THE EFFECTS OF PROBLEM-BASED LEARNING APPROACH ON JUNIOR HIGH SCHOOL CHINESE STUDENTS' ENGLISH SPEAKING SKILL

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A THESIS SUBMITTED IN PARTIAL FULFILLMENT

OF THE REQUIREMENTS FOR

THE DEGREE OF MASTER OF EDUCATION

IN IILINGUAL EDUCATION

SURYADHEP TEACHERS COLLEGE

GRADUATE SCHOOL, RANGSIT UNIVERSITY

ACADEMIC YEAR 2024

Thesis entitled

THE EFFECTS OF PROBLEM-BASED LEARNING APPROACH ON JUNIOR HIGH SCHOOL CHINESE STUDENTS' ENGLISH SPEAKING SKILL

by

YANRU GAO

was submitted in partial fulfillment of the requirements

for the degree of Master of Education in Bilingual Education

Rangsit University

Academic Year 2024

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January 22, 2025

ACKNOWLEDGEMENTS

Time flies, and in the blink of an eye, college life is coming to an end. I have made a lot of progress here, and I sincerely thank all of you.

First of all, I would like to sincerely thank my supervisor,Asst. Prof. Dr. Anchalee Chayanuvat. In the process of writing the thesis, she guided me patiently and meticulously in every step of my research with a rigorous attitude towards academic research. From the determination of the topic to the sorting of literature, from the exploration of research methods to the in-depth data analysis, to the adjustment of the thesis structure and the refinement of language, every link has condensed your efforts and wisdom.

I will always remember the kindness of my parents. The long road to study is inseparable from the unconditional support of my parents. Thank you for your parents' upbringing for more than 20 years, and thank you for your understanding and support for every choice I made.

Fortunately, my friends have been with me all the way, giving me unlimited tolerance, comfort and encouragement.

Finally, I would like to express my gratitude to my university. I am especially thankful to Rangsit University for providing me with high-quality educational resources and learning environment. Over the course of two years of study, I have gained the skills and expertise necessary to become a bilingual education teacher. In my future career, I will uphold the principles of education and strive to become a qualified and dedicated teacher.

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6509290 : Yanru Gao

Thesis Title : The Effects of Problem-based Learning Approach on Junior High School Chinese Students'English Speaking Skill

Program : Master of Education in Bilingual Education

Thesis Advisor : Asst. Prof. Anchalee Chayanuvat, Ed.D.

Abstract

This study aimed to explore the impact of using Problem-Based Learning (PBL) on improving the English-speaking skills of eighth-grade students in Chinese public schools and to investigate students' satisfaction with the application of this teaching method in English classes. A mixed-methods approach was employed, combining both quantitative and qualitative data analysis: 1) Pre-test and post-test measurements were used to collect quantitative data; 2) Questionnaires; 3) Classroom observation. Statistical methods such as paired sample t-tests and descriptive analysis were utilized to compare means, standard deviations, and percentages.

The findings indicated that students' post-test scores improved after engaging in English speaking activities through PBL, with mean scores increasing from 45.25 to 64.30. The t-test result was -31.74, and the p-value (Sig. one-tailed) was below 0.005. The questionnaire results showed that students were most satisfied with "Course structure and content" ($\bar{x}$ = 4.74), followed by "Teaching methods and interaction" ($\bar{x}$ = 4.66) and "Learning environment and resources" ($\bar{x}$ = 4.33). Overall, students expressed satisfaction with the use of the PBL in English classes. Classroom observation forms indicated high satisfaction in five areas: teaching, teacher personality, learning environment, teaching materials, and facilities. Based on these results, this study recommends the broad implementation of PBL as an effective teaching strategy to enhance English speaking skill in English language education.

(Total 142 pages)

Student's Signature …..... Thesis Advisor's Signature .....

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CHAPTER 1

INTRODUCTION

This chapter presents the background of the study, statement of the problem, research objectives, research questions, scope of the study, conceptual framework, limitations of the study, significance of the study, and definitions of terms.

1.1 Background of The Study

Looking around the world, English is a vital communication language in modern society, and a large population base worldwide uses English. According to research by Dyvik (2023), more than 1.5 billion people around the world use English as their native language or second language, and English has become one of the most widely used and researched languages in the world. Currently, English is the main or official language in 75 regions worldwide (Watterson, 2011).

David Crystal's (2007) study further distinguishes types of English usage, classifying them as English as a Native Language (ENL), English as a Second Language (ESL), and English as a Foreign Language (EFL) (Crystal, 2007). In many ENL countries, such as Australia, Canada, New Zealand, the UK, and the US, English is the primary language (Crystal, 2003). In some countries where English is an important official language but not the main language—often former British or American colonies like Nigeria, India, Malaysia, and the Philippines—English is used as a second language (Kachru, 1992). Finally, in countries where English is not commonly used in daily life, such as China, Indonesia, Japan, and most Middle Eastern countries, English is considered a foreign language (Kirkpatrick, 2007).

Although China falls under the EFL category, English has played an increasingly important role domestically since its accession to the WTO in 2001 (Breslin, 2007). According to the Ministry of Education of the People's Republic

of China (2018), many international students come to China to study Mandarin, while many Chinese students go abroad for further education (Cambridge, 2020). Currently, English has become a compulsory subject in Chinese school education (Hinrich Foundation, 2023).

With the acceleration of globalization, the importance of English as an international language has become increasingly prominent, and English teaching in Chinese junior high schools has received widespread attention (China-CEE Institute, 2020). However, Chinese students face diverse and complex challenges in learning English. Zhou (2004) noted that while Chinese students show strong abilities in reading and writing, their speaking skills are relatively weak. This situation partly stems from a misconception: many students believe that achieving high scores on standardized tests like TOEFL, GRE, or GEMT indicates strong English proficiency (Bulman, 2020). However, when these students arrive in English-speaking countries, they often find their English skills insufficient for effective daily communication (SAIS Review, 2020).

Furthermore, Dunsmore (2018) emphasized that attributing learning achievements solely to students' personal efforts is inaccurate, particularly when the role of teachers and the impact of the teaching environment are overlooked. Successful language learning depends not only on students' efforts but also on teachers' ability to meet students' needs and employ appropriate teaching techniques and methods. Unfortunately, in China, the high demand for proficient English teachers often forces educational institutions to hire foreign teachers who may lack proper qualifications and experience, further affecting teaching quality.

According to Lin and Warden (2010), English classrooms in China often focus excessively on grammar exercises while neglecting speaking and listening skills. In such classrooms, teachers mainly teach by reading texts sentence by sentence and explaining grammar and language points, while students' activities are primarily limited to taking notes, completing multiple-choice questions, and translating passages. As Zhang (2011) described, this teaching model leads to a lack of meaningful

interaction between teachers and students, thereby restricting the development of students' practical language application skills.

In China's secondary education, the overall objective of English courses is to use the study of English knowledge to promote the development of students' comprehensive language abilities, enhance their English proficiency, foster intellectual growth, and improve overall literacy (British Council, 2022). The development of students' language skills and knowledge, learning strategies, emotional attitudes, and cultural awareness are all prerequisites for the growth of their comprehensive language abilities (Guan & Meng, 2007). According to the "General Junior High School English Curriculum Standards (2017 Edition, Revised in 2022)" (hereinafter referred to as the "New Curriculum Standards"), English courses, as a subject for learning and using the English language, should not only cultivate students' language abilities, cultural awareness, critical thinking, and learning capacities but also lay a foundation for students to better adapt to a multipolar world, economic globalization, and social informatization (Chinese Ministry of Education, 2018). The English subject should not only serve as a tool but also possess humanistic qualities (Jiang, 2004).

This requires teachers to integrate learning content and create realistic contexts related to thematic significance in the actual teaching process, focusing on students and aiming to solve practical problems (Suprianti, 2020). By organically combining knowledge, thinking, strategies, and skills, teachers can achieve the integrated development of language literacy, humanistic literacy, and critical thinking skills (Nugroho, Haghegh, & Triana, 2021).

Researchers believe that developing students' English speaking skills must rely on English subject teaching (Smith, 2016). Currently, junior high school English education in China struggles to demonstrate students' autonomous learning abilities (Nugroho et al., 2021). In junior high English teaching, although students are the main learners, teachers still hold a dominant position, leading to a lack of students' ability to learn independently and acquire knowledge (Suprianti, 2020). Students lack initiative and enthusiasm for learning, fail to truly understand the language, and have no

opportunities to use it, resulting in generally weak language abilities (Smith, 2016). This traditional method of English classroom teaching is evidently detrimental to the development of students' English speaking skills, cannot meet societal needs, and lags behind the pace of the new curriculum reform (Nugroho et al., 2021).

China is undergoing profound basic education reforms, with a primary focus on cultivating diversified talents with global competencies (Suprianti, 2020). In the English subject, foundational English literacy is no longer seen as a complete language ability but as a new training goal, especially emphasizing language ability, learning ability, cultural awareness, and critical thinking skills (Nugroho et al., 2021).

In this context, problem-based learning (PBL) exhibits unique advantages in teaching (Surayya & Asrobi, 2020). The primary goal of the problem-oriented approach is to enhance students' autonomy in learning and induce them to actively pose questions (Smith, 2016). Teachers create real-world problem situations in the classroom to stimulate students' curiosity, guide them to think proactively, and learn to analyze problems and find solutions through continuous questioning (García Laborda, Sauciuc, & Vescan, 2020). This approach not only improves knowledge levels but also further enhances students' problem-solving abilities and overall literacy. In teaching, the problem-oriented method shifts the focus from "knowledge-based" to "student-centered". Many studies have validated the effectiveness of PBL in teaching, indicating its potential to significantly impact English language skills (Suprianti, 2020). Research shows that PBL can improve English skills and better engage students. By situating English language learning within problem-solving contexts, PBL can enhance language abilities and students' analytical and cognitive skills.

In summary, while English language learning is crucial, the current junior high school English teaching methods lack diversity and face numerous issues, such as low student motivation and interest in learning English. Therefore, leveraging the advantages of the problem-oriented approach and incorporating it into junior high English language teaching to explore a method where students actively engage in learning English is highly necessary.

1.2 Statement of the Problem

In China, as English becomes a main subject in basic education, schools, teachers, and students are increasingly focusing on English speaking skills (Ministry of Education, 2018). However, significant differences in grammatical structure, vocabulary, culture, and modes of thinking exist between English and Chinese (Luo, Gong, Huang, & Ma, 2015). Despite the clear requirements set by the "Compulsory Education English Curriculum Standards" for students' English language proficiency, many issues arise in the actual learning process (Hu, 2005). Below are the potential problems affecting English language learning from the perspectives of teachers, students, and support resources.

First, the problem may come from the teacher.

1) Teaching Methods: The traditional teaching methods of direct instruction and repetitive practice lack innovation and interaction, which can reduce students' motivation and interest in learning English (ResearchGate, 2020).

2) Teaching Experience: Teachers may overly emphasize textbook knowledge while neglecting to connect the material with students' real-life experiences and interests, leading to a disconnect between teaching content and practical application (Hein, 1975).

3) Lesson Preparation: Teachers may lack diversity in selecting teaching materials, relying mainly on textbooks rather than incorporating various types and genres of materials. This limits students' exposure to different cultures and perspectives .

Continued Education: Teachers who do not regularly participate in professional training or continuing education activities may not update their teaching methods and skills in a timely manner, affecting their effectiveness and creativity in English teaching .

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Secondly, the problem may come from students.

1) Background Knowledge: PBL requires students to have sufficient background knowledge to explore and solve problems. A lack of necessary knowledge foundations can lead to frustration in the learning process (He, 2005).

2) Learning Motivation: PBL demands active participation and cooperation from students, which may be challenging for those accustomed to passive learning (Kelly, 2017).

3) Attitude: Students' attitudes towards learning can affect their English speaking skills. If students dislike the teaching method or are uninterested in the content, they tend to be distracted and learn little (Legault, Green-Demers, & Pelletier, 2006).

Finally, the problem may come from resource support.

1) Quality of Teaching Resources: The lack of diversity and high-quality teaching materials can affect students' English speaking abilities. Outdated or incomplete materials that do not meet students' learning needs and interests can hinder their language development (Li, 2006).

2) Technical and Equipment Support: In an era where digital reading materials and online learning resources are increasingly popular, necessary technical support, such as online databases, educational software, and collaboration platforms, is essential for improving English speaking skills (Marinak & Gambrell, 2010).

Many studies have already been conducted to identify the best teaching techniques, but there are still many areas to explore. This study focuses on using PBL to improve students' English speaking skills. In brief, PBL is a student-centered teaching strategy that aims to promote learning through solving real-life problems. This method emphasizes students' active participation and self-motivation, encouraging them to construct knowledge through collaboration, inquiry, and

reflection. In PBL, students work in teams to explore complex problems, encouraging them to ask questions, discuss possible solutions, and make decisions together. This process not only enhances students' critical thinking and problem-solving abilities but also improves their self-management and lifelong learning skills. When students actively engage in PBL activities, they have greater ownership of the learning process and outcomes, thus increasing their motivation to learn. Barrows and Tamblyn argue that PBL can promote deeper understanding and application of knowledge, which is extremely beneficial for students in all educational fields. Therefore, PBL not only helps improve academic achievement but also cultivates essential life and career skills.

This study provided a comprehensive analysis of the use of PBL in junior high school English courses to improve Chinese students' English speaking skills. It aimed to provide evidence to approach the use of Problem based Learning in English classroom teaching in China.

1.3 Research Objectives

1) To examine the effects of Problem-Based Learning Approach on improving Junior High School Chinese Students' English speaking skill.

2) To investigate Junior High School Chinese Students' learning satisfaction towards using Problem-Based Learning Method.

1.4 Research Questions

1) Can Problem-based Learning Method improve Chinese students' English speaking skill?

2) What is the satisfaction of students on the use of Problem-based Learning Method?

1.5 Hypotheses

1.5.1 After learning Problem-Based Learning, Chinese 8th grade students are able to improve their English speaking skills, including English pronunciation, fluency, English confidence, critical thinking.

1.5.2 Students are satisfied with the use of PBL teaching methods in English classes.

1.6 Scope of The Study

1.6.1 Location of the Study

This study selected a middle school in Shijiazhuang City as the research site. This public school was founded in 1957 in Shijiazhuang City, China. The school provides comprehensive education for 12-14 years, including English courses.

The school adopts a core education curriculum and focuses on helping students acquire knowledge for self-development. In this school, teachers are free to choose any teaching method during the working day from Monday to Friday. Each class is 45 minutes long. The school is equipped with professional teachers to take charge of English courses. English teachers have good speaking skills in Chinese and English to ensure that students can better understand English courses and improve their learning level. This bilingual teaching model is expected to help provide students with richer learning resources and support.

1.6.2 Population and Samples of the Study

The population of this study was second-grade students from a middle school in Shijiazhuang City. There were about 400 students in the second grade of junior high school learning English. According to the cluster sampling technique, the students were divided into ten classes according to their English foundation, and one of the classes was randomly selected for research. The total population of the study was 40

students. These students all have a certain foundation in English and could understand and perform teaching activities related to PBL. Their English proficiency was relatively balanced, which helps to more accurately evaluate the impact of PBL on improving English skills. Their age range was roughly between 13 and 14 years old, and the gender ratio was roughly balanced.

1.7 Research Framework

1.7.1 Conceptual Framework

In this process, Problem-Based Learning is a key teaching activity used in this study to improve students' English language skill.

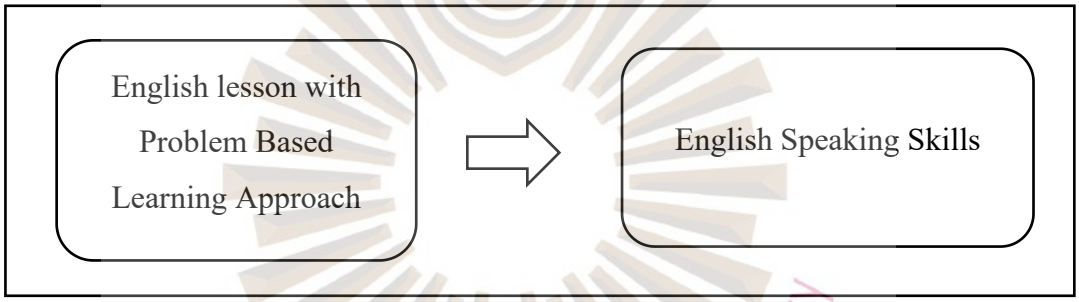

Figure 1.1 The Conceptual Framework

1.8 Limitation of the Study

The study sample was small and limited to the same school. All participants came from the same middle school in Shijiazhuang City, and the research results cannot cover diverse regions and cultures. Therefore, the findings are only useful for similar English learning environments in schools across China.

1.9 Significance the Study

This study aims to explore the effectiveness of Problem-Based Learning (PBL) in enhancing the English speaking skills of Chinese students in junior high school English courses. The purpose of adopting the PBL approach is to stimulate students' critical thinking, problem-solving abilities, and independent learning skills through

real-world problem scenarios (Barrows, 1996). This study employed PBL methods, which have proven highly effective in improving students' English speaking skills in teaching (Dewi, 2016). The results of this study will be useful to several stakeholder groups in the field of English education.

For teachers, this study can help them learn additional teaching techniques to better perform in English classes. PBL encourages students to learn through engagement, exploration, and reflection, requiring teachers to shift their roles from mere knowledge transmitters to facilitators and guides of the learning process (Liu, Tan, & Wulandari, 2006).

For students, the process of learning English through PBL will help them develop the skills needed to solve real-world problems. This learning method will enhance their interest and enthusiasm for learning English, fostering independent learning habits while improving their language skills (King, 2006).

For parents, this study will demonstrate a new teaching method that enhances students' English abilities. When parents see their children making progress in their English skills, they will have greater confidence in their children's academic performance and future learning potential (Wulandari, 2019).

For researchers, this study will provide an example of exploring English learning methods, encouraging them to continue investigating and developing new approaches to English teaching (Savery, 2015).

1.10 Definitions of Terms

Problem-Based Learning: Problem-Based Learning is an educational strategy that promotes student learning and understanding through solving practical problems. In this study, we adopted the PBL format derived from the Erasmus model, specifically following the "Seven Jump" process: 1) Clarifying unfamiliar terms, 2)

Problem definition, 3) Brainstorming, 4) Analyzing the problem, 5)Formulating learning issues, 6) Self-study, and 7) Reporting. In English teaching, teachers use PBL to help junior high school students improve their English speaking skills including their fluency, pronunciation, vocabulary and confidence in English.

Junior high school students: Junior high school students possess basic English vocabulary skills, reading abilities, and grammatical knowledge. Therefore, students at this level are better equipped to understand teachers' instructions and effectively implement Problem-Based Learning.

