

Research Article

The Impact of Podcast Video Creation on Students' Speaking Proficiency in Project-Based Learning

Muhammad Safar^{1*}, Masruddin¹, St. Hartina¹

¹Institut Agama Islam Negeri Palopo, Palopo, Indonesia

*muhammadsafar0185@iainpalopo.ac.id

ABSTRACT

This study aimed to explore the effectiveness of podcast video creation as a Project-Based Learning (PBL) approach to enhance students' speaking abilities in secondary education. The research was motivated by low speaking proficiency among students, influenced by factors such as lack of confidence, limited vocabulary, and insufficient practice opportunities. Using a pre-experimental design, the study involved 28 eleventh-grade students selected through cluster random sampling. Pre-tests and post-tests were conducted to measure improvements in speaking skills, with data analyzed using SPSS (paired t-test). Results showed a significant improvement in students' speaking abilities, with post-test scores ($M = 51.5$) higher than pre-test scores ($M = 42.4$), and a t -value of 11.145 ($p < 0.05$). The findings highlight that PBL through podcast video creation positively impacts accuracy, fluency, and comprehensibility in speaking. This study underscores the practical implications of integrating technology into education, fostering student engagement, collaboration, and enhanced language proficiency. Future research is encouraged to incorporate control groups and explore the effects of this approach on other language skills.

Keywords: Podcast Video; Project-Based Learning; Speaking Skills.

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1. Introduction

Speaking skills in English are a fundamental aspect of language learning, allowing individuals to express opinions, respond to ideas, and engage in discussions (Leong & Masoumeh, 2017; Ismail, 2018). In addition to being an integral part of language instruction, speaking is a key component of academic assessment (Ounis, 2017), particularly in educational settings where English serves as the primary medium of instruction. However, many students face challenges in developing their speaking proficiency due to both internal and external factors. Internal barriers such as lack of confidence and speaking anxiety often hinder fluency (Long et al., 2019), while external issues, including ineffective teaching methods and limited vocabulary, exacerbate these difficulties (Majesty, 2018; Mabuan, 2017). To address these challenges, *task-based learning* has proven effective in enhancing students' speaking abilities by providing more opportunities for practical engagement (Safitri et al., 2020). Additionally, vocabulary mastery plays a crucial role in oral communication, as a richer vocabulary enables students to articulate their ideas more clearly and effectively (Khan et al., 2018; Zainal & Yunus, 2021). Therefore, a comprehensive approach is necessary to improve students' speaking proficiency.

In the context of English as a Foreign Language (EFL) learning, students frequently encounter obstacles such as hesitation, limited participation, dependence on their mother tongue, and discomfort when using English in communication (Yessenbekova, 2024; Alfa, 2020; Iksan et al., 2021). A non-conducive learning environment further increases anxiety and fear of making mistakes, discouraging students from participating in speaking activities (Jaya et al., 2022; Miranda, 2023). Limited practice opportunities

and inadequate access to learning resources, such as dictionaries and other supporting materials, further worsen this condition (Duong & Pham, 2021). Teachers play a pivotal role in addressing these issues by implementing interactive teaching methods, fostering a supportive classroom atmosphere, and encouraging students to engage more actively in speaking activities (Negewo, 2023; Pakula, 2019). Additionally, the integration of technology in language learning, including social media and online learning communities, has been found to enhance students' speaking skills by providing a more flexible and less pressured communication environment (Duong & Pham, 2021; Wang & Lam, 2022). Furthermore, collaborative learning strategies can improve students' autonomy and confidence, enabling them to overcome their fear of speaking in English (Hieu, 2024; Ahmed, 2018).

