APPLICATION OF PARETO PRINCIPLE IN IMPROVING THE QUALITY OF STUDENT LEARNING IN UNDERSTANDING I'RAB

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui penerapan prinsip pareto dalam meningkatkan kualitas belajar santri dalam memahami I'rob di Pondok Pesantren Darul Muwahhidin Tarogong Kidul Garut. Metode yang digunakan dalam penelitian ini bersifat kuantitatif jenis *Quasi Experimental Design*. Hasil penelitian menunjukkan bahwa penerapan prinsip pareto teruji kelayakan validitas dan reliabilitasnya. Angket pemahaman i'rab santri terdapat 20 item pernyataan berkategori valid dengan skor 0,54. Hasil uji normalitas pretest kelas eksperimen sebesar 68 dan kelas kontrol sebesar 64. Hasil uji normalitas posttest kelas eksperimen diperoleh skor 87 dan kelas kontrol 82. Uji hipotesis menunjukkan nilai t hitung tidak berada diantara t tabel yaitu -9.7 < 2,09. Ini menunjukan bahwa prinsip pareto dapat meningkatkan kualitas belajar santri dalam memahami I'rob. Dengan demikian, temuan dari penelitian ini akan mendukung inovasi prinsip pembelajaran secara lebih efektif di Pondok Pesantren dan lembaga pendidikan Islam pada umumnya.
Kata kunci: prinsip pareto, kualitas belajar, i'rob

ABSTRACT

This study aims to determine the application of the pareto principle in improving the quality of santri learning in understanding I'rob at Darul Muwahhidin Islamic Boarding School Tarogong Kidul Garut. The method used in this research is quantitative type Quasi Experimental Design. The results showed that the application of the pareto principle was tested for validity and reliability. The questionnaire of the students' understanding of i'rab has 20 statement items categorized as valid with a score of 0.54. The experimental class pretest normality test results were 68 and the control class was 64. The experimental class posttest normality test results obtained a score of 87 and a control class of 82. Hypothesis testing shows that the t value is not between the t table, namely -9.7 < 2.09. This shows that the pareto principle can improve the quality of santri learning in understanding I'rob. Thus, the findings of this study will support the innovation of learning principles more effectively in Islamic boarding schools and Islamic education institutions in general.
***Keywords**: pareto principle, quality learning, i'rob*

INTRODUCTION

Nahwu science is a field of science that examines the end of a sentence either mu'rob or mabni (Alfain &; Anwar, 2024). It is meant to tell us what the final state of a word should be after it has been composed in an Arabic sentence. Nahwu science is usually studied and studied in Islamic boarding schools to understand the yellow book, especially in Salafiyyah-based Islamic boarding schools (Putri et al., 2022). The position of nahwu in this case becomes an inseparable part of the yellow book, because someone will not be able to read and understand it if they do not master the science of nahwu (F. Yahya et al., 2021).

Basically, to be able to read the book, one must understand another sub-field of science, namely sharaf (Humedi et al., 2023). Because according to Muhammad Ahsan bihi Bushoiri: الصَّرْفُ أُمُّ الْعُلُوْمِ وَالنَّحْوُ أَبُوْهَا which means *"The science of sharaf is the mother of all sciences while the science of nahwu is the father"* (Al-Falah, 2022). Imam Shafi'i also said that: مَنْ تَبَحَّرَ فِي النَّحْوِ هُدِيَ إِلَى جَمِيْعِ الْعُلُوْمِ which means: "Whoever is rich in understanding the science of nahwu, he will be given instructions to understand all knowledge" (Ats-Tsaqof, 1200).

This is in line with Shaykh Al-Imrithy's stated statement in his muqoddimah nadzom: وَالنَّحْوُ أَوْلَى أَوَّلًا أَنْ يُعْلَمَا # إِذْ الْكَلَامُ دُوْنَهُ لَنْ يُفْهَمَا which means "The science of nahwu is more important at the beginning of learning, because Arabic without it will not be understood" (S. Yahya, 1500). In this study, the author will concentrate the problem on I'rab material. This is due to the fact that many students are currently unable to master I'rob effectively and efficiently.

