

BLENDING PROBLEM BASED-LEARNING: ENHANCING SPEAKING PERFORMANCE ACROSS SELF-EFFICACY LEVELS

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ABSTRACT

This study examines the effectiveness of the Blended Problem-Based Learning (Blended-PBL) approach in enhancing speaking performance among EFL students with different self-efficacy levels and explores students' perceptions of its application in speaking instruction. Employing a quasi-experimental design, the research involved 32 undergraduate students of an English Education Study Program, consisting of 16 students with high self-efficacy and 16 with low self-efficacy, who participated in a Speaking course during the 2023/2024 academic year. Data were collected through pre- and post-test speaking performance assessments evaluated with an analytic rubric, a self-efficacy questionnaire, and a perception survey, and analyzed using paired sample t-tests and descriptive statistics. The results indicated a significant improvement in students' speaking performance after the Blended-PBL intervention, with a paired sample t-test yielding a value of $t = -12.162$ ($p < 0.05$), confirming that the gains were statistically significant. Interestingly, although students with high self-efficacy performed slightly better than their peers with lower self-efficacy, the difference between the two groups was not statistically significant, suggesting that Blended-PBL is equally beneficial across varying levels of self-efficacy. Furthermore, perception data demonstrated that students held favorable views toward Blended-PBL, particularly in terms of motivation, collaboration, confidence building, and problem-solving skills. These findings highlight Blended-PBL as an effective and inclusive pedagogical model for EFL speaking instruction, with potential to foster learner engagement, reduce performance gaps, and promote a more supportive and equitable language learning environment.

Keywords: Blended problem-based learning, self-efficacy levels, speaking performance

INTRODUCTION

In English as a Foreign Language (EFL) contexts, speaking is often considered the most complex and demanding skill to master. Unlike receptive skills such as reading and listening, speaking requires learners to simultaneously draw upon linguistic competence, vocabulary, grammar, and pronunciation, while maintaining psychological readiness and communicative confidence. Studies consistently report that EFL students face barriers such as limited exposure to authentic interaction, lack of vocabulary, anxiety, and insufficient opportunities for meaningful practice (Abdullah et al., 2019; Alkhoudary & Alkhoudary, 2019).

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These persistent challenges highlight the necessity of adopting instructional models that create more engaging, supportive, and student-centered learning environments.

To overcome these challenges, innovative pedagogical models have been introduced, including Flipped Classroom (FC), Problem-Based Learning (PBL), and more recently Blended Problem-Based Learning (Blended-PBL). Flipped learning allows students to engage with instructional materials independently before class, freeing up classroom time for interactive practice, collaboration, and feedback (Almulla, 2019; Almulla, 2020). PBL, on the other hand, promotes collaborative problem-solving and contextual learning, encouraging learners to construct knowledge through authentic challenges. Integrating these models, Blended-PBL combines the strengths of online and offline modalities with problem-based tasks, thus fostering deeper engagement, autonomy, and communication practice (Amiryousefi, 2019; Umar et al., 2023).

Research on FC and PBL has demonstrated positive effects on various learning outcomes, including critical thinking, motivation, and academic achievement (Camelia & Maknun, 2021; Hikmawati & Ningsih, 2020; Ibrahim et al., 2022). For example, flipped learning has been associated with improved engagement and learner satisfaction (Fisher et al., 2018), while PBL has been shown to enhance problem-solving and self-directed learning skills (Almulla, 2019). However, evidence on their specific impact on speaking performance in EFL settings remains mixed. Although some studies found improvements in oral fluency and interaction (Xu et al., 2021), others reported that linguistic anxiety and confidence barriers continued to impede progress (Chen & Hwang, 2020). These inconsistencies suggest that learner-related factors may significantly influence the effectiveness of such models.

