

## Enhancing Thai EFL Students' Speaking Skills through Project-Based Learning Assisted by Flashcards

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### ABSTRACT

This study aimed to investigate the effectiveness of project-based learning assisted by flashcards in enhancing Thai EFL students' speaking skills. The study was conducted at Koksai Anusorn School, Satun, Thailand, and involved 30 fifth-grade students divided into experimental and control groups. The experimental group was taught using project-based learning assisted flashcards, while the control group received conventional instruction using English textbook. The study approach used was quantitative with a quasi-experimental design in the form of a pretest and posttest experimental and control groups. Data were collected through speaking performance tests covering five aspects: fluency, grammar, vocabulary, pronunciation, and comprehension. The data were analyzed using descriptive statistics, Shapiro-Wilk normality tests, and paired samples t-tests with the help of SPSS software. The results showed that the mean score of the experimental group increased from 67.67 to 91.00, while the control group enhanced from 67.00 to 85.00. The paired samples t-test revealed a significant difference in both groups ( $p = 0.000$ ), but the experimental group showed a greater mean gain of 23.33 points compared to 18.00 points in the control group. The Shapiro-Wilk test confirmed that all data were normally distributed, making parametric analysis appropriate. These findings indicate that project-based learning assisted by flashcards can significantly enhance Thai EFL students' speaking skills.

**Keywords:** *Speaking skills; Project-Based Learning; Flashcards; EFL; Thai students.*

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## INTRODUCTION

In a more globalized society, effective communication in English has emerged as an essential ability for learners in different educational settings. According to (Dilshodovna, 2024) to English functions not only as a tool for international communication but also as a gateway to academic, technological, and professional opportunities, emphasizing its key role in enabling people to participate effectively in today's interconnected world. This perspective aligns with other scholars who view English as a driver of social and economic progress and as a bridge for communication across cultures. (Rao, 2019) Defines speaking is widely acknowledged as the most complex and essential for real-world communication. Among the four macro skills in English listening, reading, writing, and speaking. However, speaking remains a challenging skill for English as Foreign Language (EFL) learners, particularly in contexts where English is not used as a medium of daily interaction.

Several studies confirm that EFL learners often experience difficulties in speaking due to limited vocabulary, lack of confidence, insufficient exposure to authentic communicative contexts, and inadequate instructional methods (Ahmadi, 2017). Based on the observations made during the International KKN program at Koksai Anusorn School in Thailand, it was found that many students, as students tend to avoid speaking in English, fearing grammatical mistakes or incorrect pronunciation. These problems are exacerbated by teacher-centered instructional practices that rely heavily on textbooks, rote learning, and grammar-focused methods (Hasibuan, 2020). As a result, students often demonstrate low engagement and underdeveloped oral proficiency (Sari & Sembiring., 2019).

A transformative approach is required to shift the classroom dynamic from passive to active learning and from teacher-centered instruction to student-centered exploration. (Handrianto & Rahman, 2018) says that project-based learning has emerged as a pedagogical model that promotes learner autonomy, collaboration, critical thinking, and meaningful communication. Project-based learning encourages students to work on extended tasks that are relevant to their real-life experiences, thereby enhancing their motivation and involvement in the learning process. Wahyuni et al., (2017) define project-based learning as a systematic instructional strategy that involves learners in collaborative inquiry, planning, and presentation of projects. In the EFL context, project-based learning has been shown to significantly improve speaking performance by encouraging students to use language authentically and interactively (Sirisrimangkorn, 2021).

To further support oral language development, visual aids such as flashcards are widely recommended in language teaching. Flashcards offer learners visual stimuli that support vocabulary retention, pronunciation practice, and sentence construction (Mutar, 2024). They serve as scaffolding tools that enhance cognitive processing by linking abstract language concepts with concrete images (Atmaja & Sonia, 2020). Flashcards are especially beneficial for young or beginner learners, as they can engage multiple learning modalities visual, auditory, and kinesthetic making language learning more accessible and enjoyable (Aba, 2019). In a study by Luthfillah & Fauzia, (2023), flashcards significantly improved students' speaking fluency and vocabulary mastery, supporting the notion that flashcards contribute to the development of productive language skills.

