

การใช้การจัดการเรียนรู้แบบโครงงานเป็นฐาน และการเรียนรู้แบบร่วมมือรูปแบบ  
การแบ่งกลุ่มตามผลสัมฤทธิ์ โดยใช้เนื้อหาอาหารอีสานเพื่อส่งเสริมความสามารถ  
ในการพูดของนักเรียนชั้นประถมศึกษาปีที่ 6

The Use of Project-Based Learning and Student Teams-Achievement  
Divisions Focused on Isan Food to Enhance Speaking Ability  
of Sixth Grade Students

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บทคัดย่อ

การวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาผลการจัดการเรียนรู้และความคิดเห็นของผู้เรียน  
ต่อการจัดการเรียนรู้แบบโครงงานเป็นฐาน และการเรียนรู้แบบร่วมมือรูปแบบการแบ่งกลุ่ม  
ตามผลสัมฤทธิ์ โดยใช้เนื้อหาอาหารอีสานเพื่อส่งเสริมความสามารถในการพูดภาษาอังกฤษ รูปแบบ  
การวิจัยเป็นแบบกลุ่มเดียวทดสอบก่อนและหลัง กลุ่มตัวอย่างเป็นนักเรียนชั้นประถมศึกษาปีที่ 6  
จำนวน 27 คน เครื่องมือที่ใช้ในการวิจัย ได้แก่ แผนการจัดการเรียนรู้แบบโครงงานเป็นฐานร่วมกับ  
การเรียนรู้แบบร่วมมือ ข้อมูลได้มาก่อนและหลังการทดลองโดยใช้แบบทดสอบความสามารถ  
ในการพูดภาษาอังกฤษ และแบบสอบถามความคิดเห็น วิเคราะห์ข้อมูลโดยใช้ Paired sample  
t-test ค่าเฉลี่ย และค่าส่วนเบี่ยงเบนมาตรฐาน

ผลการวิจัยพบว่า คะแนนเฉลี่ยความสามารถในการพูดของนักเรียนหลังการทดลองสูงกว่า  
ก่อนการทดลองอย่างมีนัยสำคัญทางสถิติที่ระดับ .05 โดยมีการพัฒนาสูงสุดในด้านการนำเสนอ  
เนื้อหา นอกจากนี้นักเรียนมีความคิดเห็นในระดับเห็นด้วยอย่างยิ่งว่า กิจกรรมการเรียนรู้ช่วยพัฒนา  
ความสามารถในการพูด ดังนั้นการจัดการเรียนรู้ดังกล่าวสามารถส่งเสริมทักษะการพูดของนักเรียนได้

**คำสำคัญ:** การเรียนรู้แบบโครงงานเป็นฐาน การเรียนรู้แบบร่วมมือรูปแบบการแบ่งกลุ่มตามผลสัมฤทธิ์  
ความสามารถในการพูด อาหารอีสาน

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## ABSTRACT

The research objectives of this study were to investigate students' opinion towards the effects of Project-Based Learning (PBL) and Student Teams-Achievement Divisions (STAD) focused on Isan food on English speaking ability of sixth grade students. A probability cluster random sampling method was used to select one sixth-grade classroom consisting of 27 students. This study employed one group pre-test and post-test design. The instruments used in research procedure were the lesson plan based on Project-Based Learning (PBL) and Student Teams-Achievement Divisions (STAD), English speaking ability test, and a questionnaire. Data were analyzed by Paired sample t-test, mean ( $\bar{X}$ ), and standard deviations (S.D.). The result of this research showed that the average post-test English speaking ability scores of students was significantly higher than the pre-test at the .05 level. The most developed speaking criterion was in presentation of character. Additionally, students strongly agreed on one point: Learning activities can promote their speaking ability. The lesson plan integrating Project-Based Learning (PBL) and Student Teams-Achievement Divisions (STAD) focused on Isan food could effectively improve students' speaking skills.

