

Action Research on Micro Project-Based Learning from the Perspective of Integrated Unit Teaching

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This study focuses on exploring the practical path of Micro Project-Based Learning from the perspective of integrated unit teaching, aiming to address the issue of integrating the Project Section with other sections in the new junior high school English textbook published by Shanghai Education Press. Based on two rounds of action research, a micro-project design framework is constructed, which includes “unit micro-project design”, “micro-project-based unit teaching”, “micro-project achievement display”, and “evaluation and reflection”. Practice shows that with the guidance of task lists and scaffolding support, this framework effectively promotes the integration of subject knowledge and the development of students’ core competence, providing a transferable implementation paradigm for integrated unit teaching.

Keywords: integrated unit teaching, Micro Project-Based Learning, new English textbook published by Shanghai Education Press

Introduction

New textbooks revised in accordance with *Compulsory Education Curriculum Standards* (2022 Edition) were officially put into use in 2024. *Compulsory Education Textbook English* (Grade Seven, Volume One) (referred to as new English textbook) published by Shanghai Education Press was first used in cities such as Guangzhou, Shenzhen. The new English textbook adheres to the concept of integrated unit teaching, emphasizing the integrity, situationality, and practicality of language learning. The newly added Project Section of the textbook requires that “students evaluate their learning in the unit by completing a comprehensive project. They need to apply the language knowledge, skills, and strategies learned in the unit to form a holistic understanding of the thematic meaning of the unit, and express their views and ideas or solve practical problems through projects” (Compilation Team of Junior High School English Textbooks Published by Shanghai Education Press, 2024).

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The essence of this requirement is to carry out Project-Based Learning (PBL) from the perspective of integrated unit teaching, which is an instructional perspective or principle that emphasizes setting unit learning objectives and organizing unit learning content from the perspective of the unit as a whole.

Nevertheless, traditional PBL usually involves a large-scale project. In junior high school, due to the constraints of teaching hours, students' cognitive level, and so on, it is challenging to implement PBL in its entirety. Therefore, Micro Project-Based Learning (referred to as Micro-PBL) has become a more feasible method. A micro-project refers to a mini project with real scenarios designed in accordance with the curriculum syllabus and is closely integrated with core knowledge. The learning activities of the project can be completed within one or two classes, thereby promoting students' knowledge construction and improving their ability to solve problems (Jiao, 2010).

However, how to take the Project Section as a starting point to integrate other sections within the unit remains to be explored through practice. Against this background, this study takes the new English textbook as an example and uses action research to explore the effective implementation path of Micro-PBL from the perspective of integrated unit teaching. The study focuses on the following questions:

- (1) How to organically integrate the Project Section with other sections to implement integrated unit teaching?
- (2) What is the effect of Micro-PBL from the perspective of integrated unit teaching?

Research Process

Problem Identification

In teaching practice, researchers found that the Project Section in the new English textbook faces some specific problems. Firstly, the connection between the Project Section and other sections (such as Reading, Listening) is not strong enough, which makes it difficult for students to systematically apply the knowledge learned in the unit to project practice. Secondly, the project design lacks hierarchy and pertinence, failing to give full play to its function of promoting students' language application ability. Based on the above problems, the researchers believe that how to organically integrate the Project Section into integrated unit teaching and design Micro-PBL activities that are in line with students' cognitive level and interests is a key issue to be solved in current teaching.

Problem Analysis

In response to the above problems, the researchers conducted an in-depth analysis from three dimensions: textbook design, teaching implementation, and students' learning.

Firstly, from the perspective of textbook design, the relevance between the Project Section and other sections within the unit is not strong enough, making it difficult for students to effectively use the knowledge learned in the unit in project practice. In addition, the task requirements lack of contextual support and step-by-step guidance, which increases the difficulty for students to complete.

Secondly, from the perspective of teaching implementation, there are certain deviations in teachers' positioning and implementation methods of the Project Section. Some teachers regard the Project Section as an additional task and fail to incorporate it into the unit's overall teaching objectives, resulting in the disconnection between project learning and unit teaching.

