

INVESTIGATING STUDENTS' SELF-EFFICACY IN SPEAKING THROUGH THE USE OF PROJECT-BASED LEARNING

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Abstract

This research explored the role of podcast-making project within project-based learning (PBL) framework in enhancing students' self-efficacy in speaking English. Fifty-three second-semester students from two intermediate listening and speaking classes at a private university in Yogyakarta's English Language Education Study Program (ELESP) participated. A sequential explanatory mixed-method approach was employed. To provide robust findings, the data were collected using questionnaires, interviews, and classroom observations to provide more comprehensive findings. Quantitative data were examined using paired sample t-tests, while thematic analysis was leveraged for the qualitative data. The findings disclosed a significant improvement in students' self-efficacy, as evidenced by an increase in mean scores and a decrease in variance, indicating greater consistency of confidence levels. In addition, the qualitative insights identified four major themes as the factors in enhancing students' self-efficacy: growth through personal challenge, modelling success as vicarious learning, collaborative environment, and emotional regulation and coping strategies. These findings suggested that integrating PBL, such as podcast-making, into language education can effectively foster students' self-efficacy and ability to communicate in real-world scenarios. Further implications are provided, suggesting that educators can adopt similar PBL activities to help learners overcome psychological barriers and develop a positive mindset toward speaking in English.

Keywords: EFL student, project-based learning, self-efficacy

Introduction

Despite prolonged teaching classes taught in schools, English proficiency among Indonesian people has remained considered low in comparison to its ASEAN counterparts. Data from the 2024 English First's English Proficiency Index (EPI) reached 493 (low proficiency). Comparatively, Indonesia's position is ranked 80 (out of 116) countries worldwide (EF Global Site, 2023). Indonesia's EPI position among ASEAN counterparts is relatively low compared to neighbouring countries. Indonesia is ranked 80th, after Singapore (3rd), Philippines (22nd), Malaysia (26th), and Vietnam (63rd). Indonesia's position is slightly better than



China (91st), Myanmar (93rd), and Thailand (106th) (EF Global Site, 2023). The three leading indicators of this low proficiency include (a) navigating an English-speaking country as a tourist, (b) engaging in small talk with colleagues, and (c) understanding simple emails from colleagues. Building upon this situation, Indonesia must improve its English proficiency to catch up with neighbouring countries. Refinements focusing on real-world communication skills will improve the overall proficiency and competitiveness in the international setting.

A growing body of research in the field suggests a set of pertinent challenges encountered by most English students, especially related to their English-speaking developments. A research identified that speaking skills development among Indonesian students has been hindered by linguistic aspects (i.e. language boundaries - vocabulary, pronunciation, grammar, fluency, mother tongue effects), psychological aspects, and pedagogies (Pratolo et al., 2019). Similarly, another research found that in addition to linguistic aspects (i.e. comprehension, pronunciation, vocabulary, grammar, and fluency), non-linguistic aspects (e.g. nervous to speak, having no motivation, being afraid of making errors, and low participation in class) were found to have played a major role in their speaking skills development (Franscy & Ramli, 2022). Further research also found that such non-linguistic aspects, which are also called psychological aspects, have played a significant role in making Indonesian students fail to develop their speaking skills when they attend Malaysian higher education institutions (Winnie et al., 2023). In the same vein, anxiety (one of the psychological aspects) is found to have been associated with the root cause of limited speaking skills development among Indonesian students (Djahimo, 2018). Mental block was also highlighted to take account in decreasing students' confidence in speaking (Rahmat et al., 2021). Reasons to make most Indonesian students fail to develop their speaking skills vary, but many Indonesian teachers tend to maintain an old-fashioned teaching paradigm (top-down), which inevitably leads to passive participation among students (Poedjiastutie et al., 2018).