**Keywords:** Project-Based Learning (PBL), Student Teams-Achievement Divisions (STAD), Speaking ability, Isan food

## Introduction

English has become the lingua franca of international communication, facilitating clear communication and understanding across borders in various contexts such as travel, business, and global collaboration. Aliffia and Arifani (2024) argue that proficiency in English speaking empowers individuals to articulate thoughts, express opinions, contest opposing perspectives, and actively participate in dialogue through questioning and responding. Therefore, English speaking proficiency not only enhances practical communication but also unlocks opportunities for personal, professional, and intellectual growth in an increasingly interconnected and multicultural world.

According to the Ministry of Education (2016), one of the key English language policies in Thailand is the “English Speaking Nation Policy,” introduced by the Thai government to improve English language proficiency among Thai citizens. This policy

promotes English speaking activities in various settings, including schools, workplaces, and communities, and encourages the integration of English language learning into different aspects of daily life to create a more conducive environment for language acquisition.

However, Thai students often face various challenges in developing their English speaking abilities. Anchunda and Kaewurai (2021) note that instructors tend to rely on lecture-based teaching methods and focus heavily on grammar rules, neglecting interactive speaking activities, thereby limiting opportunities for students to practice speaking English in class. Additionally, some instructors use the Thai language extensively during instruction which further hindering students' exposure to English speaking environments.

Among the various methods of teaching speaking skills, PBL is an effective instructional methodology that focuses more on students' activities, involving them in the planning, designing, and implementation of projects in real-life situations in collaboration with their peers and with scaffolding support from the teacher. Learning activities are interdisciplinary, long-term, and student-centered, rather than short and isolated lessons (Devkota, Giri & Bagale, 2017). Students are more motivated when they see the relevance of their work to real-world problems and scenarios. Working in groups helps students learn to collaborate, negotiate, and communicate effectively and boost their confidence. Similarly, cooperative learning enables students to express their thoughts, views, and experience within group settings, foster the development of a collective perspective (Nurhadi & Wu, 2016). Numerous research studies have demonstrated the positive effects of PBL on students' language skills (Pratumchat, 2021; Firdaus & Septiady, 2023) investigated the application of PBL in English classrooms and found that it significantly improved students' English proficiency. Therefore, PBL could be an effective method for teachers to enhance their students' English speaking skills.

Adding to this one of the most well-known and extensively researched models of cooperative learning is STAD. Developed by Slavin (1995), STAD is designed to improve students' mastery of academic content through structured group activities. It provides an opportunity for students to express their thoughts, views, and experiences during group learning, thereby developing a group perspective (Suswanto

et al., 2017). Furthermore, Agustin (2023) states that STAD can help reduce the lack of confidence in speaking and expressing thoughts. When students are shy or afraid to ask questions or express their opinions, they can discuss these issues with their group members to find solutions. This strategy provides students with opportunities to speak freely, express their thoughts, and improve their critical thinking skills.

The purpose of this research is to investigate the effectiveness of PBL and STAD in promoting speaking ability. PBL and STAD are considered promising instructional strategies due to their student-centered, collaborative nature, which provides ample opportunities for speaking practice and fosters confidence. Additionally, previous research has demonstrated the positive effects of these methods on language skills, suggesting their potential to address the shortcomings in English education. Therefore, the researchers seek to explore how PBL and STAD can effectively enhance students' English speaking ability, particularly in the context of local content area in Isan food.

### **Objectives of the study**

The purposes of this study are as follows:

1. To investigate the effects of PBL and STAD focused on Isan food on English speaking ability of sixth grade students.
2. To investigate students' opinion towards learning English through PBL and STAD focused on Isan food.

### **Significance of the study**

The significance of this study is as follow:

1. The result of the study can promote speaking ability by using PBL and STAD focused on Isan food of sixth grade students.
2. Teacher can apply this study to teach English speaking in their classroom through the in-depth results about how PBL and STAD enhance each criterion of speaking skill.

