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Experiences of Chinese Teachers Teaching English at High Schools in Their Project-based Learning Practice: A Grounded Theory Approach

JianJiao Wei[1] and Anchalee Chayanuvat[2]
[1, 2]Suryadhep Teachers College, Rangsit University, Thailand
E-mail: weijianjiao585@gmail.com, ORCID ID: https://orcid.org/0009-0003-5194-5450
E-mail: anchalee.c@rsu.ac.th, ORCID ID: https://orcid.org/0000-0002-4973-0835

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Abstract

Background and Aim: Traditional teacher-centered methods in Chinese education limit student engagement, prompting a shift toward student-centered approaches like project-based learning (PBL); this study explores high school English teachers' perceptions, challenges, and benefits of PBL implementation.

Materials and Methods: Semi-structured interviews with 12 English teachers in Nanning were analyzed using grounded theory coding (open, axial, selective) to identify themes on PBL experiences.

Results: Teachers acknowledged PBL's effectiveness in enhancing language skills and critical thinking but faced challenges like time management, assessment complexity, and resistance from traditional educational norms.

Conclusion: While PBL offers significant pedagogical benefits, successful implementation in China requires institutional support, teacher training, and cultural adaptation to overcome systemic and attitudinal barriers.

Keywords: Project-based Learning; Chinese High School English Teachers; Experiences; The Grounded Theory

Introduction

In Chinese tradition, respect for teachers has fostered a teacher-centered classroom environment, where teachers hold authority and students passively receive knowledge. This has entrenched "lecture-based learning" (LBL) as the dominant teaching method in China (Hu et al., 2020). However, LBL is often criticized for being passive, boring, and ineffective, leading to student disengagement, one-way communication, and limited retention of material (Yadgarinia et al., 2002). With China's rapid socio-economic development, the traditional LBL approach has struggled to meet modern educational needs, prompting a shift toward student-centered teaching (Hu et al., 2020).

Project-based learning (PBL), a student-centered pedagogy, has emerged as a promising alternative. PBL engages students in solving real-world problems, fostering deeper knowledge, critical thinking, and collaboration (Tenison, 2023; Zhang et al., 2023). It also enhances intrinsic motivation and links academic knowledge to real-life experiences, promoting meaningful and collaborative learning (Wu, 2024; Xu et al., 2023). Despite its potential, PBL implementation in China faces challenges, including rigid teaching frameworks, limited teacher flexibility, and resistance to student-centered approaches (Yao et al., 2019).

This study employed a qualitative approach grounded in the principles of Grounded Theory to explore high school English teachers' perceptions of PBL, focusing on the challenges and benefits of its implementation to better promote its application in English teaching and learning in China.

Objectives

1) To investigate high school English teachers' perceptions of their PBL teaching practice
2) To explore the challenges in the implementation of PBL in teaching English
3) To explore the benefits of the implementation of PBL in teaching English

Literature review

The key areas reviewed in this section consisted of the definition of Project-based Learning (PBL), its Implementation Process, and its specific applications and challenges in high school English teaching.

The Definition of PBL

Project-based learning (PBL) is a student-centered pedagogical approach rooted in constructivist principles, emphasizing active learning through engagement with real-world problems. Students gain knowledge by working on projects, often in groups, where they take responsibility for research, discussion, presentation, and time management. Teachers act as facilitators, providing guidance, resources, and

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evaluation, while students develop critical thinking, creativity, and essential soft skills such as leadership and communication (Allen, 2004; Blumenfeld et al., 1991; Kubiatko & Vaculova, 2011; Walters & Sirotiak, 2011).

PBL is characterized by interdisciplinary, student-driven activities with clearly defined outcomes, fostering autonomy, collaboration, and reflection within real-world contexts (Thomas, 2010; Han et al., 2015; Kokatsaki et al., 2016). Unlike traditional instruction, PBL avoids rigid lesson plans, instead focusing on contextualized, integrated tasks that allow for in-depth exploration of complex topics. This approach encourages learners to resolve ill-defined problems, combining individual and collaborative learning to produce tangible artifacts or products (Moss & Van Duzer, 1998; Harris & Katz, 2001; Esch, 1998).