Enhancing speaking skills requires the integration of diverse media and teaching methods to maximize practice opportunities. Strategies such as providing intelligible input, conducting contextual language analysis, and integrating writing with speaking activities have proven effective in fostering active student participation (Hikmah et al., 2021; Setiawan, 2022). In Indonesia, the *Merdeka Curriculum* promotes flexibility in education, allowing students to tailor their learning approaches according to their interests and needs, which, in turn, increases their motivation and engagement in speaking activities (Faradita et al., 2023). Teachers play a central role in creating a conducive learning environment where students can confidently engage in discussions and extend their learning beyond the classroom (Derakhshan et al., 2016; Devi & Sudarma, 2023).

Technological advancements have further opened innovative opportunities in teaching speaking skills. Video-based media have been found to be effective in improving language learning by engaging multiple senses and providing extensive practice opportunities (Cavanagh & Kiersch, 2022; Parveen, 2016). Additionally, podcast creation has gained attention as an effective method for enhancing fluency, pronunciation, and comprehension in speaking (Sirisrimangkorn, 2018; Bustari et al., 2017; Indahsari, 2020). As a form of *Project-Based Learning* (PBL), podcasting not only promotes active learning but also fosters collaboration and creativity, making it an effective strategy for addressing speaking challenges (Alfatihah et al., 2022). Studies have shown that the use of audiovisual materials contributes to increased student engagement, clarification of complex concepts, and the development of critical thinking, aligning with modern educational approaches to improving language proficiency (Yana, 2023; Londa, 2023; Telaumbanua et al., 2022).

Based on preliminary observations at SMKN 2 Luwu, students reported difficulties in speaking English due to environmental factors, lack of confidence, and limited vocabulary. These issues were compounded by minimal exposure to English during lessons and inadequate practice opportunities at home. To address these challenges, this study investigates the effectiveness of podcast video creation as a *Project-Based Learning* (PBL) approach in improving students' speaking abilities. By integrating modern knowledge, practical skills, and collaborative activities, this research aims to provide a meaningful contribution to the field of language education and address the specific needs of Indonesian vocational school students.

2. Method

This research employed a pre-experimental design with a pre-test and post-test to assess the effectiveness of podcast video creation in improving students' speaking abilities. The study focused on two variables: the independent variable, which was podcast video creation as a Project-Based Learning (PBL) strategy, and the dependent variable, which was students' speaking abilities. The population consisted of 285 eleventh-grade students from SMKN 2 Luwu, distributed across eight classes in six different majors. Using cluster random sampling, one class, XI Office Automation, comprising 28 students, was selected as the sample. This sampling method was chosen to ensure practicality, as it allowed the researcher to work with an existing group rather than selecting individuals, thereby minimizing disruptions to the classroom setting.

Data collection was conducted through pre-tests and post-tests to evaluate the students' speaking proficiency. The pre-test aimed to establish a baseline measurement of students' speaking abilities before the intervention, while the post-test was used to assess the extent of improvement. Both tests required students to respond to five speaking questions designed to evaluate three key aspects: accuracy, fluency, and comprehensibility. To ensure a reliable analysis, students' speaking performances were recorded using a smartphone, enabling detailed review and assessment.

The podcast video creation process was implemented systematically over six sessions, following a structured approach to maximize learning outcomes. The intervention began with an initial skills assessment, where students undertook a pre-test to identify their strengths and weaknesses in speaking accuracy, fluency, and comprehensibility. Next, students were introduced to podcast video production techniques, learning how to record, edit, and enhance audio quality using free applications such as InShot and CapCut, along with basic microphone accessories to improve sound clarity. Following this, students were divided into small groups to foster collaboration, encouraging teamwork and peer interaction.

After forming groups, they proceeded with topic selection, choosing discussion themes from a list provided by the researcher to ensure engagement and relevance. Once the topics were set, students engaged in script writing and peer review, drafting their dialogues and refining them through peer feedback and teacher guidance, which focused on improving grammar, structure, and coherence. The next phase involved recording and feedback, where students performed multiple recordings of their podcast videos, progressively improving their speaking skills by incorporating constructive feedback from teachers. Finally, a post-test evaluation was conducted after the intervention, measuring students' progress by comparing their post-test results with their pre-test scores to determine the effectiveness of podcast video creation in enhancing speaking proficiency.

