Implementation of Project-Based Learning in English Learning to Improve Students’ Vocabulary Mastery

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Abstract
This research was carried out based on the many students facing difficulties in expanding and enriching their vocabulary. Traditional learning approaches that are often used in teaching vocabulary are often monotonous and less attractive to students, which can lead to boredom and helplessness. For this reason, this study aims to improve students’ vocabulary mastery skills using Project-Based Learning. This research is a classroom action research conducted in two cycles. The subjects of this study were students in class 7E at SMPN 1 Getasan for the 2022/2023 academic year. The results of the data analysis in this study, that PjBL in learning material part of body and physical appearance can improve students' vocabulary mastery. This can be proven by the increased understanding of students' vocabulary from 5.4% to 81% in the first cycle and 100% in the second cycle. Learning using PjBL also increases the enthusiasm of students with evidence that in making projects students explore their knowledge more and contemplate their understanding with the various media they are interested in.

Keywords: Project-based learning, vocabulary mastery

INTRODUCTION

English language learning is an essential component of the educational curriculum in many countries, including at the secondary school level (Hu, 2002). Good English language skills, including solid vocabulary skills, can give students a significant advantage in understanding and communicating in the language (Gunawan, et. Al., 2023). However, many students need help in expanding and enriching their vocabulary. Traditional learning approaches often used in teaching vocabulary are often monotonous and less attractive for students, which can cause boredom and helplessness (Macklem, 2015).

To overcome this problem, innovative learning approaches such as Project-Based Learning (PjBL) can improve students' vocabulary skills (Kholis & Aziz, 2020). PjBL is a learning method involving students in real projects that require applying and using English (Putri, et. Al., 2017). Students will engage in context-based projects relevant to everyday life or topics that interest them.

In the context of English learning, these projects may involve activities such as making videos, presenting, writing stories, or creating a visual dictionary. PjBL offers several significant benefits in improving students' vocabulary skills (Riswandi, 2018). First, through real projects, students will be actively involved in learning new vocabulary related to their project topic. For example, if their project is about tourism in an English-speaking country, they will research, read, and communicate in English related to that topic.

Second, PjBL allows students to use their vocabulary in meaningful and relevant contexts, which improves their understanding and retention (Shafaei & Rahim, 2015). In PjBL, vocabulary is not taught in isolation but used in situations stimulating students' minds.
There are many ways to carry out fun vocabulary learning, including virtual dictionary-making projects, learning video projects, story writing projects, poster or presentation projects, and many more. In all these PBL projects, providing adequate guidance and support to learners is essential. Teachers can guide students in selecting appropriate vocabulary, provide feedback, and involve students in reflecting on their learning experiences.

Third, PJBL encourages teamwork and communication between students (Musa, et. Al., 2012). In PJBL projects, students often work in groups, sharing information, solving problems, and communicating using English. This stimulates active use of vocabulary and improves students' communication skills.

Fourth, PJBL can also increase students' motivation and interest in learning English (Putri, et. Al., 2017). Using an interactive and relevant approach makes students feel more involved and encouraged to learn new vocabulary. In English learning for grade 7 students, where they are developing their vocabulary base, PJBL can provide a compelling and exciting learning environment.

By engaging in exciting and meaningful projects, students can actively improve their vocabulary while developing other English skills such as reading, writing, and speaking (Yang, et. al., 2022). Thus, research on the use of Project-Based Learning to improve vocabulary skills in English language learning for grade 7 students is relevant and important to explore. This research will provide valuable insight into the effectiveness of PJBL in improving students' vocabulary skills and contribute to the development of innovative and engaging learning methods.

THEORITICAL FRAMEWORK

Project-Based Learning

PJBL refers to the theory and practice of using real-world work tasks in time-bound projects to achieve set performance goals and encourage individual and collective learning (Smith & Dodds, 1997; Defillippi, 2002). PJBL draws on the theory and practice of using real-world work assignments in time-limited projects to achieve mandated performance goals and promote individual and collective learning (Smith & Dodds, 1997; Defillippi, 2002).

The main reason behind PJBL is the need to adapt to a dynamic world. The argument is that students should thrive in learning-focused rather than teaching-centered environments. PJBL aims to build a student-centred setting where students are involved in trying and completing assignments. When tasks closely resemble real-world scenarios, students tend to be more motivated, and working on projects allows for the organisation of multiple learning processes simultaneously and integrated (Uziak, 2016).