The problem usually faced by students in I'rab is in understanding the parts, characteristics, and places of I'rab. For students at the elementary level, I'rab becomes a complex thing when practiced because it includes various things that are interrelated with each other (Sam et al., 2021). Basic examples when understanding the word الْحَمْدُ in the sentence structure الْحَمْدُ لِلّٰهِ رَبِّ الْعٰلَمِيْنَ. The word الْحَمْدُ is arranged into mubtada, including i'rab rofa with ibtida, characteristic of rofa with dlommah because the sentence is isim mufrod.

Irab is a change in the end of the sentence because of the different amils that enter the sentence, either changes in the aspect of lafadznya or changes in the aspect of taqdir (Ash-Shonhaji, 1300). I'rob's position in the field of nahwu science is

inseparable, because its function is to help readers understand the structure of sentences in Arabic (Ulum &; Nuriyah, 2023). There are various principles in learning I'rob, in general, Islamic boarding schools study I'rob with the principle of 50/50, namely studying I'rob with 50% of learning time used to learn theory and 50% of learning time used to study practice.

But there is another principle that is known to be more effective, namely the pareto principle (20/80). In general, the pareto principle is used in economics and business in managing organizations, where 20% of inputs will produce 80% of output. As in a study written by (Amri &; Nurjaya, 2022) which examines the application of the pareto principle in the organizational culture of KSPPS Bakti Huria Syariah. This research results that the application of the pareto principle used can build a healthy organizational culture by increasing governance and productivity.

While the application of the pareto principle in the field of education as written by (Irjayana et al., 2019) which examines the search for Qur'anic verses using the pareto principle to help memorization. The result of this study is that the use of the pareto principle can help determine which verses have a weight of about 80% just by memorizing certain verses. This method can help memorize the entire Quran by obtaining lists of which verses carry the greatest weight.

However, currently there is no research that examines the application of the pareto principle used in Teaching and Learning Performance (KBM). Therefore, the author wants to research and test the effectiveness of the application of the pareto principle in improving the quality of student learning in understanding i'rab located at the Darul Muwahhidin Tarogong Kidul Garut Islamic Boarding School.

METHODS

This study used positivistic methods: quantitative types of *quasi-experimental design type experiments* (Ahyar et al., 2020). According to (Creswell & Creswell, 2018), quantitative research is a scientific methodology used based on statistical work patterns by collecting, compiling, summarizing, and presenting data in the form of numbers that can then be drawn conclusions. Meanwhile, the data

collection technique in this study was carried out by design (Sugiyono, 2022) through observation, written tests and questionnaires (questionnaires).

DISCUSSION

This study aims to determine the effectiveness of the pareto principle in improving the quality of student learning in understanding i'rab. In this section, the collected data will be presented and described in a table. The test was conducted twice in the experimental class and the control class of Darul Muwahhidin Islamic Boarding School students in class A and B. Pre-test and post-test scores in the two classes are illustrated in the descriptive statistics in Table 1.

Tabel 1. Result of Experiment

Descriptive Statistic	Treatment in Experimental Class		No Treatment in Control Class	
	Pretest	Post-test	Pretest	Post-test
Number of Sampels (N)	20	20	21	21
Minimum Score	50	70	60	70
Maximum Score	80	100	80	90
Mean	66	87	68	82
Deviation Standard	10.46	10.89	8.14	8.14

Pre-Test Results

Pre-test data analysis was conducted to test the initial ability of both classes in understanding the material. The pretest was carried out in both control classes with a total of 21 students and in the experimental class with 20 students. This is done to find out the results of the completeness of students before applying the pareto principle in learning I'rab. The pretest questions were arranged in the form of essay questions in the form of practice consisting of 10 questions. Each question that answered correctly was given a score of 1 and an incorrect answer scored 0. The highest score is 10 and the lowest score is 0. The results of the Experimental Class and Control Class Pretest can be seen in table 2.