The collected data were analyzed using SPSS (version 25). A paired sample t-test was performed to compare pre-test and post-test scores, with statistical significance set at $p < 0.05$. Descriptive statistics, including mean scores, standard deviation, and frequency distributions, were utilized to present the results, while correlation analysis between pre-test and post-test scores was conducted to determine the strength of the relationship.

Despite its promising findings, the study acknowledges several limitations that must be considered when interpreting the results. The relatively small sample size, consisting of only 28 students from a single vocational school, limits the generalizability of the findings. Additionally, the pre-experimental design lacked a control group, making it difficult to isolate the effects of the podcast video intervention from other influencing

factors. Moreover, the study could not fully control for individual variations in student motivation levels or differences in technological access and familiarity with digital tools. Furthermore, the assessment of speaking proficiency was limited to specific contexts, meaning that the effectiveness of podcast video creation in broader speaking situations remains uncertain. However, while these limitations may affect the scope of the study, they do not invalidate its findings but rather highlight areas for future research and refinement.

Student performance was evaluated objectively, with a specific focus on speaking accuracy, fluency, and comprehensibility. These assessment criteria were adapted from Heaton (1989), ensuring a standardized evaluation method. SPSS version 25 was employed to compute the average scores, standard deviations, t-test results, and frequency distributions, providing a comprehensive analysis of the impact of podcast video creation on students' speaking abilities.

3. Result

3.1 Distribution and Percentage of Students' Scores in Pre-Test and Post-Test

To evaluate the impact of podcast video creation as a Project-Based Learning (PBL) strategy, this study analyzed students' speaking performance through pre-test and post-test assessments. The scores were categorized into different proficiency levels to observe patterns of improvement across three key aspects: accuracy, fluency, and comprehensibility. The statistical results provide insights into the extent to which students' speaking abilities improved after the intervention. The following sections detail the observed changes in each component of speaking skills.

a. Improvement in Speaking Accuracy

The results of the speaking test were analyzed to assess students' performance before and after the intervention. The pre-test and post-test scores are summarized in Table 1, which presents the distribution of accuracy scores among the participants.

Table 1. Comparison of Students' Accuracy Scores in Pre-Test and Post-Test

Classification	Score	Pre-Test		Post-Test	
		Frequency	Percentage	Frequency	Percentage
Excellent	6	0	0	0	0
Very Good	5	0	0	0	0
Good	4	7	25	7	25
Average	3	11	39	20	71
Poor	2	10	36	1	4
Very Poor	1	0	0	0	0
Total		28	100	28	100

The table presents the students' accuracy scores in the pre-test and post-test. In the pre-test, 10 students (36%) were classified as having poor accuracy, 11 students (39%) fell into the average category, and 7 students (25%) achieved good scores. Notably, no students were categorized as very poor, very good, or excellent. Based on these results, students' overall speaking accuracy before the intervention was categorized as average.

After implementing podcast video creation as a Project-Based Learning (PBL) approach, a post-test was conducted to measure improvements. The results showed a significant shift, with only 1 student (4%) remaining in the poor category, while 20 students (71%) were now classified as average. Meanwhile, 7 students (25%), who had

previously been in the good category, maintained their ranking. No students achieved very good or excellent accuracy levels. These findings indicate that students' speaking accuracy improved following the intervention, demonstrating the effectiveness of podcast-based learning in enhancing their language proficiency.

b. Enhancement in Speaking Fluency

Table 2 presents the results of the data analysis for students' speaking fluency in both the pre-test and post-test. The fluency scores were classified based on the Heaton classification, which categorizes students' proficiency levels according to specific score ranges. The distribution of students across these categories is summarized in the table below.

