RESEARCH
www.commprac.com
ISSN 1462 2815

THE IMPACT OF THE JIGSAW LEARNING MODEL ON THE EDUCATIONAL OUTCOMES AND CITIZENSHIP OF GRADE V STUDENTS AT SD IT NURUL IKHLAS PADANG

M. Tamrin [1], Retno Wahyu Lestari [2], Azwar Ananda [3], Wuri Syaputri [4] and Alfurqan [5]*

[1] Postgraduate Program, Padang State University. Email: m.tamrin@bunghatta.ac.id
[2] Faculty of Teacher Training and Education, Hatta University.
Email: retnowahyulestarii@gmail.com
[3] Faculty of Social Sciences, Padang State University, Indonesian.
Email: ananda.azwar4127@gmail.com
[4] English Literature Department, Universitas Terbuka, Cabe Raya Street, South Tangerang, Indonesia. Email:wurisyaputri@gmail.com
[5] Faculty of Social Sciences, Padang State University, Indonesian.
*Corresponding Author Email: alfurqan@fis.unp.ac.id

DOI: 10.5281/zenodo.11063848

Abstract

The purpose of the study was to determine the Effect of *the Jigsaw Learning* Model on the Learning Outcomes of Pancasila and Civic Education (PPKn) of Class V Students. This type of research is experimental research. The study population was all class V students with a total of 43 people. The study sample was the entire population divided into two classes, namely class V Mecca and class V Medina. The technique used is the *Total Sampling technique* with class V Mecca as the control class and class V Medina as the experimental class. Methods for gathering data through testing. The data analysis technique in this study uses a t-test as a hypothesis test because the data is homogeneous and normally distributed. The instrument is a test of student learning outcomes. The study's findings indicate that the experimental class's average score was 92, whereas the control class's average score was 86.2. This shows that the average of the experimental class is higher than the average of the control class. After processing the t-test data, tcount = 1.7367 and ttable = 1.68595. So, tcalculate > ttable so that the H1 hypothesis is accepted which means that there is an Effect of Using the *Jigsaw Learning* Model on the Learning Outcomes of Pancasila and Civic Education (PPKn) Class V Students of SD IT Nurul Ikhlas Kota Padang.

Keywords: Cooperative Learning Model, *Jigsaw*, and Learning Outcomes.

INTRODUCTION

Education is one of the most important factors in laying the groundwork for a country's civilization (Setianingrum, 2016: 1670). From one generation to the next, education continues to play a crucial role in every person's life (Alfurqan et. al., 2024: 322). A person's education becomes essential to their prosperity in the future. The existence of education in human life allows him to see things more broadly (Saputra et. al., 2024: 270) Education is crucial to raising the caliber of human resources in this day and age, when technology is developing at a rapid pace. The pursuit of augmenting the capabilities of human resources highlights the significance of education. The goal of education is to maximize potential and capacities so that people can live as fully as possible as individuals.

Teachers are encouraged to use more creative and innovative teaching strategies in the contemporary globalization period. Teachers can foster creativity and innovation in the classroom by using a variety of student-interesting media. Because 21st-century students have a wide range of interests and a need for immediate gratification, it is imperative that educators foster greater creativity and innovation in the classroom

(Zubaidah, 2019: 10). To execute effective learning, teachers need to be able to create lesson plans, choose, and apply a range of teaching models and techniques. To ensure that the relationship between teachers and students is at its best, these models should also be used to raise student involvement throughout the learning process.

In order to complement instructors' roles in the learning process, learning models are crucial. When teaching, teachers have a variety of learning models from which to pick. The qualities of the topic being taught, the learning goals, and the students' proficiency level all play a role in the model selection. According to Rusman (2016), "the cooperative learning model was developed to achieve at least three important learning objectives, namely academic learning outcomes, acceptance of diversity and development of social skills." To get the best learning outcomes, teachers must select models that can raise student motivation (Rachman, et. al.: 2024). It entails changing pupils' attitudes, abilities, knowledge, and comprehension in order to enhance them further. Teachers have a key role as a source of knowledge in relation to the Merdeka Curriculum, which is now being utilized in Indonesia and stresses the development of student competences.

The Merdeka Curriculum seeks to promote character education through the Pancasila Student Profile, help students meet the global difficulties of the 4.0 revolution period, and evolve into a new curriculum that is in step with 21st-century educational requirements. Teachers can select instructional tools that best suit the requirements of their pupils using the latitude granted by the Independent Curriculum. Civic education, according to Lubis (2020: 24), is a process of education designed to help students develop their civic knowledge, civic abilities, and civic attitudes. In particular, Pancasila and Civic Education (PPKn) classes are enjoyable for students to learn and impart morality and ethics.