English speaking skill: Speaking is the primary means of conveying information, ideas, and emotions through verbal expression. In this study, students are expected to improve their ability to communicate effectively in English through the use of problem-based learning (PBL), focusing on subskills such as vocabulary, fluency, and pronunciation.

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CHAPTER 2

LITERATURE REVIEW

This chapter introduces the relevant literature review. The content includes the definition of PBL, the characteristics of PBL, the teaching model of PBL, the abilities cultivated by PBL, the comparison between PBL and LBL, relevant theories, English speaking skills, the current status of Chinese students' English speaking, and relevant research on PBL in English classes.

2.1Problem-based Learning（PBL）

2.1.1 Definition of Problem-based Learning

Problem-Based Learning (PBL), introduced by Howard Barrows, an American neurology professor, in 1969, is based on constructivist and humanist theories (Servant-Miklos, Du, & Holgaard, 2023). Initially applied to medical education at McMaster University in Canada (Guragain, n.d.; Servant-Miklos et al., 2023), PBL was gradually adopted across various other disciplines. Since the 1990s, it has been implemented in the field of English language teaching in the UK and the US, receiving widespread acclaim from both teachers and students. With its demonstrated effectiveness, PBL has been further developed for use in fields such as law, business, architecture, and engineering.

In recent years, Problem-Based Learning (PBL) has garnered widespread attention from teachers and students due to its unique pedagogical approach and has progressively evolved in the research and application of English teaching. PBL encourages students to connect real-world problems with learning situations, enhancing their problem-solving skills as they acquire new knowledge. In this method, teachers act as facilitators, fostering students' abilities to identify, analyze, and solve problems. Overall, PBL emphasizes placing students in authentic problem scenarios

promoting self-directed learning in the search for solutions, and enhancing critical thinking, problem-solving skills, and the comprehensive application of knowledge.

Regarding Problem-Based Learning, scholars and researchers from various fields hold differing views on its definition. Currently, there are approximately three main perspectives on the definition of Problem-Based Learning among researchers and scholars.

1) PBL is recognized as a teaching strategy and educational approach.

Rhem (1998) views PBL as both a teaching method and strategy that helps students tackle complex real-world problems that do not have straightforward answers, aiming to find ways to support students in managing such situations.

Duch (1995) defines PBL as a teaching method where students use cooperative learning groups to find solutions to real-world problems, thereby learning how to learn and developing their abilities to analyze issues and think critically.

Additionally, Hmelo-Silver (2004) considers PBL a teaching method where students learn by addressing complex problems that may have multiple solutions, thus enhancing their skills.

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Researchers from the American Illinois Mathematics and Science Academy describe PBL as a student-centered, inquiry-based teaching method. This approach utilizes complex and undefined real-world problems to introduce and explore specific content areas. Under the guidance of a teacher and with peers, learners discover the most effective solutions to these problems. Therefore, it fosters learners' critical thinking, problem-solving capabilities, and ability to collaborate with others.

2) PBL is a learning method.

Johnson & Tinning (2001) believe that PBL places a greater emphasis on spontaneous learning, encourages students to think openly, and focuses on developing their critical and active learning skills. Therefore, it is more aptly described as a learning method rather than a teaching technique.

3) PBL is both a curriculum and a process.

The pioneers of PBL, Howard Barrow and colleagues such as Doctor Ann Kelson, emphasize that Problem-Based Learning is both a curriculum and a process. On one hand, as a curriculum, PBL consists of carefully selected problems designed to foster students' critical thinking, proficient problem-solving, spontaneous learning, and comprehension skills. On the other hand, as a process, PBL enhances students' problem-solving abilities and experience through participatory practical activities.

In summary, although there are varying definitions of Problem-Based Learning (PBL) among different researchers, some common elements persist: PBL provides students with real and meaningful problems, placing them in situations that allow them to grasp the essence of these issues. Students collaborate in groups to solve these problems. Through this collaborative process, students not only master the theoretical knowledge related to the issues but also gain practical experience in applying this knowledge to solve problems. Consequently, PBL effectively enhances students' abilities to identify, summarize, and solve problems, as well as to think critically. It also fosters skills in collaborative learning and independent learning.

2.1.2 Characteristics of Problem-based Learning

Barrows (1985) views Problem-Based Learning as a guiding method in the learning process. He believes that the problems students face during learning are often complex and uncertain, yet students can find their own ways to learn through collaboration and independent study. Developing abilities in cooperative and independent learning is not contradictory; rather, it can enhance individual learning efficiency and capabilities. Traditional teaching emphasizes competition among students, while Problem-Based Learning highlights the spirit of teamwork. In

summary, many scholars have contributed their insights to the characteristics of Problem-Based Learning. Here are some common features summarized.

2.1.2.1 Problem-Centered Approach

Being problem-centered is the essence of Problem-Based Learning (PBL), permeating the entire teaching process and directly influencing the main activities of students in the classroom (Ding, 2005). In PBL, teachers integrate teaching content into meaningful, real-life problem situations, enabling students to fully understand the knowledge embedded within these problems. Thus, the effectiveness of the problems is crucial in PBL. Problems suitable for PBL should be realistic, hierarchical, and relevant.

1)Realism. In PBL, most problem scenarios are derived from actual issues in real life. Students encounter various problems in everyday life, but these often do not receive sufficient attention. When teachers present these life-related problem scenarios to students, it is easy to resonate with them, sparking their interest in solving problems and enabling them to acquire knowledge effectively.

2 ） Hierarchy. Additionally, when designing problems, teachers should consider the developmental needs of students. Complex, difficult problems are broken down into thousands of smaller problems, which should align with the students' "zone of proximal development" (Shen, 2014). Moreover, the designed problems should follow the cognitive patterns of students based on their cognitive levels and life experiences.

3)Relevance. Relevance means that the problems designed should be related to the current social context and life experiences. When students encounter problems related to daily life, they can quickly connect previous knowledge and integrate seamlessly into the current problem scenario. This not only helps students link learning content with life experiences but also aids them in applying these experiences

to the problem-solving process. Teachers should integrate problem scenarios into real life according to different teaching content, making the problems situation-specific

2.1.2.2 Student-Centered Approach

Under the Problem-Based Learning (PBL) approach, there is a notable difference in the roles of teachers and students. Students are not only the primary agents of learning but also independent learners and investigators (Hmelo-Silver, 2004). During the process of exploring and solving problems, students must gather, analyze, and summarize information. Meanwhile, teachers in their pedagogical activities should guide students in independent thinking. When students encounter problems they cannot solve, PBL mandates that teachers act as facilitators and assistants, guiding students in constructing their knowledge frameworks (Spronken-Smith & Harland, 2009).

2.1.2.3 Collaborative Learning

Collaborative learning plays a crucial role in the implementation of Problem-Based Learning (PBL). On one hand, by working in groups to analyze and solve problems posed by teachers, students can enhance their spirit of cooperation and collaborative skills. On the other hand, it allows students with lower levels of learning to engage in problem exploration. When students identify their own learning needs and continually attempt to pose new questions and find solutions in a group setting, it effectively cultivates their spirit of exploration and innovative qualities.

2.1.3 Process of Problem-based Learning model

Barrow & Tamblyn (1980) argue that the problem-based teaching model emerges through understanding and solving problems. As a practical pedagogical approach, Problem-Based Learning must be meticulously designed in terms of its objectives, content, strategies, and processes to achieve significant practical outcomes.

Several scholars have described the processes involved in the PBL instructional model. Barrows (1986) categorizes the PBL model into five steps: posing the problem, analyzing the problem, collecting data, synthesizing, and reflecting.

Fogarty (1997) delineates eight stages in implementing the PBL model: posing problems, analyzing problems, gathering materials, establishing hypotheses, conducting group research, interpreting problems, proposing alternative solutions, and offering resolutions.

Alexandra (2001) outlines five basic processes for using the PBL model in English teaching: problem posing, problem analysis, problem solving, problem evaluation, and summary and reflection. In the PBL model, teachers do not directly transmit knowledge to students. Instead, students learn how to solve problems and complete tasks through information gathering, problem analysis, and group discussions.

In 1993, Schmidt proposed a classic model for implementing PBL. According to the PBL curriculum at McMaster University School of Medicine, problems are presented in the form of cases, and students' learning is based on these problems rather than on disciplinary knowledge. Students then discuss in a tutorial group (one tutor and 8-12 students) and collaborate to identify the content for self-study. Each student must complete their independent study tasks, assigned during the division of labor, before the next group discussion. The group then integrates the new information obtained through self-study. Finally, the students collaborate to determine the explanation, diagnostic basis, and treatment plan for the case. Schmidt summarized the implementation of problem-based learning in a course as the "Seven Jump" .

According to the Erasmus model, Problem-Based Learning in groups involves seven steps: steps 1-5 are conducted over a period of time, step 6 is done outside the classroom, and step 7 involves returning to the classroom for a report. As shown in the table below:

Table 2.1 Problem-Based Learning Implementation Model by Erasmus

Step	Specific information	Skills
1	Clarifying unfamiliar terms	Skill 1: Activate existing knowledge, cooperation,information construction or reconstruction, organize information, internal motivation.
2	Problem definition	
3	Brainstorm	
4	Analysing the problem	Skill 2: Construction and reconstruction, application, problem solving and presentation skill.
5	Formulating learning issues	
6	Self-study	
7	Reporting	

Source: Schmidt, 1993

1) Clarifying unfamiliar terms

This step requires the student team to first identify and understand all key terms and concepts in the problem description. By consulting dictionaries, academic literature, or engaging in group discussions, the students collaboratively clarify the meanings of these terms, ensuring that each member has a consistent understanding. This not only helps to eliminate ambiguities and avoid misunderstandings in subsequent discussions but also ensures that the team can efficiently collaborate on finding solutions based on a shared knowledge foundation. This step is crucial as it lays the groundwork for correct understanding, which is essential for the success of the entire PBL process.

2) Problem definition

In the "Problem definition" stage of PBL, students need to accurately delineate the specific problem they are aiming to solve. This step begins with a comprehensive understanding of the problem's background and relevant details. Team members collaboratively analyze the problem scenario, discussing various aspects such as the root causes, main factors involved, and potential impacts of the problem. Through this

process, students can distill a clear and specific problem statement from the initially complex or ambiguous problem description. Establishing an accurate problem definition is critical for the subsequent development of research and solution strategies, as it will guide the students' learning objectives and research directions in the following steps. This not only enhances the efficiency of problem-solving but also ensures the relevance and effectiveness of the solutions.

3) Brainstorm

In the "Brainstorm" stage of PBL, the student team collaboratively explores all potential solutions. This step encourages students to think freely and propose various strategies and ideas without restriction. Team members actively participate in a non-judgmental environment, suggesting a wide range of possible solutions, which helps stimulate innovation and creative thinking. By doing so, students can view the problem from different perspectives and uncover previously unnoticed solutions. The team then categorizes and evaluates the proposed solutions, filtering out the most likely effective options. This process not only increases the chances of finding a viable solution but also fosters the development of collaboration and communication skills among team members.

4) Analysing the problem

In the "Analysing the problem" stage of Problem-Based Learning (PBL), student teams need to organize and classify the various ideas generated during the previous brainstorming phase. First, team members gather related ideas into different themes or categories, which helps to clearly see the different aspects of the problem and their interrelationships. Next, they conduct a detailed analysis of the problem.

5) Formulating learning issues

In the "Formulating learning issues" stage of Problem-Based Learning (PBL), based on the organized information, students collaboratively establish specific learning

objectives. These objectives clearly specify the new knowledge, skills, or theories needed to solve the problem. By setting these goals, students can conduct subsequent research and study with greater purpose, ensuring their efforts directly contribute to finding a solution. This stage bridges problem understanding and practical action, with the key being to ensure the focus and efficiency of learning activities.

6) Self-study

In the "Self-study" stage of Problem-Based Learning (PBL), students take responsibility for their own education by independently researching to achieve the previously set learning objectives. In this phase, students need to actively seek and utilize various resources, such as books, academic journals, online courses, and expert lectures, to acquire the necessary knowledge and skills. Self-directed learning not only involves gathering information but also critically analyzing and applying it to ensure that the learned content effectively addresses the real problem. This process emphasizes students' autonomy and initiative, requiring them to be accountable for their learning progress and depth. This method of learning fosters self-management skills, problem-solving abilities, and lifelong learning habits, which are valuable assets for their future careers and personal development.

7) Reporting

In the "Reporting" stage of Problem-Based Learning (PBL), students regroup after their independent research to present their learning outcomes. At this point, each team member shares their research findings with the group and discusses how to apply the acquired knowledge to the actual problem. Through this process, the team can integrate different perspectives and information, forming a more comprehensive and in-depth solution. This stage not only promotes the exchange and integration of knowledge but also enhances collaboration among team members, improving the efficiency and quality of problem-solving. The sharing and discussion phase is a crucial step in validating learning outcomes and advancing collective understanding, providing a solid foundation for developing effective solutions.

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An experimental study was conducted over one semester at a private university in Bangkok, utilizing a Problem-Based Learning (PBL) model to investigate the impact of PBL on English-speaking performance among English major students. Additionally, questionnaires and interviews were used to explore participants' perceptions of learning with the PBL method. The results indicated that the average post-test scores were significantly higher than the pre-test scores. Their English-speaking performance was more fluent and accurate. They were able to use not only simple sentences but also a variety of sentence structures. The participants reported that learning English speaking through the PBL method not only enhanced their learning abilities but also improved their teamwork skills.(Jiriyasin, 2014)

Additionally, a longitudinal, mixed-methods case study on the implementation of PBL was conducted at a business school in Thailand. Data were collected over seven years, demonstrating that the implementation of PBL in the management courses was successful based on various faculty and student metrics. Although the ability to generalize the case study results is inherently limited, statistical analysis indicates that PBL can positively impact teaching effectiveness in the East Asian context, which is traditionally known for its reliance on conventional teaching methods.(Hallinger & Lu, 2011)

At Temasek Polytechnic (TP) in Singapore, Problem-Based Learning (PBL) has been a core teaching method and a hallmark of its educational strategy since 1998. The PBL model at Temasek Polytechnic not only focuses on students' knowledge acquisition but also emphasizes the development of practical skills such as learning abilities, communication, problem-solving, and teamwork. The PBL process at Temasek Polytechnic comprises seven stages and utilizes the FILA model (Facts, Ideas, Learning issues, and Action plans) to guide students in problem-solving. This approach not only helps students acquire professional knowledge but, more importantly, cultivates critical thinking, self-directed learning, and teamwork abilities, which are essential skills in today's work environment. Through years of practice, the PBL method at Temasek Polytechnic has proven to be an effective educational

strategy, enabling students to successfully apply their knowledge and skills in real-world contexts.

2.1.4 Skills Cultivated by PBL

Although Problem-Based Learning (PBL) was not initially designed specifically to enhance English speaking skills, it has shown significant effectiveness in helping students integrate language structures with the meanings they wish to convey. PBL not only requires students to communicate the intended meaning within a linguistic framework but also necessitates the development of other crucial skills needed to express ideas.

1) Collaboration

Collaboration is a core component of PBL, emphasizing collective rather than individual success. In a diverse classroom, assigning students of varying abilities to the same group can lead to positive learning outcomes. Musserotte (2017) points out that group collaboration can effectively enhance both individual and team skills. In this process, the teacher acts as a facilitator, creating a positive classroom atmosphere through cooperative rather than competitive teaching methods, thus encouraging students to learn joyfully. Wattanachai (2014) suggests that teachers should educate students to support one another rather than compete.

2) Discussion

Discussion is another crucial element of the PBL approach. Kayi-Aydar (2015) mentions that post-content discussions can help students deeply explore various social science issues. Zeidler & Keefer (2003) and Ratcliffe & Grace (2003) emphasize the importance of discussing social issues in science education, which helps students actively participate in and make decisions within their communities.

3) Brainstorming

Brainstorming allows students to freely propose ideas within a limited time, serving as an effective method to stimulate creative thinking. According to Richards (1990), brainstorming can enhance students' cognitive skills and help them form opinions. Alkhatib (2012) also highlights the role of brainstorming in assisting second language (L2) learners in problem-solving.

4) Critical Thinking

Critical thinking is one of the core goals of education, especially significant in language learning. Ennis (2018) emphasizes that critical thinking is an essential process when solving problems, making decisions, or forming beliefs. PBL classrooms provide an ideal environment for students to apply and practice these higher-order thinking skills. Through PBL, students are encouraged to question, analyze, and evaluate different solutions to problems. This process not only enhances their understanding of language structures but also hones their ability to examine issues from multiple perspectives. Additionally, the PBL teaching model requires students to seek information and solutions through group collaboration, promoting both depth and breadth of thought.

5) Motivation

PBL enhances students' motivation by introducing meaningful activities that not only improve teamwork skills but also boost learning enthusiasm. As Morrison (2015) notes, students involved in these activities often become more engaged and committed, even when facing challenging tasks. Under the teacher's guidance, students need to gather information, formulate hypotheses, test solutions, and reflect on the outcomes. This teaching model encourages students to explore and build knowledge proactively, gradually developing self-driven learning habits.

6) Creativity

PBL requires students to exhibit a high degree of creativity in problem-solving. Kelley (2014) states that in PBL, students need to find the best solutions to problems without fixed answers, necessitating the use of innovative thinking. This approach allows students to learn and apply English in practice, leading to a better understanding and mastery of new knowledge. In this way, students not only learn the language but also how to apply it in real-life situations to solve specific problems.

7) Satisfaction

PBL can significantly enhance student satisfaction, a short-term attitude stemming from a positive evaluation of their educational experiences. Weerasinghe (2017) views student satisfaction as an important indicator of educational outcomes, reflecting students' perceptions of the effectiveness of educational services and facilities.

2.2 Theories of Problem-based Learning

2.2.1 Constructivism Theory

Constructivist theory emerged in the late 1980s and is considered an evolution of behaviorism. Fosnot (1989) emphasized that knowledge is actively constructed by individuals through interactions with their social environment, rather than passively received from the external world. The core of constructivist learning theory is how learners use past experiences to interact with new knowledge and construct new perspectives in the real social world.

The constructivist views of Piaget and Vygotsky provide a theoretical foundation for problem-based learning models. Piaget, one of the pioneers of constructivism, highlighted that children grow by autonomously constructing knowledge through interactions with their surroundings. Piaget (1997) argued that individuals constantly adjust their schemas through the processes of adaptation and assimilation in response to new experiences. He noted that good teaching involves placing students in real

situations where they understand what is happening and find the answers to problems themselves.

