

Effectiveness of project-based learning in improving nahwu learning outcomes

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ABSTRACT

Based on the results of Nahwu's initial ability assessment of students, only 7.8% of students passed the minimum completion criteria (KKM). This data indicates that students do not understand Nahwu science well. For this reason, Project Based Learning (PjBL) is applied in learning to determine its effectiveness in improving student Nahwu learning outcomes. In this regard, researchers used a quasi-experiment method type one group pre-test post-test because the data came from students in the 3rd grade of Arabic Language Education (PBA) D for the 2023/2024 academic year, totaling 38 students. This data was collected through observation, interviews, tests and documentation techniques. Then, the data was analyzed using a paired sample t-test to determine students' Nahwu learning outcomes before and after using PjBL and N-Gain Score to determine their effectiveness in improving students' Nahwu learning outcomes. The research results show that PjBL is quite effective in improving student Nahwu learning outcomes.

Introduction

Nahwu science is a branch of science that discusses general rules in Arabic. Therefore, Nahwu knowledge has a very important role. By studying Nahwu, students are able to master Arabic language skills, including understanding Arabic texts. In this regard, they can understand the sources of Islamic teachings, mengetahui kedudukan kata yang ada di dalamnya, and knowing the final meaning of words according to the circumstances (*rafa'*, *nasab*, *khafad*, *dan jazm*). However, students often experience difficulties in understanding it. Therefore, an appropriate approach is needed to overcome these difficulties.

Project Based Learning (PjBL) is a learning approach that provides teachers with the opportunity to manage learning in the classroom by involving project work. This learning approach has several advantages. First, PjBL challenges students to solve real problems through project activities. Second, students become active in learning. Third, PjBL trains students to think critically. Fourth, PjBL gives students the freedom to complete projects. Fifth, students become more independent and have responsibility for the projects they are working on.

In this case, several previous studies were found that discussed PjBL. For example, research by Chen and Yang suggests that PjBL has a positive impact on student academic achievement. This finding is strengthened by research by Guo, et al. Yang explains that PjBL is a promising approach in improving student learning outcomes. Almulla's research revealed that PjBL has been proven to increase student involvement in lectures, so this approach is highly recommended for implementation in universities. Moreover, this approach is also able

to develop students' Higher Order Thinking (HOT), such as critical thinking and creative thinking. which is characteristic of 21st century learning. In this regard, Febriani, et al. Implementing this approach in the Nahwu Marfu'at course at UIN Imam Bonjol Padang which states that learning Nahwu by investigating verses from the Koran can balance theory and practice in learning Nahwu.

This experimental research aims to implement PjBL and determine its effectiveness in improving student Nahwu learning outcomes in the "Study of Arabic Texts" course at UIN Imam Bonjol Padang. In this regard, this research contributes both theoretically and practically to the use of PjBL in Nahwu learning and is expected to be an alternative learning approach that can help lecturers in delivering Nahwu material. In addition, this approach is expected to be able to help students understand the material so that it can indirectly improve students' Arabic language skills.

Method

This study was carried out using a quantitative approach. The type of research used is a quasi-experimental method to determine the effectiveness of Project based Learning in improving student Nahwu learning outcomes. Furthermore, this research was designed in the form of one group pre-test post-test. Mulyatiningsih quoted Neuman as giving an example of this design which, when illustrated, would look like the following rules:

$$O_1 \qquad X \qquad O_2$$

Rules 1. One group pre-test post-test design

Information:

O: Measurement

X: Treatment

Based on the design, the primary data in this research comes from 3rd semester students of PBA D Academic Year 2023/2024 FTK UIN Imam Bonjol Padang who were chosen because they have qualities and characteristics that are suitable for study and drawing conclusions. Thus, the population in this study was PBA D students, totaling 38 students, while the sample was taken using total sampling or full sampling techniques, namely taking the entire population as a sample. Regarding the size of the population and sample, Arikuto stated that if the population is less than one hundred, it is better to take all of them so that the research is population research. But if the object is large it can be taken between 10-15% or 20-25%. Since the population was less than 100, the sample for this study was 38 PBA D students who were designated as the experimental group.