Central to PBL are three constructivist principles: context-specific learning, active learner involvement, and goal achievement through social interaction and knowledge sharing (Cocco, 2006). PBL's problem-oriented nature drives learning activities, with students controlling the process, pacing, and content. It integrates multiple forms of representation, combining interdisciplinary knowledge in abstract, concrete, and verbal formats, supported by cognitive and situated learning perspectives (Helle et al., 2016). By engaging students in authentic, real-world challenges, PBL fosters meaningful learning experiences, equipping them with the skills and knowledge needed for modern educational and professional contexts.

The Process of the Implementation of PBL

Papandreou (1994) introduced a six-step model for project work in EFL, designed to enhance linguistic and cognitive skills. The steps include Preparation (introducing the topic), Planning (collaboratively organizing tasks), Research (gathering information), Conclusion (analyzing data and drawing insights), Presentation (sharing findings), and Evaluation (receiving feedback for reflective learning).

Alan and Stoller (2005) expanded this into a more detailed ten-step model to make project work more manageable and practical in language classrooms. Their steps include Theme Agreement (selecting a relevant theme), Outcome Determination (defining the project goal), Project Structuring (organizing tasks and timelines), Language Preparation for Information Gathering (teaching relevant vocabulary and research skills), Information Gathering (collecting data), Language Preparation for Data Analysis (teaching analytical language), Data Compilation and Analysis (synthesizing findings), Language Preparation for the Culminating Activity (practicing presentation skills), Final Product Presentation (sharing the project), and Project Evaluation (reflecting on learning and improvements).

Both models emphasize structured, student-centered learning, fostering language skills, critical thinking, and collaboration while ensuring practical application and meaningful outcomes. Alan and Stoller's revised model provides a more detailed framework, making it easier for teachers and students to implement project-based learning effectively.

Contextualizing PBL in High School English Teaching

Recent studies have demonstrated the effectiveness of PBL in developing specific English language skills at the secondary level. For example, Wu (2024) found that PBL significantly enhances students' speaking and writing abilities by providing authentic communication contexts and collaborative opportunities. Similarly, Xu et al. (2023) highlighted that PBL improves reading comprehension and vocabulary retention through its contextualized and engaging approach to language learning.

In the Chinese educational context, several studies have explored the implementation of PBL in high school English classrooms. Yao et al. (2019) investigated the challenges faced by teachers in adapting PBL to meet curriculum demands and examination pressures, while Zhang et al. (2023) examined how PBL can be effectively integrated into the Chinese education system to support student-centered learning and educational reforms.

Despite these insights, there remains a notable gap in the literature regarding the lived experiences of Chinese high school English teachers as they navigate the implementation of PBL. While foundational literature outlines the theoretical benefits and implementation models of PBL, there is limited research exploring the practical realities, cultural adaptations, and institutional barriers that these teachers encounter. This study aims to address this gap by employing a Grounded Theory approach to generate theory directly

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from the teachers' perspectives, thereby providing a nuanced understanding of PBL implementation within the specific context of Chinese high school English education.

Methodology

Research Site

Nanning, the capital city of Guangxi province, was selected for this study due to its strong educational infrastructure and known initiatives promoting innovative teaching methods, including Project-Based Learning (PBL), in high school English classrooms. Nanning has been at the forefront of educational reforms in Guangxi, with several high schools actively exploring student-centered pedagogies. This study purposefully selected 12 high schools from Nanning, representing a mix of public and private institutions, as well as schools with varying academic focuses (e.g., science-oriented, liberal arts-oriented). The selection aimed to capture diverse implementations of PBL within the local educational context.

Research Population

This study employed purposive sampling to select 12 high school English teachers based on specific criteria relevant to the research objectives. Participants were chosen for their: (1) minimum of 3 years' experience teaching English in high schools; (2) documented experience implementing PBL in their classrooms for at least one academic year; and (3) willingness to reflect on their teaching practices in depth. The sample included teachers from different grade levels (Grades 10-12) to ensure variation in PBL implementation across different student age groups. This variation is critical for understanding the nuanced experiences of teachers in diverse educational settings. The sample size of 12 participants aligns with Grounded Theory principles, aiming for data saturation where no new insights emerge from additional interviews. The reference to "Abbreviations will be retained, with core Rayon identifiers maintained" has been removed as it was unclear and not essential to the study's context.