Vygotsky's (1986) theory differs from Piaget's, emphasizing the significant role of socio-cultural context in cognitive development. Vygotsky introduced the concept of the "zone of proximal development," which is the potential level an individual can achieve with the assistance of others. He believed that learning should precede development, acting as a catalyst for development through the use of social interactions and cultural tools, thereby enabling individuals to internalize external social experiences and enhance their problem-solving abilities.

Wilson (1995) further developed constructivist theory. In educational practice, he stressed the importance of context, collaboration, dialogue, and meaning construction. He believed that creating authentic and meaningful learning situations can better promote students' cognitive development. Teachers should first understand the real thoughts of students, develop plans to improve the environment, and enhance student engagement to optimize the educational setting. By creating conducive situations and fostering a motivating atmosphere, teachers can effectively enhance student learning. During the learning process, students can interpret problems through detailed analysis of existing knowledge and experience. In teaching, rather than directly negating students' experiences, teachers should help students build new knowledge structures, guide them to connect new and old knowledge, and master new information. Moreover, teachers, as transmitters of knowledge, should not directly impart knowledge to students but should guide them to analyze problems and express opinions.

Chen (2010) believes that constructivism requires students to actively participate in the process of knowledge construction. In the PBL teaching process, teachers create real problem situations and organize teaching activities to stimulate students' interest in learning. During this process, they help students construct new knowledge, allowing for the integration or reorganization of new and old knowledge.

Liu (2001) considers students as constructors of their own knowledge who should actively complete tasks in real problem situations and engage in discussions with other group members. Students actively ask questions and think creatively during the task completion process, thus continuously accumulating knowledge. Therefore, the PBL teaching process effectively reflects constructivist theory and its views on knowledge, learning, and the teacher-student relationship.

2.2.2 Cooperative Learning Theory

Cooperative learning is a structured, systematic learning strategy that focuses on completing learning tasks through small group cooperation, thereby promoting mutual help and learning among students. David & Roger (1999) noted that cooperative learning enables students to acquire the abilities of self-study and peer-assisted learning, making it an important direction in educational reform.

Since the late 1980s and early 1990s, China has also conducted research and experiments on cooperative learning, achieving favorable results. Student groups work cooperatively in a mutually beneficial manner, motivated by group rewards to collectively strive to achieve learning objectives, thus emphasizing the importance of teamwork. The basic elements of small group cooperative learning include:1) Creating a conducive learning environment; 2) Promoting face-to-face interaction; 3) Establishing group activity rules; 4) Setting up a reward system

Furthermore, Cooperative Learning Theory is also highly suitable for application in the Problem-Based Learning (PBL) model. In the PBL model, students need to collaboratively solve practical problems, enhancing the process of autonomous learning and mutual teaching through teamwork (Michaelsen, Davidson, & Major, 2014). Each student in the group assumes different roles, sharing tasks and information, thereby enhancing individual and team capabilities in the problem-solving process (Yusof, Syed Hassan, Jamaludin, & Harun, 2012). Thus, cooperative learning theory effectively supports the problem-based learning model.

2.2.3 Discovery Learning Theory

Discovery learning is an educational theory proposed by psychologists and educators Jerome Bruner. This theory emphasizes problem-solving through exploratory skills, fostering active knowledge acquisition and construction by students, rather than passive reception. Bruner believed that discovery learning could stimulate students' imagination and problem-solving abilities. The process of discovery learning is primarily divided into four parts: 1) Students recognize problems and learn to observe facts; 2) Teachers propose hypotheses based on the acquired knowledge to aid students in understanding the problem; 3) Students explore different methods to attempt problem-solving; 4) Through group discussions and information exchange, valuable information is extracted to collaboratively address the problem (Bruner, 1961).

Moreover, discovery learning has four distinct characteristics. First, it emphasizes the process of learning where students are active explorers and teachers serve as facilitators, creating an appropriate environment for exploration. Second, it emphasizes intuitive thinking, encouraging exploratory learning rather than merely following teacher instructions. Third, it emphasizes intrinsic motivation by stimulating students' curiosity, confidence, and sense of achievement, effectively promoting their completion of learning tasks. Finally, discovery learning focuses on the extraction of information, where the key to solving problems is for students to independently extract and process information (Bruner, 1961).

Discovery learning is not a fixed pattern, but it involves six steps: posing problems; generating a desire in students to solve these problems; proposing various hypotheses to better understand the problem; providing assistance to help students gather relevant information; organizing learning materials; and analyzing these materials to solve the problem (Bruner, 1961).

Clearly, the problem-based learning (PBL) approach is deeply influenced by discovery learning theory. In implementing PBL, not only are questions reflective of discovery learning theory posed, but it also particularly emphasizes the active role of

students in solving real-world problems and the supporting and guiding role of teachers. These aspects are key to the successful implementation of PBL.

Overall, the theory of discovery learning not only emphasizes the active participation of students during the learning process but also effectively promotes the cultivation of critical thinking and creativity through its systematic step framework. This learning model enables students to exhibit higher cognitive and problem-solving capabilities when faced with complex issues (Bruner, 1961).

2.3 English Speaking Skill

2.3.1 Definition of English speaking skill

Oral communication, as a core component of language learning, has always been a focus in language teaching and applied linguistics research. Different language education experts have their own interpretations and emphases regarding the definition of oral communication.

Wilson (2005) believes that oral communication primarily involves developing the relationship between the speaker and the listener. This perspective highlights the establishment of interpersonal relationships during communication, emphasizing the role of language in building social connections. This definition views speaking as a social interaction tool, focusing on its function in connecting individuals.

Nunan (1995) proposed a more functional definition, considering oral communication as the ability to express oneself or report actions in specific situations. This definition emphasizes the practical application of speaking in daily communication, highlighting the individual's ability to use language in specific contexts.

Furthermore, Cameron (2001) describes oral communication as the process by which people understand the speaker's feelings and thoughts. This view treats

language as a bridge for emotional and cognitive exchange, emphasizing the importance of expressing one's inner world.

Thornbury (2005) defines oral communication as a real-life activity used to convey the speaker's ideas and interact with the audience. This perspective places oral communication in a broader social interaction context, demonstrating the application of language in real-life interactions.

Kayi (2006) considers oral communication as a process of constructing and sharing meaning through verbal and non-verbal means in various contexts. This definition introduces a broader perspective of language use, including non-verbal elements, reflecting the complexity of communication more comprehensively.

Bygate (2015), from a skills perspective, defines speaking skills as the ability to explore and convey thoughts, intentions, and feelings using spoken language. This viewpoint sees oral communication not just as the simple transmission of information but as a process of exploring and creating meaning.

Lastly, Boonkit (2009) emphasizes the importance of speaking as a means of effective communication in language learning, positioning it as one of the four macro skills, applicable in both first and second language learning contexts.

In summary, these experts all regard speaking as an important skill used to convey meaning between the listener and the speaker. They present the diversity and complexity of oral communication from different angles, encompassing not only the transmission of information and emotional exchange but also the construction of social interaction and cultural significance.

2.3.2 Factors Promoting Oral Communication

Oral communication is influenced by various factors, among which technology and teacher-student relationships are particularly crucial in the modern educational

environment. These factors not only enhance learning efficiency but also improve the quality of the learning experience.

1) Application of Technology

In today's educational field, technology has become an indispensable tool. Most students can access abundant learning resources through electronic devices. As Kelly, McCain, & Jukes (2009) pointed out, modern education systems need to adapt to the needs of "digital learners" by adopting innovative technologies to facilitate the learning process. The application of technology extends beyond basic teaching activities, expanding the physical and virtual boundaries of the classroom, and enabling teaching methods that were previously impossible.

Teachers enrich educational content significantly by integrating digital tools, online resources, and multimedia into the classroom. These technological means make the teaching of oral communication more intuitive and interactive. However, this shift also poses the challenge of effectively integrating these new tools while maintaining educational goals. Despite the challenges, the widespread use and application of technology undoubtedly provide unprecedented opportunities and convenience for enhancing oral skills.

2) Importance of Teacher-Student Relationships

Establishing and maintaining good teacher-student relationships is another key factor in educational success. Cox (2011) emphasizes that a classroom environment filled with smiles and happiness can significantly enhance learning motivation and outcomes. Positive interactions between teachers and students not only boost students' enthusiasm for learning but also help build a sense of trust and belonging, which is particularly important for language learning.

The closer the relationship between teachers and students, the higher the students' engagement and happiness in the classroom. As O'Rourke, & Cooper (2010) noted, elementary students' classroom happiness mainly stems from friendships with peers, a sense of belonging, and optimistic emotions. Therefore, teachers need to care not only

about students' academic achievements but also their mental health and social development.

In conclusion, technology and teacher-student relationships are the two main pillars for improving the usability of oral communication. By effectively utilizing technology and establishing positive teacher-student interactions, the quality and effectiveness of language learning can be significantly enhanced. Teachers should recognize the importance of both factors and actively explore how to combine modern technology with teaching strategies while striving to support students emotionally and relationally to optimize teaching outcomes.

2.3.3 Challenges in Learning Oral Skills

For non-native speakers, learning a new language is a significant challenge, particularly in mastering different communication systems, structures, and vocabulary. Oral language learning is especially difficult because it involves not only language knowledge but also pronunciation and accent mastery.

Noam Chomsky proposed that the first language is deeply ingrained in our brains (Nunan, 1995). This becomes particularly evident when learning a new language with a structure vastly different from the native language. For example, differences in writing systems can increase the difficulty of learning. For students, adapting to an entirely new language structure often requires reconstructing their linguistic thought patterns, a process that is both complex and time-consuming.

Lessard-Clouston (2013) pointed out that even if one has pre-planned sentences to speak, the lack of necessary vocabulary can make expression difficult. Effective learning strategies include learning vocabulary in specific contexts rather than simply reading word lists and trying to memorize them. Abebe, & Davidson (2012) found that learning using "word families" is more effective. For instance, in an airport scenario, learning vocabulary related to that environment (such as baggage, check-in counter, etc.) and considering possible dialogue scenarios not only aids memory but also promotes practical language application.

According to Neri, Cucchiarini, Strik, & Boves (2002), correctly pronouncing English words can be quite challenging—not just regarding individual word pronunciation but also the linking of words within sentences and the rhythm and intonation of sentences. Pronunciation practice can be enhanced by listening to audio samples with accompanying transcripts. This method allows learners to attempt to mimic what they hear, improving pronunciation accuracy and language fluency. Neri, Mich, Gerosa, & Giuliani (2008) found that frequent listening to English can help learners gradually achieve pronunciation closer to native speakers.

Overall, non-native speakers must overcome multiple obstacles related to structure, vocabulary, and pronunciation when learning oral skills. By adopting appropriate learning strategies and practice methods, these challenges can be gradually overcome.

2.4 English Speaking Skill of Chinese Students

2.4.1 Development of English Speaking Skill in China

In the mid-1960s, with English being designated as the first foreign language in China, it quickly became a compulsory subject in basic education. Despite the critical importance of speaking as a productive and receptive skill, factors such as lack of motivation, insufficient input, poor teaching methods, and lack of interaction (Ur, 1996) have led to speaking instruction not receiving the necessary attention from all learners (Bandar, 2018). Consequently, current junior high school English speaking instruction in China faces multiple challenges, including policy implementation, teacher competence, student motivation, and the application of teaching methods and technology.

In the 1990s, scholars began exploring English speaking instruction. Wen & Zhao (1995) studied the strengths and weaknesses of the prevalent oral tests of the time and clarified assessment criteria. This research provided direction for subsequent studies,

such as Mu Fengying's (1995) investigation into issues within traditional speaking teaching methods, which offered instructional insights. Additionally, some scholars attempted to integrate speaking instruction with other language skills (listening, reading, writing), discovering that these skills' mutual support significantly improves the accuracy of language use (Chen, 1995; Xu, 1996).

After 2005, research focused on "junior high school English speaking instruction" has significantly increased. The primary focus of research during this period has been on the "learning process," followed by "learning outcomes," "English," and "speaking." The rapid development of modern educational technology has driven innovations in teaching models, enhancing teaching efficiency, stimulating student interest, and reducing learning anxiety (Zhou, 2012). For example, Liu (2019) and Lin (2022) found that using human-computer dialogue platforms not only provided a better platform for speaking practice but also scientifically analyzed students' speaking issues, effectively improving their oral proficiency.

Despite the positive impact of modern educational technology in teaching, its widespread application and real effectiveness are still limited by students' self-discipline and unequal resource distribution. Teachers need to select appropriate teaching methods and strategies based on the specific conditions of their schools and students' needs to ensure the effectiveness and quality of instruction. Therefore, appropriate teaching strategies are crucial in ensuring the efficiency and quality of English speaking classes, as well as in enhancing students' oral expression and critical thinking skills.

2.4.2 Objectives for Developing English Speaking Skills in Chinese Junior High Schools

The 2022 revised "Compulsory Education Curriculum Standards" set guidelines for the course structure of the three grades in junior high school and outlined the objectives for English speaking skills.

Table 2.2 Objectives of Oral English Skills in Chinese Junior High Schools

Level	Skill	Target Description
Grade 7	Expressive skills	1. Sing English songs and recite English poems. 2. Read short articles completely and coherently, and simply repeat the main idea of the articles. 3. Perform simple role-playing under the guidance of teachers. 4. Conduct oral communication around relevant topics using short expressions to complete communication tasks. 5. Use relatively accurate words and expressions in oral expression, and the pronunciation and intonation are basically correct. 6. Respond to simple greetings and invitations.
Grade 8	Expressive skills	1. Read the passage correctly and fluently, and narrate the main content of the passage logically. 2. Complete role-playing and other activities independently or in groups. 3. Bring out the topic in a specific situation, and communicate with others verbally in the learned language, ask questions effectively, express appropriately, and complete the communication task. 4. Use correct vocabulary, sentence patterns and grammar in oral expression in combination with the topic, and express the meaning accurately and appropriately. 5. Simply retell the main content and viewpoints of the text in oral form. 6. Use simple written texts to describe other people's experiences or familiar things, etc. 7. Make a keynote speech based on relevant topics, with basically clear views and relatively clear logic.
Grade 9	Expressive skills	1. Communicate information, participate in discussions, and appropriately use polite language in general social situations.

Table 2.2 Objectives of Oral English Skills in Chinese Junior High Schools (Cont.)

Level	Skill	Target Description
Grade 9	Expressive skills	2. Orally summarize the main idea of the story or essay read, and retell other people's simple conversations. 3. Orally express personal opinions and attitudes around relevant topics, and explain the reasons. 4. Make simple oral evaluations on the content, opinions and attitudes of oral texts, and explain the reasons. 5. Use intonation and stress to highlight the meaning that needs to be emphasized. 6. Make simple oral or written adaptations and creations based on the content of the text read and the given conditions. 7. Use common conjunctions in oral expression to express order and logical relationships, connect information, and achieve coherence of meaning. 8. Make appropriate self-corrections in oral expression, use appropriate language, and communicate and exchange appropriately and effectively.

Source: Compulsory Education Curriculum Standards, 2022

In this study, to ensure fairness and effectiveness in evaluation, we designed a set of pre-test and post-test questions targeting the oral skill objectives for eighth-grade students, based on the 2022 revised “Compulsory Education Curriculum Standards”. These questions aimed to measure students' progress in oral fluency, grammatical accuracy, vocabulary usage, and communicative competence before and after participating in PBL activities.

The evaluation process was conducted face-to-face. In this setup, students engaged in oral communication with others in authentic conversational scenarios. This not only simulated real-life language use but also effectively assessed students' impromptu response capabilities and language organization skills. Each evaluation

was personally administered by the teacher to ensure consistency and accuracy in scoring.

To fairly assess each student's performance, we established detailed scoring criteria based on the "Compulsory Education Curriculum Standards". These criteria clearly outlined specific requirements for different performance levels, including pronunciation, intonation, grammatical structures, appropriate vocabulary usage, and the effectiveness of communication.

2.5 Related Studies

This section presents several studies on Problem-Based Learning (PBL).

Wirantaka & Sukarno (2022) conducted a study on the implementation of PBL in the English Education Department of an Indonesian university. Through qualitative interviews with four students, the study concluded that despite PBL's significant educational advantages, students faced challenges such as lack of confidence, difficulties in teamwork, and problems linking issues with learning materials. Therefore, while PBL has notable educational benefits, it requires tailored approaches to help students overcome these challenges.

PBL, as a teaching strategy, has gained widespread attention globally in recent years. By engaging in the process of solving real-world problems, PBL promotes the development of students' learning and cognitive abilities. This review covers several studies on the application of PBL in improving students' speaking skills, encompassing various age groups and regions, to demonstrate PBL's effectiveness in language teaching.

Silviana & Miftakh (2021) explored the impact of PBL on activating students' cognitive perspectives in EFL (English as a Foreign Language) speaking classrooms. The study aimed to understand students' views on PBL and examine the stages at

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which PBL stimulates cognitive processes in speaking classes. Conducted at SMAN 1 Karawang high school in Karawang, Indonesia, the sample included six students from class XI IPA 5. Using qualitative methods, data were collected through observations, student reflection logs, and document analysis. The results indicated that PBL helped students solve problems and closely linked to their cognitive perspectives, significantly enhancing their speaking abilities.

Agustise (2022) aimed to assess the effectiveness of the PBL method in improving the speaking skills of ninth-grade students. Conducted in the 2021-2022 academic year at SMPN 3 Tungkal Jaya school in Musi Banyuasin Regency, Indonesia, the sample included 20 ninth-grade students. Through quantitative and qualitative data collection and analysis over three cycles, the study found that the PBL method significantly improved students' speaking skills, with average scores increasing from 50% in the first round of tests to 85% in the third round.

Fahmi, Muslem, & Usman (2021) investigated the impact of the PBL method on improving students' speaking skills. Conducted at Darul Ulum Islamic Boarding School in Banda Aceh, Indonesia, the sample included second-year students. Quantitative methods were used to analyze pre- and post-test data, showing that the experimental group's speaking skills significantly improved, with average scores increasing from 51.64 in the pre-test to 63.64 in the post-test, demonstrating the PBL method's effectiveness in enhancing students' speaking skills.

Setyowati (2020) evaluated the effectiveness of the PBL model in improving the Indonesian speaking skills of fourth-grade students. Using classroom action research, the sample included fourth-grade students, and data were collected through quantitative analysis and observations over two cycles. The results showed that the PBL model significantly improved students' speaking skills, with test scores showing substantial improvement.

Nurhazizah, Mukrim, Arid, & Nadrun (2022) explored the impact of the PBL method on the speaking skills of tenth-grade students. Using both quantitative and

qualitative methods, the study assessed the effectiveness of the PBL method in enhancing students' speaking abilities. The results indicated that the PBL method significantly improved the speaking skills of tenth-grade students, with test scores showing notable increases.