Based on the findings of previous studies, it is indisputable that students encountered numerous challenges in developing their English-speaking skills. Notably, learners perceive that speaking is a pivotal indicator of language proficiency (Indahyanti et al., 2023; Omar, 2023; Suharja, 2020; Tauchid, 2023). In order to possess a good proficiency in speaking, students must get past the psychological obstacles and develop their confidence. A critical factor in helping students achieve this is self-efficacy. It can be defined as the belief from an individual in their own ability to take the actions required to achieve particular performance goals (Bandura, 1995). Bandura further elaborates that there are four key manners in which people's perceptions of their own abilities can be shaped: mastery experience, vicarious experience, social persuasion, and psychological and emotional states (Bandura, 1995). Concerning mastery experience, it highlights how we should have grit and be resilient whenever we experience failures. Vicarious experience, on the other hand, refers to the notion that observing successful role models in accomplishing similar goals can enhance our self-efficacy. Besides, being in a supportive environment also allows us to be gradually surrounded by people who will always motivate us to strive further. Lastly, the psychological and emotional states also contribute to our self-efficacy, as reducing

stress and negative emotional responses is critical in improving perceived self-efficacy.

Accordingly, self-efficacy is paramount for enhancing student performance, particularly in speaking (Ningias & Indriani, 2021; Pramerta, 2023; Santoso et al., 2024). The same notion also revealed that self-efficacy affects learners' confidence, motivation, and anxiety levels which eventually impact students' ability to communicate effectively. Students with strong self-efficacy are more likely to participate actively, take risks, and persist in developing their speaking skills. For example, it was found that higher self-efficacy reduces speaking anxiety, enabling students to perform better in speaking tasks (Santoso et al., 2024). Similarly, the value of supportive environments, such as peer collaboration and teacher encouragement, in boosting students' confidence and motivation is seen as crucial (Darmawan et al., 2021). In line with this, interactive methods, like peer modelling, significantly help students overcome psychological barriers and improve fluency in speaking (Ningias & Indriani, 2021). Further, self-efficacy is believed to have influenced the way an individual thinks, feels, motivates themselves, and acts (Bandura, 1995). The higher self-efficacy we have, the more confident we will become in attaining our goals. As they nourish their intrinsic motivation positively, they will cultivate positive feelings such as confidence and strive better when faced with hurdles.

To elaborate further, various solutions have been proposed to improve students' speaking self-efficacy. In addition to these challenges, recent studies highlighted the critical role of self-efficacy in addressing barriers to English-speaking skills using e-portfolios (Laksana et al., 2021), implementing engaging teaching methods such as task-based language teaching (Sumarsono et al., 2020) and project-based learning (Shin, 2018), practices through public speaking training (Maulidha & Tiatri, 2023), and video-based language teaching (Ifwandi et al., 2024; Sulistyio & Lutviana, 2023). Further, in boosting students' self-efficacy it is suggested to have strategic ways such as imitation, self-preparation, peer and community engagement, and challenging tasks (Mulyanto et al., 2022).

Equally important, project-based learning (PBL) has increasingly gained popularity in today's educational field. PBL learning can be defined as a learning method where students actively participate in personally and practically relevant projects to gain knowledge and skills (Bender, 2012). It includes eight elements: key knowledge, challenging problems or questions, sustained inquiry, authenticity, students' voice and choice, reflection, critique and revision, and public product (Hansen, 2019). The implementation of PBL is also supported by the existence of the independent curriculum. Current practices also have encouraged learning to adapt more to PBL as it has many benefits in facilitating today's learning in polishing students abilities to solve real-world problems, be critical, think creatively, collaborate and communicate well with their peers, and many more (Sah et al., 2024; Touzard et al., 2023; Wijayanti & Budi, 2023; Zhou, 2023). Importantly, the existence of PBL enhances both language proficiency (Laksanasut, 2024) and prepare students better in contextual communication especially to level up their speaking ability (Sudarso et al., 2024). Previous studies have demonstrated PBL's effectiveness in enhancing students' self-efficacy in speaking by creating collaborative and engaging learning environments (Siregar et al., 2024) in using vlogging in a junior high school context, using YouTube making tutorial in higher

education in informatics programs (Tyas & Fitriani, 2021). Ultimately, a suggestion based on similar research was posed to investigate podcast making project to enhance speaking skills in larger sample size and with a different approach in investigating it (Buwono & Surono, 2024). However, while PBL has been shown to support speaking performance, limited research has explicitly linked PBL with the enhancement of self-efficacy in higher education level, particularly in the context of students doing their podcast-making project.