The Research Instrument

Semi-structured interviews were conducted as the primary qualitative instrument for data collection. The interview guide was designed to capture detailed insights into teachers' experiences with PBL, focusing on implementation processes, challenges, and adaptations specific to high school English teaching. The interview process allowed for flexibility through the use of probing questions (e.g., "Could you provide an example of how you managed classroom dynamics during a PBL project?" or "How did you handle unexpected challenges during a PBL activity?"), enabling deeper exploration of participants' experiences. The interview guide was refined iteratively based on initial interviews, a common practice in qualitative research to enhance the depth and relevance of subsequent discussions. Ethical approval for the study was obtained from the Ethics Review Committee of Rangsit University (COA. NO. RSUERB2024-219).

1) Can you tell me about your experiences using PBL in your teaching?
2) What do you think about PBL?
3) What are the difficulties you face in your teaching when you use PBL in teaching English?
4) What are the advantages of PBL in teaching English?

Data Collection

The data collection involved 12 semi-structured interviews conducted online via Zoom. Each interview lasted approximately 40 to 60 minutes. To manage the feasibility of completing all interviews within one week, the interviews were spread across the week with no more than three interviews scheduled per day. This approach allowed sufficient time for initial data transcription and reflection, which informed subsequent interviews. The online platform facilitated flexibility for participants while maintaining a structured interview environment. To build rapport and address potential limitations of non-verbal communication, the interviewer established a friendly and open dialogue at the beginning of each session and encouraged participants to share detailed accounts of their experiences. All interviews were audio-recorded with participants' explicit consent to ensure accurate transcription and analysis.

Data Analysis

The data analysis followed a Grounded Theory approach, specifically adopting a Constructivist perspective as outlined by Charmaz (2006), which acknowledges the researcher's interpretive role in

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constructing meaning from participants' experiences. The analysis involved three coding stages: open coding, axial coding, and selective coding.

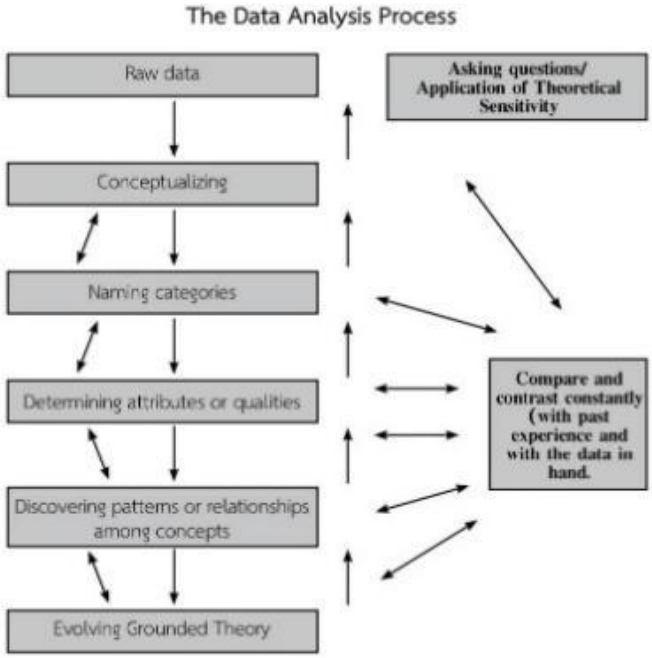

Figure 1 Grounded Theory
Source: Chayanuvat, 2015.

Opening coding

Open coding involves breaking down and categorizing the data at various levels, such as words, sentences, and paragraphs. A total of 12 teachers were interviewed over three days, resulting in 12 sets of raw data. Table 1 shows the number of thought units present in each research participant's interviews in the open coding step.

Table 1 The Number of Categories in the Open Coding Step

Participants	**Interview (No. of all categories)**	**Total number of categories from 12 Participants**
Teacher1	28	
Teacher2	13	
Teacher3	11	
Teacher4	8	
Teacher5	16	
Teacher6	14	183
Teacher7	10	
Teacher8	33	
Teacher9	16	
Teacher10	9	
Teacher11	15	
Teacher12	10	

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Axial coding

Axial coding involved a series of procedures where data were restructured by establishing connections between categories, which are classifications of concepts. During the Axial Coding stage, the 183 initial concepts from Open Coding were reorganized. Concepts that were unrelated to the themes were discarded, and the remaining data were continuously compared. Related concepts were then grouped, resulting in 48 final concepts.