Among learner-related factors, self-efficacy plays a central role in determining the success of speaking instruction. Self-efficacy refers to learners' beliefs in their ability to accomplish tasks and overcome challenges (Bandura, 2017). In speaking classes, high self-efficacy is linked to greater participation, risk-taking, and resilience against anxiety, while low self-efficacy often leads to withdrawal and reluctance in oral communication (Gabriel et al., 2020; Usher et al., 2023). Studies also confirm that self-efficacy mediates the relationship between instructional design and academic performance, making it a key psychological trait to consider when evaluating language learning models (Warren et al., 2020).

In the digital and post-pandemic era, learner-centered pedagogies such as Blended-PBL are increasingly relevant. These models integrate collaborative problem-solving and digital tools, providing flexible, authentic, and interactive learning environments (Umar et al., 2023). However, their effectiveness is not uniform across learners. Evidence suggests that psychological traits such as self-regulation, motivation, and especially self-efficacy moderate how learners engage with and benefit from digital innovations (Aquino & BuShell, 2020; Bahar & Latif, 2019; Arafah & Hasyim, 2019). Despite this, few studies have systematically examined the intersection of Blended-PBL, speaking performance, and self-efficacy in EFL contexts.

Although previous literature supports the effectiveness of both FC and PBL independently, studies on their integration into Blended-PBL remain limited. Even fewer investigations have explored how Blended-PBL influences speaking performance when analyzed across different levels of learner self-efficacy. Moreover, research examining students' perceptions of such models, especially regarding their confidence and readiness in oral communication, is still scarce (Camelia & Maknun, 2021; Ibrahim et al., 2022). Addressing these gaps is crucial for refining language pedagogy and ensuring that instructional designs align with diverse learner needs.

Against this background, the present study seeks to examine the effectiveness of Blended Problem-Based Learning in enhancing speaking performance among EFL learners, while also investigating the moderating role of self-efficacy. By focusing on both performance outcomes and learner perceptions, this study answered the following questions: 1) How effective is the Blended Problem-Based Learning approach in teaching speaking for students with different levels of self-efficacy? and 2) How do students perceive the use of Blended Problem-Based Learning approaches in teaching speaking? The findings are expected to

inform the design of more inclusive and adaptive instructional strategies, thereby contributing to the advancement of speaking pedagogy in diverse EFL contexts.

METHODS

This study employed a quasi-experimental design with a pretest–posttest approach to investigate the effectiveness of the Blended Problem-Based Learning (Blended-PBL) approach in improving EFL students' speaking performance and to examine students' perceptions of its implementation in speaking instruction. The quasi-experimental design was selected because random assignment was not feasible, yet treatment was systematically applied to a specific group of learners (Sugiyono, 2021; Neuman, 2019). This design is appropriate in educational contexts where intact groups are studied under similar instructional conditions, thus allowing for empirical examination of treatment effects despite the absence of randomization. The study focused on two major aspects: (a) students' speaking performance across different levels of self-efficacy under Blended-PBL instruction, and (b) students' perceptions of the use of Blended-PBL in speaking classes.

Participants involved in this study were undergraduate students enrolled in the English Education Study Program at Universitas Baturaja during the 2023/2024 academic year. A purposive sampling procedure was employed to select students based on two criteria: (1) their self-efficacy levels as measured by a standardized questionnaire, and (2) their participation in Blended-PBL instruction (Miles & Huberman, 2019). A total of 32 students participated in the study, comprising 16 categorized as high self-efficacy and 16 as low self-efficacy. The grouping was determined through a median-split procedure on self-efficacy scores, which, although debated for reducing statistical power, remains a widely used method to ensure balanced subgroup comparisons in educational experiments. In addition, three instruments were utilized in this study as can be seen in Table 1.