This research aimed to address the gap by investigating how a podcast-making project in a PBL framework can help students improve their speaking skills. Focusing on the experiences of second-semester students at a private university in Yogyakarta majoring in English Language Education Program, this research aims to understand how collaborative and creatively challenging tasks can help learners overcome psychological barriers and build stronger self-efficacy in speaking. Ultimately, this approach could help bridge the gap in English-speaking proficiency and offer innovative, student-centered solutions for language education in Indonesia. As the literature review suggests, limited studies were conducted to investigate how podcast-making assignment with PBL is linked with self-efficacy enhancement among EFL students in higher education. Thus, this research proposed two research questions to be explored: 1) To what extent can the use of project-based learning boost students' self-efficacy in speaking? and 2) What factors contribute to improving students' self-efficacy in speaking?

Method

This research employed a mixed-method approach. Drawing on the sequential explanatory design, the researchers gathered quantitative data, analyzed the findings, and utilized them to guide qualitative data gathering and analysis (Creswell & Creswell, 2022). This approach is suitable as it extracts comprehensive results drawn from the participants regarding the phenomenon. In employing this approach, the quantitative method serves as the tool to identify key trends from the data. The following qualitative method then further strengthens the validity and at the same time confirms and enriches the quantitative findings.

The instruments leveraged in this research were a questionnaire, semi-structured interviews, and added with observation. The collected data were then analyzed separately and combined to assess the connections between quantitative and qualitative findings in the final analysis. Specifically, the quantitative data was gathered through a self-assessed self-efficacy of speaking questionnaire. The questionnaire was adapted from a new general self-efficacy scale established by Chen (Chen et al., 2001). In addition, the development of the questionnaire still followed Bandura's four aspects of self-efficacy (1995) as the prominent developer of the concept in the educational field (Bandura, 1995). The final adjustment was following the participants' context of the research to ensure that it was relevant to their experience. There were 8 statements items with four possible responses: strongly disagree (1), disagree (2), agree (3), and strongly agree (4). To validate the questionnaire, it underwent a checking phase by the expert perspective, who, in this case, is a lecturer with expertise in the PBL and self-efficacy fields. Further, the instrument also calculated with Cronbach's alpha reliability test. The result was 0,896 (>0.7 , indicating acceptable reliability) ensuring that the questionnaire

administered was valid. The quantitative data were gathered from 53 research respondents who attended the Intermediate Listening and Speaking course.

Upon the completion of quantitative data analysis, the qualitative data gathering was conducted, involving semi-structured interviews with 8 participants. Based on the last interview conducted, there was no new information extracted in relation to the research objectives. This refers to the point at which data saturation is reached (Guest et al., 2020; Rahimi & khatooni, 2024). Moreover, it ensures that interviewed participants reflect the perspectives and experiences of the whole population (Sharma et al., 2024). Open-ended questions were given to help participants express their ideas better, as the researchers had the flexibility to customize the questions during the interview (Ary et al., 2014). Additionally, further follow-up questions were also asked to provide more depth in the data gathering. The aim of collecting qualitative data is to complement the quantitative data gathered.

To elaborate, the participants were selected through purposive sampling. Purposive sampling or known as judgement sampling is relevant as the researchers can determine participant's qualifications they possess (Etikan et al., 2015; Giri, 2024; Memon et al., 2025). There were two criteria determined in this research, including participants who are in their second-semester and enrolled in the Intermediate Listening and Speaking class. Having these criteria ensured the relevance of their experience and sharing they would invest to the research. The data-gathering method includes data from students, which will be collected through a questionnaire and followed by semi-structured interviews. During the data collection, the researchers distributed the questionnaire before and after the podcast-making project took place. When the participants have confusion or further questions, they could ask the researchers to directly clarify their understanding. To add the ethical practice of the research, consent forms were obtained from the participants as they willingly participated and voluntarily answered the questionnaire. Below is the participants' demographic information to add information of the research.