PJBL allows students to gain in-depth content knowledge and develop 21st-century skills. Although project-based learning approaches may differ depending on grade level and subject, they must be carefully designed, supervised, and evaluated to build meaningful connections between rigorous academic content and essential 21st-century skills such as collaboration, communication, and thinking. Critical. This is achieved through student
involvement in creating high-quality and authentic products and presentations. (Setyarini et al., 2018).

The project-based learning method has six steps in the teaching and learning process. These steps are important questions, designing a project plan, creating a schedule, monitoring students and project progress, assessing results, and evaluating experiences (Bell, 2010; Setyarini et al., 2018; Sulistyowati et al., 2019; Zakiyah Ismuwardani et al., 2019).

Start with essential questions

Questions used in project-based learning lessons should be designed to engage students actively. (Setyarini et al., 2018). In this step, students choose a project topic based on the teacher's assignment. (Zakiyah Ismuwardani et al., 2019). During this step, students will explore and gather various information to find answers to the questions at hand.

Design a plan for the project

This step involves establishing guidelines for implementing project tasks and selecting activities that support project work. Both students and teachers gather the necessary materials for the project. (Zakiyah Ismuwardani et al., 2019). Project design activities involve selecting the type of project based on essential questions and determining activities in the investigation process. In this phase, the teacher is a facilitator, ensuring students’ project plans remain rational, logical, and achievable. Project design activities aim to support students in developing critical thinking skills by selecting the type of project, problem-solving, and planning activities in the inquiry process. (Hamidah et al., 2020).

Make a schedule

This step involves determining a timeline for completing the project, including the duration for each stage or phase. (Zakiyah Ismuwardani et al., 2019). Students and teachers collaborate to develop project details guiding students from initial opening activities to completion. (Setyarini et al., 2018). Creating a project timeline aims to help students develop skills in time management, self-management, and teamwork.

According to Hamidah et al. (2020), in compiling a project timeline, several activities need to be carried out, including a) Students create a timeline in groups, covering the planning to reporting stages of the project. b) The schedule should include activities, deadlines, and assigned responsibilities. c) After all groups have completed their schedules, the teacher collects the project schedule sheet. d) Project time sheets are a tool for teachers to monitor project progress.

Monitor students and project progress

At this stage, students and teachers take different roles. Students are actively involved in completing their projects, while teachers provide guidance and support. The goal is to identify critical information necessary for the successful completion of their project. (Setyarini et al., 2018). The teacher is responsible for monitoring student activities throughout the project, from start to finish. In the monitoring process, teachers create rubrics to assess and record student progress in completing project assignments. (Zakiyah Ismuwardani et al., 2019).
This stage aims to improve students’ skills in data processing, problem-solving, independence, teamwork and communication. Activities at this stage include: a) Students carry out inquiry activities following the project timeline. b) Students manage data obtained from the inquiry process. c) Students create content for the project. d) The teacher allows each group to consult about their progress. e) Students revise (if necessary) or complete the project. (Hamidah et al., 2020).

**Assess the results**

At this stage, students prepare reports or products that they have created. Afterwards, students present their work to the class (Zakiyah Ismuwardani et al., 2019). During this stage, teachers provide feedback to students regarding their understanding of the information and areas for improvement. The step ends with evaluating the student's overall experience (Setyarini et al., 2018).

According to Hamidah et al. (2020), the purpose of assessing project results is to ensure that all group members are responsible for the results of their projects. Teachers can also evaluate student performance and project results as formative assessments. The activities carried out in assessing project results are as follows: a) Students present the project results and explain the production process. b) Presentations can be made using the target language. c) Other group members can ask questions about the project results. d) If the project result is a drama, students perform the drama prepared at this stage. e) Meanwhile, the teacher conducts a formative assessment using a rubric to measure the project process and results.

**Evaluate experience**

In the evaluation phase, students can reflect on their experiences throughout the project assignments. (Zakiyah Ismuwardani et al., 2019). The teacher encourages students to engage in individual reflection, such as journaling, as well as group reflection and discussion. Teachers guide students to share their feelings and experiences and facilitate discussions about what works and what needs to be changed or improved. (Setyarini et al., 2018).