Table 2. Comparison of Students' Fluency Scores in Pre-Test and Post-Test

Classification	Score	Pre-Test		Post-Test	
		Frequency	Percentage	Frequency	Percentage
Excellent	6	0	0	0	0
Very Good	5	0	0	0	0
Good	4	1	4	2	7
Average	3	14	50	23	82
Poor	2	13	46	3	11
Very Poor	1	0	0	0	0
Total		28	100	28	100

According to Table 2, the pre-test results indicate that 13 students (46%) were classified as having poor fluency, while 14 students (50%) fell into the average category, and only 1 student (4%) achieved a good fluency score. These findings suggest that most students exhibited moderate to low fluency levels before the intervention. The post-test results demonstrate a notable improvement in students' fluency. The number of students in the poor category decreased to 3 students (11%), while the average category increased significantly to 23 students (82%). Additionally, 2 students (7%) progressed to the good category. This upward trend suggests that students experienced improved speech continuity and reduced hesitation after participating in the podcast video creation project.

Furthermore, the mean score analysis supports these findings, with the post-test mean score (2.96) being higher than the pre-test mean score (2.53). This improvement highlights the positive impact of Project-Based Learning (PBL) through podcast creation in enhancing students' speaking fluency.

c. Development of Comprehensibility in Speaking

Comprehensibility is a key component of speaking proficiency, reflecting a speaker's ability to convey messages clearly and effectively to listeners. Table 3 presents the distribution of students' comprehensibility scores in both the pre-test and post-test, illustrating the impact of podcast video creation as a Project-Based Learning (PBL) approach on students' ability to articulate ideas more clearly.

Table 3. Comparison of Students' Comprehensibility Scores in Pre-Test and Post-Test

Classification	Score	Pre-Test		Post-Test	
		Frequency	Percentage	Frequency	Percentage
Excellent	6	0	0	0	0
Very Good	5	0	0	0	0
Good	4	0	0	6	21
Average	3	7	25	19	68
Poor	2	20	71	3	11
Very Poor	1	1	4	0	0
Total		28	100	28	100

According to the pre-test results, 1 student (4%) was classified as very poor, while the majority, 20 students (71%), fell into the poor category. Additionally, 7 students (25%) were categorized as average, and no students achieved good, very good, or excellent levels. These findings indicate that before the intervention, most students struggled to express themselves in a way that was easily understood by their listeners. Following the podcast-based learning intervention, the post-test results demonstrated notable progress. The number of students in the poor category significantly decreased to 3 students (11%), while the average category expanded to 19 students (68%). Additionally, 6 students (21%) advanced to the good category, indicating that some students had successfully improved their clarity in speech. However, no students reached very good or excellent levels, suggesting that while the intervention enhanced comprehensibility, further improvements could still be made.

Furthermore, the mean score analysis supports these findings, with the post-test mean score (3.1) showing a substantial increase from the pre-test mean score (2.21). This improvement suggests that the structured process of planning, scripting, recording, and refining podcast videos contributed to students' ability to organize their thoughts and articulate their ideas more clearly. However, since most students remained in the average category, additional strategies, such as real-time discussions, feedback-focused speaking exercises, and interactive oral activities, could be explored to further develop students' comprehensibility.

3.2. Overall Evaluation of Speaking Proficiency

The speaking test serves as a comprehensive assessment, integrating three key aspects: accuracy, fluency, and comprehensibility. This cumulative evaluation provides a holistic measure of students' speaking proficiency before and after the intervention. Table 4 presents the distribution of students' overall speaking scores, categorized according to Heaton's classification, which classifies performance into six levels ranging from very poor to excellent.

Table 4. Distribution of Students' Speaking Proficiency Scores in Pre-Test and Post-Test

Classification	Score	Pre-test		Post-test	
		Frequency	Percentage	Frequency	Percentage
Excellent	86-100	0	0	0	0
Very Good	71-85	0	0	0	0
Good	56-70	0	0	3	11
Average	41-55	16	57	24	86
Poor	26-40	12	43	1	4
Very Poor	0-25	0	0	0	0
Total		28	100	28	100

In the pre-test, none of the students achieved scores in the good, very good, or excellent categories. Instead, 12 students (43%) were classified as poor, while 16 students (57%) fell into the average category. These results suggest that prior to the intervention, most students exhibited moderate to low speaking proficiency, with significant room for improvement.