Table 2. Participant's demography

Category	Description
Total Participants	53
Gender	Male and female
Age range	19-20 years old

Participants were also informed that they had the right to withdraw from the research at any time they wished during the research. To maintain confidentiality, all participants are referred to by a number. Eight students were selected based on their self-efficacy score from the questionnaire, categorized into three groups of distributions (high, moderate, and low). This ensures the qualitative data gathered would represent all the students based on the three groupings.

This research employed a combination of quantitative and qualitative data analysis techniques. The quantitative data analysis was conducted using a paired sample t-test to examine the effect of the podcast-making project on students' self-efficacy in speaking. To complement the quantitative data analysis, thematic analysis was employed as suggested by Christou (Christou, 2024). The qualitative

data were analyzed following the thematic analysis proposed by Braun and Clarke with 6 steps within it (Braun & Clarke, 2006). Those steps are 1) familiarization of data; 2) coding; 3) generating initial themes based on codes and data; 4) developing and reviewing themes; 5) refining, defining and naming themes; and 6) writing the report (Braun & Clarke, 2020). The initial step involved familiarizing the data. The researchers immersed themselves to the data without including their bias to influence their interpretation. This was done by listening to audio recordings and reading the transcribed interviews. Codes then established from the transcribed interviews. The next step, some interrelated codes were combined and developed into themes. In this process, it still opens the opportunity for the researchers to revisit the codes and themes and conduct refinement. After some refining and redeveloping of themes, the final step was to report the findings in a well-written format. The result analysis aimed to provide more comprehensive data to support the quantitative data gathered.

Findings and Discussion

Findings

Quantitative data

Table 2. Result of t-test: Paired two sample for means

	Variable 1	Variable 2
Mean	23,11321	29,4717
Variance	15,75617	4,446299
Observations	53	53
Pearson Correlation	0,453015	
Hypothesized Mean Difference	0	
df	52	
t Stat	-13,031	
P(T<=t) one-tail	2,61E-18	
t Critical one-tail	1,674689	
P(T<=t) two-tail	5,23E-18	
t Critical two-tail	2,006647	

As shown in table 1, it is evident that the results of the paired t-test revealed that the podcast-making project significantly enhanced students' self-efficacy in speaking over the course of the intervention. The initial mean score before engaging in the podcast-making project ($M=23.11$) was increased to 29.47 after the project. This suggests that there was a significant improvement in perceived self-efficacy. Moreover, the variance in the participants' scores declined from 15.76 to 4.45, indicating a greater consistency in the self-efficacy levels after the intervention. This consistency implies that the podcast-making project was helpful in minimizing the disparities among the participants' scores. Furthermore, the Pearson correlation coefficient of 0, 453 shows that there is a moderate positive relationship between pre- and post-intervention scores. This signifies that students with higher self-efficacy scores in their initial results have the tendency to benefit from the intervention process in similar ways to those who had lower confidence levels. The t-statistic result also scored -13.031, along with the very low p-values (one-tail:

2.61e-18; two-tail: 5.23e-18). This implies that the enhancement of student's self-efficacy level is statistically significant and unlikely to be linked to random factors. These findings strongly suggest that the podcast-making project, as a form of project-based learning, effectively enhanced students' speaking self-efficacy.

Qualitative data

Growth through personal challenge

Many students discussed how to resolve difficulties during the podcast-making process, such as speaking anxiety or lack of experience since this is their very first time having a podcast-making project. This is in line with the mastery experience factor posited by Bandura, where the process of tackling experienced challenges through continuous practice can lead to higher self-efficacy in completing the task (Bandura, 1995). Similarly, repeated practice and a supportive learning environment can elevate students' fluency and self-efficacy in speaking (Pratolo et al., 2019; Winnie et al., 2023). During the project-based learning, students often rehearsed their performance and evaluated their regular practices. This led to significant improvements in their performance but also particularly in their self-efficacy in speaking.