Pardosi, & Swondo (2021) aimed to evaluate the effectiveness of the PBL method in improving students' speaking skills. Conducted at Harapan Bangsa Private School in Indonesia, the sample included 44 eighth-grade students. Data were collected through tests, interviews, observations, and questionnaires over two cycles. The results showed that students' speaking skills significantly improved, with average scores increasing from 59 in the first test to 82.11 in the third test, indicating the PBL method's significant impact on improving students' speaking abilities.

Han (2020) conducted an in-depth study on the application and effectiveness of Problem-Based Learning (PBL) in enhancing English-speaking skills in vocational college settings. The primary aim of the study was to determine whether the PBL approach effectively improved students' oral English proficiency and to evaluate their satisfaction with this teaching method. To comprehensively assess the impact of PBL instruction, the study employed multiple data collection methods, including pre- and post-test scores, questionnaires, and semi-structured interviews.The results revealed significant improvements in students' oral English skills following PBL instruction. Specifically, the average test score increased from 4.95 before the intervention to 6.5 afterward. In the questionnaire, students provided positive feedback on teaching professionalism, course design, and classroom facilities, with the highest satisfaction rating for teaching professionalism, averaging 4.75. Furthermore, semi-structured interviews highlighted improvements in other key skills, including vocabulary expansion, enhanced teamwork abilities, strengthened critical thinking, and improved communication skills. These findings demonstrate that PBL instruction is not only effective in enhancing students’ language skills but also promotes the development of essential 21st-century skills.

In summary, PBL has demonstrated significant effectiveness across different educational environments and student groups. PBL not only helps improve students' speaking skills but also enhances their cognitive and problem-solving abilities. These research findings provide valuable references for educators, indicating that PBL is an effective teaching strategy that can be widely applied in language teaching.

2.6 Summary

Through a review of the literature, researchers have found that in recent years, domestic scholars have paid considerable attention to the study of Problem-Based Learning (PBL) in English teaching. However, there are still some shortcomings. Firstly, most research content focuses on theory and experiments, while practical action research is relatively lacking. Secondly, although there are some existing studies on teaching implementation strategies, these methods tend to remain at a superficial level, lacking in-depth analysis and comprehensive exploration of various problem scenarios in PBL teaching. Lastly, current research lacks thorough investigation into the specific impact of PBL teaching methods on students' English skills at different levels and specific content areas, and has not effectively integrated the Chinese Standards of English (CSE).

Therefore, this study selects middle school students as the research subjects and adopts an action research approach to deeply explore the specific impact of PBL teaching methods on their English skills. By combining theory and practice, this study aims to effectively enhance students' English abilities and optimize teaching methods.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter describes the procedure of how to process the research to answer the research questions, including research design, population and samples, research instruments, validity and reliability, data collection procedures, and data analysis, ethical considerations of the study.

3.1 Research Design

The study investigates whether Problem Based Learning (PBL) can enhance the English speaking skills of Chinese students and whether the students feel satisfied with such classes. This is a mixed-methods research, incorporating both pre/post-tests and surveys.

1) A set of pre-tests and post-tests were designed to examine the changes in students' scores before and after the study, to assess whether their English language abilities had improved.

2) The survey aimed to evaluate students' satisfaction with the PBL courses, the content, interactivity, acceptance of teaching methods, and its impact on their learning motivation and self-efficacy.

3) The observation checklist recorded the factors that affect students' behavior and classroom feelings, and analyzed students' feelings about the class from the perspective of classroom teachers.

Mixed-methods research offers several advantages over single-method approaches, for the following reasons:

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1) Mixed-methods research is more flexible and can be used in various research designs (Huang, 2005).

2) The combination of qualitative and quantitative data enhances the richness and comprehensiveness of the data (Kassem, 2018).

3) Quantitative research, which expresses results in numerical form, aids in precise measurements and broad generalizations. Qualitative research, on the other hand, uses textual descriptions to delve deeper into individuals' feelings, emotions, and perspectives, providing a deeper interpretation of quantitative results (Liu & Pásztor, 2022).

3.1.1 Research Process

The initial step of the study involves submitting the content of the pre/post-tests and survey questionnaires to experts for assessing the validity of these tools. The second part consists of progressively collecting data from the pre/post-tests and surveys. The final step is the analysis of this data to derive the research findings. The research design process is as follows:

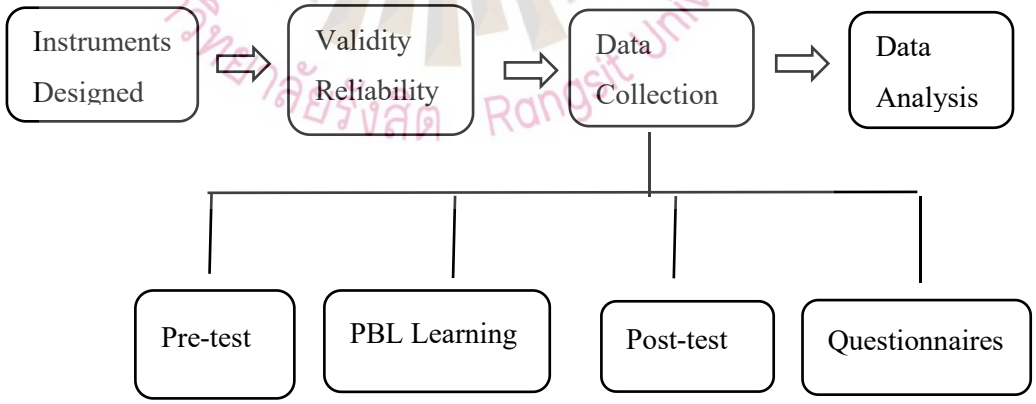

Figure 3.1 The Steps of Research Process

3.2 Research Site

This study selected a middle school in Shijiazhuang City as the research site. Established in 1957, this public school offers comprehensive education for students aged 12 to 14, covering a wide range of subjects, including English courses. At this school, teachers are free to choose their teaching methods during the weekdays from Monday to Friday, with each class lasting 45 minutes. This flexible teaching schedule allows teachers to adjust their teaching strategies based on the learning needs of students and the content being taught. Additionally, the school places a high emphasis on English education and is staffed with professional English teachers who are proficient in both Mandarin and English. This ensures that students can better comprehend the content of the English courses, thereby improving their level of English speaking skills.

3.3 Population and Sample

In this study, the selected population is the second-year junior high school students in a middle school in Shijiazhuang City. There are about 400 students in this grade who are learning English. This study uses composite sampling technique, divides the students into 10 classes according to their English foundation, and randomly selects one class as the research object. A total of 40 students in this class participated in the study.

These students have a certain English foundation and can understand and participate in teaching activities related to problem-based learning (PBL). The students are mostly between 13 and 14 years old, and the gender ratio is close to balanced, which helps to ensure the wide applicability and fairness of the research results.

3.4 Research Instruments

The research instruments are designed to collect data in accordance with the research objectives. At the beginning of the study, teachers administered a pre-test to evaluate students' English-speaking skills. During the 7-week study

period, teachers conducted 12 classes, covering a total of 5 topics. Each class employed the Problem Based Learning (PBL) teaching method, with the teacher acting as a facilitator to guide students in posing problems, analyzing problems, solving issues, and reflecting on the class. In the final class, students took a post-test to assess their learning and English-speaking skills and completed a survey.

In summary, the three research instruments used in this study are as follows:

1) Group pre-tests and post-tests were employed as part of the research design to compare students' performance before and after the study, determining whether their English-speaking skills improved.

2) Surveys were used to collect student satisfaction regarding the use of PBL in the English classroom.

3) Observers recorded and documented students' performance from the beginning to the end of the study.

3.4.1 Lesson Plan

The 7 weeks English course in this study was designed to enhance students' English skills through the implementation of Problem Based Learning (PBL). Each class lasted 45 minutes, totaling 12 sessions, each meticulously designed to align with the standards of the eighth-grade English curriculum, ensuring systematic and coherent instruction.

This study adopted the 7-step problem-solving learning method developed by Maastricht University, with a total of 5 problems, each lasting 2 weeks. The specific implementation steps are as follows: first, students need to clarify unfamiliar terms, then problem definition, brainstorming; then analyzing the problem and formulating learning issues. These five steps are completed in the first week. After class, students need to conduct self-study independently, which

is the sixth step. In the second week, students will report their learning outcomes, which is the last step of the method.

All course topics were based on the first volume of the eighth-grade English textbook published by People's Education Press. The table provides detailed information on the teaching plan.

Table 3.1 Lesson Plans

Lesson	Date	Activities
	3/Sep/2024	Pre-test
Lesson 1	6/Sep/2024	Introduce PBL steps Lecture 1:Introduce PBL 7 steps
Lesson 2	10/Sep/2024	PBL steps 1-5 Problem 1:A Sunny Adventure in Penang
Lesson 3	13/Sep/2024	PBL step 7 Reporting Problem1:A Sunny Adventure in Penang Homework 1: Reflection
Lesson 4	16/Sep/2024	PBL steps 1-5 Problem 2:Healthy Life
Lesson 5	20/Sep/2024	PBL step 7 Reporting Problem2:Healthy Life Homework 2: Reflection
Lesson 6	23/Sep/2024	PBL steps 1-5 Problem 3:I'm more outgoing than my sister
Lesson7	27/Sep/2024	PBL step 7 Reporting Problem3:I'm more outgoing than my sister Homework 3: Reflection
Lesson 8	30/Sep/2024	PBL steps 1-5 Problem 4:Spotlight on Talent

Table 3.1 Lesson Plans (Cont.)

Lesson	Date	Activities
Lesson 9	4/Oct/2024	PBL step 7 Reporting Reporting :Problem4:Spotlight on Talent Homework 4: Reflection
Lesson 10	4/Oct/2024	PBL steps 1-5 Problem 5: Mickey Mouse
Lesson 11	11/Oct/2024	PBL step 7 Reporting Reporting :Problem5: Mickey Mouse Homework 5: Reflection
Lesson 12	14/Oct/2024	Seminar on PBL Lecture 2: Summary & Reflection on PBL
	18/Oct/2024	Post-test

3.4.2 Pre-test and Post-test

This study primarily utilized pre-tests and post-tests as the main assessment tools. Both the pre-test and post-test featured identical question formats and were divided into three sections:

Situational dialogue: In this section, students were required to engage in English conversation by responding to questions posed by the teacher. The dialogue aimed to assess students' ability to use appropriate language structures and vocabulary to communicate effectively in real-life conversational contexts.

Describe pictures according to the prompts: Students were given 30 seconds to prepare before describing a picture in English. This section was designed to evaluate students' vocabulary knowledge and fluency. Key assessment criteria included the accuracy of vocabulary selection and usage, as well as the clarity and organization of language during the description.

Topic-Based Narrative: Students were given a topic and instructed to construct a narrative of 5-6 sentences after a 30-second preparation period. This

section tested students' fluency, coherence, and language organization skills. Students were required to deliver a spoken narrative around a specific topic, demonstrating their ability to organize their thoughts and clearly articulate them in English within a limited preparation time. This part not only assessed their fluency and coherence but also evaluated their understanding of the topic and the clarity of their logical structure.

In this study, the combination of these three types of assessment tasks enabled teachers to comprehensively evaluate students' English-speaking abilities, including vocabulary range, linguistic accuracy, fluency of expression, and logical coherence.

The pre and post-test will be evaluated using the following scoring criteria:

Table 3.2 Pre and post-test Rubric

Part I: Situational dialogue (30 points)	
21-30 points	The expression is fluent and clear, the pronunciation and intonation are good, and the grammar is used relatively correctly.
10-20 points	The expression is fluent and clear, the pronunciation and intonation are basically correct, and there are relatively few errors in grammar.
0-9 points	Answering irrelevant questions or remaining silent
Part II: Describe pictures according to the prompts. (30 points)	
27-30 points	Describe the content of the picture accurately according to the given prompts, with fluent language, clear logic, correct grammar, and appropriate wording.
18-26 points	The students basically describe the contents of the pictures according to the given prompts. The language is relatively fluent and can well reflect the main contents of the pictures. The grammar is generally correct and the words are basically appropriate.

Table 3.2 Pre and post-test Rubric (Cont.)

Part II: Describe pictures according to the prompts. (30 points)	
9-17 points	The description is partially related to the prompt word. The description language is acceptable, but the logic needs to be strengthened. The details are not specific enough, only part of the content of the picture is involved, and there are grammatical errors.
0-8 points	The description is not clearly related to the given prompt word. The language expression is confusing and the logic is unclear. There is a lack of specific description and the main content of the picture cannot be expressed. There are many grammatical errors, inappropriate words, and it is difficult to understand.
Part III: Narration based on the topic (40 points)	
31-40 points	The main points should be complete and accurate, the pronunciation and intonation should be correct, natural and coherent, the expression should be clear, and at least 5 sentences should be spoken within one minute.
21-30 points	The main points are complete, the pronunciation and intonation are basically correct, the expression is basically clear, and at least 5 sentences can be said within one minute, but there are some errors.
10-20 points	Some key points can be expressed, the pronunciation and intonation are basically correct, but less than 5 sentences can be said or there are some mistakes, which affect the expression of meaning.
0-9 points	They are basically unable to express content related to the topic, make many mistakes and have poor pronunciation and intonation.

3.4.3 The Questionnaire

The questionnaire in this study categorizes the main factors affecting student satisfaction into three parts: course design, teaching professionalism, and classroom equipment.

Student responses are measured using a Likert scale, ensuring the reliability and validity of the instrument. Moreover, the problems are presented in both Chinese and English to facilitate easier understanding for the students.Each item on the questionnaire is rated on a scale from "Strongly disagree" to "Strongly agree," with scores ranging from 1 to 5. A score of "1" represents "Strongly disagree," "2" signifies "Disagree," "3" is indicated as "Neutral," "4" as "Agree," and "5" represents "Strongly agree."

Table 3.3 The 5-point Likert Scale

Likert Scale Description	Liker Scale	Likert Scale Interval
Strongly disagree	1	1.00-1.80
Disagree	2	1.81-2.60
Neutral	3	2.61-3.40
Agree	4	3.41-4.20
Strongly agree	5	4.21-5.00

Source: Pimentel, 2010

3.4.4 Observation Checklist

Observation is a very common method in the field of behavioral science. This method allows researchers to record student behavior without directly asking or interacting with students. In this study, teacher observers observed the classroom and recorded various events that occurred. The following is a detailed description of the observation tools used in this study.

The observation checklist designed for this study covers multiple topics related to various factors that affect student satisfaction, which are based on extensive research and practical activities.

All five themes were used to reveal whether students were satisfied with the use of Problem-based Learning in English courses.

Table 3.4 Observation Checklist

Observation Object	**Record Examples**	**Observations**
Teachers (teaching, behavior)	Teachers give students verbal encouragement to motivate them to speak in class	
	The teacher guides students to answer questions and explains them carefully.	
Students (performance, emotions)	Students think about problems and participate in collaborative learning	
	Students actively speak and reflect	
Teaching materials	Students can understand words and sentences	
	Teaching materials are diverse, with pictures and text	
Environment	No one is doing anything else, everyone is participating in the English class	
	The classroom is clean and tidy, in line with the teaching design	
Facilities	This class has whiteboards, markers, multimedia, etc.	
	There is Internet for learning and teaching	

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3.5 Validity and Reliability

3.5.1 Validity

Validity refers to the degree to which a method accurately measures what it intends to measure. High validity in a study means that the results produced correspond to the variations being studied. Reliability is an indicator of effective measurement. If a method is unreliable, it may not yield useful results, and thus the methods used to collect data must be valid.

In this study, to ensure the validity of the measurement tools used, the pre-test, post-test, observation checklist ,lesson plans and questionnaire were submitted to three domain experts for an Index-Objective Congruence (IOC) assessment. IOC is a process where content experts rate each test item based on its consistency with the research objectives. In this rating system, experts assign scores based on whether a test item aligns with the established research objectives, which helps validate the content validity of the tool (Charoenlarpkul & Tantasanee, 2019).

The Item-Objective Congruence (IOC) is used to assess the questionnaire items, with scores ranging from -1 to +1.

In this study, each test item and the overall items of the questionnaire underwent an evaluation for the Item-Objective Congruence (IOC) by three experts, where the minimum acceptable IOC should not be below 0.67. This benchmark signifies the following:

Congruent = +1: The experts are certain that the item accurately measures an objective.

Questionable = 0: The experts are undecided about whether the item measures an objective.

Incongruent = -1: The experts are certain that the item does not measure an objective.

The index of Item-Objective Congruence (IOC) among the three experts for individual items and the entire questionnaire should not be less than 0.67. Therefore, if an item did not meet the benchmark, it was modified based on the comments and suggestions of the experts. If the score was between 0.67 and 1.00, the item was considered valid and acceptable.

In this study, we used three different instruments to collect data and used IOC to evaluate the validity of these instruments. The evaluation results showed that the IOC values of all instruments exceeded 0.67, indicating that they have high reliability. The pre-test result of IOC was 0.953 and the post-test reached 1.0; the IOC result of the questionnaire survey was 0.81, and the IOC result of the classroom observation was 0.91. Therefore, these items were effective for data collection in this study.

3.5.2 Reliability

After content validity experts review and approve the questionnaire, a pilot test is conducted to assess the reliability of the questionnaire and to ensure there is no ambiguity in wording and meaning. The aim of the pilot test is to guarantee that all participants have a consistent understanding of each item in the questionnaire.

To implement this pilot test, researchers select 30 participants of similar age and academic progress, likely from other school districts in Shijiazhuang. This approach helps to test the generalizability and comprehensibility of the questionnaire across different backgrounds.

The reliability of the questionnaire is evaluated by calculating the Cronbach's alpha (α) coefficient. Cronbach's alpha is a commonly used statistical tool for measuring the internal consistency of a questionnaire or test. A high α

coefficient (typically greater than 0.7) indicates a high degree of internal consistency among the items, thereby reflecting the high reliability of the questionnaire. This step ensures that the questionnaire can effectively reflect and measure the intended variables before being used in formal research.

Table 3.5 Description of Internal Consistency Using Cronbach's Alpha

Cronbach's α	**Internal consistency**
α≥0.9	Excellent
0.9 > α≥0.8	Good
0.8 > α≥0.7	Acceptable
0.7 > α≥0.6	Questionable
0.6 > α≥0.5	Poor
0.5 > α	Unacceptable

Source: Jain & Angural, 2017

In the overall evaluation of research tools, an acceptable reliability coefficient is equally important. Cronbach's alpha is commonly used to measure the internal consistency of questionnaires or measurement tools. A reliability coefficient exceeding 0.75 is generally considered to indicate that the questionnaire has good internal consistency and can reliably measure the constructs it is intended to measure.