The post-test results demonstrated a noticeable upward shift. The number of students in the poor category decreased dramatically to just 1 student (4%), while 24 students (86%) moved into the average category, showing significant progress. Additionally, 3 students (11%) advanced into the good category, indicating that some students developed stronger speaking skills after engaging in the podcast video creation process. However, no students reached the very good or excellent levels, suggesting that while the intervention was beneficial, additional strategies may be needed to help students achieve higher levels of speaking proficiency.

The overall improvement observed in the post-test reflects the effectiveness of Project-Based Learning (PBL) in enhancing students' speaking abilities. The structured process of scripting, recording, and refining their podcast videos likely contributed to better speech organization, increased confidence, and improved articulation. However, since most students remained in the average category, incorporating more interactive speaking exercises, real-time discussions, and extended feedback sessions could further support their progression toward higher proficiency levels.

3.3. Statistical Analysis: Paired Sample T-Test for Pre-Test and Post-Test

The Paired Sample T-Test was conducted to determine whether there was a significant difference in students' speaking proficiency before and after the intervention. Table 5 presents the results of the test, showing the mean scores, standard deviations, and standard error means for both the pre-test and post-test.

Table 5. Paired Sample T-Test of Pre-Test and Post-Test

	Mean	N	Std. Deviation	Std. Error Mean
pretest	42.4	28	6.628	1.253
posttest	51.5	28	6.021	1.138

The analysis was performed on 28 students (N = 28). The mean pre-test score was 42.4, with a standard deviation of 6.628, indicating a moderate level of variation in students' initial speaking abilities. In contrast, the mean post-test score increased to 51.5, with a standard deviation of 6.021, suggesting an overall improvement in students' speaking proficiency after the intervention.

These findings indicate that students demonstrated noticeable progress in their speaking skills following the podcast-based learning intervention. The decrease in standard deviation from the pre-test to the post-test suggests a reduction in score variability, meaning that students' performance became more consistent after engaging in the learning activities. Further statistical tests, such as the t-test significance value, will help confirm whether these improvements are statistically significant.

3.4. The Paired Sample Correlation of Pre-test and Post-test

A Paired Sample Correlation test was conducted to determine the relationship between students' speaking proficiency before and after the intervention. Table 6 presents the results, showing the correlation coefficient and significance level between the pre-test and post-test scores.

Table 6. The Paired Sample Correlation Between of Pre-Test and Post-Test

	N	Correlation	Sig.
pretest & posttest	28	.769	.000

Table 6 shows that the analysis included 28 students (N = 28), and the correlation coefficient was found to be 0.769, with a significance value of 0.000. Based on Cohen’s correlation interpretation, a correlation value ranging between 0.5 and 1.0 indicates a strong relationship between the two variables. This suggests that students who performed well in the pre-test also tended to show improvements in the post-test, reinforcing the effectiveness of the podcast-based learning intervention.

The significance of value ($p < 0.05$) confirms that this correlation is statistically significant, meaning that the improvements observed in students’ speaking abilities are unlikely to be due to random chance. These findings highlight the consistent positive impact of the intervention on students’ speaking proficiency.

3.5. Comparative Analysis: Pre-Test vs. Post-Test Performance

A Paired Sample T-Test was conducted to determine whether the improvement in students’ speaking proficiency after the intervention was statistically significant. Table 7 presents the results, including the mean difference, standard deviation, standard error, confidence intervals, and significance level of the test.

Table 7. The Paired Sample Test of Pre-Test and Post-Test

	Paired Differences					t	Df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pre-test – post-test	-9.127	4.334	.819	-10.807	-7.447	-11.145	27	.000

The analysis revealed that the mean difference between the pre-test and post-test scores was -9.127, indicating a notable increase in students’ speaking performance. The t-count (t_0) value was -11.145, while the degree of freedom (df) was 27. When compared to the t-table (t_t) value of 1.703 at a 5% significance level ($p < 0.05$), the results confirmed that the t-count was significantly higher than the t-table value.

