Test

In this case, the researcher used the paired sample test as follows:

Table 8. Result of Paired Sample Ttest Before and After Using Technology-Assisted Language Learning (TALL) on Students' Speaking English Ability

	POSTTEST – PRETEST
Z	-4.870 ^b
Asymp. Sig. (2-tailed)	0.000

Based on the explanation above, since the significant value was less than 0.05 ($0.000 < 0.05$), H_a is accepted. This means that there is a significant effect of Technology-Assisted Language Learning (TALL) on students' English speaking ability at the tenth grade level.

3. N-Gain Test

The researcher shows the result of N-Gain Category on table below:

Table 9. N-Gain Category

N-Gain Value	Category
$G > 0.7$	High
$0.3 < g \leq 0.7$	Medium
$G < 0.3$	Low

Based on the table above, the N-Gain score obtained was 0.62, which falls within the range of $0.3 < 0.62 < 0.7$, indicating a medium category of improvement. This result confirms that there is a significant effect of using Technology-Assisted Language Learning (TALL) on students' English speaking ability. Therefore, the Alternative Hypothesis (H_a) is accepted.

4. DISCUSSION

Based on the observation sheet, the application of Technology-Assisted Language Learning (TALL) as an integrated technology-based learning medium in teaching English speaking received a score of 85.88%, which is categorized as "Very Good". Furthermore, the mean score of students' English speaking ability before being taught using Technology-Assisted Language Learning (TALL) was 45.00, categorized as "Enough". After the instructional treatment using Technology-Assisted Language Learning (TALL), the mean score increased to 79.22, categorized as "Good". A notable improvement was also observed in the pronunciation indicator, where the average score increased from 9.06 before the treatment to 16.74 after the treatment. This result indicates that Technology-Assisted Language Learning (TALL) had a particularly significant effect on students'

speaking ability, especially in the aspect of pronunciation.

One of the relevant studies conducted by Khodijah (2024), entitled "The Effect of Technology-Assisted Speaking Practice on English Pronunciation and Speaking Skills at SMPN 2 Bantan", examined the impact of technology-assisted speaking practice on students' pronunciation and speaking abilities. The study was conducted experimentally at SMPN 2 Bantan from May 6 to May 17, 2024. The homogeneity test revealed a significant value of 0.352 (> 0.05) for speaking ability, indicating that the data were homogeneous, while the significant value for pronunciation ability was 0.045 (< 0.05), suggesting non-homogeneous data that required further consideration in determining the appropriate analytical strategy. The paired t-test results showed significant differences between the pre-test and post-test scores in both the control and experimental groups. In the experimental group, speaking proficiency demonstrated a highly significant improvement ($t = -12.738$, $p = 0.000$), and pronunciation also showed a notable increase ($t = 13.805$, $p = 0.000$).

Based on the explanation above, this study found that Technology-Assisted Language Learning (TALL) significantly affected students' English speaking ability. Through TALL, students were actively engaged in the learning process by recording themselves speaking, which contributed to enhanced pronunciation skills. Additionally, TALL provided authentic learning contexts that increased students' confidence in speaking. TALL also created a more dynamic and interactive learning environment that boosted students' motivation and overall communication skills. Therefore, it can be concluded that Technology-Assisted Language Learning (TALL) effectively enhanced the quality and effectiveness of the English speaking learning process, and the Alternative Hypothesis (H_a) is accepted.

5. CONCLUSION

Based on the research results, it can be concluded that the implementation of Technology-Assisted Language Learning (TALL) in teaching English speaking ability at the tenth-grade level in the 2025/2026 academic year was highly effective, as indicated by a mean score of 85.88%, which falls into the "Very Good" category. Prior to the use of TALL, students' English speaking ability had a mean score of 45.00, categorized as "Enough." However, after the implementation of TALL as an integrated technology-based learning medium, the mean score significantly increased to 79.22, which is categorized as "Good." Furthermore, the findings reveal that TALL has a significant effect on students' English speaking ability, as demonstrated by the N-Gain score of 0.62. This value falls within the range of $0.3 < 0.62 < 0.7$, indicating a medium level of improvement. Therefore, the Alternative Hypothesis (H_a) is accepted, confirming that the use of TALL contributes positively to enhancing students' speaking skills.

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