One of the topics included in the Independent Curriculum is pancasila education, which is a lesson in schools that helps pupils develop fundamental human values. Researchers refer to Pancasila Education as PPKn, which is a name change from the 2013 Curriculum, which was formerly known as Pancasila and Civic Education (PPKn). PPKn is a topic that establishes norms for behavior in social situations (Putra, 2019: 297). Norms or guidelines are made to help in the socialization process since humans need to interact with one another in order to meet their needs and ensure their survival. Students are instructed to instill nationalist sentiments and affection for the homeland during the Pancasila Education session.

The following conclusions can be drawn from observations made at SD IT Nurul Ikhlas on Tuesday through Thursday, December 5-7, 2023: 1) Teachers have not used variations of learning models that can increase student curiosity in the learning process; 2) Students become passive and less creative during learning when teachers do not use variations of learning models; 3) Teachers use technology-based learning media instead of concrete media; 4) The problem-based learning model (PBBL) used by class V teachers; 5) Teachers more frequently use conventional learning models with lecture and question and answer methods; and 6) Occasionally, teachers use group learning models and discussions in the learning process.

The findings of an interview with Mrs. Syifa Elhusna, S.Pd., the homeroom teacher of class V Mecca, and Mrs. Yasirli Amrina, S.Pd., the homeroom teacher of class V Medinah, conducted on Monday, December 11, 2023, indicate that the learning outcomes of students in PPKn topics remain low. The findings of the Summative

Assessment 2 for the 2023–2024 Academic Year, which the researchers acquired straight from the two class V teachers, provide proof for this. The learning outcomes of grade V students can be seen from the table below.

Table 1: Number and Percentage of KKTP Summative Assessment 2 Semester I PPKn Class V Academic Year 2023/2024

Class	Number of Students	Learning Objectives Attainment Criteria (KKTP)	Complete Students		Incomplete Students	
			Sum	Percentage	Sum	Percentage
V Mecca	21	80	15	71%	6	29%
V Medina	22	80	7	32%	15	68%

Source : Class V Teacher of SD IT Nurul Ikhlas

From the table above, it is concluded that the scores of class V Mecca students totaling 21 students, there are 6 students with a percentage of 29% of 100% under the Learning Objectives Attainment Criteria (KKTP) and 15 students with a percentage of 71% of 100% who are above KKTP, which is 80.00. While the PPKn scores of class V Medinah students totaled 22 students, there were 7 students who completed with a percentage of 32% of 100% and 15 students were incomplete with a percentage of 68% of 100%.

This shows that the PPKn learning results obtained by class V students in Medina are very different and there are still many who are under KKTP compared to class V students in Mecca. Regarding the low learning outcomes of students, researchers assume that the learning model used by the two teachers in class V has not been able to stimulate student curiosity and student learning motivation in PPKn subjects.

With students at the core of the cooperative learning approach, teachers can act as individual facilitators for each student. This model has several variations, one of which is the Jigsaw type, which tries to strengthen students' cognitive, emotional, and psychomotor skills, among other elements.

Active discussion can create the scaffolding process in the Jigsaw model through peer tutoring, which aids in the explanation of the subject to others. This procedure is crucial for raising students' conceptual and practical knowledge.

The Jigsaw cooperative learning approach is a viable choice as it promotes proactive involvement, acknowledges individual variations, and enhances social and communicative abilities. According to Slavin (in Harefa, et al., 2022:328) suggests that:

> "The Jigsaw learning model is one variation of the *Collaborative Learning* model, which is a group learning process where each member contributes information, experiences, ideas, attitudes, opinions, abilities, and skills they have, to jointly improve each other's understanding so as to improve learning outcomes".

Each group member is in charge of a specific area of the content they have studied. They then got back together with others from other groups who had covered different sections of the course material. Students can work closely together to share knowledge and learn from one another in this step.

RESEARCH METHODS

1. Types of Research

According to Hardani et al. (2020: 340), experimental research methods are defined as follows: "Laboratory research typically uses experimental research methods, which typically emphasize more on fulfilling internal validity, namely by controlling or controlling or eliminating the influence of factors outside of experimental research." This does not preclude the employment of this methodology in social science research, particularly in the field of education.

This research is an experimental research with the type of Quasi *Experimental Design research*. In the opinion of Hardani et al. (2020: 346) "If the research is attempted to meet three components such as replication, randomization and control or comparison, but has not been able to reach the actual level, it is called quasi *experimental*". Quasi-experimental design is a type of research design that controls for several non-experimental variables while using a control group as a comparison to understand the impact of a treatment. The quasi-experimental design involves at least two groups of samples: a sample group that received the experimental treatment and another sample group that acted as a control group that received no treatment. This form of design is a development of *true experimental design* which is quite difficult to implement.