After the podcast, at least I improved a little bit...in my opinion, I have become more confident...I have improved my English speaking after the podcast.
(Participant 1)

Practice...mostly by myself, if it's a group practice, not several times but more often by myself... (Participant 2)

From the examples mentioned above, the participant expressed an improvement in their self-efficacy in speaking after continuous practice during the podcast making. It is evident that repeated practice, as the application of mastery experience has boosted their self-confidence in speaking English. Additionally, the student was also aware of the need to practice individually outside of class hours to improve their quality of performance. This proves that students become more resilient whenever they encounter difficulties in the rehearsal process and acknowledge the need to practice on their own. Accordingly, individual practice as a form of self-directed learning was emphasized as beneficial in enhancing engagement and active learning (Ramadhanty et al., 2023). By having repeated practice, students were able to establish a sense of control over their speaking performance, reducing the feeling of fear and self-doubt.

Modelling success as vicarious learning

Modelling success as a form of vicarious learning is crucial as a way to enhance students' self-efficacy. Within the classroom dynamics, students could monitor their progress as they learn from their peers' successes and effective methods in completing the project. By observing other people's success, students can replicate it in their own work. When students learn how their peers successfully achieve their goals, they may perceive that the same goal is actually attainable. Consequently, their self-efficacy in believing that they can finish the project well is elevated. Besides, throughout the podcast-making project, students often

exchanged feedback given by their peers and, importantly, the lecturer, which encouraged them to perform better.

With the setting to converse and practice together in English, I feel like my progress has improved because I have also seen other friends succeed. (Participant 7)

Seeing my friends trying so hard, especially when we practice together, makes me feel that if they can do it, I can do it too. (Participant 5)

This reflects the dynamics within the peer group also played a critical role in boosting students' confidence. By practicing together in a collaborative setting, students not only improved their own skills but also drew motivation from the success of their peers. The observation of others' progress reinforced the belief that improvement was achievable, creating a positive feedback loop where success became contagious. By witnessing their peers' hard work and progress, students felt a stronger sense of possibility and became more willing to take risks in their own speaking practice. Accordingly, (Darmawan et al., 2021) pointed out, such supportive environments are essential for boosting students' confidence and encouraging risk-taking in language learning. When students receive positive reinforcement and constructive suggestions, they are more likely to continue engaging in the learning process and take initiative in improving their skills. In addition to the constructive feedback, a student also noted that he searched a model from external sources in performing the podcast well.

Well, from there we started watching YouTube, some YouTube from people from other countries, how they do their podcasts. (Participant 3)

Additionally, the participant also stated that she learned from external sources such as YouTube to enrich her preparation for creating a podcast. She believes that by observing how people create their podcasts will be an exemplary model for their own podcast. This experience can also be included as a vicarious experience that can inspire and elevate their confidence and ability to replicate successful strategies (Ningias & Indriani, 2021).

Collaborative environment

The nature of PBL is meant to foster students' teamwork within a group. Supportively, PBL is emphasized as the method that offers students the opportunity to strengthen their interpersonal and teamwork abilities (Ifwandi et al., 2024). This collaborative environment enabled students to interact with peers and the lecturer during the process. Students can learn from one another while exchanging constructive feedback and helping each other complete the project. The sense of community then benefits students by giving them a safe place, lowering their anxiety about speaking, and at the same time, boosting their self-efficacy in speaking.

