

3 - Developing Pre-service English Language Teaching Skills through Project Work

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Abstract

In Japanese schools, project-based learning (PBL) is currently being encouraged in all subjects including English language to develop students' cognitive and noncognitive skills. However, teachers themselves lack both the requisite knowledge and experience with PBL and require guidance and clarity on how to implement it. Therefore, this study aimed to conduct an exploratory investigation by exposing trainees enrolled in the English teacher training program to inquiry-based PBL, in order to understand their experience of such learning and how it affects their ability to develop teaching materials and methods. This study conducted a PBL training consisting of 15 classes for 30 students of an English teacher training program in a university. The participants worked in teams of four or five to identify and discuss solutions to the challenges encountered while teaching English to secondary school students. They were then required to develop teaching materials and methods, present their ideas for microteaching, and finally perform microteaching. A qualitative analysis was performed on data from reflections after each class and from a post-course open-ended questionnaire. The results indicated that exposure to PBL helped participants learn how to be proactive and motivated in engaging secondary school students in English learning. They encountered new ideas and perspectives in cooperative learning and developed confidence in their teaching skills. Several participants reported that the experience helped them identify areas of improvement. Thus, the findings of this study indicate that incorporating PBL into English teacher training programs significantly enriches the English teaching ability and confidence of future teachers of English.

Keywords: project-based learning, teacher training, English language education, active learning, microteaching

1. Introduction

In recent years, global society has undergone significant changes, including the rise of artificial intelligence (AI), globalization, and digitization (also known as education DX). These advancements have transformed information accessibility. In Society 5.0, the ability to independently, autonomously, and collaboratively integrate newly acquired knowledge with existing understanding to create something new is crucial. Two key competencies stand out: scholarly ability (knowledge, skills, attitude, and creative thinking) and basic skills for working adults (problem-solving, forward thinking, and teamwork). Universities are promoting “Active Learning” to help students acquire these skills. In this Age of Uncertainty, where rapid changes are constant, societal needs for skills and qualities are expected to evolve. Traditional methods of delivering theoretical knowledge and emphasizing academic performance are insufficient for preparing children for the real world. Globally, education is shifting towards fostering individual and societal well-being alongside knowledge dissemination. Education 2030, an OECD initiative, envisions education that develops competencies such as agency, value creation, conflict resolution, and responsible action. These are nurtured through the “Anticipation, Action, and Reflection (AAR) cycle.” By 2030 or 2040, mastery of such competencies will likely be the norm, but children will struggle to develop them if educators lack the requisite qualifications, including scholarly ability and fundamental skills. Curriculum guidelines emphasize learning through “acquisition, use, and exploration” to achieve “independent, interactive, and deep learning.” This approach requires applying knowledge to discover and explore issues and create meaning. Project-based learning (PBL) is a practical way to deepen

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learning through knowledge application. Experiencing PBL before implementing it for students can enhance teachers' qualifications (Martinez, 2022). In Japan, PBL is being encouraged across all subjects, including English, to develop cognitive and noncognitive skills. However, many teachers lack the necessary knowledge and experience with PBL, leading to concerns about its implementation.

In English education in Japan, foreign language activities became mandatory in grades 3 and 4 (35 hours/year), and foreign languages became formal subjects in grades 5 and 6 (70 hours/year) starting in 2020. Junior high schools must now coordinate more closely with primary schools. The 2021 Courses of Study introduced major textbook changes, with greater focus on speaking, writing, and "independent, interactive, and deep learning." Challenges remain, such as developing audio-focused learning from primary schools into junior high curricula. While empirical research supports PBL in foreign language learning (Petersen & Nassaji, 2016; Stoller, 2006, 2012), there is a lack of studies on using PBL to develop in-service English teaching skills.

Thus, this study aims to conduct an exploratory investigation of how university undergraduate students in the English teacher training program respond to a PBL training. As these teacher-training students are not familiar with active-learning lessons, it is important that they experience PBL themselves to develop the ability to design lessons so that junior high school students learning English as a foreign language can benefit from independent, interactive, and deep learning. The research questions are as follows:

- (1) Does the PBL module improve the ability of students in the English teacher training program to develop teaching materials and methods?
- (2) Does the PBL module cultivate team work and collaboration abilities in students in the English teacher training program?
- (3) What are the main challenges encountered by the students in the English teacher training program in the microteaching sessions?