To obtain authentic data, researchers use data collection techniques that are appropriate to the type of data required, namely through participant observation, tests, structured interviews, and documentation. After the data was collected, the researcher tested the prerequisites for data analysis through a normality test using the Smirnov colmogroph technique. Then, a hypothesis test was carried out from this research. The hypothesis of this research is "There is a difference between the mean scores of the pre-test and post-test" with

an analysis technique in the form of a paired sample t-test. After that, an N-Gain score test was held to determine the effectiveness of Project Based Learning in improving student Nahwu learning outcomes with the help of SPSS. After that, the test results are categorized according to the percentages in table 1.

Table 1. Categories of Interpretation of N-Gain Effectiveness

Percentage (%)	Interpretation
< 40	Ineffective
40 – 55	Less effective
56 – 75	Effective enough
> 76	Effective

Results and Discussion

Implementation of Project Based Learning (PjBL) in Nahwu Learning

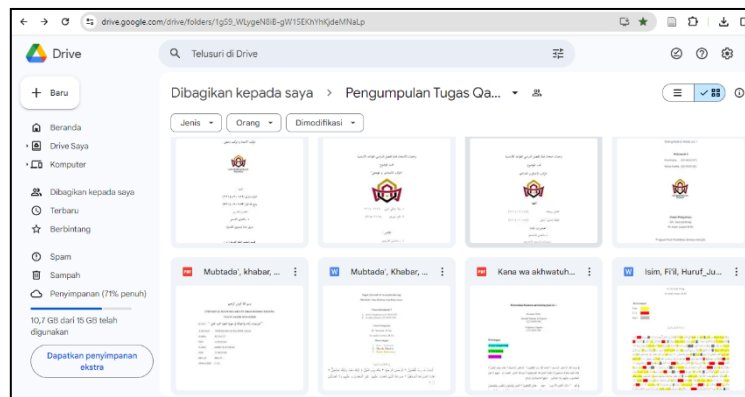
In this research, PjBL was implemented in the Arabic Text course. There are 16 meetings in this course, including Middle Test and Final Test. At the first meeting, the lecturer gives a pre-test to students to determine their initial abilities regarding the Nahwu material they will study. The pre-test is in the form of multiple choices consisting of 50 questions. The pre-test results showed that only 7.8% of students achieved the minimum completion criteria (KKM). Therefore, at subsequent meetings, the lecturer explains the material as shown in Image 1. After all the material has been presented, PjBL is applied in learning to improve student learning outcomes.

Figure 1. Material Delivery Process



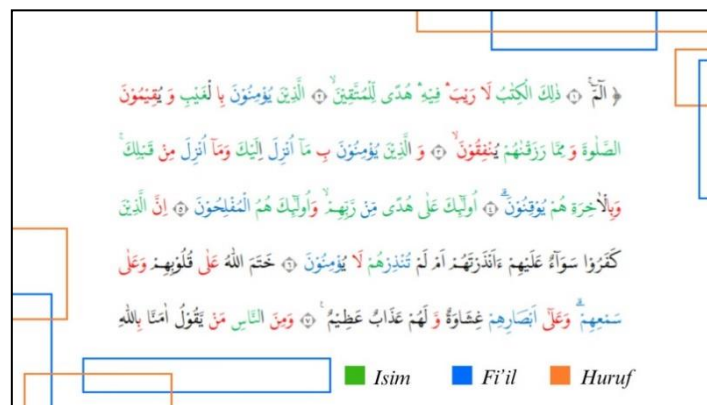
The project carried out by students in this course is to examine the position of words, i'rab signs, and sentence structure in juz 1 and 2 of the Qur'an. The project was carried out in groups consisting of two students per group. Picture 2 shows the projects undertaken per group.

Image 2. Arabic Text Study Projects by Students



Each group gets different rules, such as group 1's project which is tasked with studying isim, fi'il and letters in juz 1 which can be seen in Image 3.

Image 3. Group 1 Project Piece



Effectiveness of Project Based Learning in Improving Nahwu Learning Outcomes at UIN Imam Bonjol Padang

Data Descriptive Statistics

After the pre-test and post-test data from the experimental class were collected, the data was analyzed first by presenting it in table form to show a general overview of the data, as shown in table 2.