Table 2 The Number of Categories in the Axial Coding Step

Axial Coding
Experiences（16）
PBL is beneficial for both teachers and students（2）
PBL is flexible（6）
Improving language skills（7）
Develop important 21st-century skills（5）
Create an authentic language environment（6）
PBL is interesting（1）
Improve communication skills (4)
Developed creativity skills (5)
Developed problem-solving skills（1）
Increase engagement (2)
Create authentic learning scenarios (11)
Develop practical skills (1)
Increase motivation (2)
Example of PBL (11)
Large projects are difficult to manage (5)
Assessing students' contributions is difficult (5)
Time management (9)
Teachers act more as designers in PBL (6)
Students become active learners (8)
Improve teamwork skills (1)
The students are not familiar with the task (5)
Classroom management (2)
Parents' misunderstanding (2)
Traditional beliefs are deeply ingrained (1)
Teacher Training and Support (2)
PBL is an effective way to learn a language (4)
The process of project-based learning (2)
Boost confidence (5)
Improve grades (2)
Teachers need to prepare a lot of work in advance (1)
Develop their communication skills、problem-solving abilities、organizational skills (2)
Teacher-student relationships are closer (1)
Enjoy the teaching approach of PBL (1)
Teaching according to students' abilities (1)
Develop critical thinking、Problem-solving abilities, and social skills. (1)
Teachers' energy (5)
Fostering a deeper experience with English (2)
Teacher skill development (1)

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Axial Coding
Resource Availability (2)
Unexpected situations are difficult to handle (1)
Language barrier (1)
Team task division (2)
Communication、critical thinking, and problem-solving skills (2)
Teacher Training (2)
Project difficulty design (1)
Student-centered (2)
PBL was especially suitable for high school English classrooms (5)
Total number 48

Selective coding

Selective coding involves selecting the themes or concepts that emerged during axial coding, systematically relating them, and validating their connections. During this step, researchers integrated the categories and focused on developing a core category that explained the main theme or issue identified in the study.

Table 3 The Number of the Selective Coding Step

Selective Coding	Central concept
1. The Benefits of Project-Based Learning for Teachers and Students 2. The Challenges of Project-Based Learning for Students and Teachers 3. Experience reflection	Teachers' perceptions of their PBL teaching practice

Results

Teachers' Perceptions of Their PBL Teaching Practice

The research results found that teachers generally viewed PBL positively despite the challenges they encountered. Teachers highlighted that PBL was particularly suitable for high school English teaching as it engaged students in practical, real-world language use and aligned well with the themes and structure of high school English textbooks. For instance, one teacher mentioned, "PBL allows students to use English in authentic contexts, which is something traditional teaching methods often fail to achieve." Another teacher noted, "The projects we design based on textbook content not only reinforce language points but also encourage students to think critically and creatively." Teachers also reported variations in project design, with some preferring long-term projects like "Cultural Exchange Programs" that spanned several weeks, while others favored short-term projects such as "News Reporting in English" that could be completed within a week. These variations reflected teachers' adaptations to different teaching objectives and student needs.

Table 4 presents the number of categories derived from teachers' perceptions of their PBL teaching practice.

Category	Number of Mentions
PBL suitability for English teaching	18
Variations in project design	12
Teacher role transformation	10
Student engagement	15

The Benefits of Project-based Learning

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The research results found that PBL offered multiple benefits for both teachers and students in the context of high school English classrooms. Teachers identified several key advantages, including improved language skills, enhanced critical thinking, increased student motivation, and the development of 21st-century skills such as collaboration and creativity. As one teacher stated, "Through PBL, students' speaking and writing skills have improved significantly because they have to present their projects and write reports." Another teacher observed, "Students are more motivated to learn when they can connect language learning to real-life situations."

These benefits are further detailed in Table 5.