Table 2. Result of Pre-Test

Class	Gender		Total Score	Average Score
	Male	Female		
Experimental Class	9	11	1320	66
Control Class	10	11	1430	68

Based on Table 2, the performance of the Control Class is higher. They obtained an average score of 68 which was better than the Experiment class which obtained an average score of 66. The study found that the Control class and the experimental class showed data normality. The information is shown in Table 3.

Table 3. Result of Normality Data in Pre-Test

Class	Lilliefors Count	Lilliefors Table	Meaning
Experimental	0,10	0,195	Distributed Normally
Control	0,17	0,190	Distributed Normally

According to Table 3, the experimental and control classes have a normal distribution.

Post-Test Results

Post-test data analysis was carried out to test the ability of students from experiments and control classes to understand the material after being given treatment or learning treatment of the control class of 21 students and experimental classes of 20 students. To find out the results of student completeness after applying the pareto principle in improving the quality of student learning in understanding I'rab, a post-test is given. The questions are in the form of essays in the form of practice as many as 10 questions, where from each question answered correctly gets a score of 1 and the wrong answer gets a score of 0. The highest score is 10 and the lowest score is 0. The positive results are shown in Table 4.

Table 4. Resul of Posttest

Class	Gender		Amount Value	Average
	Male	Female		
Experimental	9	11	1730	87
Control	10	11	1720	82

Based on Table 5. The experimental class performed better. They achieved 87 for the average score. While the Control class obtained an average score of 82. After knowing the post-test results, the normally distributed data can be seen in Table 6.

Table 6. Result of Normaly Data in Post-Test

Class	Lilliefors Count	Lilliefors Table	Meaning
Experimental	0,14	0,195	Distributed Normally
Control	0,17	0,190	Distributed Normally

According to Table 6, the experimental and control classes have a normal distribution. After knowing the distribution of experimental class data and the control class is normally distributed, then a t test is carried out to test the homogeneity of the two variances.

Results of Improving Students' Arabic Grammar Comprehension

Analysis of student data results after treatment was given to test the increase in student understanding from the experimental class and control class in learning i'rab. The composition of the data was analyzed using dependent sample t tests in experimental class 20 and control class 21. The data results are shown in Tables 6 and 7.

Table 6. Student Improvement Data in Experimental Classes

Experimental Class	Standard Deviation	Varian	T count	T table
Pre-Test	9.45	109	-9.7	2,09
Post-Test		119		

Table 7. Student improvement data in the control class

Control Class	Standard Deviation	Varian	T count	T table
Pre-Test	9.21	66	-6.9	2,09
Post-Test		66		

Based on Table 7. above it can be seen that the results of the experimental class Pre-test and Post-test have increased This decision was obtained from the data showing the results of T count = -9.7 < T table = 2.09. This means that there is a

significant influence on increasing the understanding of students after being given treatment.

Reflection on the Pareto Principle on Santri Understanding in Learning

Based on the response of students to the pareto principle, it is classified into five aspects, namely explaining, summarizing, deciphering, and formulating i'rab material based on its address and parts. The results of student responses to learning interest are shown in table 8.

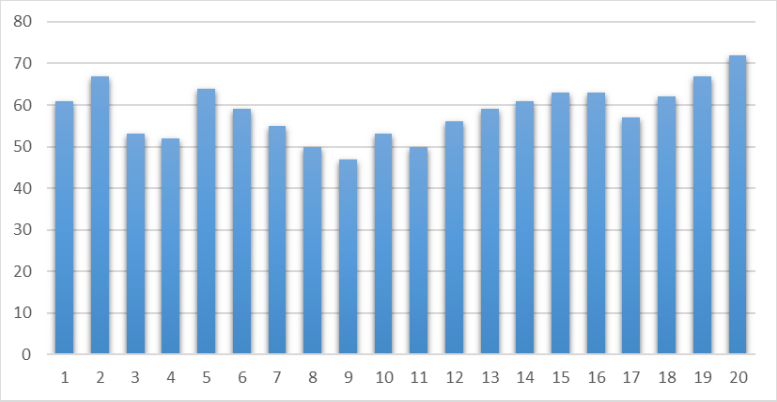
Table 8. Results of Comprehension Exploration Responses