2. Research Design

This study used *Nonequivalent Group Design*. This design is similar to the *pretest-posttest control group* design, but in this design, the experimental and control groups are not randomly selected. In this design, the two groups were compared, although their placement was not randomized. Both groups were given a pretest, then given the treatment, and finally tested again after the treatment was given.

Table 1: Research Design

Group	Before (Pretest)	Treatment	After (Posttest)
E	O1	X	O2
K	O3	-	O4

Source : Hardani et al. (2020:357)

Information:

E = Experiment class

K = Control class

O1 and O3 = value *Pretest*

X = treatment of type cooperative learning model *Jigsaw*

O2 and O4 = value *posttest*

3. Population

Population refers to a group of individuals or subjects within a certain area and time period, which have quality characteristics to be observed or studied (Supardi, 2016: 100). In this study, the population used was all grade V students of SD IT Nurul Ikhlas, totaling 43 people.

Table 2: Research Population of SD IT Nurul Ikhlas

No.	Class	Woman	Man	Sum
1.	V Mecca	9	12	21
2.	V Medina	9	23	22
Sum				43

Source : Homeroom Teacher V SD IT Nurul Ikhlas

4. Sample

The research sample is a small part of the population that is the focus of research, representing members of the population (Supardi, 2016: 100). The sample in this study consisted of 2 groups, namely the experimental group that would be given treatment or *treatment* and the control group that was not given treatment.

The sampling technique in this study is *non-probability sampling* with a type of saturated sample or *total sampling*, which is a sampling technique in which the entire population is sampled (Hardani, et al., 2020: 369). So, the sample in this study was all 43 students of grade V of SD IT Nurul Ikhlas.

Table 3: Research Sample of SD IT Nurul Ikhlas

No.	Class	Woman	Man	Sum
1.	V Mecca	9	12	21
2.	V Medina	9	23	22
Sum				43

Source : Homeroom Teacher V SD IT Nurul Ikhlas

5. Data Types and Sources

The types of data in this study are quantitative data and qualitative data which will be explained below, researchers focus more on quantitative data in conducting this analysis.

a) Quantitative Data

Quantitative data is data or information obtained in the form of numbers. In the form of this number, quantitative data can be processed using mathematical formulas or can also be analyzed with statistical systems.

b) Qualitative Data

Qualitative data is data in the form of words or verbal. How to obtain qualitative data can be done through interviews.

The data sources used by researchers in this case are primary data sources and secondary data carried out directly by researchers without the intermediary of others.

1) Primary Data

Primary data is data obtained by researchers directly from the learning outcomes of PPKn students of grade V SD IT Nurul Ikhlas sourced from experimental classes and control classes.

2) Secondary Data

Secondary data are data obtained by researchers from other sources, namely data on the number of students and the results of the Summative Assessment 2 PPKn odd semester of grade V students of SD IT Nurul Ikhlas.

6. Data Retrieval

The data collection techniques carried out in this study are as follows:

1) The provision of tests conducted by researchers to measure the learning outcomes of grade V students of SD IT Nurul Ikhlas. The test conducted is a written test in the form of multiple choice (PG). The test was carried out before (*pretest*) and after (*posttest*) the treatment was given in the experimental class and no treatment was given in the control class. Before the test is given, researchers first test the test questions in different schools to determine the validity, reliability, differentiating power and level of difficulty in each test item.
2) Observation to collect information by paying attention to ongoing activities at SD IT Nurul Ikhlas, to observe the level of student learning outcomes in class during Civics learning.
3) Documentation that is used as data to support research with content analysis techniques. In the context of this study, this method was used to collect information about teachers, employees, and students at SD IT Nurul Ikhlas, including the daily assessment scores of Civics class V semester I and photo documentation during the learning process being studied.

7. Research Instruments

Compile Test Questions that already have validity, reliability, level of difficulty and differentiating power of test questions until eligibility is obtained. The validity test uses Arikunto's *Product Moment* (2018: 190) correlation formula with rough numbers as follows:

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y^2 - (\sum Y)^2\}}}$$

Information:

rxy = Correlation Coefficient between item score and total score

X = Score item or question item

Y = Total score

N = Number of Samples (Respondents)

∑X = Number X

∑Y = Sum of Y

X2 = Square X

Y2 = Y Square

The criteria for testing validity is that if the correlation coefficient rxy is greater than the rtabel product moment, it means that the item is declared valid. Here is a classification table of the magnitude of the correlation coefficient.