Table 1. Research Instruments

Instrument	Description	Purpose
Speaking Performance Test	Pretest and posttest speaking tasks evaluated using an analytic rubric covering fluency, pronunciation, grammar, and vocabulary. Independent scoring by two raters.	To measure students' improvement in speaking performance before and after the Blended-PBL intervention.
Self-Efficacy Questionnaire	Likert-scale questionnaire adapted from Bandura (2017) and Usher et al. (2023).	To categorize students into high and low self-efficacy groups.
Perception Questionnaire	Close-ended Likert-scale survey administered at the end of the intervention.	To investigate students' attitudes and perceptions toward the use of Blended-PBL in speaking instruction.

To ensure the appropriateness and consistency of the instruments, several validation steps were undertaken. The speaking performance rubric was adapted from established EFL assessment frameworks and reviewed by two lecturers specializing in language assessment to confirm content validity. Inter-rater reliability was also calculated to secure scoring consistency between raters, yielding a strong level of agreement. The self-efficacy and perception questionnaires were adapted from validated instruments in previous studies (Bandura, 2017; Usher et al., 2023) and subsequently examined by experts in EFL pedagogy to ensure clarity and contextual relevance. A pilot administration was conducted with a small group of non-participant students, and the results indicated satisfactory internal consistency (Cronbach's $\alpha > .80$), confirming their reliability for use in the main study.

The intervention was carried out within the Blended-PBL framework, combining online and offline learning modes. Students engaged with pre-class digital materials independently, followed by in-class collaborative problem-solving tasks designed around real-life speaking

scenarios. Each session emphasized active participation, peer interaction, and instructor feedback. The instructional design followed typical PBL phases: problem presentation, inquiry and exploration, collaborative solution development, and reflection, adapted into a blended modality for flexibility and learner engagement.

Data were analyzed using both inferential and descriptive statistics. Paired sample t-tests were conducted to compare pretest and posttest speaking performance scores across self-efficacy levels. Descriptive statistics (mean scores, standard deviations, and frequency distributions) were employed to summarize students' responses on the perception questionnaire. Statistical analyses were performed using IBM SPSS Statistics (Version 27.0), with significance set at $p < .05$.

This study was limited by its reliance on a quasi-experimental design with purposive sampling, which restricts the generalizability of the findings. The sample size ($n = 32$) was relatively small, potentially reducing statistical power. In addition, the categorization of self-efficacy into high and low groups using a median-split procedure may have oversimplified the continuum of learner characteristics. These methodological constraints should be considered when interpreting the results, and future studies may employ larger samples and longitudinal designs for more robust validation.

FINDINGS AND DISCUSSION

Research findings are organized according to the study's objectives and questions, focusing on two primary areas. The first data set was derived from pre-test and post-test scores of identified low self-efficacy learners, while the second was collected through a structured Likert-scale questionnaire capturing student perceptions across multiple dimensions. The analysis is structured to ensure clarity and alignment with the intended research outcomes.

The Effectiveness of Blended-PBL for Students with Low Self-Efficacy

The effective of the Blended-PBL approach was assessed through speaking tests administered before and after the instructional intervention. The assessment focused on 4 main aspects of speaking performance: fluency, vocabulary, grammar, and pronunciation.

Table 2. Students' Pretest Score of Low Self-Efficacy Level

Students' Pretest Score of Low SE Level					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	16	2	12,5	12,5	12,5
	18	1	6,3	6,3	18,8
	21	3	18,8	18,8	37,5
	23	1	6,3	6,3	43,8
	24	3	18,8	18,8	62,5
	25	1	6,3	6,3	68,8
	27	2	12,5	12,5	81,3
	28	1	6,3	6,3	87,5
	30	2	12,5	12,5	100,0
	Total	16	100,0	100,0	

In the Blended Problem-Based Learning class, a total of 16 students identified as having low levels of self-efficacy participated in the pretest. Their speaking scores ranged between 16 and 30, with the minimum score recorded at 16 and the maximum at 30.