In this study, a pre-test was conducted using the statistical software SPSS, resulting in a Cronbach's alpha value of 0.865 for the questionnaire. This indicates that the questionnaire demonstrates good internal consistency. Therefore, this questionnaire is considered suitable for effectively collecting data in the formal study, aiding in further analysis and the derivation of scientific and accurate conclusions.

Table 3.6 Cronbach’ s Alpha of Questionnaire in this study

Item	Sample	Cronbach’s α
12	30	0.865

3.6 Data Collection

3.6.1 Pre and Post Test Data Collection

In the first and last class sessions, students will take an English test lasting 20 minutes, which each student must complete independently. The pre-test and post-test papers are designed to ensure that all questions are of the same difficulty and type, with a total score of 100 points. The test includes three types of questions: situational dialogues, reading English passages aloud, and topic narration. After completing the test, the teacher will grade the papers according to the assessment criteria and compile the scores.

Table 3.7 Pre-test and post-test results statistics

Part	Question Type	Pre-test	Post-test	Score	Grand Total
Part I	Situational dialogue			30	
Part II	Picture Talk			30	
Part III	Topic description			40	
Total				100	

3.6.2 Questionnaire Data Collection

First, to ensure the reliability of the questionnaire, we invited 10 students of similar age and learning experience to participate in a pilot test on Aug 4, 2024. After data collection, researchers used Cronbach's alpha to calculate the reliability of the questionnaire. The alpha value of the survey was 0.819.

Second, at the end of the final class session, questionnaires were distributed to 40 students who participated in the English course using the Problem-Based Learning teaching method.

3.6.3 Classroom Observation Data Collection

This study utilized a systematic observation checklist to meticulously record all relevant activities from the beginning of the course. The class teacher, who has a deep understanding of the students' backgrounds, was responsible for implementing this checklist. However, to ensure objectivity, the teacher did not engage in direct interaction with the students during the observation. The primary task of the observer was to document key events in the classroom, with particular attention to the teaching methods employed by the teacher and the students' group collaboration.

The observation content covered the following core themes: teaching methods, teacher personality, classroom atmosphere, and the use of teaching materials and facilities. Data on classroom atmosphere were coded based on specific behaviors. For example, the record "students actively participating in class discussions" served as an instance to evaluate the liveliness of the classroom atmosphere.

3.7 Data Analysis

Different instruments require different data analysis methods. Below is an explanation of the data analysis method for each type.

3.7.1 The Pre and Post Test

First, calculate the total scores for the different question types. Next, use SPSS to statistically analyze the pre-test and post-test scores, and compute the t-test, mean, and standard deviation. Then, compare the pre-test scores with the post-test scores.

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3.7.2 The Questionnaire

For the data analysis of the questionnaire, the researcher used SPSS software to analyze the quantitative data collected through the questionnaire. Statistics such as Min, Max, mean and standard deviation were used to analyze the questionnaire.

3.7.3 Classroom Observation

In conducting teaching observation research, analyzing the data collected from observers' notes is a crucial step. According to Lichtman (2013), this process involves three core steps: coding, categorizing, and conceptualizing. This systematic analysis framework helps researchers extract, organize, and interpret information from the raw observation data, thereby achieving a deeper understanding of the research phenomena.

3.8 Ethical Considerations

Ethical research refers to the protection of the rights and dignity of research participants, experimental subjects, and related stakeholders while conducting scientific research and academic activities. Common ethical concerns in research include: a) informed consent, b) beneficence and non-maleficence, c) respect for anonymity and confidentiality, and d) respect for privacy. Therefore, in order to conduct research ethically, researchers have taken the following steps:

1) Prior to conducting the research, researchers ensure that informed consent has been obtained from participants.

2) Participants' personal information and responses are collected and stored in a secure manner.

3) Researchers have obtained permission from school principals and parents of students to collect data from the sample. Throughout all steps of data

collection, researchers carefully ensure the dignity, rights, and safety of participants.

4) Researchers strictly adhere to the anonymity of research participants and the confidentiality of their opinions. Participant privacy is protected by replacing their identity information with numbers (e.g., Student 1, Student 2, and Student 3). Furthermore, students voluntarily participate in this study and have the right to withdraw at any time.

5) To prevent the disclosure of participant information, the collected data will be deleted within one year after the publication of this study.

6) The participants were protected by the Rangsit University Ethics Review Board expedited document COA.No.RSUERB2024-144.

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CHAPTER 4

DATA ANALYSIS

In this chapter, we analyze the data collected from 40 Chinese students to address the two research questions: whether the Problem-based Learning (PBL) approach improves students' oral proficiency and whether students are satisfied with English language instruction. To this end, the study designed a series of assessment tools, including pre- and post-tests, a classroom observation checklist, and a questionnaire survey.First, the study employed a pre- and post-test experimental design to compare students' performance at the beginning and end of the course. This method systematically assessed students' English-speaking skills at two different points in time, thereby effectively measuring changes in oral proficiency.Second, a classroom observation checklist was used as an evaluation tool, which is an approved qualitative research instrument. This tool documented students' and teachers' behaviors and other relevant aspects to assess students' learning performance when the PBL approach was implemented in English courses.Finally, a questionnaire survey was conducted to gather students' perceptions of the course, which were used to calculate their satisfaction levels. The questionnaire design covered students' feedback on teaching content, teaching methods, classroom interaction, and learning resources.

The findings from the three instruments are shown below:

4.1 The Analysis of Pre-test And Post-test Data

The primary objective of this study is to investigate whether the adoption of the Problem-based Learning (PBL) approach can effectively enhance the English speaking proficiency of eighth-grade students. To this end, we designed pre- and post-tests to compare the results of students' oral proficiency before and after the intervention. A pre-test was conducted at the beginning of the study to collect

baseline data on students' oral proficiency prior to the implementation of the PBL method. At the conclusion of the study, a post-test was administered to assess and determine whether, and to what extent, students' oral proficiency improved following PBL instruction. A paired-samples t-test was employed to statistically analyze the mean scores, standard deviations, and significance values between the pre-test and post-test results.

4.1.1 The Scores of The Pre – Post Test

The pre- and post-test results are presented in Figure 4.1 and Figure 4.2. The scores are assessed using the scoring criteria for junior high school English oral proficiency tests to evaluate students' speaking abilities. In Figure 4.1, most students scored within the 30-60 range, indicating a relatively low level of English-speaking proficiency.

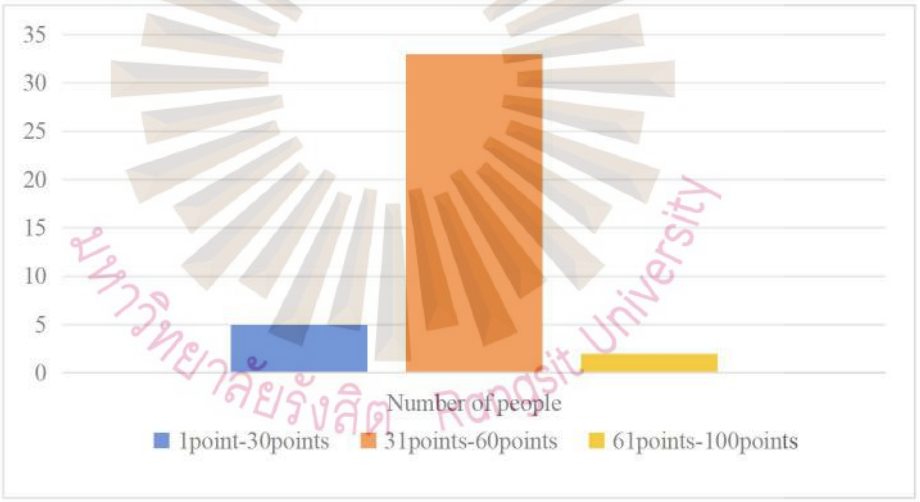

Figure 4.1 Individual Students' Pre Test Scores

The table below shows each student's post-test scores. It is evident that the students' scores fall within the 60 and 70 ranges.

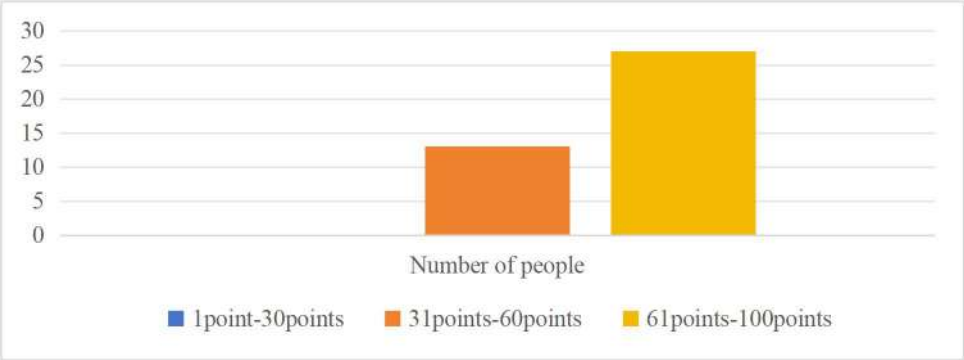

Figure 4.2 Individual Students' Post Test Scores

4.1.2 Analysis of individual student performance

The pre- and post-test scores of the sample group are shown in Figure 4.3. The table indicates that after the instructional intervention using the Problem-based Learning (PBL) approach, there was a significant improvement in students' scores. In the pre-test, the score range was 19 to 67, with only 3 students scoring 60 or above, while 5 students scored 30 or below. In contrast, the post-test results showed a marked increase, with scores ranging from 46 to 82. In this test, 10 students scored below 60, and 12 students scored 70 or above. Each participant exhibited a significant improvement in their post-test scores, as shown in the table below.

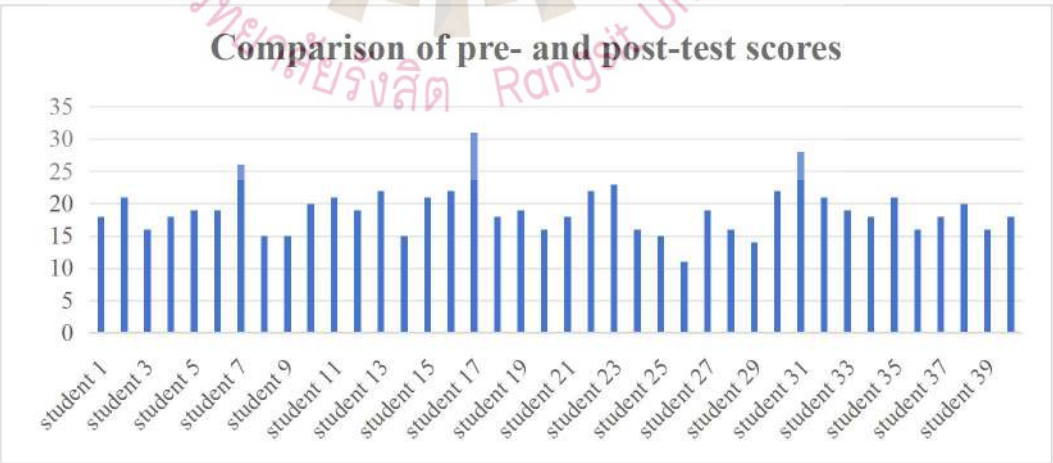

Figure 4.3 Individual Student's Test Scores in the Two Test.

Figure 4.3 presents the students' scores from the two tests and the differences between them. The data show that most participants demonstrated significant improvement following the instructional intervention using the Problem-based Learning (PBL) approach. Specifically, students generally performed better in the post-test, with higher scores overall. The increase in scores ranged from a minimum of 11 points to a maximum of 31 points. This improvement not only indicates progress in students' oral proficiency but also reflects the effectiveness of the teaching method.

4.1.3 Paired T-test

After inputting the students' pre- and post-test scores into SPSS for statistical analysis, the results were organized into two corresponding tables. Table 4.1 provides the basic statistical information on the students' scores before and after the experiment, while Table 4.2 presents the results of the statistical tests, including the T-test results and the associated significance levels.

Table 4.1 Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre test	45.25	40	11.96	1.89
	Post test	64.30	40	9.07	1.44

Table 4.2 Paired Samples Test

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		T	df	Sig. (2-tailed)
				Lower	Upper			
Pair 1 Pre- test Post-test	-19.05	3.80	0.60	-20.26	-17.84	-31.74	39	0.000

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A paired-samples T-test was conducted on the pre- and post-test scores of 40 students. As shown in Table 4.1, the mean score for the pre-test was 45.25, while the mean score for the post-test was 64.30, resulting in a difference of 19.05. The standard deviation (sd) for the pre-test was 11.96, compared to 9.07 for the post-test, indicating that not only did the students achieve higher scores in the post-test, but the score variance among students also decreased after learning.

According to Table 4.2, the T-test is -31.74, with df = 39 and sig = 0.000 < 0.001, indicating a significant difference between the pre-test and post-test scores of the 40 students.

4.2 The Analysis of the Questionnaire Data

The second objective of this study is to evaluate students' satisfaction with the use of the Problem-based Learning (PBL) approach in English classes. To this end, a 12-item questionnaire was designed, using a 5-point Likert scale, where students rated each item from 1 to 5 based on their personal experiences. According to Best (1981), respondents' ratings are categorized as follows: Very low = 1.00 - 1.49, Low = 1.50 - 2.49, Medium = 2.50 - 3.49, High = 3.50 - 4.49, and Very high = 4.50 - 5.00. The questionnaire primarily focused on assessing the students' satisfaction levels.

Table 4.3 presents the detailed statistical data for each item in the questionnaire, including the minimum value (MIN), maximum value (MAX), mean score (X), and standard deviation (SD). The researcher calculated the mean and standard deviation for all items to identify the highest and lowest scoring items.

Table 4.3 The Mean and the level of Students' Satisfaction toward PBL Approach

NO.	Question	Mean	S.D	Interpretation
A	Course structure and content			

Table 4.3 The Mean and the level of Students' Satisfaction toward PBL Approach (Cont.)

NO.	Question	Mean	S.D	Interpretation
1	The course is well-prepared and well-organized.	4.80	0.516	Highest
3	The course is easy to understand and helpful to me.	4.73	0.599	Highest
2	The course encourages open-ended questions and discussions.	4.70	0.564	Highest
	In total	4.74	0.450	Highest
B	Teaching methods and interaction			
4	I think PBL teaching method makes English learning more interesting.	4.83	0.446	Highest
8	The teacher respects all students.	4.80	0.516	Highest
5	This teaching method helped me improve my English speaking skills.	4.80	0.464	Highest
9	I like the way of working in groups to solve problems.	4.60	0.591	Highest
7	Teachers use reasonable, useful and fair assessment methods.	4.58	0.594	Highest
6	I think I can better understand and use English by solving practical problems.	4.58	0.594	Highest
10	In class, I can actively participate in learning activities.	4.45	0.639	High
	In total	4.66	0.381	Highest
C	Learning environment and resources			
12	I am satisfied with the physical environment of the classroom.	4.35	0.622	High

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Table 4.3 The Mean and the level of Students' Satisfaction toward PBL Approach (Cont.)

NO.	Question	Mean	S.D	Interpretation
11	The classroom equipment is in good condition.	4.30	0.648	High
	In total	4.33	0.549	High
	Questionnaire Average	4.63	0.37	Highest

As shown in Table 4.3, in the first section of the student opinion questionnaire, "Course structure and content," almost all students strongly agreed with all the statements. The overall mean score was 4.74 (SD = 0.450). The highest-ranked item was "The course is well-prepared and well-organized," followed by "The course is easy to understand and helpful to me," and the third was "The course encourages open-ended questions and discussions." Both the item-specific and overall mean scores were at the highest level.

In the second section of the student opinion questionnaire, "Teaching methods and interaction," students strongly agreed with six statements and agreed with one statement. The overall mean score was 4.66 (SD = 0.381). The highest-ranked item was "I think the PBL teaching method makes English learning more interesting," with a mean score of 4.83 (SD = 0.446), followed by "The instructor makes the course interesting and meaningful to me." The lowest mean score was 4.45 (SD = 0.639) for the statement "In class, I can actively participate in learning activities."

For the final section of the opinion questionnaire, "Learning environment and resources," all students agreed with both statements. The first was "I am satisfied with the physical environment of the classroom," and the second was "The classroom equipment is in good condition." The overall mean score for this dimension was 4.33 (SD = 0.549), indicating a relatively high level of satisfaction.

The overall mean score for all components (Course structure and content, Teaching methods and interaction, Learning environment and resources) was 4.63 (SD = 0.37), which is at the highest level, as shown in Table 4.6. This indicates that junior high school students ' satisfaction with the use of the Problem-based Learning (PBL) approach in English classes falls within the "strongly agree" category on the Likert scale. This suggests that the sample group of students had a positive attitude toward the PBL teaching method. The mean score of 4.63 (SD = 0.37) reflects that all students were satisfied with the use of PBL in the English classroom and with the instructor's teaching.

The sample T-test was used to analyze the students' satisfaction, and the specific situation is as follows:

Table 4.4 Descriptive Statistics for the 12 Questions

Descriptive Statistics					
Item	Validity samples	MIN	MAX	MEAN	S.D
1	40	3	5	4.80	0.516
2	40	3	5	4.70	0.564
3	40	3	5	4.73	0.599
4	40	3	5	4.83	0.446
5	40	3	5	4.80	0.464
6	40	3	5	4.58	0.594
7	40	3	5	4.58	0.594
8	40	3	5	4.80	0.516
9	40	3	5	4.60	0.591
10	40	3	5	4.45	0.639
11	40	3	5	4.30	0.648
12	40	3	5	4.35	0.622

In this questionnaire, Item 4 received the highest mean score (4.83, SD = 0.446), which corresponds to "I think the PBL teaching method makes English learning more interesting." In contrast, Item 11 had the lowest mean score (4.30, SD = 0.648), which corresponds to "I am satisfied with the physical environment of the classroom." On the other hand, all the significance p-values are 0.0005.

4.3 The Analysis of Observation Data

The primary purpose of the observation checklist is to document the activities of students and teachers observed in the classroom, specifically to assess students' satisfaction with the course. The observation checklist provides detailed records of classroom interactions and teaching behaviors, offering empirical data for evaluating the effectiveness of the instruction.

The observer was the head teacher of the class and an experienced instructor. Prior to the start of the observations, the researcher provided her with a brief training session on the specific content expected to be observed and how to effectively use the checklist. This preparation aimed to ensure the accuracy and relevance of the observational data, so as to accurately reflect students' engagement and satisfaction. During the 12 lessons taught by the researcher, a total of 5 problems were addressed, using 5 observation checklists.