For example, if it is wrong, we will help each other and tell each other on how to do it. As simple as that. (Participant 2)

My friends also encouraged me by saying, 'It is okay, don't be afraid to say something wrongly.' Because previously, when I wanted to speak in front of the class or with the lecturer, I was afraid of pronunciation or grammar mistakes, but after this podcast, I got better. (Participant 8)

In some steps, when we didn't know what to do in making the script, the lecturer guided us and evaluated our rehearsal. He provided insightful suggestions. So it's like being constantly monitored from the beginning to the end, ensuring that we were staying on track (Participant 8)

In the classroom dynamic, the feedback given by the other peers and lecturer not only becomes the input suggestion to perform better but also gives the sense of validated feelings. In this case, feedback offers students with supportive backup to identify their mistakes and improve their speaking abilities (Kuntariati & Paramita, 2024). This kind of positive support given by others makes the students feel more appreciated and recognized in the classroom environment, which can foster a positive learning environment for them to enhance their self-efficacy in speaking.

Emotional regulation and coping strategies

Regulating our emotions becomes the last factor that contributes to students' self-efficacy growth. During the project, the majority of students have the inferior feeling about their speaking. As they became more comfortable in expressing themselves with the help of regular practice and constructive feedback from their peers, students gradually elevated their self-efficacy in the podcast-making project. By learning coping methods, students can handle their challenges and continue on making progress in the project-making.

I just imagine myself here, so there's no need to be nervous. If I make a mistake, I can repeat it. (Participant 3)

If I'm nervous, it's because of the camera, but it can all be overcome with a lot of practices, and the longer it goes on, the smoother it gets. (Participant 7)

I try to set my mindset to be calmer, like thinking 'well this is just a podcast, no need to be afraid of being wrong, the important thing is to learn'. (Participant 4)

As shared above, students tried to visualize themselves in a real situation, which helped them lower their anxiety levels. The imagination of positioning themselves in the setting and believing that mistakes also constructed success builds the students' resilience in rehearsing their performance. Moreover, by having consistent practices, the participants were able to control their emotional reactions, such as anxiety, and felt more prepared and comfortable when speaking in front of others. Therefore, managing emotions, such as anxiety and nervousness, was a crucial part of students' development throughout the project. With these coping mechanisms, students can better equip themselves better to navigate the challenges that they experienced.

Furthermore, during the podcast-making process, students also chose their own topic of podcast theme as one characteristic of PBL which is student's voice. This makes them become familiar with the chosen topic and also allotted with

adequate time to prepare their final project of the podcast. Consequently, students were able to demonstrate a higher level of self-efficacy as they had a sense of ownership and relevance to their topic (Yuan et al., 2024)

Discussion

This research investigated the impact of a podcast-making project within a project-based learning (PBL) framework on students' self-efficacy in speaking English. The quantitative data findings were used to address the first research question regarding the extent to which PBL enhances the students' self-efficacy in speaking. From the result, it was evident that there was a critical difference in scores between pre- and post-intervention within PBL podcast-making. This finding is in accordance with prior studies that confirmed the use of PBL in improving students' self-efficacy levels (Shin, 2018).

The quantitative findings revealed a significant improvement in students' self-efficacy scores after participating in the podcast-making project. The mean self-efficacy score elevated from 23.11 to 29.47, highlighting a significant enhancement in students' self-efficacy in speaking. Moreover, the reduction in variance from 15.76 to 4.45 demonstrated that the project helped bring students to a similar level of self-efficacy, indicating a consistent impact across the group. The low p-values obtained from the paired t-test confirmed that the rise in self-efficacy of students was not a result of a random factor.

Complementing the quantitative data findings, the qualitative data provide further insights from the participants in answering the second research question. Several factors were found to be influential aspects in enhancing students' self-efficacy. Drawn from the semi-structured interview result analysis, four themes have emerged. In this case, students experienced significant personal growth, became emotionally resilient, and gained benefits from collaboration with peers and the lecturer.

