Article

The impact of project-based learning and local cultural content on EFL learners' speaking proficiency

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Abstract: This study explores the impact of Project-Based Learning (PBL) and locally sourced reading materials on improving speaking proficiency in English as a Foreign Language (EFL) learners. The participants consist of college students aged 18 to 19 years. Forty-four participants from two groups—experimental and control—were evaluated using pre-and post-tests. The experimental group engaged with local cultural reading materials and followed a PBL framework, while the control group used standard commercial textbooks from Western publishers. The findings reveal that the experimental group demonstrated significantly improved fluency, vocabulary, and speaking confidence compared to the control group, with 37.04% showing improvement. PBL facilitated collaborative learning in real-life scenarios, reducing anxiety and fostering more significant participation in speaking tasks. In contrast, the control group showed minimal improvement, highlighting the limitations of traditional lecture-based methods. This study concludes that integrating PBL and locally relevant content into language instruction can enhance speaking proficiency, learner motivation, and engagement. The results suggest that PBL is a dynamic approach that supports developing linguistic and collaborative skills, providing a more holistic learning experience.

Keywords: project-based learning; speaking proficiency; EFL learners; local reading materials; collaborative learning

1. Introduction

English has become a crucial tool for economic growth, international collaboration, and innovation in today's globalized world, particularly in Asia. As the region continues its rise as a global economic powerhouse, the demand for English proficiency has surged. English functions as a bridge in business, academia, and technology, enabling access to global markets and fostering international partnerships. For countries like Taiwan and South Korea, improving English-speaking proficiency is not just an educational priority but a strategic necessity to remain competitive on the world stage. Taiwan's 2030 Bilingual Policy (Taiwan National Development Council, 2021) and South Korea's Regional Innovation System and Education (RISE) (Jung, 2023) plan have distinct goals but share a common focus on enhancing global competitiveness. Taiwan's policy aims to establish a bilingual society by integrating English into education, professional training, and public services, emphasizing building a workforce skilled in Mandarin and English. The policy also highlights digital learning tools and aims to provide equitable access to English education, particularly in rural areas, to prepare a bilingual workforce by 2030. In contrast, South Korea's RISE plan focuses on revitalizing regional universities by creating partnerships between universities and industries, which may increase demand for English proficiency in sectors linked to global markets. However, challenges persist

in ensuring equitable support across all universities and local government's capacity to manage educational reform. Both countries view English education as essential to competitiveness in an increasingly globalized world.

Despite these strategic efforts, Asian English as a Foreign Language (EFL) learners face significant challenges. Many students struggle with limited opportunities to practice English outside the classroom, making it challenging to develop fluency. Additionally, a lack of confidence in their speaking abilities and a fear of making mistakes discourage students from engaging in conversation or practice. This anxiety is exacerbated by traditional educational systems prioritizing grammar and reading over spoken communication, further hindering conversational proficiency. Overcoming these barriers is critical to unlocking the full potential of English education and ensuring that students are equipped to participate in the global economy. Project-based learning (PBL) has emerged as an effective method for improving EFL students' oral proficiency. PBL engages learners in authentic language contexts where they use English in real-life scenarios such as presentations, interviews, and collaborative projects (Wahyudin, 2017). These activities enhance engagement and boost confidence by allowing learners to practice meaningful communication (Grant, 2013). PBL also promotes collaborative learning, fostering a supportive environment where students can help one another, reducing the fear of mistakes, and encouraging participation (Astuti et al., 2021). Moreover, PBL integrates speaking with other language skills, such as listening, reading, and writing, offering a more comprehensive approach to language learning. The multi-step projects involved in PBL provide students with repeated opportunities to practice, thus increasing fluency and confidence (Torres and Rodríguez, 2017). Finally, PBL motivates students by focusing on tasks related to their interests, such as topics about their communities or personal lives, further enhancing their motivation and confidence in using English (Sari, 2018). This method not only improves oral proficiency but also boosts learners' overall confidence in using the language.

In this study, locally sourced reading materials are integrated into PBL to deepen students' understanding of cultural content and enhance their engagement by connecting them with local heritage. By exploring historical and cultural sites such as the Guangfu New Village, Lin Family Garden, and the National Taiwan Symphony Orchestra Music and Culture Park, students gain contextually relevant knowledge that enriches their project work. This approach effectively combines cultural learning with language development, allowing students to express their findings creatively through tasks like logo and slogan design, which reflect the essence of their cultural themes. Such integration not only enhances language proficiency but also strengthens students' cultural identity, making language learning more meaningful and contextually engaging.