Additionally, the significance (2-tailed) value was 0.000, which is lower than the threshold of 0.05, further confirming that the observed improvement in students’ speaking ability was statistically significant. This result leads to the rejection of the null hypothesis (H_0) and the acceptance of the alternative hypothesis (H_a), validating that podcast-based learning effectively enhanced students’ speaking proficiency.

The findings strongly support the effectiveness of Project-Based Learning (PBL) through podcast video creation, which allowed students to practice, refine, and improve their speaking skills in a structured and engaging manner. Given the significant improvement, future research could explore additional factors, such as long-term retention of speaking skills, application in different language learning contexts, and comparison with other speaking enhancement methods.

4. Discussion

This study investigated the impact of podcast video creation as a Project-Based Learning (PBL) approach on students' speaking proficiency using a pre-experimental design. The findings demonstrated a significant improvement in students' speaking abilities following the intervention, with the pre-test mean score of 42.46 increasing to 51.59 in the post-test. This enhancement highlights the effectiveness of integrating digital content creation into language learning, particularly for improving fluency, pronunciation, vocabulary, confidence, and classroom participation.

One of the most evident improvements was in speaking fluency, where students exhibited smoother, more coherent speech with fewer pauses and hesitations. The structured nature of podcast creation encouraged them to refine their speech delivery, resulting in more continuous and spontaneous verbal expression. Zakarneh (2022) emphasizes that fluency development is critical in second language acquisition, as it allows learners to communicate effectively in both formal and informal settings. The findings of this study align with this perspective, as students demonstrated greater ease in articulating thoughts during class discussions and presentations.

Additionally, there was a notable improvement in pronunciation, with students articulating words more clearly and accurately. This improvement was evident in both everyday interactions and structured assessments, leading to better intelligibility and reduced miscommunication. Alfa (2020) states that pronunciation clarity is essential for effective spoken communication, and the results of this study confirm that engaging in podcast creation helped students develop a more precise and confident speaking style. The iterative process of scripting, recording, and reviewing their speech likely contributed to reinforcing pronunciation skills, allowing students to self-monitor and adjust their articulation over time.

Another key outcome of the study was the expansion of students' vocabulary. Throughout the podcast creation process, students were exposed to new words and expressions, which they actively incorporated into their speech. This aligns with Zapata's (2020) findings, which suggest that engaging in creative language tasks encourages learners to broaden their lexical resources and apply new vocabulary in meaningful contexts. The ability to experiment with language in a low-pressure, creative environment likely boosted students' willingness to take linguistic risks and explore new ways of expressing ideas. This active engagement with diverse topics further enriched their linguistic competence, reinforcing the effectiveness of PBL in supporting vocabulary development.

Beyond linguistic improvements, students also exhibited increased confidence in speaking English, both in structured activities and informal interactions. Their willingness to engage in class discussions, presentations, and collaborative projects grew significantly as they became more comfortable expressing themselves in the target language. Masruddin (2019) highlights that confidence plays a pivotal role in language learning, as it directly influences students' motivation and ability to perform in communicative situations. The opportunity to create and present their own content helped students overcome anxiety related to speaking, enabling them to engage more freely in verbal expression.

This increased confidence was also reflected in higher classroom participation, as students became more proactive in discussions, asking questions, and sharing their opinions. The findings align with Zakarneh (2022), who emphasizes that interactive and creative learning environments promote student engagement by encouraging active involvement in language use. The integration of digital media in learning activities

provided students with an innovative and motivating platform to practice their speaking skills, fostering a dynamic and supportive classroom atmosphere.