Conceptual framework

This study is a pre-experimental one-group pre-test and post-test design. It aims to promote speaking skills through PBL and STAD of sixth grade students at Ban Muangpak Samakkee school by PBL adapted from Stoller (2006) and STAD adapted from Slavin (1995) focused on Isan food. The independent variable is teaching English by using PBL and STAD focused on Isan food. The dependent variables are students’ English speaking ability, and their opinion towards learning English using PBL and STAD focused on Isan food. The conceptual framework is shown in Figure 1.

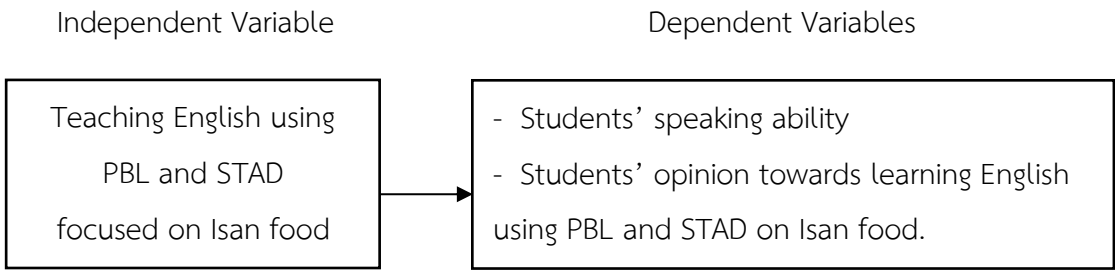


Figure 1 Conceptual framework of the study

Research methodology

1. Population and samples

The population of this study consisted of 263 sixth-grade students in the first semester of Pak Mai-Ngam Group at Pak Thongchai District, Nakhon Ratchasima Province, the academic year 2024. The samples were 27 grade 6 students at Ban Muangpak Samakkee School, Pak Thongchai District, Nakhon Ratchasima Province, who took English course during the first semester of the academic year 2024. The samples were selected using cluster random sampling technique.

2. Instruments

2.1 The instruments used in the research were lesson plans designed based on PBL and the STAD to enhance speaking ability. These lesson plans were evaluated by three experts using a Likert scale, receiving an overall score of 3.75. Each lesson plan followed Stroller’s (2006) ten-stages model and spanned four class periods, totaling 240 minutes. The content related to local content (Isan food) and its appeal

to students, including Papaya Salad (Som Tum), Spicy Chopped Pork (Nam Tok Moo), and Spicy Minced Pork (Larb Moo). The main activity in each lesson was role-playing. Supporting materials included YouTube videos from MasterChef TV show, task, and TV show script. The teaching procedures shown in Figure 2.

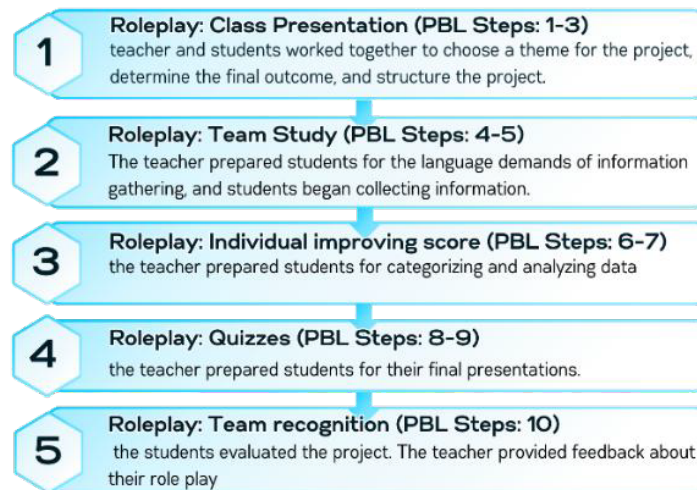


Figure 2 The Teaching Procedures

The teaching procedures were as follows: 5 steps of STAD integrated with 10 steps of PBL. In the first step, Class Presentation, the teacher introduced the topic of Isan food. Next, students watched the 'MasterChef' TV show to familiarize themselves with the characters and understand the project outcome. Students were grouped into teams of three by mixing their genders and abilities to promote better cooperation. The teacher then reviewed relevant vocabulary and the TV show script for students' role-playing, emphasizing simple tenses, and assigned a task, specific learning activity designed to introduced ingredients and recipes to recognize students' knowledge. In the second step, Team Study, students voted on three Isan dishes. Each group randomly selected a dish for their role play. Students then divided roles based on MasterChef TV show characters within their groups and used the task to guide their role play, with each member creating their own script.