This stage encourages students to share their difficulties during the project and assess their ability to complete it. Activities that can be carried out to evaluate the results of projects and learning activities include: a) The teacher provides feedback on the projects presented by students. b) The teacher reflects on learning activities. c) Students can share their experiences while working on the project. d) Students are also allowed to revise the project results if necessary. (Hamidah et al., 2020).

Students have the option to undertake projects in a variety of formats and settings. They can choose to work independently, in small groups within their class, as a class, or collaborate with other classes from the same or different schools. Additionally, projects can be undertaken in a variety of contexts. Students can work on projects outside of regular class time, seek guidance from community mentors, or work on them in regular courses with help from teachers or student leaders. These different structures and contexts give students various opportunities to engage in project-based learning, encouraging collaboration, critical thinking, creativity, and real-world problem-solving skills (Flemming, 2000).

**English Learning**
English learning is the process by which individuals acquire communication skills in English. This involves learning vocabulary, grammar, pronunciation, and speaking, reading, writing, and listening skills in an English language context. The main goal of learning English is for individuals to communicate effectively with people who speak English as a first or second language. English language learning can be done through various methods and approaches, including direct teaching, interactive teaching materials, group activities, games, and the use of technology and digital resources to improve English language skills (Mahsar, 2022).

**Vocabulary Mastery**

Vocabulary mastery, or mastery of vocabulary, refers to a person's level of proficiency in understanding, using and remembering words in a language. Good vocabulary mastery in a language such as English is essential because vocabulary is critical in communicating fluently and effectively (Hamer & Rohimajaya, 2008).

Vocabulary mastery involves understanding words, their meaning, correct pronunciation, and the ability to use them in appropriate contexts. Someone with good vocabulary mastery can easily recognize and understand words encountered in reading, conversation, or other communication situations. They can also use vocabulary appropriately in oral and written communication to convey messages clearly and effectively (Aprinawati, 2017).

To achieve vocabulary mastery, someone must actively learn and practice using new vocabulary. This can be done through reading books and articles, listening to audio materials, interacting with native speakers or peers in the target language, and engaging in various learning activities focusing on vocabulary. Techniques such as making word lists, using flashcards, and practising in relevant contexts can also help improve vocabulary mastery. Good vocabulary mastery positively impacts overall communication skills, reading comprehension, and confidence in using language (Ratminingsih, 2021).

**METHODS**

The research was designed using classroom action research (PTK) because this research aims to improve students' ability to listen to parts of pronunciation. Classroom Action Research aims to address and find solutions to specific and practical problems to improve the quality of the learning process that occurs in the classroom, which can be measured by increasing students' abilities. Classroom action research is a way for a person or group to organize a condition so that they gain experience, and other people can also access this experience to improve the quality of the teaching and learning process. This research was carried out by teachers in their classes to improve teaching methods and improve learner learning outcomes (Paizaluddin, 2013: 8).

**Subject of The Rsearch**

The subjects of this research were 37 students in class 7E at SMPN 1 Getasan in the 2022/2023 academic year. The reasons for choosing this class are based on several considerations: the class's average score on the pre-test for part of the body material, their lack of interest and motivation in participating in teaching and learning activities due to difficulties in understanding or lack of mastery of English vocabulary.
Research Instrument

The instruments of this research are tests and observations. The test determines vocabulary knowledge regarding parts of the body material for the first cycle and physical appearance material for the second cycle. Observations were made to see whether students could understand the vocabulary in the material and its translation in Indonesian.

Research Procedure

This research procedure uses a Self-Reflective spiral design, which includes planning, acting, observing, reflecting and then replanning for the following stages of implementation, observation and reflection (Cohen et al., 2007) in the next cycle. The determination of the success criteria for this research is based on the assessment provisions set by SMPN 1 Getasan, namely the minimum completeness score (KKM) is 75 for at least 80% of students.

Data Collection Technique

The data in this research were obtained from the results of tests given to students, which included test and observation results. Test, which consists of pretest and post-test. The pre-test, which is given at the beginning of learning, aims to determine the initial level of ability of students to know vocabulary regarding parts of the body and physical appearance. The post-test, which is given at the end of the cycle, will determine the continuation or end of the cycle, as well as improvements that need to be made in the learning process. Observation results, observation indicators must meet the indicators determined based on learning sub-achievements.