No	Santri's Expression	Aspects
1	I can explain I'rab according to the explanation given by the teacher when the learning is over	Re-explain the material
2	I can explain the purpose of I'rab after being explained by the teacher	
3	I can re-explain I'rab's address according to its parts.	
4	Possibly, I am unable to state what the purpose of I'rab is	
5	Sometimes I am unable to restate parts of I'rab based on the address	
6	I diligently summarize I'rab's address based on its parts	Summarizing the material
7	I never forget to summarize the examples of I'rab that have been given by the teacher	
8	I cannot rewrite what is meant by I'rab	
9	I cannot rewrite the classification of I'rab's address and its parts	
10	What I couldn't do was rewrite the examples of I'rab and its parts.	
11	When the study was over, I was able to decipher the sentence structure based on the I'rab	Deciphering the intent of the material
12	I was able to decipher I'rab's address based on its parts.	
13	I was able to decipher I'rab in the yellow book	
14	I cannot estimate the parts of I'rab through the address	
15	One of the things I couldn't do was estimate which I'rab addresses fit the part of.	
16	I was able to formulate the address and part of I'rab according to my own concept.	Formulate subject matter
17	I was able to formulate I'rab when I read the yellow book.	
18	I can't process I'rab's address based on its parts	

No	Santri's Expression	Aspects
19	When I read the yellow book, I could not cultivate I'rab	
20	What I can't do is process the I'rab address in the context of a different example	

Based on Table 8, it can be concluded that all respondents gave positive responses to the pareto principle in relation to student learning understanding. All students think that the pareto principle is good for improving their understanding. As a result, all respondents suggested the pareto principle to be applied in i'rab learning.

Graph 1. Comprehension Exploration Questionnaire Test

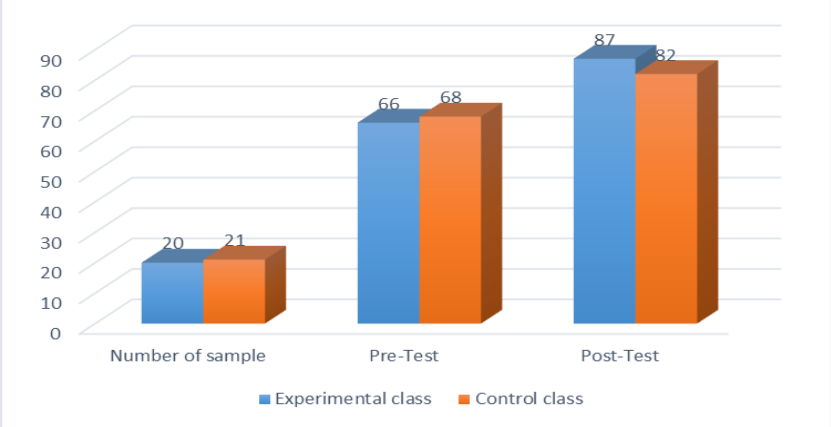


Research in order to apply the pareto principle in improving the quality of student learning in understanding I'rab is carried out in three stages, namely the planning stage, the implementation stage, and the evaluation stage.

Results of the Application of the Pareto Principle in Improving Learning Quality

This study aims to determine the application of the pareto principle in improving the quality of student learning at Darul Muwahhidin Islamic Boarding School in Garut. This research was motivated by the need to improve the understanding of students in understanding I'rab more effectively. In this case, pre-test and post-test are carried out to determine the results before treatment and after treatment. In addition to these tests, data collection techniques were also carried out through combined triangulation (observation, interviews and documentation) and questionnaires.

Experiments were conducted twice, namely in the Ibtida-A class (experimental class) and in the Ibtida B class (control class) of Darul Muwahhidin Islamic Boarding School in Garut. The pre-test and post-test scores in the two classes are depicted statistically descriptively in Graph 2.