Combining project-based learning with flashcard assisted instruction offers a strategic synergy. While project-based learning fosters active communication, task management, and peer collaboration, flashcards support vocabulary recall and oral fluency. Aryarta & Saraswati, (2024) reported that integrating flashcards in project-based tasks significantly improved students' ability to describe, narrate, and interact during classroom activities. The use of pictorial flashcards during project-based learning presentations has also been shown to boost learner confidence, reduce anxiety, and enhance spontaneity in speaking Lubis et al., (2023). According to SilmA et al.,(2024), project-based learning, when augmented with appropriate media, nurtures both

cognitive and affective domains, promoting deeper learning and increased learner motivation.

In line with constructivist learning theory, which emphasizes learning as an active process of knowledge construction through experience, both project-based learning and flashcards align well with student-centered approaches (Omelianenko & Artyukhova, 2024). Learners are not passive recipients of information but active participants in constructing meaning through interaction, exploration, and presentation. Furthermore, the use of real-world projects and visual aids cultivates contextual learning, which is vital in enhancing language retention and meaningful communication (Aslan, 2020).

Despite the growing body of evidence supporting these strategies, many EFL classrooms in Southeast Asia, including Thailand, continue to rely on outdated instructional methods that fail to stimulate speaking development. Thus, empirical research is needed to investigate the impact of project-based learning assisted by flashcards on Thai EFL students', particularly at the primary level, where foundational speaking skills are developed. Previous studies such as those by Wahyuni, (2023) and Sintya, (2020) have indicated a positive relationship between project-based learning and students' oral proficiency. However, the integration of visual aids like flashcards into the project-based learning model remains underexplored in Thai EFL contexts.

The study to investigate the effectiveness of project-based learning assisted by flashcards in enhancing Thai EFL students speaking skills in primary school. The study aims to evaluate enhancements in key components of speaking fluency, vocabulary, pronunciation, grammar, and comprehension while fostering greater learner engagement and confidence. Through a quasi-experimental design, this research will provide quantitative evidence of the instructional model's impact and offer pedagogical insights for EFL educators seeking to implement more innovative, student-centered learning environments.

## **METHOD**

A quantitative approach with a quasi-experimental design in the form of a pretest and posttest with experimental and control groups was employed in this study to investigate the effectiveness of project-based learning assisted by flashcards in enhancing Thai EFL students' speaking skills. The study was conducted at Koksai Anusorn School in Satun Province, Thailand, and involved 30 fifth-grade students divided into two groups: an experimental group ( $n = 15$ ) and a control group ( $n = 15$ ). The experimental group was taught using project-based learning assisted by flashcards. Whereas the control group received conventional instruction using English textbook.

One of the project tasks in the experimental group was "My Favorite Animal," in which students selected their favorite animal from the flashcards used during the lessons, searched for information about its characteristics, habitat, and behavior, and created an illustrated drawing of it. The drawing was accompanied by a short written description in English. At the end of the activity, students presented their work orally to the class, describing the animal using the targeted vocabulary and sentence structures.

In the control group, students learned the same topic about animals using the English textbook. They completed textbook-based tasks such as reading short passages about animals, answering comprehension questions, practicing relevant vocabulary, and engaging in simple speaking drills provided in the book. The speaking test used as the research instrument assessed five components: fluency, pronunciation, grammar, vocabulary, and comprehension each rated from 1 to 20, adapted from Kuehn, (2024). Both groups underwent a pretest and a posttest, and all speaking performances were recorded and scored independently by two raters to ensure inter-rater reliability.

The subjects of this study were selected through purposive sampling. Purposive sampling is a technique systematically selected based on specific considerations by the research objectives. The main criteria for sample selection were based on the student's specific academic and psychological. Students who scored incomplete on the speaking test and had low to moderate English ability made up the academic sample. Students who struggled with speaking confidence and showed significant levels of nervousness when speaking in front of the class were the focus of psychological traits, which were taken into consideration.

The intervention in the experimental group are involved project planning, vocabulary development using flashcards, collaborative presentation preparation, and oral performance, while the control group received teacher-centered instruction without media support. Data collection was conducted through oral speaking tests. Descriptive statistics (mean, standard deviation) and inferential analysis were applied using SPSS. A Shapiro-Wilk test and Levene's test were used to examine the normality and homogeneity of the data. An independent sample t-test was then conducted to determine whether significant differences existed between the posttest scores of the two groups. Additionally, the percentage of enhancement was calculated using the formula  $P = \frac{X_{\text{post}} - X_{\text{pre}}}{X_{\text{pre}}} \times 100\%$ . The results provided insight into the effectiveness of project-based learning assisted by flashcards in enhancing Thai EFL students' speaking skills.