Furthermore, the study found that active involvement in content creation significantly boosted students' motivation to practice speaking. The process of producing podcasts, videos, and digital content encouraged students to take ownership of their learning, making the experience more engaging and meaningful. This aligns with the research of Syamsudarni & Sahraini (2018), who argue that PBL fosters deeper learning engagement by providing students with opportunities to apply language skills in real-world contexts. The ability to share their work with an audience, whether peers or the broader school community—further fueled their motivation, as they recognized the practical value of improving their speaking skills for communication beyond the classroom.

Despite these positive outcomes, this study also has several limitations. One of the main constraints was the pre-experimental design without a control group, making it difficult to isolate the direct effects of podcast-based learning (Syamsudarni & Sahraini, 2018). Future research should consider incorporating a control group to compare podcast-based learning with traditional teaching methods, allowing for a more rigorous assessment of its effectiveness.

Additionally, this study focused exclusively on speaking skills, without examining how podcast creation might impact on other language competencies such as listening comprehension, vocabulary acquisition, or writing skills. Exploring these areas in future research could provide a more comprehensive understanding of the broader benefits of PBL in language learning.

The findings of this study strongly support podcast video creation as an effective approach for enhancing students' speaking proficiency. The observed improvements in fluency, pronunciation, vocabulary, confidence, and participation highlight the value of Project-Based Learning (PBL) in language education. By integrating technology, creativity, and student-centered learning, podcast-based activities provide a meaningful and engaging platform for language development. These insights can inform educators seeking to implement digital media tools in their teaching strategies, paving the way for future research in using PBL and digital content creation for language acquisition. Lastly, while this study found that podcast creation increased student motivation, it did not explore which specific aspects of the process contributed most to this effect. Future research could examine whether collaborative work, creative expression, or audience engagement plays the most significant role in enhancing students' motivation and language learning outcomes.

5. Conclusion

The findings of this study confirm that podcast video creation as a Project-Based Learning (PBL) approach is an effective method for improving students' speaking proficiency. The results show a significant increase in students' pre-test and post-test scores, demonstrating improvements in fluency, accuracy, and comprehensibility. By engaging in the process of planning, scripting, recording, and editing podcasts, students became more confident in using English, enabling them to express their ideas more clearly and naturally.

Beyond linguistic improvements, the use of video podcast-making projects also had a positive impact on student motivation and classroom engagement. The interactive and creative nature of PBL made the learning experience more enjoyable and relevant to real-life communication. Students displayed higher enthusiasm and active

participation, showing that they learned more effectively when engaged in meaningful, hands-on activities. Additionally, the collaborative nature of the project helped students develop teamwork and creativity skills, as they worked together to produce, refine, and present their podcast content.

Given the positive outcomes of this study, several recommendations can be made to further enhance the effectiveness of PBL through video podcasting. Students should engage in consistent speaking practice to strengthen their confidence and communication skills. Group work should be encouraged, as it fosters team collaboration, idea exchange, and constructive feedback. Additionally, students should practice self-evaluation by reviewing their podcast recordings, identifying areas that require improvement in accuracy, fluency, and comprehensibility.

For teachers, guiding students through the self-reflection process is essential to maximize learning outcomes. Teachers should encourage students to identify their strengths and areas for improvement, providing constructive feedback and positive reinforcement to help them overcome challenges. Additionally, teachers should promote regular speaking practice both inside and outside the classroom to increase students' confidence and language proficiency.

Future researchers could expand on this study by exploring other digital media formats such as vlogging or interactive storytelling to assess whether similar improvements in speaking skills can be achieved through diverse content creation techniques. Conducting longitudinal studies would provide deeper insights into skill retention and long-term confidence development among students engaged in PBL-based learning environments. Additionally, including a control group in future research would enhance the validity and reliability of findings, allowing for more precise measurement of the impact of video podcasting on speaking proficiency.

Therefore, this study highlights the transformative potential of integrating technology and project-based learning in language education. By leveraging digital tools such as podcasts, educators can create engaging, student-centered learning environments that foster speaking confidence, motivation, and collaboration. As education continues to evolve, further research can continue to explore how digital media can enhance language acquisition and communication skills in diverse learning settings.

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