The findings of this research correspond well with existing literature on self-efficacy and project-based learning. Previous studies have consistently found the role of self-efficacy in developing speaking skills (Bandura, 1995; Ningias & Indriani, 2021; Pramerta, 2023). The improvement in self-efficacy reported in this research was consistent with Bandura's assertion that mastery experiences significantly contribute to individual self-efficacy. From the PBL dynamics in making podcasts, students developed higher confidence as they practiced, refined, and successfully completed their podcasts. This aligns with (Santoso et al., 2024) who argued that higher self-efficacy reduces speaking anxiety and contributes to improved quality of performance. This research then strengthen the claim that mastery experiences experienced by the students shift their initial perception of their language proficiency skills. With the help of PBL, students can boost their confidence in their self-efficacy.

Moreover, a supportive environment in fostering self-efficacy also becomes the focus that contributes to students' learning (Darmawan et al., 2021). Within PBL setting, students were provided with a supportive setting to collaborate with peers and the lecturer in completing their project. Students could interact with other people to exchange constructive feedback and establish stronger self-efficacy. The qualitative data highlighted that students felt motivated when observing the efforts of their peers, echoing the same claim from (Ningias & Indriani, 2021), who found

that vicarious experiences, such as peer modelling, play a crucial role in boosting self-efficacy. Having significant others who support our learning environment and at the same time becoming our role model would have greater impact in fostering our self-efficacy level.

The qualitative findings also revealed that students actively adopted self-regulation strategies, including consistent practices and positive mindset adjustments, to overcome anxiety. This finding is in line with the work of (Franscy & Ramli, 2022), who stressed that self-regulation and emotional management play a vital role in overcoming the psychological barriers linked with speaking English. Students could come up with their own coping-mechanism through visualization and relaxation techniques in a way to managing their anxiety and enhance their performance. By providing a supportive setting for students to practice and hone their skills in a more enjoyable environment, the podcast project helped students develop emotional resilience, an essential factor in improving self-efficacy.

Equally important, it is important to recognize some limitations of the current findings. While the research successfully demonstrated the positive impact of podcast-making on self-efficacy, the relatively small sample size (53 students) may limit the generalizability of the findings. Additionally, the intervention was conducted over an eight-week period, which may not be long enough to fully capture the long-term impact of PBL on self-efficacy. Future research could address these limitations by involving larger sample sizes and extending the intervention period to observe sustained effects of PBL in long term of students' self-improvement.

In summary, the discussion highlights the effectiveness of the podcast-making project as a form of PBL in enhancing students' self-efficacy in speaking. The findings are consistent with existing literature, particularly in emphasizing the importance of mastery experiences, social persuasion, and supportive environments in fostering self-efficacy. By engaging in real-world, collaborative tasks, students not only improved their speaking abilities but also developed emotional resilience, which is crucial for language learning. This research contributes to the growing body of evidence supporting the use of PBL as an effective approach to enhancing self-efficacy in language education, particularly in contexts where students face significant psychological barriers to speaking English.

Conclusion

In summary, this research explored the effectiveness of the podcast-making project as a form of PBL in enhancing students' self-efficacy in speaking. This research disclosed two prominent findings. First, the findings provide critical evidence that podcast-making within PBL framework can improve students' self-efficacy, confirmed by the quantitative data showing significant improvement in students' self-efficacy scores. Further, the qualitative data discovered 4 pivotal factors that contribute to students' self-efficacy improvement. These findings are consistent with existing literature, particularly in emphasizing the importance of mastery experiences, vicarious experiences, verbal persuasion, and physiological and emotional states reflected in the classroom setting to foster students' self-efficacy. Second, by engaging in real-world context projects, podcast-making raised students' active participation and helped them overcome their speaking challenges. With continuous practice and constructive feedback from their peers

and the lecturer, students can better develop their self-efficacy in a supportive environment.

Building upon the findings, this research contributes to the growing body of evidence supporting the use of PBL as an effective approach to enhancing self-efficacy in language education, particularly in contexts where students face significant psychological barriers to speaking English. Despite the promising findings, this research was only conducted within an 8-week period, the results of the research might not uncover the long-term impact of PBL on students' self-efficacy. Further research can investigate the longer observation periods of a similar case to identify the sustained influence of project-based learning.

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