Graph 2. Pre-Test and Post-Test Scores of Both Classes

In the previous section, the data has been presented. In this section, the findings of this study will be discussed with relevant literature. This study aims to determine the application of the pareto principle in improving the quality of student learning in understanding I'rab at Darul Muwahhidin Islamic Boarding School in Garut. This research was motivated by the need to improve the understanding of students in understanding I'rab more effectively. In this case, pre-test and post-test are carried out to determine the results before treatment and after treatment. In addition to these tests, data collection techniques were also carried out through combined triangulation (observation, interviews and documentation) and questionnaires.

Pareto Principle Model in I'rob

The pareto principle is one that emphasizes 20% effort will produce 80% of results (Rosanas, 2023). This principle was first introduced by Vilfredo Pareto, an economist who came from Italy in the 19th century. In general, this principle is used as a method in running the economy and business (Abbas et al., 2020). However,

this study is understood by carrying out 20% theoretical learning and 80% carrying out practice. This will be a new system in teaching to produce maximum output.

The pareto discourse in I'rab was first initiated by Ust. Khoirul Annas, *Chief Executive Officer of Nahwu Pedia* from Pare Kediri during the "Seminar on the Yellow Book of the Archipelago" in 2022. As is known, Islamic boarding schools generally carry out nahwu learning in I'rob material with the principle of 50/50 or 50% used for theoretical learning and 50% practical learning.

The calculation of the pareto principle in learning I'rob material is to use 5 hours of KBM (teaching and learning activities) in one day every 5 prayers. Every hour of teaching and learning activities is measured with a percentage of 20%, namely: shubuh (20%), dzuhur (20%), ashar (20%), maghrib (20%), and isha (20%). So the pareto calculation using one KBM time (20%) is focused on learning theory and the other 4 KBM hours (80%) are used for practice. More details as in figure 1.

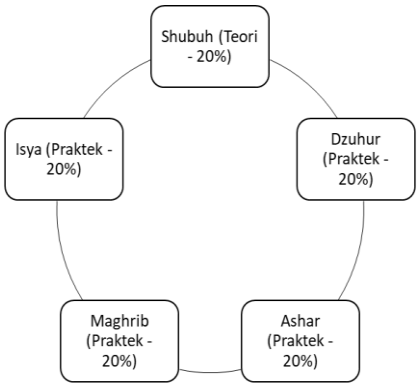


Figure 1. Percentage of Santri Study Time in One Day

The application of this principle takes approximately 14 days for experimental classes. Because in accordance with the targets and achievements of the completeness of the provision of I'rob material as many as 14 materials consisting of 4 parts of I'rob and 14 characteristics. I'rob rofa' has 4 characteristics consisting of dlammah, wau, alif, and nun, I'rob nashab has 5 characteristics consisting of fathah, alif, kasrah, ya, and hadzfu nun, I'rob khofad has 3 characteristics consisting of kasrah, ya and fathah, and I'rob jazm has 2 characteristics consisting of breadfruit and hadzfu nun. More details can be seen from table 9.

Tabel 9. Target Research Material

Day	Target	Day	Target
First day	Rafa', dlammah	Day eight	Nashab ya
Second day	Rafa' wau	Day nine	Nashab hadzfu nun
Third day	Rafa' alif	Tenth day	Khafad kasrah
Fourth day	Rafa' nun	Eleventh day	Khafad ya
Fifth day	Nashab fathah	Twelfth day	Khafad fathah
Sixth day	Nashab Alif	Thirteenth day	Jazm sukun
Seventh day	Nashab kasrah	Fourteenth day	Jazm hadzfu nun

While the time used for the control class (50/50) is about one week, because in one day the theory is 50% and the practice is 50%. So the achievement of the target will be faster with the completeness of the theory given every day 2 (40%), then the shubuh and dzuhur time is given a theoretical explanation and the other 3 KBM times are used for practice. So the application of the pareto principle used in I'rab learning emphasizes more on the model of using time that allows students to be able to learn more effectively. For an overview of theory and practice can be seen in figure 2 and table 10.