Data Analysis

The data obtained in this research were analyzed in two ways. The number of correct answers divided by the number of questions is calculated to determine the test results for each student. Then, to determine the success rate, 80% of students get a minimum score of 75, and the number of students who get a score greater than 75 is divided by the total number of students multiplied by 100%. For observation results, achievement indicators are analyzed descriptively based on findings obtained in the teaching and learning activities so that the activities carried out by students are depicted.

FINDING AND DISCUSSION

Test Implementation Results

To measure or evaluate whether or not there is an increase in students' learning outcomes after implementing PjBL, a test is given regarding vocabulary knowledge with material on parts of the body and physical appearance. The test contains 10 multiple-choice questions, 5 matching questions, and 5 listening questions on part of the body material. Meanwhile, the physical appearance material questions consist of 6 questions on matching pictures with vocabulary, 5 questions on matching, and 11 questions on completing missing letters. The types of questions are modified in each test while still considering the same difficulty level. Based on the test results given in each cycle, data is obtained as summarized in the table 1.
Table 1. Test Implementation Result

<table>
<thead>
<tr>
<th>Scoring Scale</th>
<th>Pre-Test Cycle 1</th>
<th>Post-Test Cycle 1</th>
<th>Pre-Test Cycle 2</th>
<th>Post-Test Cycle 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualitative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>85 - 100</td>
<td>1</td>
<td>19</td>
<td>1</td>
</tr>
<tr>
<td>A-</td>
<td>80 - 84.99</td>
<td>1</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>B+</td>
<td>75 - 79.99</td>
<td>0</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>B</td>
<td>70 – 74.99</td>
<td>3</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>B-</td>
<td>65 – 69.99</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>C+</td>
<td>60 – 64.99</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>C</td>
<td>55 – 59.99</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>C-</td>
<td>50 – 54.99</td>
<td>4</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>D</td>
<td>&lt; 49.99</td>
<td>23</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>37</td>
<td>37</td>
<td>37</td>
</tr>
</tbody>
</table>

Based on Table 1 above, there is an increase in student learning outcomes by implementing PjBL in learning material about parts of the body and physical appearance. This can be seen from the decrease in the number of students who did not achieve a completion score (75 or B+) from before the implementation of PjBL, namely 35 or 94.6% in the pre-test until after the implementation of PjBL in cycle one it became 7 people or 18.9%, and 0 people or 0% in cycle 2. This shows that this research was successful. For more details, the percentage increase in student learning outcomes in each test can be seen in Table 2.

Tabel 2 Percentage of Test Result Completeness

<table>
<thead>
<tr>
<th>Completeness</th>
<th>Pre- Test Cycle 1</th>
<th>Post- test Cycle 2</th>
<th>Pre- test Cycle 2</th>
<th>Post- test Cycle 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F %</td>
<td>F %</td>
<td>F %</td>
<td>F %</td>
</tr>
<tr>
<td>Complete</td>
<td>2 5,4%</td>
<td>30 81%</td>
<td>7 19%</td>
<td>37 100%</td>
</tr>
<tr>
<td>Incomplete</td>
<td>35 94,5%</td>
<td>7 19%</td>
<td>30 81%</td>
<td>0 0%</td>
</tr>
</tbody>
</table>

Note: F stands for Frequency

Table 2 shows that in the pre-test, 2 students obtained a score greater than 75 or category B+, with a percentage of complete learning outcomes only reaching 5.4%. This shows that more than half of the students need help understanding vocabulary material. Then, Project-Based Learning was applied to the learning process in the first cycle, which increased by 81%; namely 30 students obtained a score greater than 75, with a learning completion percentage of 81%. This percentage is sufficient for the class learning completeness standard, namely 80%, so it is continued to the next cycle to obtain valid results. In the second cycle, the class completion standard was achieved, namely 100%, with 37 students scoring over 75. This indicates that this research was successful. Implementing PjBL in learning parts of the body and physical appearance increased student learning outcomes from 81% before it was implemented to 100% after it was implemented in the second cycle.
Overall, this analysis confirms that the application of Project-Based Learning to learning material about parts of the body and physical appearance succeeded in increasing student learning outcomes from 5.4% before the intervention to 100% after the second cycle. This shows that this method is not only effective but can also be relied upon to significantly improve the quality of education and student understanding.