## FINDINGS AND DISCUSSION

This study was conducted to investigate the effectiveness project-based learning assisted by flashcards in enhancing Thai EFL students' speaking skills. A quasi-experimental design with a pretest-posttest control group was applied, involving two classes of fifth-grade students from Koksai Anusorn School, Satun, Thailand. The experimental group was taught using project-based learning assisted by flashcards, while the control group received conventional instruction using English textbooks. The data were collected through speaking tests (pretest and posttest), then analyzed using SPSS, employing descriptive statistics, Shapiro-Wilk tests of normality, and paired samples t-tests.

**Table 1. Paired Samples Statistics**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest Experimental	67.6667	15	9.03696	2.33333
	Posttest Experimental	91.0000	15	7.12140	1.83874
Pair 2	Pretest Control	67.0000	15	7.27029	1.87718
	Posttest Control	85.0000	15	7.55929	1.95180

Based on the descriptive statistics of the paired samples for in the experimental group and control group, a clear enhancement in speaking skills was observed. In the experimental group, the mean score significantly enhanced from 67.67 in the pre-test (SD = 9.03) to 91.00 in the posttest (SD = 7.12), indicating a notable enhancement following the use of project-based learning assisted by flashcards. The control group also showed progress, with the mean score rising from 67.00 (SD = 7.27) to 85.00 (SD = 7.56). Each group consisted of 15 students. The standard error mean (SEM) ranged from 1.84 to 2.33 across groups, reflecting relatively consistent performance within each sample. Although both groups demonstrated enhancement the experimental group exhibited a greater mean gain (23.33 points) compared to the control group (18.00 points), suggesting a stronger effect of the project-based learning approach assisted by flashcards.

**Table 2. Tests of Normality**

Kolmogorov-Smirnov <sup>a</sup>				Shapiro-Wilk			
	Statistic	df	Sig.	Statistic	Df	Sig.	N
Pretest	Experiment	.202	15	.101	.938	15	.358
	Control	.166	15	.200*	.942	15	.409
Posttest	Experiment	.164	15	.200*	.899	15	.092
	Control	.213	15	.067	.919	15	.188

To validate the use of parametric tests, the Shapiro–Wilk test was used to assess the normality of the data. For the experimental group, the pretest and posttest yielded significance values of 0.358 and 0.092, respectively. For the control group, the corresponding values were 0.409 (pre-test) and 0.188 (post-test). Since all p-values exceeded the threshold of 0.05, the null hypothesis of normality was retained, indicating that the data were normally distributed. Therefore, the use of parametric tests such as the paired samples t-test was deemed appropriate for further analysis. Moreover, the Kolmogorov–Smirnov test yielded similar results, supporting the assumption of normality across both groups and time points. However, due to the small sample size ( $n < 30$ ), the Shapiro–Wilk test is considered more reliable and thus was used as the primary reference.

**Table 3. Paired Samples Test**

		Paired Differences							
			Std.	Std. Error	95% Confidence Interval of the Difference				Sig. (2- tailed)
		Mean	Deviation	Mean	Lower	Upper	t	Df	
Pair 1	Pretest experiment – Posttest experiment	-23.33333	8.79664	2.27128	-28.20475	-18.46191	-10.273	14	.000
Pair 2	Pretest Control – Posttest Control	-18.00000	4.14039	1.06904	-20.29287	-15.70713	-16.837	14	.000

#### a. Lilliefors Significance Correction

Based on the results of the paired samples t-test, it can be explained that in the experimental group and control group, each consisting of 15 students, showed an enhancement in speaking skills. The experimental group achieved a mean score difference of -23.33 (from pre-test to post-test), while the control group had a mean difference of -18.00. Furthermore, the significance values obtained from the paired samples t-tests were ( $p = 0.000$ ) for both groups, which is less than the threshold of 0.05. This means that the null hypothesis ( $H_0$ ) is rejected and the alternative hypothesis ( $H_a$ ) is accepted. In other words, there was a statistically significant difference between the pretest and posttest scores. These results confirm that the use of project-based learning assisted by flashcards had a significant effect on enhancing Thai EFL students' speaking skills.