2. Background

The course work used in this practical study is based on PBL, which is regarded as a near-future type of learning and is becoming a common practice in Europe and the USA. PBL refers to a series of learning activities aimed at setting objectives, planning and reflecting on the process in order to reach a goal (Bell, 2010; Donnelly & Fitzmaurice, 2005; Thomas, 2000). According to Thomas (2000), "PBL is a model that organizes learning around projects, and projects are complex tasks, based on challenging questions or problems, that involve students in design, problem-solving, decision making, or investigative activities; give students the opportunity to work relatively and autonomously over extended periods of time; and culminate in realistic products or presentations" (p. 1). Therefore, PBL is a pedagogical approach that engages students in complex problem-solving and decision-making tasks. It is characterized by students working autonomously on a project over an extended period, with the objective of producing a tangible outcome. PBL is often used in subjects where students are required to apply theoretical knowledge in a practical context.

Team activities are a standard component of PBL. Kim (2000) presented a core theory for organizational success which states that enhancing the quality of relationships is a crucial initial step in improving the quality of results. As the quality of relationships improves, there is a corresponding deepening of mutual understanding and respect. Through collective deliberation, the quality of thinking is enhanced, thereby facilitating instinctive action and, in turn, the quality of actions. Ultimately, this process culminates in the attainment of superior outcomes, the reinforcement of trust, and the improvement of relationships. Consequently, the pursuit of optimal results hinges on the cultivation of robust relationships within the team. It is also imperative to ascertain the group's objective.

Tuckman (1965) and Tuckman and Jensen (1977) propose the following five steps as team building (team evolution). It is important to be aware of where the group is currently at. **(1) Forming:** The team has recently been formed, and the members are not yet fully acquainted with one another. Consequently, the team is yet to establish its objectives. **(2) Storming:** There is a discrepancy in opinion regarding the team's purpose. Furthermore, there are differing opinions regarding human relationships, roles, and the responsibilities of each individual, leading to conflicts. **(3) Norming:** A

code of conduct is established, delineating the purpose and procedure of the team. Additionally, each member's role is defined, and the relationships within the team are stable. **(4) Performing:** A sense of cohesion and unity is established within the team, and through the collective power of the team the objective is attained. **(5) Adjourning:** Upon the fulfillment of the project's objectives, the mutual relationship between members (team relationship) reaches its conclusion.

In light of the aforementioned factors conducive to PBL, Ohba (2020) explored PBL's potential in fostering independent, autonomous, and cooperative learning among students enrolled in a teacher training program at the university level. The study focused on the course subject "Teaching English as a Foreign Language at Secondary School," which encompassed English teaching methodology. According to the overarching theme of "Developing materials that will stimulate interest among junior high school students and encourage them to engage with the English language," the participants were tasked with developing teaching materials and presenting and evaluating them using their own rubrics. The objective was to cultivate their qualifications and abilities as prospective educators. The participants investigated the subject of English education at the junior high school level and developed instructional materials that leveraged the full potential of information and communications technology (ICT). To assess the impact of this course on the participants' personal growth, their reflections, responses to a questionnaire, and learning motivation logs were carefully analyzed.

A considerable proportion of the participants lacked prior experience of learning through PBL, which initially presented a significant challenge. However, as evidenced by their learning log, there was a notable increase in motivation to learn, accompanied by a positive shift in attitude towards project involvement. This was characterized by proactive, autonomous, and cooperative engagement. In Ohba's (2020) study, the teaching materials were developed independently of the authorized textbooks used in junior high schools. In this study, however, participants will create teaching materials based on the authorized textbooks and conduct microteaching.

3. Method

3.1 Participants

The participants of this study were 30 third-year undergraduate students majoring in School Education at National University of Teacher Education in Japan. All the participants were pursuing a junior high school teaching certificate in English. They had acquired the fundamental principles of English language teaching and learning during their second year in the course "Fundamentals of Secondary English Language Methodology." They demonstrated a keen interest in and motivation for learning English and English education. I obtained the necessary permissions to use the participants' reflections, questionnaire responses, and classroom teaching materials in our presentations at academic conferences.