In the third step, Individual Improvement, students organized their information while the teacher facilitated and guided them in developing their scripts. In the fourth step, Quizzes, each group practiced their role play and performed within the

"MasterChef" theme, with the teacher acting as a committee member on the show. Finally, in the fifth step, Team Recognition, students and the teacher evaluated and provided feedback on the project, discussed other groups' performances, and offered suggestions for improvement. Students were also assessed on their development individually using pre- and post-English speaking ability test and the recognition of team achievements in the participation criterion.

2.2 The instruments used for data collection were the English speaking ability test that was used for pre-test and post-test assessment. It aimed to test and investigate the effects of learning English using PBL and STAD focused on Isan food.

2.2.1 The English speaking ability test and the rubric scoring: The English speaking ability test involved a role-play based on three situations, selected by student vote. Each team was given 5 minutes to perform their role-play, where students worked in groups, taking on the roles of chefs in a MasterChef TV show. The teacher acted as a committee, evaluating their performance.

The rubric scoring criteria were adapted from Brown's (2004) speaking criteria and Alberta's role-play criteria, assessing eight specific constructs. Grammar referred to accuracy in structures used in the speaking test and Vocabulary referred to accurate use of vocabulary in the local food role-play scenarios. Comprehension referred to ability to understand and deliver the content from the prompt. Fluency meant ability to produce language with natural rhythm. Pronunciation referred to ability to pronounce words correctly. Tasks meant a specific learning activity designed to introduce ingredients and recipes to recognize students' knowledge with the results as the role play simulating the scenarios of cooking competing in the game show "Master Chef Thailand". Participation referred to ability to participate in team and recognition of team achievement. Presentation of character referred to roles based on MasterChef TV show characters that students were shown in the fourth step of teaching that each group practiced their role play and performed within the "MasterChef" theme. The total score of the test was 40, with a passing score set at 50 percentage. The speaking evaluation was conducted with 27 sixth-grade students at Ban Muangpak Samakkee School.

2.2.2 Students' opinions about learning English through PBL and STAD focused on Isan food: A questionnaire, consisting of fifteen 5-point Likert scale questions and one open-ended question, was used to gather students' opinions. Given the small sample size, the normality of the pre-test and post-test data was assessed using the Kolmogorov-Smirnov (K-S) test. The p-values for the pre-test (.200) and post-test (.171) were both greater than .05, indicating no significant differences and confirming that the data were normally distributed. Therefore, the t-test was deemed appropriate for analyzing the pre-test and post-test results.

All of the instruments were validated by three experts in the field. To ensure the content validity of the lesson plans, the rating scale was used and the average score was 3.75 which meant the lesson plans were good. For content and construct validity of both the test and the questionnaire, Item-Objective-Congruence (IOC) index were used and the results ranged from 0.66 to 1.00 for each item, meaning that the instruments were valid. Then all of the instruments were tried out with twenty six seventh-grade students at Ban Muangpak Samakkee School, Pak Thongchai District, Nakhon Ratchasima Province, in the academic year 2024, who had learned these contents, in English course. They were revised based on experts' suggestions before being used in the main study. The reliability of the overall test was calculated by using Cronbach's alpha, yielding a value of 0.95, indicating a high level of reliability.

### **3. Data collection**

The data of this research was collected in the first semester of the academic year 2024. Before learning, the 27 students in sixth grade were given a pre-test in order to investigate their pre-existing knowledge relating to English speaking ability. Then during the treatment, the 2 lesson plans of PBL and STAD focused on Isan food were conducted. Each lesson plan took 4 hours. The implementation lasted for four weeks, and was taught for two hours per week.

