

Effectiveness of the Team Quiz Method Assisted by Crossword Media to Improve Student Learning Outcomes

Ummu Aiman¹, Suryadin Hasyda^{1*}, I Wayan Lasmawan¹, I Wayan Kertih¹

¹ Pendidikan Dasar, Universitas Pendidikan Ganesha, Singaraja, Indonesia.

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Corresponding Author:

Suryadin Hasyda

suryadinhasyda92@gmail.com

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Abstract: The aim of this research is to determine the effectiveness of the team quiz method assisted by crossword media on the learning outcomes of elementary school students. The approach used in this research is a quantitative approach with a quasi-experimental method using a post-test only control group design. With a total population of class IV students at the Naikoten I State Elementary School, class IV, 30 students from class A and B. Samples were taken using random sampling. Data collection techniques were obtained from written tests in the form of multiple choices. The data analysis technique uses descriptive analysis and inferential statistics with the help of the SPSS version 22 application. The results of the research show that processing the independent t-test data obtained a sig value of $0.000 < 0.05$, then H_a is accepted and H_0 is rejected or in other words there is a significant difference between control and experimental classes in improving student learning outcomes on Norms in My Regional Customs material. Thus, it can be concluded that the effectiveness of the Team Quiz Method Assisted by Crossword Media Improves the Learning Outcomes of Class IV Students on Norms in My Regional Customs at the Naikoten I Public Elementary School, Kupang City.

Keywords: Crossword media; Learning outcomes; Team Quiz

Introduction

Education has a very important role in life which is increasingly full of challenges and competencies like today. With this, the function of education itself is to develop students' competency abilities, so that they are able to face every problem in everyday life (Medianty et al., 2018). Especially when students interact with community life. The essence of educational activities itself is the implementation of the learning process (Sulym et al., 2023).

Learning can take place because of students, teachers and the curriculum (Campbell-Phillips, 2020). The curriculum is a plan prepared to facilitate the teaching and learning process under the guidance and responsibility of the school or educational institution and its teaching staff (Anggraini et al., 2022). As we know, in the learning process there is now a new

program, namely the independent learning curriculum which was initiated by the Minister of Education.

The independent curriculum is one of the government's efforts to improve the quality of education so that it can create quality people who are able to proactively respond to the challenges of the ever-changing times (Díaz et al., 2022). The independent curriculum aims to develop students' potential in terms of religious, social, intellectual and caring attitudes as well as building students' participation in social life. So that it can motivate students to actively organize their knowledge to obtain better learning outcomes (Aisyah et al., 2022).

Learning outcomes are changes in overall behavior that cover all aspects taught by the teacher, from the cognitive, affective and psychomotor aspects of students. According to Ansori et al. (2016), low student learning outcomes are influenced by two factors, namely

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internal factors from within the student and external factors from the student's environment. So, in the learning process, applying the right methods will create satisfactory learning outcomes for students, so that not only the cognitive aspects are achieved but the affective and psychomotor domains are also achieved (Lisnasari, 2017; Ponto, 2020; Pranajaya et al., 2023). The achievement of a learning process can be seen from the high and low scores of student learning outcomes obtained during the learning process.

Based on the results of a survey conducted, problems that arise in the learning process are such as during the teaching and learning process, teachers still use simple or traditional learning methods, where the learning process is only teacher centered and students only listen and take notes, so that It can be seen that students quickly get bored while listening to lessons. Furthermore, in the learning process, students appear confused when asked questions or are given the opportunity to ask questions, they tend to choose to remain silent even though they do not understand or understand the material presented by the teacher so that the students' grades do not reach the KKM completion criteria. With this, teachers must make innovations in the science and science learning process so that all students' scores reach the KKM limit of 75 determined by the school.

Thus, there is a need for a learning method to increase student activity in the science and science learning process and make students more active in learning. This is why the author offers the team quiz method to improve student learning outcomes. The team quiz learning method is one type of cooperative learning strategy which functions to enliven the learning atmosphere (Rahman, 2024; Tati et al., 2024), increase students' sense of responsibility for what they learn in a fun, non-threatening way and does not make them afraid or bored in learning activities (Silberman, 2013). In line with this, Agustini et al. (2019) stated that the team quiz method in the teaching and learning process forms students in the form of a team to study the material by discussing, providing directions, questions and answers. Students not only listen to information from the teacher but also carry out trials directly so that it is easy to understand the material that has been presented (Marlina et al., 2021; Syafmen & Indri, 2023).

One of the tools used is crossword puzzles. According to Mirzandani, (2012), a crossword puzzle is an image that contains a series of equal-sided squares or squares, some of the boxes are black and some white boxes are numbered to indicate the answer number. The white box must be filled with letters, both horizontal and vertical, which will form a word which is the answer to the question. Questions consist of two types, namely questions that must be written horizontally

(horizontally) and questions for answers that must be written vertically (descending). Using crossword puzzle media can improve students' activities and learning outcomes because when completing crossword puzzles, a clear, relaxed and calm state of mind will make the brain's memory strong, so that memory power increases (Rahayu & Hidayati, 2018).