Table 3. Statistical Analysis of Students' Pretest Score of High Self-Efficacy Level

Statistics		
Students' Pretest Score of Low SE		
N	Valid	16
	Missing	0
Mean		23,44
Std. Error of Mean		1,107
Median		24,00
Mode		21 ^a
Std. Deviation		4,427
Variance		19,596
Range		14
Minimum		16
Maximum		30
Sum		375
a. Multiple modes exist. The smallest value is shown		

Referring to Table 3, the average pretest score of students categorized as having high self-efficacy was 23.44. After the implementation of the treatment, evaluation scores are conducted to assess changes in performance. This post-test is detailed in Table 4.

Table 4. Students' Posttest Score of Low Self-Efficacy Level

Students' Posttest Score of Low Self-Efficacy Level					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	23	1	6,3	6,3	6,3
	24	2	12,5	12,5	18,8
	29	3	18,8	18,8	37,5
	30	3	18,8	18,8	56,3
	31	1	6,3	6,3	62,5
	32	1	6,3	6,3	68,8
	33	2	12,5	12,5	81,3
	34	1	6,3	6,3	87,5
	35	1	6,3	6,3	93,8
	42	1	6,3	6,3	100,0
Total	16	100,0	100,0		

A total of 16 students with low self-efficacy in the Blended Problem-Based Learning class participated in the post-test. Their scores ranged from 23 to 42, with 23 being the lowest and 42 the highest. The detailed result analysis can be seen in table 5.

Table 5. Statistical Analysis of Students' Posttest Score of High Self-Efficacy Level

Statistics		
Students' Posttest Score of Low S		
N	Valid	16
	Missing	0
Mean		30,50
Std. Error of Mean		1,169
Median		30,00
Mode		29 ^a
Std. Deviation		4,676
Variance		21,867
Range		19
Minimum		23
Maximum		42
Sum		488
a. Multiple modes exist. The smallest value is shown		

The statistical analysis indicated that the mean score achieved by students in the Blended PBL group was 30.50. A comparison of these results is summarized in Table 6.

Table 6. Score Comparison: Low Self-Efficacy Group

Descriptive Statistics								
	N Statistic	Range Statistic	Minimum Statistic	Maximum Statistic	Sum Statistic	Mean Statistic	Std. Error	Std. Deviation Statistic
Pretest Score of Low SE Level	16	14	16	30	375	23,44	1,107	4,427
Posttest Score of Low SE Level	16	19	23	42	488	30,50	1,169	4,676
Valid N (listwise)	16							

A total of 16 low self-efficacy students in the Blended PBL class completed both pretest and posttest assessments. Scores improved from a range of 16–30 (pretest) to 23–42 (posttest), with the mean increasing from 23.44 to 30.50. Before conducting further analysis, normality and homogeneity tests were performed using IBM SPSS version 29, as shown in Tables 7 and 8.

Table 7. Normality: Pre- and Post-Test Scores

Tests of Normality							
		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
Class		Statistic	df	Sig.	Statistic	df	Sig.
Score	Pretest Score (Low SE Level)	,113	16	,200 ^a	,949	16	,470
	Posttest Score (Low SE Level)	,187	16	,139	,930	16	,240

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

As shown in Table 7, both significance values surpass the alpha threshold of 0.05, with the pretest and posttest producing values of 0.470 and 0.240 respectively. These findings confirm that the data from both assessments follow a normal distribution.

Table 8. Table of Homogeneity of Variance

Test of Homogeneity of Variance					
		Levene Statistic	df1	df2	Sig.
Score	Based on Mean	,037	1	30	,849
	Based on Median	,031	1	30	,862
	Based on Median and with adjusted df	,031	1	28,907	,862
	Based on trimmed mean	,045	1	30	,834

The homogeneity test showed that pretest and posttest scores of low self-efficacy students were homogeneous, with a significance value of 0.849 (> 0.05). To answer Research Question 1, a paired sample t-test is applied as shown in Table 9.