Finally, from the perspective of students' learning, although the task design of the Project Section provides students with opportunities for language practice, it may exceed the cognitive level and language ability of seventh-grade students. Students may face problems such as the disconnection between task scenarios and practical experience, the lack of necessary learning scaffolding and strategy support, which leads to low learning efficiency or insufficient motivation.

To sum up, there is room for optimization in the Project Section in terms of textbook design, teaching implementation, and students' learning. To maximize its role in promoting the development of students, it is necessary to strengthen the organic connection between sections from the perspective of integrated unit teaching, optimize the hierarchy and support of task design, and provide students with appropriate learning scaffolding and evaluation feedback. This provides a clear direction for the action research plans in subsequent research.

Action Research Plan Formation

(1) Research Objects

The objects of this research are 49 seventh-grade students from an ordinary junior high school in Panyu District, Guangzhou, Guangdong, China. The students in this school are mainly local students whose overall English proficiency is at a medium level. When the research was carried out, the students had basically adapted to the teaching mode of junior high school English classes (such as classroom activities, task requirements). However, some students still have deficiencies in language expression, cooperative learning, and problem-solving abilities. Choosing this class as the research object can better reflect the feasibility and challenges of implementing Micro-PBL from the perspective of integrated unit teaching in ordinary junior high schools.

(2) Data Collection Tools

This research uses class observation to gain an in-depth understanding of students' in-class performance and the specific implementation of teaching design; draws on the teacher's reflection logs to capture their actual feelings and reflections; and comprehensively employs interviews and questionnaires to explore students' psychological perceptions and actual needs.

(3) Research Plan

This study was conducted from November 2024 to January 2025, spanning 8 teaching weeks, with two rounds of action research carried out. Each round of action research includes three stages: "implementation and tracking", "observation and discovery", and "reflection and improvement". Through comprehensive discussion, a micro-project design framework from the perspective of integrated unit teaching was developed, as shown in Table 1. This study primarily enables students to independently collect project-related information and complete projects through collaboration. In this process, students can consolidate unit knowledge and develop their thinking abilities, which might help improve the relatively limited recognition abilities of Chinese users (Tian & Fussell, 2024). During the action research, the teacher flexibly adjusted the research plan according to the actual teaching situation.

Table 1

Micro-Project Design Framework for Integrated Unit Teaching

Micro-Project Stages	Integrated Unit Teaching Design	Specific Contents
Micro-Project Design	Conduct reverse design of micro-projects based on Project Section	Analyze the unit theme, determine unit objectives, sort out the connection between unit content and micro-projects, and flexibly adjust the teaching order within the unit.
		Determine the final form of micro-project achievements (e.g. leaflets, travel brochures), which must be strongly related to unit content.
Micro-Project Implementation	Project-based teaching of unit sections	Listening learning: Provide information support for project implementation, obtain background knowledge, etc.
		Speaking learning: Practice project-related expressions, and prepare for project display and evaluation.
		Reading learning: Read project-related articles and materials to obtain project knowledge.
		Writing learning: Write project-related text content to provide written materials for project display.
Micro-Project Display	Display of unit project achievements	Students display unit project achievements in groups, such as group oral reports, reader's theater, poster exhibitions, etc.
Micro-Project Evaluation and Reflection	Reflection on unit project achievements	Teachers and students participate in the evaluation together.
		Teachers guide students to compare their achievements with unit objectives, reflect on the achievement of unit objectives, summarize experience, and transfer it to subsequent learning.

Action Research on Micro-PBL from the Perspective of Unit Integration**(i) First Round of Action Research****(1) Implementation and Tracking**

The first round of action research spanned four teaching weeks, focusing on Unit 5 “Off to space” in the new English textbook; its Project Section requires students to create a space travel leaflet. The design was implemented following the micro-project teaching framework for integrated unit teaching, with the following steps (see figure 1):

Step 1: Task decomposition and list formulation. A task list was designed based on students’ learning needs, decomposing unit teaching into operable phased output tasks aligned with the final project goal. The sub-tasks for each section are as follows:

① Reading teaching: Students extract key information about space travel through text analysis and create “basic information cards”.

② Listening and grammar teaching: Students analyze listening materials about space hotels, focusing on extracting accommodation details and activity arrangements, then design “activity lists” and contact information (e.g., describing service content using the future tense: “Traveller will enjoy...”).