Finally, after the treatment, students took the post-test to compare it with the pre-test to find the results of the experiment. The students responded to the questionnaire for their opinions towards learning English using PBL and STAD focused on Isan food.



#### 4. Data analysis

The researcher used the paired-sample t-test, mean ( $\bar{X}$ ) and standard deviation to analyze the data obtained from the English speaking ability pre-test and post-test. The data from the rating scale of the questionnaire on students' opinion was analyzed by using mean ( $\bar{X}$ ) and standard deviation (S.D.) and content analysis on the open-ended part.

#### 5. Results of research

The results of the present study are presented in accordance with the research objectives as follows.

Objective 1: To investigate the effects of PBL and STAD focused on Isan food on English speaking ability of sixth grade students. The examination of the effects of the PBL and STAD focused on Isan food on English speaking ability is presented in Table 1.

Table 1 The comparison of the mean score between the pre-test and post-test of the participants' English speaking ability.

Mode of assessment	Total score	Pre-test		Post-test		MD	t	sig
		$\bar{X}$	S.D.	$\bar{X}$	S.D.			
Grammar	5	1.10	0.70	1.81	0.68	0.71	3.873*	.001
Vocabulary	5	0.81	0.68	1.86	0.65	1.05	6.487*	.000
Comprehension	5	1.19	0.68	1.90	0.70	0.71	3.423*	.003
Fluency	5	0.90	0.62	1.81	0.75	0.90	6.635*	.000
Pronunciation	5	1.10	0.54	1.81	0.68	0.71	4.176*	.000
Task	5	0.90	0.62	1.67	0.80	0.76	5.587*	.000
Participation	5	1.05	0.59	2.00	0.63	0.95	6.523*	.000
Presentation of character	5	0.95	0.59	2.05	0.67	1.10	6.532*	.000
Total	40	8.00	3.46	14.90	3.69	6.90	16.471*	.000

\* $p < .05$

As shown in Table 1, the post-test mean scores for each speaking aspect, including Grammar, Vocabulary, Comprehension, Fluency, Pronunciation, Task, Participation in Preparation and Presentation, and Presentation of Character, were significantly higher than the pre-test mean scores at the .05 level. Furthermore, the total mean score of the post-test was significantly higher than that of the pre-test at the .05 level. The lowest improvement score was 0.71 (three aspects: grammar, comprehension, and pronunciation). The highest improvement score was 1.10 (one aspect: presentation of character).

Therefore, the hypothesis in this study, which stated that the post-test mean score of the sixth-graders who learned English speaking by using project-based learning and STAD would be significantly higher than the pre-test mean score, was accepted. The hypothesis thus confirmed that the mean score of the English speaking ability post-test for students who learn English using project-based learning and STAD was significantly higher than the pre-test mean score.

Objective 2: To investigate students' opinion towards learning English through project-based learning and STAD focused on Isan food. The questionnaire was used to study students' opinions about learning English through project-based learning and STAD focused on Isan food. The results are presented in Table 2.

Table 2 Students' opinions about learning English through PBL and STAD focused on Isan food. (n = 27)

Statements	$\bar{X}$	S.D.	Meaning
1. The lesson is an enjoyable learning experience.	4.57	0.51	Strongly agree
2. The contents of these lessons are appropriate for my level.	4.67	0.48	Strongly agree
3. The learning materials are well-designed.	4.52	0.68	Strongly agree
4. The learning steps are well- designed.	4.48	0.68	Agree
5. The evaluation is related to the content taught in classes	4.52	0.51	Strongly agree

Table 2 (Cont.)