The aim of this research is to determine the effectiveness of the Team Quiz Method Assisted by Crossword Media to Improve the Learning Outcomes of Class IV Students. Norms in My Regional Customs at the Naikoten I Public Elementary School, Kupang City.

Method

This research was carried out at the Naikoten Public Elementary School, Kupang City. With a total population of 30 class IV students. The research approach is a quantitative approach. The method used is the experimental method. The research design used was pre-experimental with a post-test only control group design (Putri & Rofiq, 2023). Data collection uses random sampling (Taherdoost, 2021). The variables in this research include the independent variable Team Quiz Method Assisted by Crossword Media and learning outcomes as the dependent variable. Data is measured using objective tests on the material Norms in My Regional Customs. Using two data analysis techniques, namely descriptive and inferential statistics. Where descriptive statistics describe the mean, median mode, standard deviation and variance. Meanwhile, inferential tests normality, homogeneity and t-test (Riswandi et al., 2022). To analyze hypotheses using SPSS 22.

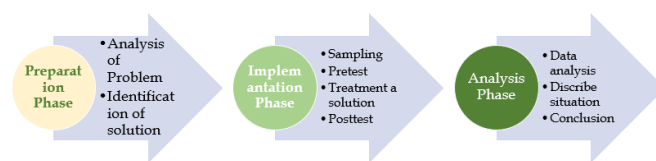


Figure 1. Schema of research

Result and Discussion

The overall recapitulation of student learning outcomes data is shown in Table 1. Table 1 shows the results of calculating the average score for the learning outcomes data for control class students, pretest 66.60, posttest 73.80, while experimental class pretest 66.20, posttest 85.80. This shows that there is a difference between classes taught using the team quiz method assisted by crossword media and classes that are not taught using the team quiz method assisted by crossword media. The following is explained with a

histogram of the differences between the two classes in Figure 2.

Table 1. Student Learning Outcome Data

Statistics	Control Class		Experimental Class	
	Pretest	Posttest	Pretest	Posttest
Mean	66.60	73.80	66.20	85.80
Median	70.00	73.00	67.00	87.00
Mode	73.00	80.00	73.00	87.00
Standard deviation	7.298	6.236	6.668	6.405
Minimum	53.00	60.00	53.00	73.00
Maximum	73.00	80.00	73.00	93.00

Based on Figure 2 shows that the average score between the pretest and posttest for the control class is 66.60, while the posttest value is 73.80. With this, it can be concluded that students who have not been taught using the team quiz method assisted by crossword media tend to be low in terms of the average score. Next, the data on experimental class learning results with treatment using the team quiz method assisted by crossword puzzles are described in the Figure 3.

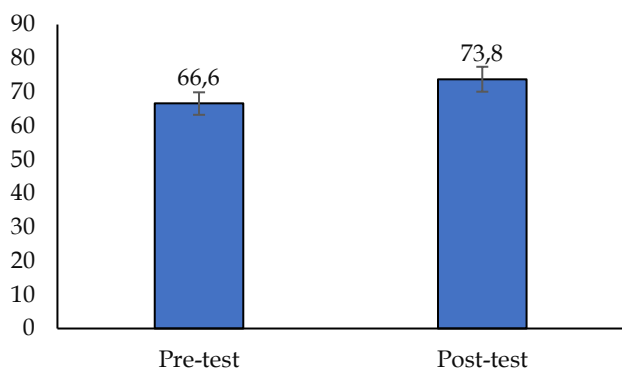


Figure 2. Histogram of average value of control class

From Figure 3, it shows that the results shown by experimental group students tend to be higher. By looking at the average value of the pretest and posttest class, it was 66.20 for the pretest, while for the posttest it was 85.80. So it was concluded that the majority of students' learning scores after following the team quiz method assisted by crossword puzzle media were positioned at high scores (Bawazeer et al., 2022; Pratama et al., 2023; Tiastiti et al., 2024; Yudiati & Rizqi, 2021). Next, statistical analysis is carried out as a prerequisite test for the hypothesis. Before testing a hypothesis, it is necessary to carry out a prerequisite test, namely a normality test of data distribution and a homogeneity test with the help of SPSS 22 for window.

The normality data distribution test is carried out to determine whether the research data is normally distributed or not. Provided that if $\text{sig} > 0.05$ then the data is normally distributed, whereas if $\text{sig} < 0.05$ then

the data is not normally distributed. Data from the pretest and posttest results for the experimental and control classes are shown in Table 2.