③ Speaking and writing teaching: Students deliver oral presentations of their travel plans and draft promotional materials for the final project display.

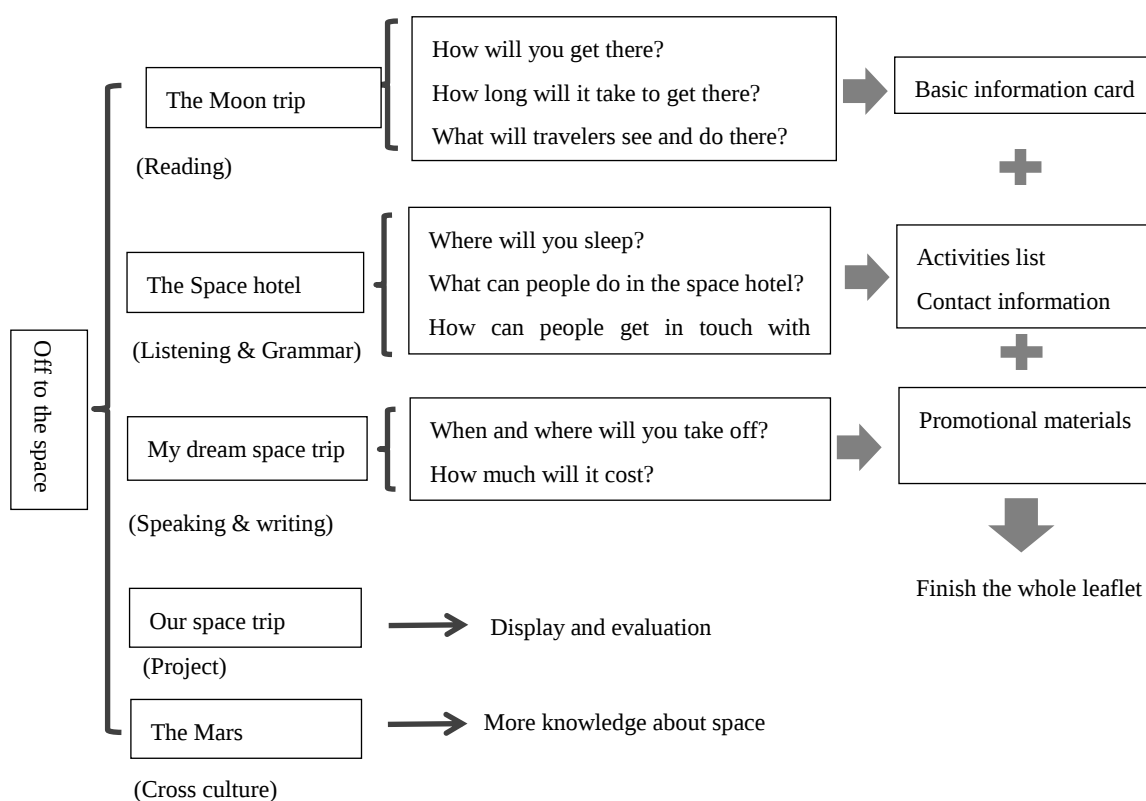


Figure1. Unit 5 task list.

Step 2: Integration of sub-tasks. During unit teaching, each group, guided by the task list, integrates the moon travel information extracted in reading classes, space hotel activity plans sorted out in listening classes, travel highlights refined in speaking classes, and promotional materials drafted in writing classes. Through group collaboration, students organically integrate text, charts, and complete a comprehensive leaflet.

Step 3: Display and evaluation of micro-project outputs. Students present unit project outputs in groups, such as oral presentations with English descriptions, focusing on explaining the design logic (e.g., the rationale of transportation plans and the innovation of activity arrangements). Teachers and students conduct joint evaluation and reflection on the outputs.

(2) Observation and Discovery

Through class observation, the researchers found that after adopting this model, both students' learning performance and teacher's teaching practices have changed. Firstly, students showed a strong goal orientation in class and were able to carry out learning activities purposefully. Moreover, with the help of the micro-project framework, students were able to think about the connection between different sections within the unit. For example, in a speaking class, a student figured out his partner's error and said "what you said contradicts what we talked about in the reading class". In terms of teacher's teaching implementation, teacher reported that under the framework of micro-projects, she could connect unit knowledge through task chains, helping prompt students to form an overall understanding of the unit.