Theoretical Framework

The Development of Project-based Learning (PBL)

John Dewey, an American educational reformer, argued that learning-center approaches and learning-by-doing education can improve students' learning effectiveness. PBL is a student-centered pedagogy which takes "projects" as the core to rigorously plan relevant curriculum activities. In addition, learners are guided to complete the project step by step, and this is the spirit of learning by doing.

PBL has become one of the popular pedagogies in Taiwan. Unlike problem-based learning, which adopts suitable solutions, focusing on various problem-solving methods, project-based learning, on the other hand, emphasizes the integration and application of disciplines to produce a final project (Lee and Tsai, 2004). In 2001, International Education and Resource Network (iEARN) was established in Taiwan to help promote project-based learning pedagogy, and its team members are teachers from elementary school to college.

The Definition of PBL

In the early stage of development, the PBL was defined as a comprehensive teaching method which allows students to participate in collaborative inquiry (Bransford and Stein, 1984). Early PBL emphasized comprehensive teaching and cooperative learning that provided a trigger (project) to learn together. The Buck Institute for Education (BIE) defines project-based learning as "a teaching method in which students learn by actively engaging in real-world and personally meaningful projects". BIE is an educational institution which aims to promote PBL. From the above, it can be concluded that: PBL is based on real-life tasks/problems as project themes, combined with interdisciplinary knowledge and skills to practice self-learning, and finally complete/solve the final tasks/problems through cooperative learning.

The Advantages of PBL

The benefits of project-based learning, according to Zhong-Tian Zhou for students are as follows:

- PBL can help students bridge the gap between "theory" and "practice", and help students put knowledge into practice.
- PBL helps students learn how to solve problems, communicate with others, and manage themselves.
- PBL encourages students to cultivate lifelong learning, responsibility and the ability to foresee their future careers.
- PBL can be integrated into thematic teaching and issues of local communities.
- The assessment of PBL is in line with the requirements of the workplace, so PBL can effectively encourage students to be responsible, set goals, and perform better.
- PBL requires frequent group discussion and cooperation, so it can promote good interpersonal interaction between learners.
- PBL can meet the needs of learners with different levels and learning styles.
- PBL can effectively encourage students with low motivation or poor willingness to learn. (Z.T. Zhou 6 translated by the author)

It can be seen that the PBL approach allows students to integrate the knowledge of the disciplines they have learned and to cultivate the abilities required by the future workplace. Furthermore, most PBL topics are closely related to local issues, which can inspire learners' motivation to learn.

PBL in Language Teaching

Project-Based Learning (PBL) entered ESL/EFL education in the 1980s, emerging alongside the development of the communicative language teaching method (Haines, 1989). The primary goal of PBL in ESL/EFL teaching was to offer learners abundant opportunities for practical, meaningful language use. PBL projects were designed to immerse learners in authentic tasks, enabling them to apply their linguistic

knowledge in real-world scenarios. As Stoller (2006) emphasized students could participate in genuine tasks with real-world objectives when involved in project work. Similarly, Haines (1989) described project work as a means for students to use their language skills naturally, fostering authentic communication.

Project-based learning (PBL) offers numerous advantages for EFL learners, particularly in enhancing language skills. Firstly, PBL is a student-centered approach, allowing learners to personalize their experience by engaging in research, translation, and creative activities, consistent with social constructivist principles where learning occurs through group interactions and self-reflection (Stoller and Myers, 2020). Additionally, PBL helps students build confidence and autonomy, especially in speaking, as they take responsibility for their learning and make independent decisions throughout the project (Stoller, 2001, 2006). Collaborative group work fosters peer support, enabling students to learn from one another and develop cooperative skills (Larsen-Freeman, 2000). Moreover, PBL enhances critical thinking by encouraging students to engage in investigative and creative tasks, thereby improving their problem-solving abilities (Stoller, 2001, 2006). These benefits illustrate how PBL provides a dynamic, interactive environment that promotes both linguistic and non-linguistic skill development, making it a highly effective method for language learning.