Statements	$\bar{X}$	S.D.	Meaning
6. Learning activities can promote my speaking ability.	4.90	0.30	Strongly agree
7. The knowledge from activities can be applied to daily life use.	4.81	0.40	Strongly agree
8. The learning activities are interesting.	4.71	0.46	Strongly agree
9. Activities corresponded to the content.	4.52	0.68	Strongly agree
10. The learning steps are well-arranged.	4.52	0.60	Strongly agree
11. I have participated in activities related to PBL.	4.62	0.50	Strongly agree
12. Project procedure can promote my speaking skills.	4.67	0.48	Strongly agree
13. The STAD technique is designed to enhance teamwork and encourage cooperation.	4.76	0.44	Strongly agree
14. Using role play in STAD technique can enhance my speaking ability.	4.67	0.66	Strongly agree
15. I can construct my project after finishing the lessons.	4.71	0.46	Strongly agree
Total	4.65	0.52	Strongly agree

As shown in Table 2, the overall mean score of the questionnaire was 4.65. The assessment item with the highest mean score indicated that most students strongly agree that learning activities can promote their speaking ability. ( $\bar{X} = 4.90$ ). The second highest score reflected students' agreement that knowledge from activities can be applied to daily life use ( $\bar{X} = 4.81$ ). The item with the lowest mean score revealed that most students agree that the learning steps through PBL and STAD, focused on Isan food, are well-designed ( $\bar{X} = 4.48$ ). In conclusion, the results suggested that students had positive opinions about learning English through PBL and STAD with a focus on Isan food.

## Discussion

The discussions are based on the research objectives as follows.

The effects of PBL and the STAD method on the English-speaking abilities of sixth-grade students are significant, particularly when the focus is on culturally relevant content like Isan food. The use of local content in PBL has been proven to be highly effective because it directly connects to students' lives, making the learning experience more engaging and relevant. When teachers integrate local materials, students find the content familiar and interesting, which helps improve comprehension and retention. Studies by Pratama and Sumardi (2022) and Gantara (2017) support this, showing that local content not only increases students' interest and excitement but also helps them learn in a fun and effective way. In this study, Isan food serves as the culturally relevant topic in PBL, aiming to enhance students' interest and improve their learning outcomes.

Likewise, the STAD method, which emphasizes team-based learning, enhances peer interaction and group work, boosting both confidence and practical speaking practice. Students were grouped into teams by mixing their genders and abilities to promote better cooperation. They were also assessed on their development individually and the recognition of team achievements. These key elements thus enhance students' speaking abilities. Studies by Raihan and Zaki (2023), Agustin (2023), and Rubaeah and Gaffar (2023) confirmed that STAD significantly improves English-speaking abilities, particularly among students with low proficiency, while also increasing motivation. The method encourages active participation, smooth group activities, and enjoyment of collaboration. Slavin's theory suggests that STAD effectively improves language learning, as reflected in enhanced scores and motivation.

The combination of PBL and STAD focused on Isan food also garnered positive feedback from students. They strongly agreed that this approach effectively developed their English-speaking abilities. Elen (2020) found that PBL can lead to substantial improvement in pronunciation, fluency, comprehension, grammar, and vocabulary. This method also encourages creativity and active engagement in interactions. Furthermore, Pramesti (2023) reconfirmed the value of project-based approaches,

particularly role play, in improving oral proficiency, finding that this technique fosters an active learning environment and captures students' attention.

In conclusion, the integration of culturally relevant content like Isan food into PBL, combined with the collaborative nature of STAD, creates a dynamic learning environment that enhances students' engagement, motivation, and English-speaking proficiency.

## **Conclusion**

The results of this study exposed that the mean score of the post-test of the English speaking ability test of the samples who learned English through PBL and STAD focused on Isan food was significantly higher than the pre-test at the .05 level. Additionally, the results of the questionnaire revealed that the students also strongly agreed that this method improved both their speaking skills and their attitudes toward learning English.

## **Recommendations**

Based on the present study, there are some suggestions for instruction and further studies as shown below.

### **1. Recommendations for instruction**

1.1 The teacher should design projects that connect with students' daily lives and interests to make learning more relevant and ensure that each team member has a specific role and responsibility to encourage active participation.

1.2 Teachers should offer clear guidelines and checkpoints throughout the project to monitor progress, while establishing consistent routines to help students become comfortable with the learning format.

### **2. Recommendation for further study**

2.1 Further study should apply the PBL and STAD to promote other language skills such as reading, listening, and writing.

2.2 Further study should explore using PBL and STAD with topics that align with students' level and prior knowledge.

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