The detailed records of the observation checklists are as follows:

Table 4.5 The Analysis of Observation Checklists

	Descriptive of What Happened in Class
Lesson 1	The teacher arrived on time and greeted the students. The students remained silent and rarely interacted with the teacher. The teacher announced the classroom rules and the students were confused. When the teacher announced the communication in English, most of the students expressed frustration and were unable to complete it. The classroom has multimedia equipment. The students showed a relaxed state when watching the video. The students had difficulty expressing themselves when communicating in English and were very unfluent.

Table 4.5 The Analysis of Observation Checklists (Cont.)

	Descriptive of What Happened in Class
Lesson 2	The teacher arrives early with materials. The teacher guides students to think about the problem. Students are confused at the beginning of the class. Students speak less during the brainstorming session. Students are able to understand the problem definition. Use various materials, including pictures and text to explain the problem. Students rarely speak and remain silent. Some students do not speak and cannot integrate into the English class. The classroom has necessary multimedia equipment. The classroom is arranged in groups, which is conducive to learning.
Lesson 3	The teacher encourages students to speak. The teacher gives positive feedback. Students have low confidence in English when speaking. Students are not fluent in speaking English and use few words. Three students actively answer questions. All students participate in the class. Students comment on each other. Most students are timid during the presentation.
Lesson 4	Students actively share their health habits in group discussions and discuss healthier lifestyles. Students are more organized in discussions. All students understand the learning process. Most students can actively participate in discussions, but use more Chinese. Students share more ideas in brainstorming sessions and use English.

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Table 4.5 The Analysis of Observation Checklists (Cont.)

	Descriptive of What Happened in Class
Lesson 4	Students organize teaching materials related to health and life before class, including diet and exercise information. Use PPT and printed materials with healthy diet and exercise suggestions. Most students can participate in class. Most students dare to speak English. The class has Internet and multimedia equipment. In the brainstorming session, the teacher guides the students.
Lesson 5	The teacher gave positive comments on the students' self-study. Students were more useful and orderly in the presentation session and shared more reasonable content. Students were more confident in using English. All students participated in the class. Students in the audience gave positive feedback and comments. The teacher encouraged students to speak and think critically.
Lesson 6	Students are able to understand the problem definition. Teaching materials such as personality cards are used. Everyone is participating in the English class. The teacher corrects students' pronunciation and grammar errors. The teacher walks around and guides students' discussions in English. The teacher encourages students to speak boldly in English. Students actively participate in brainstorming and classroom reflection. Students use English more but not fluently. The overall English usage environment is positive. The classroom is clean and the layout is suitable for group learning.
Lesson 7	Students were able to use simple English sentences to express their ideas during presentations.

Table 4.5 The Analysis of Observation Checklists (Cont.)

	Descriptive of What Happened in Class
Lesson 7	Everyone was participating in the English class. Students were nervous when speaking in English. Students participated actively in self-assessment and peer assessment. The teacher gave positive comments on group cooperation. The teacher had an interactive whiteboard and multimedia equipment to display relevant videos and pictures.
Lesson 8	The teacher defines the problem and guides students to brainstorm. During brainstorming, students discuss different talents and potential ways to display them in English. Students are more proactive in communicating in English. Terms and definitions of various talents and skills are prepared before class. Multimedia presentations with graphic materials are used to put students in context. The brainstorming session is lively and students speak actively. Students can use basic English to express their ideas during class discussions. The classroom is clean and tidy. The teacher encourages students to speak in class.
Lesson 9	Students actively participate in self-study outside the classroom. Students are more confident when giving reports. Students speak English more fluently. Students can use collocations and difficult English words when speaking English. Students show great participation in self-assessment and peer assessment. Teachers give positive feedback to students' presentations to help them build confidence in English.

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Table 4.5 The Analysis of Observation Checklists (Cont.)

	Descriptive of What Happened in Class
	The classroom is equipped with multimedia equipment to help students present more ideas.
Lesson 10	The teacher introduced the development of Mickey Mouse with animation clips, historical documents and pictures. Students brainstormed in groups in English to discuss how Mickey Mouse shaped the modern entertainment industry. The teacher asked questions in English to promote in-depth discussions among students. Students were fully able to speak and discuss in English. Students were able to understand the historical and cultural impact of Mickey Mouse. All students discussed cultural differences in English. Students showed great interest in communicating in English. The classroom was clean and suitable for group learning.
Lesson 11	Students expanded more materials in the after-class self-study session. During the presentation, students' spoken English level improved significantly. The teacher encouraged students to express their opinions in English. The teacher gave positive feedback on students' presentations. Students made fewer grammatical errors when using English expressions. The teacher was equipped with high-quality audio-visual equipment to support the playback of animated videos.
Lesson 12	Teachers greet students. Teachers summarize students' performance in PBL learning and give positive feedback. Students reflect on what they have gained from PBL learning. Most

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Table 4.5 The Analysis of Observation Checklists (Cont.)

	Descriptive of What Happened in Class
Lesson 12	students believe that they have improved their English speaking fluency and pronunciation, reduced grammatical errors, expanded their English vocabulary, and built up their English confidence. The classroom atmosphere is lively. The classrooms are clean and tidy, which is conducive to students' learning.

The classroom observation records were categorized into five major groups, each reflecting different teaching and classroom elements."Class atmosphere"was recorded most frequently, with 49 mentions, and reflected students' engagement and the overall environment of classroom activities."Teaching strategies" was mentioned 36 times, ranking second, highlighting the importance of teaching methods and strategies in classroom observation. "Teacher's personality" was recorded 27 times, indicating how the teacher's personal characteristics influence student learning and classroom interaction. "Teaching material" was mentioned 21 times, focusing on the suitability of teaching resources and their support for the learning process. "Facilities" had the fewest mentions, with only 12 records, addressing the physical setup of the classroom and its support for teaching activities.

Table 4.6 Frequencies of the Five Key Categories in Each Lesson

Lesson	**Class atmosphere**	**Teaching strategies**	**Teacher‘s personality**	**Teaching material**	**Facilities**
Lesson 1	3	2	2	1	1
Lesson 2	4	3	2	2	1
Lesson 3	4	3	4	2	1
Lesson 4	5	4	2	2	1
Lesson 5	4	3	3	2	1
Lesson 6	5	3	2	2	1

Table 4.6 Frequencies of the Five Key Categories in Each Lesson (Cont.)

Lesson	Class atmosphere	Teaching strategies	Teacher's personality	Teaching material	Facilities
Lesson 7	4	3	2	2	1
Lesson 8	3	4	2	2	1
Lesson 9	5	3	3	2	1
Lesson 10	5	3	2	1	1
Lesson 11	5	3	2	2	1
Lesson 12	2	2	1	1	1
Total	49	36	27	21	12

In summary, the analysis of the observation checklist results indicates that the use of the Problem-based Learning (PBL) approach in English classes contributed to the improvement of students' oral English proficiency. By recording and evaluating the key elements of the teaching process, five main themes were identified: Teaching strategies, Class atmosphere, Teacher ' s personality, Teaching material, and Facilities.

The teaching strategies reflects how the PBL approach is applied in practice and its effectiveness in instruction. Class atmosphere encompasses student participation and interaction, highlighting a positive and supportive learning environment. Teacher's personality illustrates how the teacher's characteristics influence students' learning experiences and classroom interactions. Teaching material evaluates the adaptability of the resources and their support for the learning process. Although teaching facilities were mentioned less frequently, they still indicate the extent to which the physical environment supports the implementation of PBL.

The above results indicate that students generally expressed satisfaction with the use of the Problem-based Learning (PBL) approach in English classes, considering it an effective method for enhancing their oral proficiency.

4.4 Summary

All the data presented in this chapter addressed the study's objectives and effectively validated the research hypotheses. Regarding the improvement in participants' English oral proficiency, the comparison of pre- and post-test data clearly showed that the participants' total scores in the post-test were significantly higher than in the pre-test, indicating substantial progress by the end of the study. This significant improvement suggests that the Problem-based Learning (PBL) approach is highly effective in enhancing participants' English-speaking skills.

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CHAPTER 5

CONCLUSION

This chapter will be divided into three main sections. First, we will present the conclusions of the research findings, which are based on a detailed analysis of the data. Second, we will discuss these findings and provide answers to the research questions. Finally, we will offer specific practical recommendations based on the study's results and suggest possible directions for future research.

5.1 Conclusion

This study employed a mixed-methods approach, integrating both quantitative and qualitative methods. The aim of the research was to explore the impact of using the Problem-Based Learning (PBL) approach on improving the English-speaking skills of Chinese eighth-grade students. A combination of quantitative and qualitative data collection methods was utilized. The research design had two primary objectives:

1) To examine the effects of the Problem-Based Learning approach on improving junior high school Chinese students' English speaking skills.

2) To investigate junior high school Chinese students' learning satisfaction towards the use of the Problem-Based Learning approach.

The answers to these two research questions were revealed through the three tools used in this study: pre- and post-test score results, questionnaire surveys, and classroom observation checklists.

The research results showed that students' English-speaking test scores improved significantly after adopting the PBL teaching approach. Specifically,

the average oral English score increased from 45.25 before the PBL teaching intervention to 64.30 after the teaching cycle. This improvement extended beyond numerical scores, with students demonstrating significant progress in pronunciation, fluency, and critical thinking skills. These findings effectively validated Hypothesis 1.5.1, confirming that the PBL method enhances students' English-speaking skills.

Data collected from the questionnaires showed that students expressed high satisfaction with the PBL teaching method, with an average satisfaction score of 4.63 out of 5. Classroom observation data further highlighted that students particularly valued the opportunities for teamwork and solving real-world problems inherent in the PBL approach. This teaching method not only enhanced their practical language skills but also increased the enjoyment of classroom learning, thereby further supporting Hypothesis 1.5.2.

In summary, these research findings confirmed the accuracy of the hypotheses and clearly demonstrated the effectiveness of the PBL teaching method in improving Chinese middle school students' English-speaking skills and enhancing their satisfaction with the learning process.

This section will summarize the research findings according to each research question as follows:

5.1.1 Responses to Objective 1

This study aimed to explore the effectiveness of the Problem-Based Learning (PBL) approach in improving junior high school students ' English-speaking proficiency. This investigation was based on the analysis of students' test scores before and after the instructional intervention.

The pre- and post-tests consisted of three parts. The first part was a situational dialogue, where students were required to respond in English to the teacher ' s questions. The second part involved describing a picture based on

prompts, with each student having 30 seconds to prepare. The third part required students to deliver an oral narrative on a given topic, with 30 seconds of preparation time and a requirement to produce 5 to 6 sentences. All students' performances were evaluated using a rubric, which assessed their oral expression comprehensively in terms of vocabulary, pronunciation, intonation, and grammar. The findings showed that the PBL approach significantly improved students' English-speaking abilities, particularly in fluency, coherence, vocabulary use, and pronunciation.

A paired-samples T-test was conducted on the pre- and post-test scores of 40 students. The comparison between the pre- and post-test results clearly showed that the post-test mean score was 19.05 points higher than the pre-test score. The paired T-test revealed a significant difference with a p-value of 0.0, indicating that participants could improve their English-speaking skills in the classroom through the use of the PBL approach.

In the final test, the post-test mean score was 64.30, while the pre-test mean score was 45.25, demonstrating a 19.05-point increase, suggesting higher scores after the study. The pre-test S.D. (11.96) was greater than the post-test S.D. (9.07), indicating that the post-test scores were closer to the mean than the pre-test scores. This means that not only did students' scores improve in the post-test, but the variance in their performance also decreased. These statistical results further confirm the effectiveness of the Problem-Based Learning approach in enhancing students' English-speaking proficiency.

5.1.2 Responses to Objective 2

The second objective of this study was to investigate junior high school students' learning satisfaction with the Problem-Based Learning (PBL) approach. The second research question was addressed using data from two other tools—questionnaire surveys and classroom observation checklists.

For the questionnaire survey, the researcher designed a 12-item questionnaire divided into three sections: Course structure and content, Teaching methods and interaction, and Learning environment and resources. The questionnaire was distributed to all 40 students participating in the study.

The analysis revealed the mean scores and standard deviations for each questionnaire item. The highest mean score was 4.74 (SD = 0.450) for opinions on Course structure and content, while the lowest mean score was 4.33 (SD = 0.549) for opinions on Learning environment and resources.

The study showed that Item 4, “I think the PBL teaching method makes English learning more interesting,” was the most satisfactory, with a mean score of 4.83 (SD = 0.446), indicating a very high level of satisfaction. This suggests that students were most satisfied with how the PBL approach enhanced their learning interest. The least satisfactory item was Item 11, “The classroom equipment is in good condition,” with a mean score of 4.30 (SD = 0.648), rated as "high." This indicates that there is room for improvement in classroom equipment. Overall, all items were rated as high quality, demonstrating that students were satisfied with all aspects and that the PBL approach enhanced their English-speaking skills.

The second research objective was further supported by the analysis of the classroom observation checklists. The observation checklists provided detailed records of five problem-based classes, systematically documenting and evaluating key elements of the instructional process. The analysis identified five main themes: Teaching way, Class atmosphere, Teacher’s personality, Teaching material, and Facilities.

The study employed a variety of teaching strategies aimed at promoting students’ active participation and enhancing their enjoyment of the learning process. Before class, the teacher used various activities to help students transition into the learning state and maintain classroom vitality. During class, the

teacher extensively applied interactive formats such as brainstorming and classroom presentations to increase students' engagement and interest. Key stages in the instructional process included previewing, self-study, brainstorming, group collaboration, and classroom presentations, which collectively fostered a positive learning environment. This diversified teaching approach not only made the classes more engaging but also motivated students to participate actively, thereby effectively improving classroom interaction and enhancing students' learning motivation.

Through the observation of key behaviors, we can clearly see the significant changes in students' attitudes and the classroom atmosphere. At the beginning of the class, students remained silent when the teacher announced the class rules. However, as they engaged in various classroom activities, they experienced joy and relaxation. By the final part of the class—the presentation session—students appeared more confident and actively participated in discussions. This process of change indicates that a relaxed and harmonious learning environment had a positive impact on the students, making them more willing to engage in classroom activities, thus fostering a positive atmosphere of active participation. This atmosphere not only enhanced students' learning motivation but also boosted their confidence and expressive abilities.

Regarding the teaching materials, the use of animated clips and word cards to introduce the content helped students immerse themselves in the problem scenarios and better understand key vocabulary and terms. As a result, we observed that these diverse materials significantly stimulated students' interest in learning and enhanced their ability to maintain focus. Students expressed a high level of satisfaction with the materials used. These resources not only enriched the classroom content but also optimized the learning process, thereby improving the overall teaching effectiveness.

Teacher's personality was regarded as a key factor in this study and was frequently mentioned. The teacher demonstrated great patience during classroom

greetings and instructional activities, providing timely positive feedback to help students feel at ease. Furthermore, due to the teacher's active encouragement, even initially shy students gradually became more engaged in classroom presentations. Overall, when the teacher displayed a more approachable personality, students felt more relaxed and comfortable.

In conclusion, it can be stated that students expressed satisfaction with the use of the Problem-Based Learning (PBL) approach in English classes to improve their oral proficiency skills.

5.2 Discussion

In summary, the results from the pre- and post-test scores, questionnaire surveys, and classroom observation checklists were consistent: students' English-speaking skills improved, and they expressed a high level of satisfaction with the use of the Problem-Based Learning (PBL) teaching method in English classes.

5.2.1 Improving English Speaking Skill

Based on the pre- and post-test results, the students' post-test scores were significantly higher than their pre-test scores, indicating that Problem-Based Learning (PBL) has a significant impact on enhancing students' English-speaking skills.

In the study, the PBL approach has been widely demonstrated to effectively improve the language proficiency of foreign language learners, particularly in terms of vocabulary and oral expression. Simbolon, Haryudin, & Efransyah (2019) introduced Project-Based Learning (PBL) to vocational high school students in Indonesia and found that students significantly improved their English-speaking skills through multiple cycles of classroom action research. This suggests that PBL can stimulate students' ability to use vocabulary in

real-world contexts and contribute to enhancing their fluency and accuracy in language expression.

Riswandi (2018) further supports this conclusion through his classroom action research, which found that the Problem-Based Learning (PBL) approach significantly improved students' oral proficiency in middle school English classes. Students demonstrated improvements in fluency, pronunciation, grammar, and comprehension, indicating that the use of problem scenarios effectively promotes vocabulary expansion and overall language proficiency.

Similarly, in a study targeting non-English major university students, We (2020) compared the performance of an experimental group and a control group and found that the PBL approach significantly enhanced students' speaking abilities. The experimental group demonstrated a higher frequency of vocabulary usage, and due to the use of problem scenarios, their engagement and enthusiasm also increased significantly. These problem scenarios helped students use vocabulary in real contexts, thereby strengthening their language application skills and confidence.

Wijnia, Noordzij, Arends, Rikers, & Loyens (2024) conducted a meta-analysis that synthesized the effects of various task-based learning models (such as problem-based learning, project-based learning, and case-based learning) across different educational settings. The study found that these problem-based learning methods effectively enhanced students' learning motivation and language proficiency. Particularly in academic contexts, they boosted students' intrinsic motivation for language learning, leading to a stronger focus on the situational use and practical utility of the language.

In conclusion, these studies indicate that Problem-Based Learning (PBL) can effectively enhance students' language proficiency and learning motivation across various educational contexts. The introduction of problem scenarios and the practical use of vocabulary enable learners to apply the language in real-life

situations, thereby promoting long-term language learning outcomes. This approach significantly contributes to the improvement of students' language abilities and vocabulary expansion while stimulating their awareness of active learning, making language learning more meaningful and practical.

5.2.2 Increasing Students Satisfaction

This study assessed students' satisfaction with Problem-Based Learning (PBL) using questionnaires and classroom observations. The questionnaire was designed based on a Likert scale, where 5 indicated "strongly agree," 4 indicated "agree," 3 indicated "neutral," 2 indicated "disagree," and 1 indicated "strongly disagree." According to Best (1981), respondents' ratings are categorized as follows: Low = 1.50–2.49, Medium = 2.50–3.49, High = 3.50–4.49, and Very High = 4.50–5.00.

The results of the questionnaire survey showed that students accepted the PBL approach and were satisfied with the course structure. Students found that PBL was helpful for their English learning, and the course format was engaging, motivating them to actively participate in class discussions and speak up, which enhanced their confidence in learning spoken English.

Secondly, in classroom observations, the transition from students remaining silent and having minimal interaction to actively participating in class discussions and even correcting other students' mistakes indicates that the use of Problem-Based Learning (PBL) helps create a dynamic learning environment and fosters positive learning attitudes. The analysis of the above data confirms that the target students were highly satisfied with the use of PBL in English classes.