PBL in Speaking Teaching

Project-based learning (PBL) offers substantial advantages for enhancing speaking skills in EFL learners, fostering both linguistic proficiency and personal growth. By engaging students in authentic tasks, such as presentations, PBL allows learners to practice real-life communication, helping them apply their language skills in practical contexts. This hands-on approach not only strengthens speaking proficiency but also reinforces known vocabulary and structures, solidifying what learners have previously acquired (Haines, 1989). Additionally, PBL encourages students to take ownership of their learning. When preparing for oral presentations, they are responsible for organizing content, practicing delivery, and managing their progress, which builds both confidence and autonomy. As students become more confident in their communication abilities, they take greater initiative in speaking tasks, driving their learning process forward (Morgan, 2012).

Beyond individual development, the collaborative nature of PBL is key in improving language skills. Through group work, students practice speaking in a cooperative, supportive environment, which reduces the anxiety often associated with public speaking. This scaffolded practice allows students to gradually build confidence, improving both fluency and comfort with the language (Sirisrimangkorn, 2021). Ultimately, PBL not only enhances speaking skills but empowers EFL learners to communicate with confidence and fluency in real-world situations.

The exploration of PBL in language education has demonstrated its effectiveness in fostering linguistic proficiency, particularly in enhancing speaking skills among EFL learners. By integrating real-world tasks, PBL encourages meaningful language use and collaborative learning, which can bridge the gap between theoretical knowledge and practical application. The hands-on nature of PBL has been shown to improve learners' confidence, critical thinking, and fluency, especially when students engage with authentic materials and tasks. However, while the literature highlights the general benefits of PBL, specific research is needed to understand its impact when

combined with locally sourced materials in an EFL context. This gap in understanding leads to the formulation of the following research questions to investigate the role of PBL and local content in enhancing speaking proficiency.

Research questions

1) To what extent will the inclusion of locally sourced reading materials featuring cultural content enhance the overall oral proficiency of tertiary-level EFL learners, compared to relying solely on standard Western-published materials?

2) Do EFL learners in a well-designed PBL program featuring collaborative inquiry and authentic communication tasks exhibit enhanced speaking proficiency compared to learners in a control group receiving traditional lecture-based instruction?

2. Materials and methods

2.1. Participants

The study recruited 44 EFL learners at the tertiary level in Freshman English courses, dividing them into two groups: 27 experimental students from the College of Design and 17 control students from the College of Humanities and Social Sciences. All participants were young adults between 18 and 19 years old and had beginner-level English proficiency with low motivation to learn English, according to their college English placement test.

2.2. Instruments

The study utilized three research instruments to evaluate the effects of the instructional approaches on students' speaking skills. The key difference between the experimental and control groups lies in the teaching materials and methods used. The experimental group utilized local reading materials and implemented the PBL approach, while the control group followed standard commercial materials from Western publishers. The instructional approach for the control group was more based on traditional lectures. Both groups underwent pre- and post-tests. Participants recorded their oral test responses and submitted them to the Tronclass system, which facilitated the collection and evaluation of the oral data.

- Reading Passages: For the experimental group, several English reading passages highlighting local features were carefully selected to introduce students to their own cultural context in English. The study utilized E-books authored by university English teachers to source reading materials introducing the local community's features. The topics covered were Wu-Feng Story and Fun Wu-Feng. Wu-Feng Story unveils the charm of Wu-Feng, a strategically and culturally significant town in central Taiwan. It highlights its historical sites, unique attractions, and thriving artistic community, inviting exploration and cultural immersion. On the other hand, Fun Wu-Feng offers a perspective from an influencer, showcasing captivating photo-worthy locations in Wu-Feng. These range from the interactive, contemporary National Taiwan Symphony Orchestra Music and Culture Park to the elaborately designed outdoor performance hall within the courtyard of an ancient affluent family.
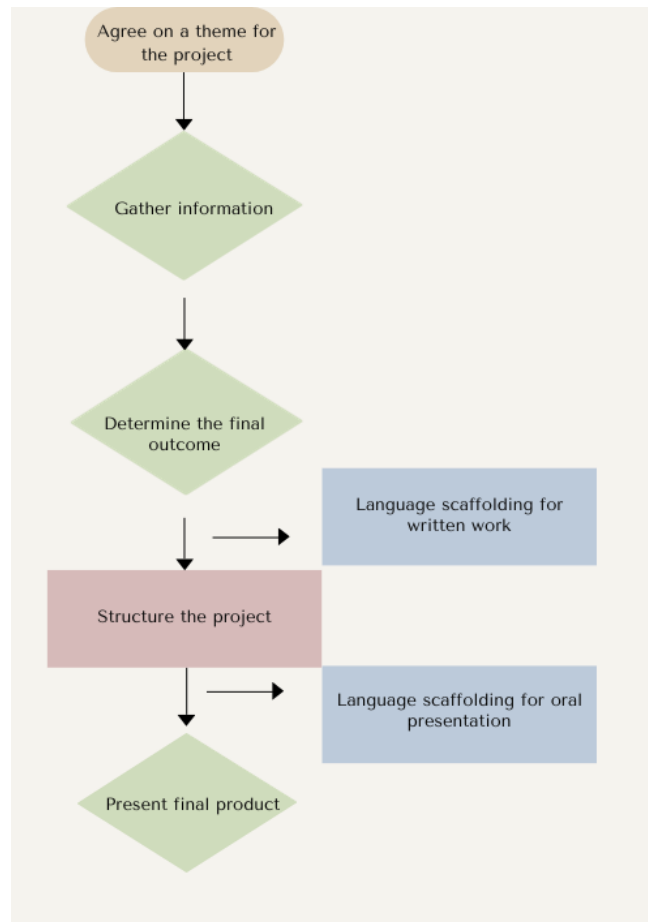
Figure 1. Stroller's procedure of the project (revised by Tu).