3.2 How the classes were taught

This study was conducted as part of the regular university course taught by the author once a week for a period of 15 weeks, with each session lasting for 90 minutes. The course subject was "Teaching English as a Foreign Language at Secondary School," which encompassed advanced English teaching methodology. In the initial session of this course, the participants were provided with guidance on the value instruction (explanation of the significance and intention of implementation) of the PBL-type class, the setting of tasks, and the evaluation method. They were also introduced to the structure and content of certified English textbooks for junior high schools, as well as the objectives and methodologies of teaching English at junior high schools, through lectures delivered by the author.

Subsequently, the participants were engaged in PBL; that is, they began conducting autonomous learning activities. This included identifying issues, setting goals, creating and adjusting learning plans, creating teaching materials, building consensus, presenting results (as microteaching), and self-evaluation. The participants were divided into teams of four or five to identify and discuss solutions to the challenges of teaching English to secondary school students. This was an active learning class,



in which the students were expected to engage in a mutual learning format with teamwork as the main component. They were then required to develop teaching materials and methods over the course of 10 classes. In classes 11 to 15, the participants presented their ideas for microteaching.

In preparation for the microteaching sessions, each team discussed how to organize and develop the microteaching content and which issues or problems may arise during the class. Teachers assumed the role of advisors, providing support to each team. Consequently, active participation in the class was essential. During the microteaching sessions (held during classes 11–15), all students assumed the role of a teacher, and the class was conducted in English (with a maximum duration of 25 minutes). To facilitate peer and self-assessment, students were provided with a rubric (Table 1) for use in the microteaching.

Table 1 - Rubric for use in the microteaching

Evaluation Points	Ideas	Connections	Extensions
Integrity	Design an actual junior high school English class and conduct microteaching that meets the minimum requirements.	Work in a group to design an actual junior high school English class and conduct microteaching based on original teaching materials.	Work in a group to design an actual junior high school English class, and conduct microteaching that can be used immediately in the classroom.
Attitude	All members participate actively in group activities.	All members actively participate in group activities.	All members actively participate in group activities and endeavor to create a good mock class.
Materials	Produce English teaching materials that align with the content of English textbooks for junior high school students.	Prepare English language teaching materials that align with the content of junior high school English textbooks, and that show ingenuity in many areas.	Create English language materials that align with the content of junior high school English textbooks and that excite and inspire junior high school students.
Micro-teaching	Microteaching is clearly explained.	Microteaching takes into account the needs of the audience.	Microteaching is developed in a creative way.

3.3 Data collection and analysis

A qualitative analysis was conducted on the data gathered from the reflections (written in Japanese) completed after each class and the open-ended questionnaire administered at the conclusion of the course.

4. Results and discussion

All teams produced materials of considerable interest and engagement, based on the content of the interactive lectures delivered at the beginning of the course. In presenting and discussing the results, I will focus only on the responses to the open-ended questionnaire administered at the end of the course.

Table 2 - Responses to the open-ended item “Please describe what you did, learned, understood, noticed, and felt during the team activities leading up to the creation of the teaching materials.”

Participant	Participant's description (translated and underlined by the author)
A	In creating the teaching materials, <u>the team was divided into two groups: one to create an introduction to the class and the other to create an oral introduction.</u> The team then discussed and refined the finished product. What I learned from the team activities leading up to the creation of the teaching materials was that discussions among several people can generate a lot of ideas. I think I was able to broaden my perspective and deepen my thinking by hearing new opinions and ideas that would have been difficult for me to come up with on my own.
B	When thinking about the teaching materials, I found it difficult to connect the introduction to the “think” section. As I created the teaching materials, I learned that the introduction should not only attract the student's interest, but also connect to the next lesson. As I thought about it, <u>I sometimes got a little</u>