Table 5 The Benefits of Project-based Learning

Benefit Category	Number of Mentions
Improved language skills	22
Enhanced critical thinking	14
Increased student motivation	18
Development of collaboration skills	16
Fostered creativity	10
Improved grades	8
Deeper engagement with English	12

The Challenges of Project-based Learning

The research results found that while PBL provided significant benefits, it also posed several challenges for teachers and students. The participating teachers reported difficulties related to time management, classroom control, assessing individual contributions, and aligning PBL with traditional assessment methods. For example, one teacher noted, "Managing time during PBL activities is challenging because students often get off track and need constant guidance." Another teacher mentioned, "It's difficult to assess each student's contribution in group projects, which can lead to grading inconsistencies." Additionally, external factors such as parental expectations and resource limitations were identified as barriers to effective PBL implementation. As one teacher explained, "Some parents are skeptical of PBL because they believe it might affect their child's exam performance."

These challenges are summarized in Table 6.

Table 6 The Challenges of Project-based Learning

Challenge Category	Number of Mentions
Time management	16
Classroom control	12
Assessing individual contributions	14
Alignment with traditional assessments	10
Parental expectations	8
Resource limitations	6

Discussion

Teachers' Perceptions of PBL Teaching Practice

Teachers perceived PBL as a transformative yet context-dependent approach. While they valued its alignment with curriculum themes (e.g., integrating textbook content into real-world projects), they emphasized the need for flexibility in design. For example, one teacher's adaptation of a poetry unit into a multimedia storytelling project (Teacher 10) reflects PBL's potential to enhance creativity within rigid curricula. This aligns with Fragoulis (2009), who argues that PBL's adaptability is key to language learning success. However, teachers' reliance on textbook themes may stem from systemic pressures to prioritize exam content (Hu et al., 2020), suggesting that PBL's full potential requires balancing innovation with institutional expectations.

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Challenges in PBL Implementation

The primary challenges—time management, assessment complexity, and cultural resistance—reveal tensions between PBL's student-centered ethos and China's exam-driven system. For instance, teachers struggled to reconcile long-term projects with Gaokao preparation timelines (Teacher 2), echoing Liu et al. (2014), who identified similar conflicts in Asian educational contexts. Parental skepticism about PBL's efficacy (Teacher 12) further underscores the cultural barrier of equating "real learning" with lecture-based methods (Yao et al., 2019). These challenges highlight the need for localized PBL frameworks that integrate standardized assessments while fostering autonomy.

Benefits of PBL in English Teaching

PBL's benefits, such as improved language integration and 21st-century skill development, align with global studies (Zhang, 2015; Pham Duc Thuan, 2018). However, this study uniquely identifies student-driven negotiation (e.g., self-managed deadlines) as a catalyst for ownership, a phenomenon less emphasized in prior literature. For example, students' use of English to interview tourists (Teacher 4) mirrors Moss & Van Duzer's (1998) findings on authentic language use but extends them to high school settings. These benefits suggest that PBL can coexist with exam goals if teachers strategically link projects to language skill benchmarks.

Conclusion

This study employed Grounded Theory methodology to explore Chinese high school English teachers' perceptions of Project-Based Learning (PBL). The central theoretical finding is that teachers' experiences of PBL are shaped by an interplay of pedagogical innovation and cultural adaptation. This core category emerged from the data, reflecting how teachers navigate the benefits of PBL, such as enhanced student-centered learning and critical thinking, while contending with challenges like time management, assessment complexities, and traditional educational norms.

The research confirms and extends prior studies on PBL in language education, particularly within high school contexts. While previous research highlights PBL's effectiveness in improving language skills and student engagement (Zhang, 2015; Pham Duc Thuan, 2018), this study adds depth by illustrating how teachers in Chinese high schools specifically adapt PBL to align with curriculum demands and examination pressures. The findings indicate that PBL not only fosters literacy development but also requires significant cultural and institutional adaptation to be effective in traditional education systems.

Practically, the study underscores the need for substantial institutional support and targeted professional development for teachers. Effective PBL implementation in Chinese high schools requires resources such as training in innovative assessment methods, strategies for managing student-centered activities, and mechanisms for addressing parental expectations. Schools and policymakers can leverage these insights to create more supportive environments for PBL, such as integrating flexible assessment frameworks into the curriculum and providing platforms for teacher collaboration and resource sharing.

Finally, this research opens avenues for future studies. Further investigation could explore how PBL adapts across different school types in China, such as rural versus urban schools, or examine the long-term impact of PBL on student outcomes within the Chinese education system. Additionally, research incorporating student perspectives could offer a more comprehensive understanding of PBL's effectiveness in language learning contexts.

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