The study demonstrates that incorporating Problem-Based Learning into 8th-grade English classes in public schools in Shijiazhuang is feasible.

5.3 Recommendation

This section outlines how the findings of this study can be applied and provides recommendations for future research.

5.3.1 For the Use of this Study Results in Schools

First, in an English class using the Problem-Based Learning approach, teachers should prioritize building strong relationships with students, adopting a student-centered approach to create a relaxed and harmonious real-world context that facilitates students' engagement in the learning process. When problems are set in authentic scenarios, students naturally become more interested and willing to learn. When designing inquiry-based problems, teachers should take into account students' actual proficiency levels, ensuring that the questions are logically structured and aligned with students' needs. This will help students better understand the learning tasks. When students know what to do and how to do it, their motivation to learn will be significantly enhanced.

Secondly, teachers should also consider students' individual characteristics to form learning groups that reflect real situations, guiding students to actively engage in discussions and exchanges. Understanding each student's traits and assigning them to suitable groups will greatly increase their willingness to participate. Additionally, teachers should provide objective and fair feedback based on students' classroom performance, encouraging them to continuously improve. Students place great value on teachers' evaluations, which can have a strong positive impact on their subsequent performance.

Finally, the research findings indicate that the Problem-Based Learning (PBL) approach significantly enhances students' English-speaking skills and effectively stimulates their enthusiasm for learning English. However, PBL requires cooperative learning within groups and competitive learning between groups. Teachers should continuously strengthen students' sense of cooperation and collective honor to foster a positive learning environment characterized by

both group collaboration and healthy competition within the class. This will further enhance the effectiveness of PBL in English classrooms.

In English classes using the Problem-Based Learning (PBL) approach, this method transforms the previously monotonous and rigid learning model, energizing the classroom atmosphere and representing an innovative approach to English instruction. While acquiring knowledge, students also develop a sense of cooperation and improve their academic performance. PBL has demonstrated significant advantages in junior high school English teaching and is worth promoting and applying more widely to achieve even better educational outcomes.

5.3.2 For Future Research

Based on the results and findings of this study, the research provides valuable references and guidance for future studies. In light of these results, we offer the following recommendations for further research:

1) Future research should use Problem-Based Learning (PBL) to teach students in different subjects.

2) Future studies should select cities and schools with varying educational levels to expand the research scope and strictly control experimental conditions.

3) Future research should focus on long-term practical studies and continuous refinement to enhance the practicality and scientific rigor of the approach.

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มหาวิทยาลัยรังสิต Rangsit University

APPENDICES

มหาวิทยาลัยรังสิต Rangsit University

APPENDIX A

A PERMISSION TO CONDUCT STUDY

มหาวิทยาลัยรังสิต Rangsit University

COA. No. RSUERB2024-144

Certificate of Approval
By
Ethics Review Board of Rangsit University

COA. No.	COA. No. RSUERB2024-144
Protocol Title	The Effects of Problem-based Learning Approach on Junior High School Chinese Students' English Speaking Skill
Principle Investigator	Yanru Gao
Co-Investigator	Associate Professor Dr.Anchalee Chayanuvat
Affiliation	Suryadhep Teachers College, Rangsit University
How to review	Expedited Review
Approval includes	1. Project proposal 2. Information sheet 3. Informed consent form 4. Data collection form/Program or Activity plan

Date of Approval: 22 August 2024 Date of Expiration: 22 August 2026

Date of Renewal: within 22 July 2026

The prior mentioned documents have been reviewed and approved by Ethics Review Board of Rangsit University based Declaration of Helsinki, The Belmont Report, CIOMS Guideline and International Conference on Harmonization in Good Clinical Practice or ICH-GCP

RSU-ERB 22 AUG 2024

Signature.....

(Associate Professor Dr. Panan Kanchanaphum)
Chairman, Ethics Review Board for Human Research

Ethics Review Board of Rangsit University, 5th floor, Arthit Ourairat Building (Bldg.1) Rangsit University
Tel. 0-2791-5728 Email: rsuethics@rsu.ac.th

มหาวิทยาลัยรังสิต Rangsit University

APPENDIX B

LETTERS OF INVITATION FOR THREE IOC EXPERTS

มหาวิทยาลัยรังสิต Rangsit University

RSU มหาวิทยาลัยรังสิต
RANGSIT UNIVERSITY

มหาวิทยาลัยรังสิต Rangsit University T. (66) 2997 2200-30
เมืองเอก ถ.พหลโยธิน Muang-Ake, Paholyothin Rd. F. (66) 2791 5757
จ.ปทุมธานี 12000 Pathumthani 12000, Thailand E. info@rsu.ac.th

STC.4800/0214

11 September 2024

Subject: Invitation to be our IOC (Item Objective Congruence) expert

Dear Assistant Professor Dr. Pairin Srisinthorn,

Miss Yanru Gao student number 6509290, a student in the Master of Education (Bilingual Education) who has already completed her coursework and thesis proposal defense on 28 June 2024. Her research is entitled "Effect Problem-based Learning Approach Junior High School Chinese Students English Speaking Skills". Currently, she is in the stage of collecting and analyzing data Asst. Prof. Dr. Anchalee Chayanuvat is her advisor.

Miss Yanru Gao has finished designing her research instruments. Thus, the college would like to invite you to validate these instruments. The package has been attached herewith.

I truly appreciate your kind support in this matter and hope that you will accept my invitation.

Sincerely yours,

Anchalee Chayanuvat

Assistant Professor Anchalee Chayanuvat, Ed.D.
Program Director of Bilingual Education
Suryadhep Teachers College
Rangsit University

มหาวิทยาลัยรังสิต Rangsit University

มหาวิทยาลัยรังสิต
RANGSIT UNIVERSITY

มหาวิทยาลัยรังสิต Rangsit University T. (66) 2997 2200-30
เมืองเอก ถ.พหลโยธิน Muang-Ake, Paholyothin Rd. F. (66) 2791 5757
จ.ปทุมธานี 12000 Pathumthani 12000, Thailand E. info@rsu.ac.th

STC.4800/0215

11 September 2024

Subject: Invitation to be our IOC (Item Objective Congruence) expert

Dear Assistant Professor Dr. Pawares Funoi,

Miss Yanru Gao student number 6509290, a student in the Master of Education (Bilingual Education) who has already completed her coursework and thesis proposal defense on 28 June 2024. Her research is entitled "Using Problem-Based Learning in Junior High School English Courses to Improve English Reading Skills of Chinese Students". Currently, she is in the stage of collecting and analyzing data Asst. Prof. Dr. Anchalee Chayanuvat is her advisor.

Miss Yanru Gao has finished designing her research instruments. Thus, the college would like to invite you to validate these instruments. The package has been attached herewith.

I truly appreciate your kind support in this matter and hope that you will accept my invitation.

Sincerely yours,

Anchalee Chayanuvat

Assistant Professor Anchalee Chayanuvat, Ed.D.
Program Director of Bilingual Education
Suryadhep Teachers College
Rangsit University

มหาวิทยาลัยรังสิต Rangsit University

RSU มหาวิทยาลัยรังสิต
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STC.4800/0216

11 September 2024

Subject: Invitation to be our IOC (Item Objective Congruence) expert

Dear Dr. Mongkol Sodachan,

Miss Yanru Gao student number 6509290, a student in the Master of Education (Bilingual Education) who has already completed her coursework and thesis proposal defense on 28 June 2024. Her research is entitled "Using Problem-Based Learning in Junior High School English Courses to Improve English Reading Skills of Chinese Students". Currently, she is in the stage of collecting and analyzing data Asst. Prof. Dr. Anchalee Chayanuvat is her advisor.

Miss Yanru Gao has finished designing her research instruments. Thus, the college would like to invite you to validate these instruments. The package has been attached herewith.

I truly appreciate your kind support in this matter and hope that you will accept my invitation.

Sincerely yours,

Anchalee Chayanuvat

Assistant Professor Anchalee Chayanuvat, Ed.D.
Program Director of Bilingual Education
Suryadhep Teachers College
Rangsit University

มหาวิทยาลัยรังสิต Rangsit University

APPENDIX C
PRE-POST TEST

มหาวิทยาลัยรังสิต Rangsit University

Grade 8 English Pre-Test

Student ID_____ Grade _____

The test consists of three parts: the first part is a situational dialogue, which requires students to communicate in English after the teacher asks questions. The second part is to describe the picture based on the prompt words, with 30 seconds of preparation time. The third part is to narrate based on the topic, and use the given topic to speak 5-6 sentences, with 30 seconds for preparation.

1. Situational dialogue: Please have a conversation in English according to the given prompts. 30 points in total.（情景对话，请根据所给提示用英语进行交谈）

Problem 1: What's your name?

S:_____

Problem 2: Do you like traveling?

S:_____

Problem 3: Which country do you like best?

S: _____

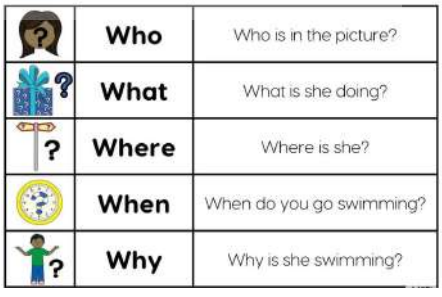
Problem 4： What color do you like best?

S: _____

Problem 5: Do you have any brothers or sisters?

S: _____

2.Please describe the following pictures according to the prompts.（请根据提示词描述下列图片。）



3.Narrate according to the topic. Please use the given topic to make 5-6 sentences, 40 points in total.（根据话题进行叙述，请用所给题目讲 5-6 句话，共 40 分）

Please describe a travel experience.

Grade 8 English Post-Test

Student ID_____ Grade _____

The test consists of three parts: the first part is a situational dialogue, which requires students to communicate in English after the teacher asks questions. The second part is to describe the picture based on the prompt words, with 30 seconds of preparation time. The third part is to narrate based on the topic, and use the given topic to speak 5-6 sentences, with 30 seconds for preparation.

1. Situational dialogue: Please have a conversation in English according to the given prompts. 30 points in total.（情景对话，请根据所给提示用英语进行交谈）

Problem 1: How old are you?

S:_____

Problem 2: When is your birthday?

S:_____

Problem 3: How many people in your family?

S:_____

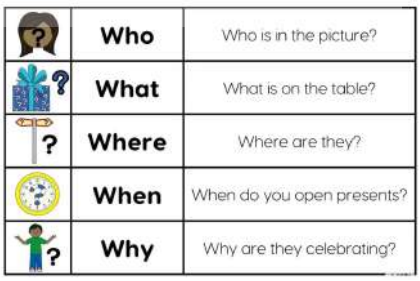
Problem 4: What kind of sports do you like best? Why?

S: _____

Problem 5: What's your favorite subject at school? Why?

S: _____

2.Please describe the following pictures according to the prompts.（请根据提示词描述下列图片。）



3.Narrate according to the topic. Please use the given topic to make 5-6 sentences, 40 points in total.（根据话题进行叙述，请用所给题目讲 5-6 句话，共 40 分）

Please introduce your talent.

APPENDIX D

IOC FOR THE PRE-POST TEST

มหาวิทยาลัยรังสิต Rangsit University

Experts Assessments of IOC Pre-test

NO.	Questions for English Pre-Test	Experts 1	Experts 2	Experts 3	IOC
Part 1: Situational dialogue: Please have a conversation in English according to the given prompts. 30 points in total.					
1	Problem 1: What's your name? S:_____	+1	+1	+1	1
2	Problem 2: Do you like traveling? S:_____	+1	+1	+1	1
3	Problem 3: Which country do you like best? S: _____	+1	+1	+1	1
4	Problem 4：What color do you like best? S: _____	+1	+1	+1	1
5	Problem 5: Do you have any brothers or sisters? S: _____	+1	+1	+1	1
Part 2: Please describe the following pictures according to the prompts.					
6		+1	+1	+1	1
Part 3: Narrate according to the topic. Please use the given topic to make 5-6 sentences, 40 points in total.					
7	Please describe a travel experience.	+1	+1	0	0.67
IOC		0.953			

Experts Assessments of IOC Post-test

NO.	**Questions for English Pre-Test**	**Experts 1**	**Experts 2**	**Experts 3**	**IOC**
Part 1: Situational dialogue: Please have a conversation in English according to the given prompts. 30 points in total.					
1	Problem 1: How old are you? S:_____	+1	+1	+1	1
2	Problem 2: When is your birthday? S:_____	+1	+1	+1	1
3	Problem 3: How many people in your family? S:_____	+1	+1	+1	1
4	Problem 4: What kind of sports do you like best? Why? S: _____	+1	+1	+1	1
5	Problem 5: What's your favorite subject at school? Why? S: _____	+1	+1	+1	1
Part 2: Please describe the following pictures according to the prompts.					
6	 	+1	+1	+1	1
Part 3: Narrate according to the topic. Please use the given topic to make 5-6 sentences, 40 points in total.					
7	Please introduce your talent.	+1	+1	+1	1
IOC		1			

มหาวิทยาลัยรังสิต Rangsit University

APPENDIX E

IOC FOR THE QUESTIONNAIRE

มหาวิทยาลัยรังสิต Rangsit University

Experts Assessments of IOC Questionnaire

No.	Questionnaire	Experts 1	Experts 2	Experts 3	IOC
1	The course is well-prepared and well-organized. (本课程准备充分组织很好。) Strong Agree=5 Agree=4 Neutral=3 Disagree=2 Strongly disagree=1	0	+1	+1	0.67
2	The course encourages open-ended questions and discussions. (本课程开放式提问和讨论。) Strong Agree=5 Agree=4 Neutral=3 Disagree=2 Strongly disagree=1	+1	+1	0	0.67
3	I think PBL teaching method makes English learning more interesting. （我认为 PBL 教学方法让英语学习更加有趣。) Strong Agree=5 Agree=4 Neutral=3 Disagree=2 Strongly disagree=1	+1	0	+1	0.67

No.	Questionnaire	Experts 1	Experts 2	Experts 3	IOC
4	This teaching method helped me improve my English speaking skills. （这种教学方法帮助我提高了英语口语能力。） Strong Agree=5 Agree=4 Neutral=3 Disagree=2 Strongly disagree=1	+1	+1	+1	1
5	I think I can better understand and use English by solving practical problems.（我觉得通过解决实际问题可以更好地理解和运用英语。） Strong Agree=5 Agree=4 Neutral=3 Disagree=2 Strongly disagree=1	+1	0	+1	0.67
6	Teachers use reasonable, useful and fair assessment methods. (老师采用合理、有用、公平的评估方法。) Strong Agree=5 Agree=4 Neutral=3	+1	+1	+1	1

มหาวิทยาลัยรังสิต Rangsit University

No.	Questionnaire	Experts 1	Experts 2	Experts 3	IOC
	Disagree=2 Strongly disagree=1				
7	The teacher respects all students. (老师尊重所有学生。) Strong Agree=5 Agree=4 Neutral=3 Disagree=2 Strongly disagree=1	0	+1	+1	0.67
8	I like the way of working in groups to solve problems. （我喜欢小组合作解决问题的方式。 Strong Agree=5 Agree=4 Neutral=3 Disagree=2 Strongly disagree=1	+1	+1	+1	1
9	The course is easy to understand and helpful to me. (本课程容易接受并且对我有帮助。) Strong Agree=5 Agree=4 Neutral=3 Disagree=2 Strongly disagree=1	+1	+1	+1	1

มหาวิทยาลัยรังสิต Rangsit University

No.	Questionnaire	Experts 1	Experts 2	Experts 3	IOC
10	In class, I can actively participate in learning activities.（在课堂上，我能积极参与到学习活动中。） Strong Agree=5 Agree=4 Neutral=3 Disagree=2 Strongly disagree=1	+1	+1	+1	1
11	The classroom equipment is in good condition.(教室设备状态良好。) Strong Agree=5 Agree=4 Neutral=3 Disagree=2 Strongly disagree=1	+1	+1	0	0.67
12	I am satisfied with the physical environment of the classroom. (我对班级的物理环境感到满意。) Strong Agree=5 Agree=4 Neutral=3 Disagree=2 Strongly disagree=1	+1	0	+1	0.67
IOC		0.8075			

APPENDIX F

IOC FOR THE OBSERVATION CHECKLIST

Experts Assessments of IOC Observation Checklist

Observation Object	**Record Examples**	**Experts 1**	**Experts 2**	**Experts 3**	**IOC**
Teachers (teaching, behavior)	Teachers give students verbal encouragement to motivate them to speak in class	+1	+1	+1	1
	The teacher guides students to answer questions and explains them carefully.	+1	+1	+1	1
Students (performanc e, emotions)	Students think about problems and participate in collaborative learning	+1	+1	+1	1
	Students actively speak and reflect	+1	+1	+1	1
Teaching materials	Students can understand words and sentences	+1	+1	+1	1
	Teaching materials are diverse, with pictures and text	+1	+1	+1	1
Environment	No one is doing anything else, everyone is participating in the English class	+1	0	+1	0.67
	The classroom is clean and tidy, in line with the teaching design	+1	0	+1	0.67
Facilities	This class has whiteboards, markers, multimedia, etc.	+1	+1	+1	1
	There is Internet for learning and teaching	+1	+1	0	0.67
IOC	0.901				

มหาวิทยาลัยรังสิต Rangsit University

APPENDIX G
LESSON PLANS

มหาวิทยาลัยรังสิต Rangsit University

Lesson Plan

English Learning Book 1 for Grade 8

Problem-based Learning (PBL)

มหาวิทยาลัยรังสิต Rangsit University

Shijiazhuang City Public School Grade 8 English July 2024

About the Course

Introduction about Problem-based learning

Problem-based learning (PBL) is a student-centered pedagogy in which students learn about a subject through the experience of solving an open-ended problem found in trigger material. The PBL process does not focus on problem solving with a defined solution, but it allows for the development of other desirable skills and attributes. This includes knowledge acquisition, enhanced group collaboration and communication.

The PBL process was developed for medical education and has since been broadened in applications for other programs of learning. The process allows for learners to develop skills used for their future practice. It enhances critical appraisal, literature retrieval and encourages ongoing learning within a team environment. In its essence, PBL involves seven steps that you follow in groups of 10 to 20 stud ents.The seven steps are:

1. Clarify unfamiliar terms and make sure everyone understands the problem.
2. identify the questions that need to be answered to shed light on the case (problem definition)
3. brainstorm what the group already knows and identify potential solutions (brainstorm)
4. analyze and structure the results of the brainstorming session (analyze the problem)
5. formulate learning objectives for the knowledge that is still lacking (formulate learning issue)
6. do independent study, individually or in smaller groups: read articles or books, follow practicals or attend lectures to gain the required knowledge(self-directed learning)
7. discuss the findings(report to the class)

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Advantages of problem-based learning include:

• Encourages higher order critical thinking.