	<p><u>off-track and lost track of what points to focus on, so I learned the importance of thinking about the details of the content after first considering what kind of figure to aim for and what the goal is.</u></p> <p>In addition, we were able to proceed while confirming how the textbooks should be handled in the process of creating teaching materials. By doing so, we were able to understand that it is useful to introduce the contents of the textbook and then deal with the contents of “think,” as in this microteaching, so that students can acquire English that they can actually use in their daily lives, rather than just doing the textbook contents in the order in which they appear in the textbook.</p>
C	<p>In the team activities, we worked on the teaching plan and came up with ideas for the flow of the class. <u>During the team activities, I realized that it is important for everyone to understand the overall flow of the class and to create the class together, rather than each person creating his/her own part. I also understood the importance of rehearsals.</u> By rehearsing and going to class, I was able to conduct the class calmly and notice details such as time allocation, so I realized the importance of rehearsals once again.</p>
D	<p><u>As we worked together as a team, we came up with many ideas on how to use this teaching material,</u> and I thought we were able to approach the class in a way that would allow students to participate using the whiteboard. In addition, while there were many opinions and ideas when considering the transition from the topic of the unit to the relevant page, I felt that it was difficult to unify the direction of the class because the opinions were not very cohesive. <u>I thought it was difficult to proceed while fully incorporating the opinions of everyone in the team. However, by working as a team, we were able to discuss points that needed to be improved and points that could be done better, and we were able to look at the project from multiple perspectives.</u></p>

Table 2 illustrates the responses to the open-ended item by participants who provided low (Participant A and Participant B) and high (Participant C and Participant D) self-evaluations of their microteaching as post-course reflections. The item was as follows: “Please describe what you did, learned, understood, noticed, and felt during the team activities leading up to the creation of the teaching materials.”

In the process of creating the teaching materials, Participant A was dividing the work among the team members, and later discussing and compiling the materials as a whole. Although the team members shared many ideas while creating the teaching materials, it was difficult to make major changes to the materials once they had been created. Participant A felt that the overall quality of the teaching materials was not very high. In fact, self-evaluation of the teaching materials by Participant A was the lowest. As for Participant B, the team may not have been able to share a satisfactory level of understanding of the textbook and the goals of the class until the end. As a result, the team's attitude was good, but the final microteaching integrity was low.

What Participants C and D have in common is that, even when they encountered difficulties in creating the textbooks and microteaching content, they always shared their opinions and worked as a team to make improvements, which resulted in the creation of satisfactory and well-rounded teaching materials and microteaching. In addition, I believe the well-rehearsed preparation created a sense of team unity and helped them perform at a high level. It seems that the quality of relationships within the team is the key to successful outcomes (Kim, 2000). However, the process of improving the quality of relationships does not seem to take place immediately as described by Participant D (Tuckman, 1965; Tuckman & Jensen, 1977).

Table 3 - Responses to the open-ended item “Please describe in detail what you did (as a certain role), learned, understood, noticed, and felt during the presentation (microteaching).”

Participant	Participant's description (translated and underlined by the author)
A	<p>In the microteaching, I was in charge of the oral introduction portion. The key point was how to convey the textbook content in an enjoyable and easy-to-understand manner. In creating the class, I found it difficult to explain new vocabulary and emphasize new expressions. I thought that by using PowerPoint and illustrations and making it as easy as possible for students to understand, they would be more actively engaged in the class. I also thought that reading out all the answers on the whiteboard was time-consuming and difficult at first, but by doing it in groups, the number of times the answers are read out could be reduced and, more importantly, students could have time to discuss with each other, which would be a good opportunity for communication and useful in any class. This is considered to be useful in any class.</p> <p>However, <u>this time, since the class was created through group discussions, a lot of time was needed for refinement. When I actually stand in front of students and give a class, I don't think I will be able to spend as much time as I did this time, no matter how carefully I prepare for the class.</u> I would like to keep an eye on what kind of things attract students in their daily lives and what kind of content they</p>