Table 9. Paired Sample Ttest

		Paired Differences					Significance		
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	
					Lower	Upper			One-Sided p Two-Sided p
Pair 1	Pretest Low SE Level - Posttest Low SE level	-7,063	2,323	,581	-8,300	-5,825	-12,162	15	<,001 <,001

The t-test outcomes demonstrated a statistically meaningful distinction between the initial and final assessment scores of students with low self-efficacy, as evidenced by a t-value of -12.162 and a p-value of 0.001, signifying that Blended Problem-Based Learning (Blended-PBL) substantially improved their speaking performance. This supports the research hypothesis for Question 1. Additional analysis confirmed the approach's effectiveness for both low and high self-efficacy groups, with statistical significance at $p = 0.000$. Although the high self-efficacy group showed slightly better post-test scores (-6.188 vs. -7.063), the difference was not statistically significant, suggesting comparable gains across both groups.

Generally, these findings confirm that Blended-PBL significantly enhanced students' speaking performance across self-efficacy levels, with a substantial mean gain from pre- to post-intervention. This result strengthens the evidence that active, inquiry-driven pedagogies can accelerate speaking development in EFL contexts. Prior studies have consistently shown that PBL encourages autonomy, collaboration, and self-directed learning, which in turn improve oral communication skills (Liu et al., 2020; Pan et al., 2022). In particular, the structured problem-solving cycles inherent in PBL provide learners with authentic communicative purposes that mitigate the artificiality of classroom dialogues, a limitation often noted in traditional teacher-centered instruction (Indriani & Mariani, 2019).

However, what is notable in the present study is that Blended-PBL proved equally effective for both low and high self-efficacy students, as no significant interaction was found between self-efficacy levels and performance gains. This finding both supports and challenges existing literature. On one hand, it affirms arguments that collaborative learning environments reduce performance gaps by providing scaffolding and social support, enabling low self-efficacy learners to take risks in communication (Ashraf et al., 2021). On the other hand, it contradicts claims that self-efficacy acts as a strong moderator of performance in speaking tasks (Usher et al., 2023), since in this study learners with initially low efficacy achieved comparable gains to their high-efficacy peers. One possible explanation is the blended format itself, which offered multiple entry points for participation, online preparation, peer collaboration, and in-class problem-solving, thus reducing the performance pressure typically experienced by low-efficacy students (Kaharuddin & Rahmadana, 2020; Xu et al., 2021).

At the same time, these results raise critical questions about the long-term role of self-efficacy. While Blended-PBL may equalize short-term speaking gains, it remains unclear whether the approach fosters sustained self-efficacy development or whether the effect diminishes outside the structured environment. This aligns with concerns in educational psychology that instructional interventions may temporarily buffer motivational disparities without addressing their deeper cognitive roots (Bandura, 2017; Warren et al., 2020). Future studies should therefore examine longitudinal impacts of Blended-PBL, particularly whether repeated exposure leads to durable shifts in learners' confidence and autonomy.

Students' Perceptions toward Blended Problem-Based Learning

Student perceptions were measured using a closed-ended questionnaire with a Likert scale (1 = Strongly Disagree to 5 = Strongly Agree), to the use of Blended PBL in speaking

instruction. Responses were analyzed by calculating total and average scores for each item to identify overall perception trends.

For the Blended PBL perceptions, data were collected through a structured Likert-scale questionnaire. Total and mean scores for each item were calculated to summarize students' overall responses, as presented in the following results.