The findings of this study provide a strong and direct answer to the first research question, confirming that project-based learning assisted by flashcards significantly enhances Thai EFL students' speaking skills. Students in the experimental group not only showed substantial enhancements in posttest scores but also demonstrated increased fluency, accuracy, and confidence in their speaking performance. This indicates that the integration of structured project tasks and visual aids fostered a more captivating and significant language acquisition experience.

In addressing the second research question regarding the extent of enhancement, the data revealed that the experimental group's speaking scores increased by 23.33 points, which is a considerable enhancement compared to the 18.00-point gain in the control group. This difference demonstrates the effectiveness of using visual media such as flashcards to reinforce vocabulary, support sentence structure, and improve pronunciation. These results align with previous findings (Luthfillah & Fauzia, 2023) highlighting the role of visual

From a theoretical perspective, these findings support the constructivist learning approach, where students construct knowledge through contextual, authentic learning experiences. Flashcards, as visual scaffolds, helped reduce students' cognitive load and increased their motivation, particularly among young learners who benefit from image-based and concrete input. The use of project-based tasks encouraged student collaboration, peer learning, and active participation, which created real-life communicative situations. This finding is consistent with Aryarta & Saraswati (2024),

who found that project-based learning combined with visual support increases learner autonomy and deepens language use.

Moreover, classroom observations revealed that the experimental group students were more active and confident during speaking activities. The group project model allowed them to negotiate meaning and present their ideas in a relaxed, supportive environment. Instead of relying solely on textbook-based drills, students engaged in authentic communication, which promoted deeper language internalization and meaningful use of vocabulary in context.

During the implementation process, researcher faced several challenges, such as differences in students' English language abilities, language and cultural barriers, low confidence in speaking, time constraints, diversity in learning styles, and limited facilities. To overcome these challenges, researchers provided simple instructions, used clear examples, utilized body language, and created a relaxed and supportive classroom atmosphere. Learning was combined with the use of flashcards as the primary teaching aid, which contained images and words to help students understand and remember vocabulary more quickly. The use of this strategy helped minimize barriers and made learning more optimal, encouraging students to speak more freely.

Due to the method's demonstrated efficacy, it is advisable for wider implementation in additional EFL classes throughout Thailand. This study employed flashcards; however, educators may modify the method by integrating alternative accessible media, such as interactive images, brief videos, or tangible items, which can similarly enhance students' creativity and verbal articulation. The strategy can be customized to address the distinct requirements and circumstances of each classroom. For example, educators should establish smaller working groups and give straightforward, relevant assignments that relate to students' daily experiences to enhance their engagement and propensity to communicate.

In conclusion, this study makes a significant contribution to the teaching of English as a foreign language (EFL), demonstrating that project-based learning supported by flashcards can be an effective method for enhancing students' speaking skills, encouraging more active, enjoyable, and meaningful speaking practice. This approach not only enhances speaking ability but also boosts confidence, motivation, and their ability to use English in real-world contexts.

## **CONCLUSION**

This study concluded that project-based learning assisted by flashcards is an effective instructional model for enhancing Thai EFL students speaking skills at the primary level. The statistical analysis, supported by SPSS results, showed a significant enhancement in the experimental group's speaking scores, with a mean gain of 23.33 points compared to 18.00 in the control group. These findings not only validate the pedagogical strength of project-based learning in fostering learner-centered and communicative language classrooms but also emphasize the role of visual aids specifically flashcards in enhancing vocabulary retention, oral fluency, and learner

motivation. By involving students in real-world projects and combining them with supportive media, the learning environment became more interactive, contextual, and engaging. The learners demonstrated better confidence, collaboration, and the ability to express themselves in English with enhanced accuracy and fluency. This supports the constructivist perspective that learning is most effective when students are actively involved in meaningful tasks within authentic contexts. The results contribute to the field of language education and educational psychology by offering empirical evidence that combining project-based learning and flashcards can foster deeper learning and richer oral language development in EFL settings. Educators and curriculum developers are therefore encouraged to adopt this model to improve speaking performance, particularly in young learners who benefit from visual and experiential learning. This research highlights the importance of integrating innovative, student-centered strategies in language classrooms to promote communicative competence and learner autonomy.

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