Table 2. Descriptive Statistics of Student Nahwu Learning Outcome Data

No	Student Learning Outcomes	N	Lowest Score	The highest score	Average
1	Pre-Test Eksperimen	38	16	84	53
2	Post-Test Eksperimen		39	90	75,8

Table 2 shows descriptive statistics of pre-test and post-test data on Nahwu learning outcomes for the experimental class. After implementing the PjBL approach, student learning outcomes have improved both in terms of the lowest and highest scores. Likewise, the average student learning outcomes increased from 53 to 75.8.

Data Analysis Prerequisite Test: Normality Test

The prerequisite test for data analysis that researchers carried out was the normality test. This test is carried out to find out whether the data distribution is normally distributed or not. In this regard, the technique that researchers used was the Kolmogorov Smirnov technique. For this reason, researchers used IBM SPSS 24.

Table 3. Normality Test Results

No	Data	N	Sig. (2 tailed)	Information
1	Pre-test	38	0,293	Normal
2	Post-test			

Table 3 explains the results of the normality test of the pre-test and post-test data for the experimental class. Both data show a significance value > 0.05 , namely 0.293. This means that H1 is accepted and H0 is rejected. Thus, it can be concluded that the data comes from a normally distributed population.

Paired Sample T-Test

This research hypothesis was tested using the paired sample t-test. In this regard, this test is intended to compare the average pre-test and post-test data for the experimental class before and after treatment. The hypothesis in this test is "There is a difference between the mean score of the pre-test and post-test". The results of the paired sample t-test can be seen in the following table:

Table 4. Paired Sample T-test Results

No	Data	N	Mean	Correlation	Sig.	Information
1	Pre-test	25	53	0,15	0,000	Significant
2	Post-test		75,8			

Table 4 shows the results of the paired sample t-test for the experimental class. The test results show that the correlation between the two variables is 0.15. This shows that the correlation between the two students' pre-test and post-test means is strong and significant. In addition, the sig value. (2 tailed) of both variables < 0.05 , which is 0.000. This means that the hypothesis is accepted. In other words, there is a difference between the average pre-test and post-test scores.

Test N-Gain Score

To answer the main research objective, namely knowing the effectiveness of PjBL in improving learning outcomes, Nahwu conducted an N-Gain Score percentage analysis to obtain interpretation categories, as listed in table 5, namely:

Table 5. Categories of Interpretation of N-Gain Score Effectiveness

No	Data	Percentage (%)	Evidence
1	Experiment Class	74	Effective enough

Based on table 5 which shows the interpretation categories for the effectiveness of the N-Gain Score, the percentage of the experimental class. The percentage of N-Gain Score for the experimental class is 74. This means that PjBL is quite effective in improving student Nahwu learning outcomes. These results confirm Chen and Yong's findings which state that

PjBL has a moderate to large positive impact on student learning outcomes compared to classical learning. Likewise, research by Guo, et al.

In this regard, PjBL in Nahwu learning creates a constructivist learning atmosphere where students construct their knowledge. Therefore, PjBL can be called student-driven (learning driven by students) or teacher-facilitated (lecturers as facilitators). Meanwhile, in the classical Nahwu learning approach, students tend to be passive and are expected to memorize Nahwu knowledge. In this case, the effectiveness of PjBL in Nahwu learning is a symbol of the transformation of rote Nahwu knowledge. In PjBL, students can learn by finding solutions, asking questions, debating ideas, designing plans, and communicating with other students. Therefore, it is hoped that future research can apply the same approach, but is oriented towards examining different juz in the Koran or applying PjBL in different subjects.

Conclusion

The Project Based Learning (PjBL) model is implemented at UIN Imam Bonjol in the course "Study of Arabic Texts" by assigning students who have been divided into groups to study certain rules in the Koran. Each group studied different rules in juz 1 or 2. This project was proven to be able to improve student Nahwu learning outcomes. Based on the N-Gain percent test, the effectiveness of the project is included in the quite effective category because it reaches a percentage of 74%. Therefore, it is hoped that future research can apply the same approach, but is oriented towards examining different juz in the Koran or applying PjBL in different subjects.

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