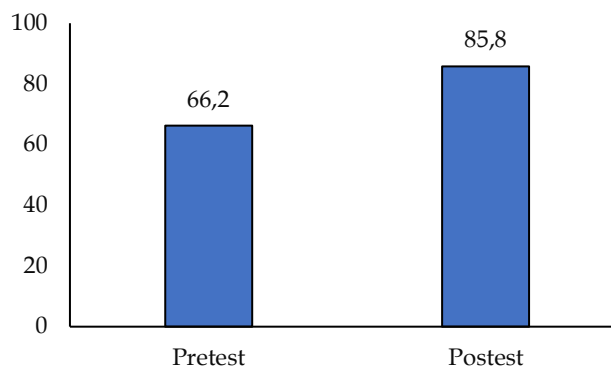


Figure 3. Average value of experimental class

From the Table 2 display, it can be seen that the pretest and posttest data for the experimental class and control class have significant differences. Pretest learning results for the control class were $0.010 > 0.05$, posttest learning results for the control class were $0.193 > 0.05$, then pretest learning results for the experimental class were $0.062 > 0.05$, posttest learning results for the experimental class were $0.019 > 0.05$. This shows that the data is normally distributed. Meanwhile, homogeneity of data distribution aims to determine whether the variance of the two groups is homogeneous or not. Where if $\text{sig} > 0.05$ it is declared to be homogeneous, otherwise < 0.05 is not homogeneous. The summary is shared in Table 3.

Table 2. Normality Test Kolmogorov-Smirnov

		Statistic	Df	Sig
Control Class	Pretest	0.255	15	0.010
	Posttest	0.182	15	0.193
Experimental Class	Pretest	0.214	15	0.062
	Posttest	0.241	15	0.019

Table 3. Homogeneity Test of Variances

	Statistic	Df1	Df2	Sig
Control Class	0.028	1	28	0.868
Experiment Class	0.008	1	28	0.927

Table 3 shows that the significance of the two classes is the control class 0.868 and the experimental class 0.927. This means that $\text{sig} 0.868 > 0.05$ and $0.927 > 0.05$ data are homogeneous. Based on the results obtained from calculating the distribution of normality and homogeneity tests from the pretest and posttest data for the control class and experimental class, it was concluded that the distribution was normal and homogeneous, so hypothesis testing was continued.

Hypothesis testing is carried out to see the results of the influence between variables. The t-test uses the condition that if $\text{sig} > 0.05$ then H_0 is rejected, conversely if $\text{sig} < 0.05$ H_1 is accepted. The following is presented in Table 4.

Table 4. Hypothesis Testing Learning Outcome Data

Class	Df	Sig	Conclusion
Control and Experiment	28	0.000	H_0 rejected

From the display in table 4, it shows that the hypothesis calculation obtained a significance value of $0.000 < 0.05$, so H_0 was rejected and H_1 was accepted. So it can be concluded that there is the effectiveness of the Team Quiz Method Assisted by Crossword Media to Improve the Learning Outcomes of Class IV Students Norms in My Regional Customs at the Naikoten I Public Elementary School, Kupang City.

The results of the research on posttest scores show that students in the experimental class have experienced better improvement compared to the posttest scores of students in the control class. The posttest average for control class students was 73.80, while the posttest average for experimental class students was 85.80. The increase in student learning outcomes in the experimental class was carried out through t-test calculations with the help of SPSS 22 and obtained $\text{sig} <$ so that H_0 was rejected. Based on the results of the posttest average difference test for students in the control class and experimental class, it shows that the team quiz method learning assisted by crossword puzzle media is significantly better than conventional learning in improving students' learning outcomes on the My Regional Customs material. This is because the team quiz method is a learning method that places students as active students in group discussion activities, conveying ideas and answering questions, and being able to express the knowledge they have through presentations (Ricardo & Meilani, 2017).

While conventional learning focuses on rote memorization, the delivery of information is mostly done by teachers, students passively receive information, learning is abstract and theoretical and based on the realities of life, only provides a pile of various information to students, tends to focus on certain areas, study time Students are mostly used to do assignments, listen to teacher lectures, and complete exercises (individual work) (Soi & Aiman, 2020).

Based on the results of research or data analysis, it can be concluded that the team quiz method assisted by crossword media can improve the learning outcomes of class IV students with norms in my regional customs at the Naikoten I Public Elementary School, Kupang City. This is in line with research Rahayu et al. (2018) with the title application of the team quiz method to improve

student learning outcomes in science learning. By implementing the team quiz method you can improve student learning outcomes.

Conclusion

The team quiz method assisted by crossword media has an influence on student learning outcomes at the Naikoten I Public Elementary School, Kupang City. This is proven in the hypothesis test which shows a significance value of 0.000, which means < 0.05 , so H_0 is rejected and H_1 is accepted. There are several suggestions that the author can convey regarding the results of this research, including the following: Teachers can apply the team quiz method with the help of crossword puzzles to students so that they can create an active class atmosphere and can improve student learning outcomes. For students, together with their peers, it is recommended that they understand the lesson material more easily. It is also recommended that students be more active in participating in learning and be able to build their own knowledge in communicating with friends and recalling what they have learned and trying to find new knowledge according to what they have learned to improve learning outcomes and develop their potential.

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In writing this article, the authors do not have any conflict of interest.

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