Observation Results Observation

Observations were made during the teaching and learning process regarding parts of the body and physical appearance, namely for 4 meetings or 4x80 minutes. At the first meeting, to determine students' initial level of ability to understand vocabulary with part of the body material, students were given a pre-test. During the pre-test process, the researcher made direct observations on each student. Students need clarification when taking the tests given. Some of them do not need help understanding what needs to be done. They answer questions based on intuition alone. After the test was given, the researcher, as the implementer, asked questions about the material that would be given, namely about body parts and their characteristics, using English. They need help understanding the English material because many have never studied it before. The researcher then explained, gave examples, and provided practice questions for each vocabulary part, which were then discussed with the students per the PjBL syntax. For this reason, the researcher changed the learning strategy from explaining, giving examples, and working on practice questions to implementing Project Based Learning. The first cycle of this research began.

The researcher then explained Project Based Learning and gave assignments to students in eight small groups. Each group was asked to create a learning media design that would make it easier for them to recognize vocabulary regarding parts of the body. Next, students discuss the distribution of tasks for each group member and prepare an implementation schedule approved by the teacher. The teacher monitors the progress of each stage by asking students to write down each stage of the project, including the date and activities, and then report it to the teacher. Teachers also guide students if, during the implementation, students experience obstacles or difficulties. The teacher monitors students' work by monitoring the project development process through the class WhatsApp group.

At the second meeting, each group of students presented the results of the projects that had been implemented, most of which were in the form of paper-based images with written descriptions in English. Each group received comments and appreciation from other groups. The teacher also provides feedback and opportunities for students to make revisions to the projects they have created. At the end of the meeting, the teacher provides conclusions regarding the projects implemented and reflects on learning with the students.

Peer assessment is also carried out to assess the answers to the questions given. At the end of the meeting, the researcher gave another post-test. The post-test results showed significant progress, namely 81% completion, which means that the class completion standard was 80%. So, it was continued to the next cycle, namely the second cycle, to show more valid results.

In the implementation of cycle 2, the teacher continued with new material, namely physical appearance, but it was still relevant to the previous material, namely parts of the
body. The teacher explains a little about the physical appearance of the material by giving a model to the students and explaining the characteristics of human body parts. Then, the teacher conducts a pre-test to determine how much the students understand the material. The results obtained were that 7 students completed it, or 19%. Then, the teacher carries out the learning treatment using PjBL again but with advanced material.

Teachers implement project-based learning in accordance with PjBL syntax, but for this cycle, teachers divide tasks individually. The instructions are that students are asked to create learning outcomes that can make them understand how to explain or describe someone. The final results obtained can be adjusted according to the student's interests. Examples can be photos, posters, paper-based videos, etc. Then, students carry out project planning make schedules, and the teacher monitors these activities. Even outside class hours, the group still uses WhatsApp group media to monitor.

The fourth meeting is an agenda for students to present the results of the projects they have created. Students give each other feedback to colleagues who are making presentations. The final results students create are primarily in the form of posters or infographics made via web pages, paper-based videos, and more. Teachers provide feedback, suggestions and appreciation for the results of projects that students have worked on. After reflection and conclusion, the results were carried out, and students were asked to take a post-test, which achieved very satisfactory results. Namely, 100% of students completed the test. After that, the teacher asks students to assess the student's performance results using self-assessment.

Implementing PjBL increased students' understanding from a meagre percentage of completeness in the pre-test to 81% in the first and 100% in the second cycles. The PjBL method has proven to be effective in improving student learning outcomes. PjBL improves understanding and students' collaboration skills, creativity and presentation abilities. The teacher's role in monitoring and providing continuous guidance, both during and outside class hours via digital media, is vital to the success of this method. Self-assessment helps students be more reflective of their learning process and provides a deeper understanding of their achievements. Overall, this research confirms that the Project Based Learning method is an effective learning strategy for improving students' understanding and skills in vocabulary material, especially on the topics of "parts of the body" and "physical appearance".

CONCLUSION

Based on the results of data analysis in this research, PjBL on the part of the body and physical appearance of learning material can improve students' vocabulary mastery. This can be proven by increased students' vocabulary understanding from 5.4% to 81% in the first and 100% in the second cycles. Learning using PjBL also increases students' enthusiasm, with evidence that in doing projects, students explore their knowledge more and enhance their understanding of various media that interest them.
REFERENCES