- Project-Based Learning (PBL) Approach: The experimental group followed a modified version of Stroller's (2020) PBL framework, consisting of five distinct steps, which guided students through collaborative and task-based learning. PBL is a learner-centered pedagogical approach in which educators act as facilitators. Instructors establish clear learning objectives and provide tailored guidance and feedback throughout the learning process, allowing for adaptive adjustments based on each learner's progress. This adaptive approach aims to optimize learning outcomes. The research design in this study followed the framework for PBL proposed by Stroller (2020), which comprised ten distinct phases. For the purposes of this research, these phases have been condensed into a more streamlined sequence of seven key steps (See **Figure 1**):

  a) Agree on a theme for the project: Students select a specific cultural aspect of the local community as the focal point for their project, based on their understanding of the distinctive characteristics of the local community as outlined in the reading materials.

  b) Gather information: Students collect data on the chosen thematic focus, both online and through on-site visits.

  c) Determine the final outcome: Students collaborate to determine the format and content of their final presentation, drawing on the data they have collected.

d) Language scaffolding for written work: Students receive pedagogical support to develop the necessary language skills for their written work, including English article structures and sentence patterns.

e) Structure the project: Students are guided in developing the project framework in English, including essential sections such as the introduction, body, and conclusion.

f) Language scaffolding for oral presentations: Students receive instruction on developing oral presentation skills, including sentence structures and effective presentation techniques.

g) Present final product: Students present their final project outcomes in English, ensuring alignment with the designated learning objectives and language proficiency requirements.

- Speaking Pre- and Post-Tests: Both the experimental and control groups took pre- and post-tests to assess their speaking skills, providing comparative data on the effectiveness of the instructional methods. Speaking Pre- and Post-Tests: Speaking proficiency was evaluated before and after the interventions using Hughes' (1989, 2003) methodologies. Each assessment domain (accent, grammar, vocabulary, fluency, and comprehension) had six descriptions, with numerical values ranging from lowest to highest to represent the weakest to strongest level of proficiency. Each domain also carried a different weighting factor (see **Table 1**). The weighted values could then be converted to the Interagency Language Roundtable (ILR) scale, where ratings range from 0 (No Proficiency) to 5 (Functionally Native Professional Proficiency) (see **Table 2**).

Table 1. Oral weighting table.

	1	**2**	**3**	**4**	**5**	**6**
Accent	0	1	2	2	3	4
Grammar	6	12	18	24	30	36
Vocabulary	4	8	12	16	20	24
Fluency	2	4	6	8	10	12
Comprehension	4	8	12	15	19	23

Table 2. Conversion table.

Score	**Rating**
16–25	0+
26–32	1
33–42	1+
43–52	2
53–62	2+
63–72	3
73–82	3+
83–92	4
93–99	4+

3. Results and discussion

Tables 3 and **4** present the descriptive statistical results of participants in the experimental group (PBL program) and the control group (traditional lectures) in the pre-test and post-test of oral proficiency. The oral assessment consisted of five open-ended questions. Each response provided by the participants was evaluated based on Hughes' "Testing Oral Ability," employing five distinct criteria: accent, grammar, vocabulary, fluency, and comprehension. The cumulative score across these dimensions was then computed to derive the overall speaking proficiency score (2003, p.132). As depicted in **Table 3**, the pre-test scores for oral proficiency reveal a mean of 36.69 (with a standard deviation of 7.65) for the experimental group, in contrast to the control group's average of 44.29 (with a standard deviation of 4.77). Examining the post-test scores in **Table 4**, the experimental group demonstrates a mean of 37.26 (with a standard deviation of 6.96), while the control group exhibits an average of 41.7 (with a standard deviation of 4.66).