Table 10. Students' Perception of Blended PBL

No	Statement	SA	A	N	D	SD	Total Score	Mean
1.	Blended PBL increases learning motivation and directly involved in finding solutions	15	11	3	3	0	134	3.84
2.	Blended PBL encourages to collect information according to the problem	11	14	4	3	0	129	3.97
3.	Blended PBL encourages to interact directly with lecturers through discussion and question and answer	14	5	8	5	0	124	4.06
4.	Blended PBL directs to actively discuss about the topic being studied	11	6	9	6	0	118	3.94
5.	The time duration to complete the task is sufficient	9	9	10	2	2	117	3.94
6.	Improve my understanding of the PBL approach steps	13	9	8	2	0	129	4.09
7.	Learning is more interesting	15	12	3	2	0	136	4.09
8.	Improve my self-confidence by presenting the results of the investigation	16	10	4	2	0	136	4,22
9.	Blended PBL improve collaboration skills	11	12	7	1	1	127	4.16
10.	Blended PBL improve my problem-solving skills	11	8	11	1	1	123	4.09
11.	Blended PBL improve my critical thinking skills	10	11	7	3	1	122	3.66
12.	Emphasize student-centered learning	11	11	8	2	0	127	3.91
13.	Lecturer act as facilitator in the learning process	13	12	3	3	1	129	3.91
14.	Blended PBL directs to improve vocabulary mastery	10	13	6	3	0	126	4.00
15.	Increase my tolerance to accept different opinions	10	14	3	4	1	124	3.94

The results presented in the table demonstrate overall positive student perceptions of the Blended Problem-Based Learning (Blended-PBL) approach. Two statements achieved mean scores above 4.20, placing them in the "Very Good" category. Specifically, students strongly agreed that Blended-PBL made learning more interesting ($M = 4.09$, close to the upper range) and, more notably, that it improved their self-confidence when presenting investigation results ($M = 4.22$). The latter finding is particularly significant in EFL contexts, where speaking anxiety is common; it suggests that structured problem-solving and presentation tasks embedded in Blended-PBL can empower students to speak with greater assurance and autonomy.

The remaining thirteen items yielded mean scores within the 3.40–4.19 range, corresponding to the "Good" category. Within this interval, the highest ratings were given to collaboration skills ($M = 4.16$), problem-solving ($M = 4.09$), and vocabulary mastery ($M = 4.00$), indicating that students especially valued the interactive and communicative dimensions of the approach. By contrast, aspects such as time sufficiency ($M = 3.94$) and critical thinking ($M = 3.66$) were rated slightly lower, suggesting that while students recognized the benefits of Blended-PBL, they also faced challenges in managing time effectively and engaging in deeper analytical reasoning. These insights point to areas where the design of Blended-PBL sessions could be further refined to optimize outcomes.

In short, the perception data highlight those students regard Blended-PBL as an engaging, motivating, and supportive instructional model that fosters both linguistic and non-linguistic skills, particularly self-confidence and collaborative competence. Nonetheless, the slightly lower ratings on critical thinking and time management caution against assuming uniform effectiveness across all skill domains. These results underscore the importance of continuous pedagogical adjustments to ensure that Blended-PBL not only excites and engages learners but also cultivates higher-order thinking skills in a balanced manner.

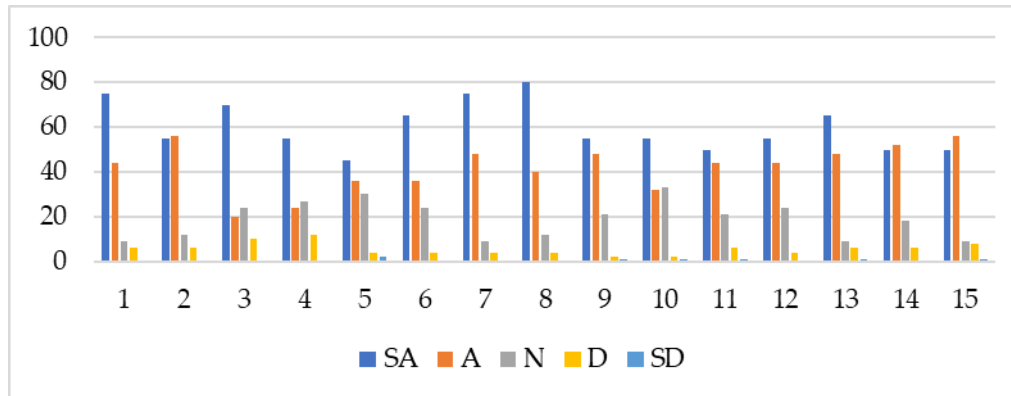


Chart 1. Frequency of the Students' Perception toward Blended Problem-based Learning