• Learning is relevant to the real world.

• Increases motivation to learn in order to arrive at a solution.

• Provides additional opportunities for students to work collaboratively and practice communication and social skills.

• Learning is student-centered. The instructor acts as a facilitator or learning coach.

• Students learn how to learn.

Course title:	Grade 8 Comprehensive English
Course Number:	ENG-8
Students:	8st year,
Number of Groups:	1 group
Course Coordinator:	Mr Yanru Gao

Course Description

The design goal of this secondary school basic English course is to comprehensively improve students' oral skills. The course features targeted selection of specific subject materials and the use of real-life scenario simulations and training to strengthen students' English skills.

In this study, the 7-week English course design aims to improve students' English language skills by implementing a problem-based learning (PBL) approach. Each class is 45 minutes long, with a total of 12 classes. Students have 5 problems, each lasting 2 weeks. In the first week, they will identify unfamiliar terms in the problem, define the problem, brainstorm, analyze the problem, and formulate the problem. Students will self-study the problem after class and return to class in the second week for students to report.

Rationale

Secondary school students should engage in learning that aligns with contemporary educational principles, especially courses designed to enhance English skills and critical thinking. These skills are essential for mastering English, particularly in the 21st-century educational environment, where teaching and learning methods have undergone significant changes. Therefore, developing these abilities in students is crucial for their future academic and personal endeavors, enabling them to use English proficiently.

This course will be completed over seven weeks, with one session per week, each lasting 45 minutes. The course employs a Problem-Based Learning (PBL) approach and covers five main themes, each lasting one week: daily life, nature, habits, science, and entertainment. These themes are selected from the first volume of the "Grade 8 English" textbook published by the People's Education Press. This teaching method not only promotes students' ability to use English in real-life scenarios but also strengthens their problem-solving and critical thinking skills.

Learning Objectives and Goals

1) Language skills improvement: Enhance students' ability in the four basic English skills of listening, speaking, reading and writing.

2) Critical thinking skills training: Develop students' critical thinking skills to enable them to analyze and evaluate different types of information and opinions.

3) Enhance English confidence: Improve students' confidence and ability to use English in practice by simulating real-world communication situations.

4) Self-driven learning: Encourage students to seek resources and solutions independently during the learning process, and enhance their ability to learn independently and throughout life.

The Teaching and the Learning Process

PBL method is the main teaching and learning technique. Teachers act more as facilitators with students using English in class as much as possible. Lifelong learning and self-directed learning are encouraged.

Content

Lesson	Date	Activities
	3/Sep/2024	Pre-test
Lesson 1	6/Sep/2024	Introduce PBL steps Lecture 1:Introduce PBL 7 steps
Lesson 2	10/Sep/2024	PBL steps 1-5 Problem 1:A Sunny Adventure in Penang
Lesson 3	13/Sep/2024	PBL step 7 Reporting Problem1:A Sunny Adventure in Penang Homework 1: Reflection
Lesson 4	16/Sep/2024	PBL steps 1-5 Problem 2:Healthy Life
Lesson 5	20/Sep/2024	PBL step 7 Reporting Problem2:Healthy Life Homework 2: Reflection
Lesson 6	23/Sep/2024	PBL steps 1-5 Problem 3:I'm more outgoing than my sister
Lesson7	27/Sep/2024	PBL step 7 Reporting Problem3:I'm more outgoing than my sister Homework 3: Reflection
Lesson 8	30/Sep/2024	PBL steps 1-5 Problem 4:Spotlight on Talent
Lesson 9	4/Oct/2024	PBL step 7 Reporting Reporting :Problem4:Spotlight on Talent Homework 4: Reflection
Lesson 10	4/Oct/2024	PBL steps 1-5 Problem 5: Mickey Mouse
Lesson 11	11/Oct/2024	PBL step 7 Reporting Reporting :Problem5: Mickey Mouse Homework 5: Reflection
Lesson 12	14/Oct/2024	Seminar on PBL Lecture 2: Summary & Reflection on PBL
	18/Oct/2024	Post-test

Measures of Achievement

1..Product Evaluation 55 points

1.1 Individual and Reports/ Homework Assignments 55 points

2.Process Evaluation 45 points

2.1 Student skill evaluation by group facilitators 15 points

2.2 Group process evaluation by group facilitators 15 points

2.3 Peer evaluation 15 points

TOTAL 100 points

Homework Rules

● Late homework will not be accepted.

● Submit homework to the teacher.

● After receiving your homework back, make corrections to improve your English skills, but resubmissions will not be graded.

Part A: Facilitator Evaluation, Group Process and Peer Evaluation

Problem	Facilitator Evaluation	Group Process	Peer Evaluation	
Problem 1:	3	3	3	
Problem 2:	3	3	3	
Problem 3:	3	3	3	
Problem 4:	3	3	3	
Problem 5:	3	3	3	
Total				45 Points

Part B: Presentation/ Reflection/ Writing Assignment

Assignments	Points
Problem 1:Presentation	15
Problem 2:Reflection	6
Problem 3:Essay writing on friendship.	13
Problem 4:Reflection	6
Problem 5:Presentation	15
Total	55 Points

Lecture 1: Greeting & Introduce PBL			
Background information	**Teaching material:** English textbooks of People's Education Edition **Students:** Grade 8 **Lesson duration:** 45mins **Number of Groups：** 5 (about 8 students per group) **Time:**3/Sep/2024		
Teaching objectives	(1) Knowledge objectives: Understand problem-based learning. (2) Skill objectives: Collaborate with classmates on a topic by using PBL.		
Teaching method	Problem-based learning method.		
Teaching aid	Multimedia, blackboard.		
Teaching procedures:Step one: Clarify Terms and Concepts. **Step two:**Clarify Terms and Concepts. **Step three:** Brainstorm Possible Solutions. **Step four:** Organize Ideas and Formulate Learning Objectives. **Step five:** Self-Directed Learning. **Step six:** Reconvene and Share Findings. **Step seven:** Apply Knowledge and Reflect.			
Stages/ Activity	**Objective Purpose(s)**	**Inter-Action**	**Procedure**
Greeting & lead in	Active classroom, familiar with students	T-Ss	1) Introduce the teacher 2) Introduce the students
Watching Video	1) Let students relax. 2) Create a good atmosphere for learning.	T-Ss	1) Play the video. 2) Ask questions about the video.
Teacher's Presentation about PBL	Let students understand PBL.	T-Ss	Introducing the 7 steps of PBL.
Student's Presentation about PBL	Cultivate students' cooperative learning ability and verify whether students have mastered the PBL steps	Ss-T	Ask Students to learn by PBL using sample problem.

<table>
<tr><th colspan="4">Lecture 2: Reflection about PBL</th></tr>
<tr><td>Background information</td><td colspan="3">Teaching material: English textbooks of People's Education Edition
Students: Grade 8
Lesson duration: 45mins
Number of Groups： 5 (about 8 students per group)
Time:14/Oct/2024</td></tr>
<tr><td>Teaching objectives</td><td colspan="3">1) Knowledge objectives: give your opinion on problem-based learning.
2) Skill objectives: show your reflection on PBL.</td></tr>
<tr><td>Teaching method</td><td colspan="3">Problem-based learning method.</td></tr>
<tr><td>Teaching aid</td><td colspan="3">Multimedia, blackboard.</td></tr>
<tr><td colspan="4">Teaching procedures:Step one: Clarify Terms and Concepts.
Step two:Clarify Terms and Concepts.
Step three: Brainstorm Possible Solutions.
Step four: Organize Ideas and Formulate Learning Objectives.
Step five: Self-Directed Learning.
Step six: Reconvene and Share Findings.
Step seven: Apply Knowledge and Reflect.</td></tr>
<tr><td>Stages/ Activity</td><td>Objective Purpose(s)</td><td>Inter-Action</td><td>Procedure</td></tr>
<tr><td>Greeting & lead in</td><td>Active classroom, guide topics and stimulate students' thinking.</td><td>T-Ss</td><td>1) Use two pictures to compare different learning styles in the classroom.
2) Ask students to reflect on using PBL.</td></tr>
<tr><td>Writing and feedback</td><td>Write their own reflections on PBL.</td><td>Ss-T</td><td>Ask students to write reflections.</td></tr>
<tr><td>Student’s Reflection presenting</td><td>Explain what they learned.</td><td>T-Ss</td><td>Students work in groups to present their reflections on PBL.</td></tr>
<tr><td>Summary</td><td>Summarize all things about PBL.</td><td>T-Ss</td><td>The teacher summarized all the contents of PBL and praised the students who were able to persist in learning.</td></tr>
</table>

Sample problem

A Sunny Adventure in Penang

I arrived in Penang in Malaysia this morning with my family. It was sunny and hot, so we decided to go to the beach near our hotel. My sister and I tried paragliding. I felt like I was a bird. It was so exciting! For lunch, we had something very special —Malaysian yellow noodles. - They were delicious! In the afternoon, we rode bicycles to Georgetown. - There are a lot of new buildings now, but many of the old buildings are still there. In Weld Quay, a really old place in Georgetown, we saw the houses of the Chinese traders on 100 years ago. I wonder what life was like here in the past. I really enjoyed walking around the town.


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Healthy Life

Last month we asked our students about their free time activities. Our questions were about exercise, use of the Internet and watching TV. Here are the results.

We found that only fifteen percent of our students exercise every day. Forty-five percent exercise our to six times a week. Twenty percent exercise only one to three times a week. And twenty percent do not exercise at all!

We all know that many students o- en go online, but we were surprised that ninety percent of them use the Internet every day. The other ten percent use it at least three or four times a week. Most students use it for fun and not for homework.

The answers to our questions about watching television were also interesting. Only two percent of the students watch TV one to three times a week. Thirteen percent watch TV four to six times a week. And eighty- five percent watch TV every day! Although many students like to watch sports, game shows are the most popular.

It is good to relax by using the Internet or watching game shows, but we think the best way to relax is through exercise. It is healthy for the mind and the body. Exercise such as playing sports is fun, and you can spend time with your friends and family as you play together. And remember, “Old habits die hard.” So start exercising before it’s too late!

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I’ m more outgoing than my sister

My mother told me a good friend is like a mirror. I’m quieter and more serious than most kids. That’s why I like reading books and I study harder in class. My best friend Yuan Li is quiet too, so we enjoy studying together. I’m shy so it’s not easy for me to make friends. But I think friends are like books — you don’t need a lot of them as long as they’re good.

It’s not necessary to be the same. My best friend Larry is quite different from me. He is taller and more outgoing than me. We both like sports, but he plays tennis better, so he always wins. However, Larry often helps to bring out the best in me. So I’m getting better at tennis. Larry is much less hard-working, though. I always get better grades than he does, so maybe I should help him more.

I don’t really care if my friends are the same as me or different. My favorite saying is, “A true friend reaches for your hand and touches your heart.” My best friend Carol is really kind and very funny. In fact, she’s funnier than anyone I know. I broke my arm last year but she made me laugh and feel better. We can talk about and share everything. I know she cares about me because she’s always there to listen.

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Spotlight on Talent

Everyone is good at something, but some people are truly talented. It ' s always interesting to watch other people show their talents.Talent shows are getting more and more popular. First, there were shows like American Idol and America ' s Got Talent. Now, there are similar shows around the world, such as China ' s Got Talent.All these shows have one thing in common: They try to look for the best singers, the most talented dancers, the most exciting magicians, the funniest actors and so on. All kinds of people join these shows. But who can play the piano the best or sing the most beautifully? That ' s up to you to decide. When people watch the show, they usually play a role in deciding the winner. And the winner always gets a very good prize. However, not everybody enjoys watching these shows. Some think that the lives of the performers are made up. For example, some people say they are poor farmers, but in fact they are just actors. However, if you don ' t take these shows too seriously, they are fun to watch. And one great thing about them is that they give people a way to make their dreams come true.

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Mickey Mouse

When people say “culture”, we think of art and history. But one very famous symbol in American culture is a cartoon. We all know and love the black mouse with two large round ears — Mickey Mouse. Over 80 years ago, he first appeared in the cartoon Steamboat Willie. When this cartoon came out in New York on November 18, 1928, it was the first cartoon with sound and music. Th e man behind Mickey was Walt Disney. He became very rich and successful. In the 1930s, he made 87 cartoons with Mickey.

Some people might ask how this cartoon animal became so popular.

One of the main reasons is that Mickey was like a common man, but he always tried to face any danger. In his early films, Mickey was unlucky and had many problems such as losing his house or girlfriend, Minnie. However, he was always ready to try his best.People went to the cinema to see the “little man” win. Most of them wanted to be like Mickey.

On November 18, 1978, Mickey became the first cartoon character to have a star on the Hollywood Walk of Fame. Today’s cartoons are usually not so simple as little Mickey Mouse, but everyone still knows and loves him. Who has a pair of ears more famous than Mickey’s?

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APPENDIX H

IOC FORN THE LESSON PLANS

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Experts Assessments of IOC Lesson Plans

Problem	Experts 1	Experts 2	Experts 3	IOC
1	+1	+1	+1	1
2	+1	0	+1	0.67
3	+1	+1	+1	1
4	0	+1	+1	0.67
5	+1	+1	0	0.67
IOC	0.802			

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APPENDIX I

PRE- AND POST-TEST SCORES

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The Scores of The Pre Test in English Speaking				
Student	Part 1	Part 2	Part 3	Total score
1	12	15	20	47
2	10	12	15	37
3	15	18	25	58
4	17	18	18	53
5	22	20	16	58
6	10	14	13	37
7	5	8	9	22
8	25	20	22	67
9	17	19	21	57
10	16	17	18	51
11	15	12	17	44
12	19	18	15	52
13	12	15	18	45
14	21	18	20	59
15	15	13	15	43
16	13	10	12	35
17	6	5	9	20
18	15	17	13	45
19	16	19	15	50
20	17	18	18	53
21	12	13	12	37
22	10	14	15	39
23	9	8	6	23
24	19	17	22	58
25	22	20	18	60
26	20	18	21	59
27	12	15	16	43
28	16	17	13	46
29	15	16	15	46

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30	10	12	16	38
31	5	8	6	19
32	14	12	15	41
33	12	15	13	40
34	11	14	12	37
35	10	9	10	29
36	17	19	17	53
37	16	15	18	49
38	12	15	14	41
39	17	21	20	58
40	18	21	22	61

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The Scores of The Post Test in English Speaking				
Student	Part 1	Part 2	Part 3	Total score
1	20	17	28	65
2	18	18	22	58
3	21	21	32	74
4	22	22	27	71
5	25	24	28	77
6	18	19	19	56
7	15	16	17	48
8	24	28	30	82
9	21	25	26	72
10	20	26	25	71
11	22	20	23	65
12	23	26	22	71
13	18	22	27	67
14	23	26	25	74
15	20	21	23	64
16	18	19	20	57
17	17	18	16	51
18	19	23	21	63
19	21	25	23	69
20	18	24	27	69
21	15	20	20	55
22	16	22	23	61
23	13	18	15	46
24	21	25	28	74
25	23	27	25	75
26	22	22	26	70
27	18	19	25	62
28	19	23	20	62
29	17	21	22	60

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30	15	22	23	60
31	12	20	15	47
32	19	19	24	62
33	17	21	21	59
34	16	22	17	55
35	18	17	15	50
36	20	23	26	69
37	19	21	27	67
38	17	23	21	61
39	21	27	26	74
40	24	25	30	79

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Comparison of pre- and post-test scores			
Student	Pre test	Post test	Difference
1	47	65	18
2	37	58	21
3	58	74	16
4	53	71	18
5	58	77	19
6	37	56	19
7	22	48	26
8	67	82	15
9	57	72	15
10	51	71	20
11	44	65	21
12	52	71	19
13	45	67	22
14	59	74	15
15	43	64	21
16	35	57	22
17	20	51	31
18	45	63	18
19	50	69	19
20	53	69	16
21	37	55	18
22	39	61	22
23	23	46	23
24	58	74	16
25	60	75	15
26	59	70	11
27	43	62	19
28	46	62	16

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29	46	60	14
30	38	60	22
31	19	47	28
32	41	62	21
33	40	59	19
34	37	55	18
35	29	50	21
36	53	69	16
37	49	67	18
38	41	61	20
39	58	74	16
40	61	79	18

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APPENDIX J
EVALUATION FORM

Evaluation Form of the Group

Course:_____ Group:__ _____ Date:___/____/_____

Problem_____

Name of the Facilitator:_____ ____ _____

Topic of Evaluation	1	2	3	4
Process	Boring -No one talked -Very quite	Little opinion sharing	More discussion but still little	Very active friendly atmosphere
Working in group and management	No preparation and little commitment	Not enough preparation	Sharing ideas	Sharing ideas -Good discussion and communicative well
Steps and the thinking process	No reasons to support ideas	Little effort to support are one another but little	Supporting one another quite good	-Full participation -Good brainstorming -Good discussion
Overall	To be improved	Fair	Good	Very good

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Peer Evaluation Form

Subject/course :_____ Group _____

Lecturer's name:_____ Date:___/___/_____

Write 1,2,3 or 4 based on your evaluation:

1: To be improved 2: Fair 3: Good 4:Very Good

Student Name：	1	2	3	4
Effort and attention in information search for the group				
Listen to peer's opinion and let them express opinion				
The use of English in explaining and convey the ideas				
Punctuality				
Overall picture of the appropriate roles of all in the group				

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Individual Evaluation Form

Course:_____ Name:_____ Date:___/____/_____

Problem_____

Topic of Evaluation	1	2	3	4
PBL skills	Not understanding	Little understanding	Fair	Full understanding
Group skills and participation	-Not paying attention -quiet	Little attention	Good cooperation with peers	-Very active -attentive -supporting others well
Communication skills	Quiet	Little talk	Talk but cannot explain passive concept	-Good proceeding -explain direct to the passive concept
Preparation and SD	Little/ no preparation	Little information	Well-prepared but cannot synthesige information	-Good preparation - Good synthesis of the problem
Overall	To be improved	Fair	Good	Very good

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Individual Student Evaluation Form

Facilitator:_____ Course :_____

Group _____ Date:___/___/_____

Write down 1,2,3 or 4 based on your evaluation:

1: To be improved 2: Fair 3: Good 4:Very Good

Student Name:	1	2	3	4
PBL Learning Skills				
Group Process and Participation				
Preparation and Selfdirected learning				
Communicative Skill				
Overall				
Additional comments				

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BIOGRAPHY

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