	are interested in, and while doing research to create good classes, I would like to devise ways to shorten the time required for class preparation as much as possible.
B	<p>I was in charge of the content of “think 1” part of the textbook in microteaching. Since several people were going to conduct the microteaching, I added a few things to the contents of the textbook and conducted a role-play. In the role play, I felt it was important to play the role of a character so that the students could easily understand what was being said, and to repeat the important parts so that the students would notice them.</p> <p>In addition, <u>there were times when I could not remember English expressions at a moment's notice, so I felt that I need to be exposed to English on a daily basis.</u> Moreover, when I actually become a teacher, it is possible that I will not have time to learn English to the extent as I did this time. I feel it will be necessary to think about the process of the class to continue learning, and to have the ability to move forward on the spot in class while looking at the slides.</p>
C	<p>In microteaching, I taught the introductory part as the main teacher. I was in charge of explaining about the world-famous Japanese manga, and <u>I tried to make the class student-centered so that students could think well and present their ideas. I found that writing on the whiteboard rather than raising hands was a lower hurdle to speaking up, and students actively participated in class.</u> In hindsight, <u>I think we should have created more opportunities for students to speak English.</u></p>
D	<p>In the microteaching, each team member was in charge of a certain part of the class, such as enlivening the class, and I was in charge of summarizing the topic at the end of the class. I had a script for what to say in English beforehand, but <u>I wish I had learned classroom English to see how the students reacted to what I said. If I was more proficient in classroom English, I would have been able to use it more during the group discussions. During group discussions and retellings, I wanted to react in English to what the students were saying, but I didn't know how to convey my reactions in a way that the students would understand, so I had to pause and use Japanese.</u> Furthermore, when I was looking at other members who were teaching the same part of the textbook, I thought it would be better if I could not only read out from the whiteboard but also give reactions to the students' opinions. I don't think it is necessary to react every time the whiteboard is read out, but it would have been better to show reactions from time to time so that it would not become a task of just reading out loud. I felt this way especially since there were many occasions when the whiteboard was used.</p> <p>Furthermore, <u>when conducting the retelling activity, I forgot to instruct the participants that they could just project the screen and refer to the projected slides. I thought it would have been better to give detailed instructions carefully.</u> There were several other occasions when the whiteboard was read out loud, but I thought it would have been better to wait until the students were quiet before reading out loud because there was so much noise around the room that the teacher's voice seemed to be muffled by the students' voices. <u>I thought that more thought should have been given to what kind of consideration would be necessary for each activity during the planning stage of the class.</u> In this microteaching, there were many group activities. Therefore, I felt that I should have thought about the details of the lesson, imagining the considerations and learning styles before and after the group activities. I should have thought during the planning stage about how I would respond when something different from what I had envisioned or planned happened. Finally, <u>I thought that this microteaching was something that could be done by one person. Because we were teaching as a team like the other teams, we should have included things that could not be done by one person alone.</u></p>

Table 3 illustrates the responses to the open-ended item by students who provided low (Participant A and Participant B) and high (Participant C and Participant D) self-evaluations of their microteaching as post-course reflections. The item was as follows: “Please describe in detail what you did (as a certain role), learned, understood, noticed, and felt during the presentation (microteaching).”

With regard to microteaching, Participant A considered the activities to be beneficial; however, following the group preparation and subsequent mock teaching, they experienced a sense of unease about undertaking the task independently. Participant B recognized that microteaching with a team facilitated student learning by incorporating original components. However, they also acknowledged that their limited English proficiency had a detrimental impact on students' learning outcomes. This led them to recognize the importance of improving English speaking skills.

Participant C may have been deemed a particularly suitable candidate due to their evident confidence and satisfaction derived from assuming the role of primary instructor in microteaching. Participant D reflected on the experience, noting that she or he had not responded as satisfactorily to the English language and instructional methods as she or he would have liked. The microteaching exercise was evaluated as highly effective, however, the team's inability to optimize the potential of the group was identified as a concern.

5. Conclusion

The results of this study indicate that PBL engagement helped student teachers learn how to be proactive and motivated in engaging secondary school students in English learning. They gained ideas from cooperative learning through PBL and felt confident in their teaching skills. However, there are some differences and transformations in attitudes and learning among students.

The present study was only able to analyse a limited range of qualitative data. It was not feasible to examine intra-participant transformations and the variations among participants in their reflections following each class. A more comprehensive qualitative analysis of the data obtained in this study, incorporating the new data from the interview, will be required in future research.

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