Figure 2. Material rofa' dlommah address along with its characteristics and place

Table 10. Simulating qira'ah mu'rob sentences from dlommah addresses

الْمُعْرَبَاتِ	الرَّفْعُ	النَّصْبُ	الْخَفْضُ	الْجَزْمُ
الْإِسْمُ الْمُفْرَدِ	ظَاهِرَةٌ			
جَمْعُ التَّكْسِيْرِ	أَرْكَانٌ			
جَمْعُ الْمُؤَنَّثِ السَّالِمِ	الْمُحَرَّمَاتُ			
فِعْلُ الْمُضَارِعِ الصَّحِيْحِ الْأَخِيْرِ	يَكْتُبُ			

Nahwu Science Learning

The word nahwu means الْقَصْدُ وَالطَّرِيْقُ which means intention and method comes from the expression نَحَا الشَّيْئَ يَنْحُوْهُ وَيَنْحَاهُ إِذَا قَصَدَهُ which means to know the truth

(Ahmad Zaky, 2020). According to the majority of Arabic linguistics, nahwu itself was first initiated by Ali bin Abi Talib which was later developed by Abu Aswad Ad-Dualy in Basra, Iraq in the mid-1st century AH (Rifa'i, 2020). Another term for the science of nahwu is called the science of tools, which is a tool for reading sentences in Arabic without harokat (Fariha, 2022). Because the purpose of nahwu itself is for us to be able to read and understand the composition of sentences in Arabic based on the rules (Hasanah &; Al-Rashid, 2023). While the term nahwu in linguistics is called syntax (Miftakhul et al., 2022).

Nahwu Science is one of the disciplines that is usually studied through the yellow book in Islamic Boarding Schools. It is generally studied through the sorogan and bandongan system (Mu'izzuddin et al., 2019). Meanwhile, the way to study it as according to (Fauzi et al., 2024) and (Fathurrohman &; Munawaroh, 2024) is through Arabic pegon with lughatan techniques. According to (Muizzuddin, 2021) the nahwu learning method is divided into two parts, namely Qiyasi and Istiqraiyah. Qiyasi method, is a nahwu method that begins with the delivery of definitions and continues by giving examples. While the Istiqraiyah method, is a method that begins by providing examples as data which is then identified similarities and differences to draw conclusions (Mu'izzuddin, 2019).

The basic material in nahwu consists of several chapters, including: kalam, I'rab, address I'rab, marfu'atil asma (fa'il, naibul fa'il, mubtada, khobar, isim kana, khobar inna, isim tabi': na'at, athaf, taukid, badal), manshubatil asma (maf'ul bih, masdar, dzorof zaman dan makan, hal, tamyiz, mustastna, isim laa, munada, maf'ul min ajlih, maf'ul ma'ah, isim inna, khobar kana, isim tabi'), and makhfudlotil asma (majrur and mudlof ilah). This research is more conical in unraveling on the problem of i'rab. Because basically, the key to understanding nahwu lies in the part of I'rab. This is what makes i'rab has a fairly high level of difficulty because it covers a variety of complex concepts including addresses, and sentences that are interconnected with each other in parts.

So the author tries to analyze the problem based on the composition of the students' learning time in consuming material. In general, I'rab in the science of nahwu is studied every day with material progress, so it often releases the purpose of the function of I'rab itself, which is to practice it in sentence structure without

harokat. So the use of the pareto principle will at least be a solution in solving these problems by emphasizing 80% of flight hours per day to practice it through qira'ah simulation. This is done to improve the quality of student learning from the aspect of maximum understanding.

CONCLUSION

The final result in this study is that after the researcher made observations and data processing, it was obtained that the pareto principle could significantly improve the quality of student learning in i'rab lessons. This is because the pareto principle emphasizes increasing learning flight hours in the form of practice so that it will obtain maximum output (learning outcomes) in the aspect of understanding. The measurement of the level of understanding of students in the form of questionnaires in this study is used to explore the understanding of students before and after being given lessons, so that this research will support the innovation of effective learning principles for Islamic educational institutions in general.

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