Chart 1 illustrates the distribution of student responses to the 15 statements assessing their perceptions of the Blended Problem-Based Learning approach. Each item offered five possible response options. The data reveal that students utilized the full range of responses across several items. The responses most frequently chosen were "Strongly Agree" and "Agree," reflecting a predominantly positive perception of the Blended PBL approach.

Based on the aforementioned findings of research question 2, students expressed generally positive perceptions of Blended-PBL, with the highest ratings in enhanced motivation, increased self-confidence, and greater engagement in speaking tasks. This aligns with research suggesting that student-centered pedagogies foster not only skill development but also affective benefits such as reduced anxiety and improved classroom climate (Fisher et al., 2018; Chen & Hwang, 2020). Importantly, the finding that confidence-building received the highest rating resonates with EFL research identifying speaking anxiety as one of the most persistent barriers to oral proficiency (Abdullah et al., 2019; Gabriel et al., 2020). Blended-PBL, by embedding communicative practice within collaborative problem-solving, may provide a psychologically safer environment that gradually reduces fear of negative evaluation.

Moreover, students' favorable perceptions highlight a broader pedagogical shift in EFL from transmissive teaching toward constructivist, learner-centered approaches. Scholars argue that integrating digital tools with collaborative inquiry aligns with contemporary learning preferences and enhances both engagement and achievement (Bereczki & Kárpáti, 2021). The present findings reinforce this shift, suggesting that blended formats not only support speaking performance but also resonate with learners' expectations of relevance, interactivity, and autonomy in post-pandemic education (Aquino & BuShell, 2020).

However, while students largely endorsed the approach, mean scores for some items (e.g., time sufficiency, critical thinking development) did not reach the "very good" threshold. This suggests areas where Blended-PBL may require refinement. For example, insufficient task duration may limit deeper inquiry and reflection, while critical thinking outcomes may demand more explicit scaffolding beyond problem-solving alone (Listiqowati et al., 2022). These nuances point to the importance of iterative design in blended models, ensuring that both cognitive and affective learner needs are systematically addressed.

Finally, the results demonstrate that Blended-PBL holds considerable promise for

improving speaking performance while fostering positive learner perceptions across different self-efficacy levels. However, the equal gains across efficacy groups raise theoretical questions about the moderating role of psychological traits in blended environments. Pedagogically, the study underscores the value of designing speaking instruction that integrates digital and face-to-face modalities, problem-based inquiry, and collaborative support, thereby moving toward a more inclusive and responsive EFL classroom.

CONCLUSION

This study demonstrates that the Blended-PBL approach is effective in enhancing students' speaking performance across self-efficacy levels. Significant gains from pretest to posttest confirm that engaging learners in collaborative, real-world problem-solving tasks fosters both competence and confidence in speaking. Importantly, the absence of statistically significant differences between high and low self-efficacy groups suggests that Blended-PBL is an inclusive pedagogy that supports diverse learners in EFL contexts.

In addition to measurable progress, students expressed highly positive perceptions toward Blended-PBL, particularly regarding motivation, collaboration, and problem-solving skills. These findings reflect the shift from teacher-centered to learner-centered approaches in language education, where technology integration and active inquiry are valued not only for improving outcomes but also for promoting learner engagement and satisfaction.

Based on these results, it is recommended that educators adopt Blended-PBL in speaking instruction to create more interactive and equitable learning environments. Future research should expand on these findings by involving larger and more diverse populations, applying longitudinal designs, and examining the role of teacher training and institutional support to ensure sustainable and scalable implementation.

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