Table 3. Descriptive statistics for two groups in pre-test.

	Group	N	Mean	SD
pre-test	Experimental Group	27	36.69	7.65
	Control Group	17	44.29	4.77

Table 4. Descriptive statistics for two groups in post-test.

	Group	N	Mean	SD
post-test	Experimental Group	27	37.26	6.96
	Control Group	17	41.7	4.66

In **Table 5**, the two-sample *t*-test (assuming equal variances) reveals statistically significant differences between the experimental group and the control group. The experimental group has a mean of 0.963 and a variance of 33.11, while the control group has a mean of −2.588 and a variance of 23.88. With 27 and 17 observations, respectively, the pooled variance is calculated as 29.60.

Table 5. *T*-Test two-sample assuming equal variances.

	Experimental Group	**Control Group**
Mean	0.962963	−2.58824
Variance	33.11396	23.88235
Observations	27	17
Pooled Variance	29.59716	
Hypothesized Mean Difference	0	
df	42	
t Stat	2.108288	
P(T ≤ t) one-tail	0.020506	
t Critical one-tail	1.681952	
P(T ≤ t) two-tail	0.041013	
t Critical two-tail	2.018082	

The analysis tests the hypothesis that the mean difference between the two groups is zero. With 42 degrees of freedom, the calculated *t*-statistic of 2.108 exceeds the critical one-tailed value of 1.682, indicating statistical significance. This results in a one-tailed *p*-value of 0.021 and a two-tailed *p*-value of 0.041, both well below the 0.05 significance level. These findings conclusively reject the null hypothesis, indicating that the observed mean difference is unlikely to be due to chance.

4. Discussion

The results of this study provide valuable insights into the effectiveness of using Project-Based Learning (PBL) and local reading materials to enhance English-speaking proficiency among EFL learners. The comparison between the experimental group, which employed PBL and local materials, and the control group, which used traditional methods with Western-published materials, reveals several significant findings, such as accent, grammar, vocabulary, fluency, and comprehension of speaking proficiency that showed the most improvement and the degree of improvement observed.

First, while the pre-test results indicated a slightly lower baseline for the experimental group regarding speaking proficiency, the post-test data showed significant improvement in fluency, vocabulary, and overall speaking confidence. The experimental group's engagement with local cultural content increased their motivation and willingness to participate in speaking activities. This supports the hypothesis that contextually relevant materials can enhance students' interest and facilitate language acquisition.

Hughes' (2003) method for assessing oral language skills is comprehensive and grounded in real-world testing practices, promoting communication skills effectively with clear evaluation guidelines. However, challenges such as rater bias, limited technological integration, and potential cultural biases may affect the fair and efficient implementation of these assessments, particularly in diverse educational contexts. In this study, the use of contextually relevant materials and the collaborative nature of PBL addressed some of these challenges by enhancing the authenticity and relevance of speaking tasks. This, in turn, increased learner motivation, reduced performance anxiety, and supported effective language use.

Furthermore, the use of PBL contributed to the development of students' collaborative skills, allowing them to practice speaking in a supportive environment. PBL's focus on real-life scenarios, such as local cultures, and group-based tasks encouraged students to use English more actively and meaningfully. This approach not only improved their language proficiency but also reduced anxiety related to speaking, as noted in previous studies (Astuti et al., 2021; Torres and Rodríguez, 2017).

In contrast, while the control group maintained relatively stable performance, they did not demonstrate the same level of improvement as the experimental group. The control group's results suggest that traditional lecture-based instruction, while valuable, may lack the level of engagement and practical language use opportunities provided by PBL.

5. Conclusion

In conclusion, the findings demonstrate that implementing PBL with locally sourced materials is an effective strategy for improving speaking proficiency in EFL learners. The combination of culturally relevant content and active, project-based tasks fosters a more dynamic learning environment that supports the development of both language and soft skills, such as collaboration and critical thinking. Future research could explore the long-term impacts of PBL on other language skills and investigate its effectiveness in different cultural contexts.

Conflict of interest: The author declares no conflict of interest.

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