(3) Reflection and Improvement

Through interviews with students and class observation, the following problems were found in this round of research: ① The micro-project lacked real scenarios, and some students thought that “space travel is far away from us”; ② Group collaboration lacked correct guidance, and some students mentioned that “I completed the task by myself, and they (the other group members) rarely participated”; ③ Traditional paper-and-pen creation formed a barrier for students with weak drawing ability, and coupled with the lack of evaluation standards, these factors jointly restricted learning enthusiasm.

Accordingly, in the next round of the research, it is necessary to construct real scenarios that are consistent with students’ cognition, formulate corresponding evaluation standards, so that creation and evaluation are evidence-based. At the same time, in the writing process, AI-assisted tools could be used to offer scaffolding for students, as they are effective complementary resources for language output task (Tian et al., 2025). Teachers should also appropriately intervene and guide to help students establish a cooperation mechanism, ensure reasonable division of work in groups.

(ii) Second Round of Action Research

(1) Implementation and Tracking

The second round of research lasted for four teaching weeks, and the teaching content was Unit 6 “Travelling around Asia” in the new English textbook, whose Project Section requires students to create a two-day travel plan for an Asian city. In the micro-project design stage, the researchers first sorted out the unit content, formulated unit objectives, and determined the micro-project as “creating a one-day electronic travel plan for Panyu”. The second round of research was also carried out under the guidance of integrated unit teaching, and its main steps were similar to those of the first rounds. The following adjustments were made to address the deficiencies in the previous research: ① Add micro-project background. Considering that most students are local people in Panyu, the abstract task of planning travel to an Asian city was concretized into the task of “spreading hometown culture”; ② Lower the difficulty by shortening the two-day travel plan to one day, and replace paper-and-pen production with electronic travel plans to cultivate students’ ability to use modern electronic technology; ③ Formulate corresponding evaluation standards to ensure that students have clear criteria for both production and evaluation.

(2) Observation and Discovery

After this round of research, a questionnaire survey was conducted among students. The data showed that Micro-PBL under integrated unit teaching can effectively stimulate students’ learning interest and motivation. Regarding the question “In the process of making projects such as travel plan, I realized the important role of English and became interested in English learning”, 41% of the students chose “very consistent”, and 22% chose “usually consistent”. In addition, regarding the question “Through making projects such as space travel leaflet, I master the vocabulary and sentence patterns in the text better”, 22.92% of the students chose “very consistent”, and 41.67% chose “usually consistent”; while in the question “I can use various resources to complete the production of travel plan, such as using electronic dictionaries to look up words”, 39.58% of the students chose “very consistent” and 35.42% chose “usually consistent”, which further indicates that students not only consolidated their language knowledge but also improved their autonomous learning ability.

The above survey shows Micro-PBL under the perspective of integrated unit teaching can significantly improved students' learning interest, language competence, learning ability, and cultural awareness, providing strong support for students' all-round development.

(3) Reflection and Improvement

After two rounds of action research, the teaching design path of Micro-PBL from the perspective of integrated unit teaching has become relatively mature, providing practical references for teachers to handle the Project Section in the new English textbook. However, due to the limitation of research time, whether this mode can be applied for a long time and whether students will feel fatigue still need further consideration.

Conclusion

Through two rounds of action research, this study constructs an implementation framework of Micro-PBL from the perspective of integrated unit teaching, which effectively solves the practical problem of the separation between the Project Section of the new English textbook and teaching practice. This framework integrates unit content through reverse design, connects listening, speaking, reading, and writing teaching through task chains, making micro-projects a dual carrier for both language learning and interdisciplinary literacy cultivation. Practice shows that localized scenario creation, hierarchical task design, and multiple evaluation mechanisms have significantly enhanced students' language application ability and cooperative awareness. In the future, it will be necessary to further explore in the regular implementation of micro-projects to address challenges related to students' cognitive load and teaching sustainability.

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