Table 4: Validity Classification

No.	Classification	Information
1.	0,800 – 1,00	Very high
2.	0,600 – 0,800	Tall
3.	0,400 – 0,600	Enough
4.	0,200 – 0,400	Low
5.	0,00 – 0,200	Very low

Source : Suharsimi Arikunto (2018:193)

Furthermore, reliability testing with the *Kuder-Richardson* method (K-R. 20) is a reliability coefficient that can describe the variation of items for true/false answers that are scored 0 or 1. Here is the K-R formula*. 20* (Arikunto, 2018:217).

$$r_{11} = \left(\frac{n}{n-1}\right)\left(\frac{S^2 - \sum pq}{S^2}\right)$$

Information:

R11 = Overall test reliability

p = Proportion of subjects who answered *Items* correctly

q = Proportion of subjects who answered *Items* falsely (q = 1 – p)

∑pq = Number of multiplication results between p and q

n = Amount *Items*

S = Standard deviation from the test (standard deviation is the root of variance)

Table 5: Reliability Test Classification

No.	Classification	Information
1.	0.00 <r11 1.00	Very low reliability
2.	0.20 <r11 0.40	Low reliability
3.	0.40 <r11 0.60	Medium reliability
4.	0.60 <r11 0.80	High reliability
5.	0.80 <r11 1.00	Very high reliability

Source : Suharsimi Arikunto (2010: 93)

Then tested the level of difficulty with Arikunto's formula (2018: 233) is as follows:

$$P = \frac{B}{JS}$$

Information:

P = Difficulty index

B = The number of students who answered the question correctly

JS = Total number of test taker students

The beacon index table according to the provisions that are often used is as follows:

Table 6: Difficulty Level Classification

No.	Classification	Information
1.	0,00 – 0,30	Difficult questions
2.	0,31 – 0,70	Medium question
3.	0,71 – 1,00	Easy questions

Source : Suharsimi Arikunto (2018:235)

The differentiating power of the questions, test followers are divided into two groups, namely the upper group (*upper group*) and the lower group (*lower group*). The following is the formula used to determine the discrimination index or discriminating power of the question (Arikunto, 2018: 238).

$$D = \frac{B_A}{J_A} - \frac{B_B}{J_B} = P_A - P_B$$

Information:

JA = Number of upper group participants

JB = Number of participants in the lower group

BA = The number of upper group participants who answered the question correctly

BB = The number of participants in the lower group answered the question correctly

PA = Proportion of upper group participants who answered correctly

PB = Proportion of lower group participants who answered correctly

The discrimination index is classified into the following:

Table 7: Differentiating Power Classification

No.	Classification	Information
1.	0,00 – 0,20	Poor
2.	0,21 – 0,40	Simply (*satistifactory*)
3.	0,41 – 0,70	Good
4.	0,71 – 1,00	Excellent
5.	Negative (-)	Everything is not good

Source : Suharsimi Arikunto (2018:242)

8. Data Analysis Techniques

Test Liliefors with the steps:

a) Creating Hypotheses

H0 = The sample comes from a normally distributed population

H1 = The sample comes from a population that is not normally distributed

b) Observation data X1, X2, X3, ..., Xn are made into standard numbers Z1, Z2, Z3, ..., Zn with formulas $\frac{\bar{X}_i - \bar{X}}{s}$ (and $\bar{X}s$ are the average and standard deviation, respectively)

c) For each of these standard numbers using a standard normal distributed list, then calculate the probability *F(Zi) = P(Z < Zi)*

d) Calculates proportions of Z1, Z2, Z3, ..., Zn that are smaller or equal to Zi. If the proportion is expressed by S(Zi) then:

$$S(Z_i) = \frac{banyaknya\ Z_1, Z_2, Z_3, \dots, Z_n yang\ sama \leq Z_i}{n}$$

e) Calculates the difference between *F(Zi)* - S(Zi), and then determines the absolute price

f) Take the price that is largest among the absolute prices of the difference, assuming the price is L0 or (Lcalculate). Liliefors grade value α = 0.05 or 5%

g) Drawing conclusions:

To accept or reject H0 is done by comparing Lcalculate with Ltabel. If the value of Lcalculate > Ltable, then H0 is rejected. If the value of Lcalculate < Ltable, then H0 is accepted.

Test homogeneity with the following steps:

a) Formulating hypotheses

H0 = X and Y are homogeneous data

H1 = X and Y are inhomogeneous data

b) Determine the significant level, which is α = 0.05 to test the hypothesis.

c) Calculate the variance of each group of data with the formula:

$$S^2 = \frac{\sum X^2 - (\frac{\sum X^2}{N})}{N}$$

d) Determine the Fcalculate value with the formula:

$$F_{hitung} = \frac{varian\ terbesar}{varian\ terkecil} = \frac{S^2X}{S^2Y}$$

e) Compare Fcalculate with Ftabel contained in the F distribution list with a significant level of 5%, dk1 = dknumer = na – 1 and dk2 = dkpenye = nb – 1. In this case, na = the number of data for the largest group of variants (numerator) and nb = the number of data for the smallest group of variants (denominator).

f) Drawing conclusions, the value of Fcalculate with Ftable is:

g) If Fcalculate < Ftable, then H0 is accepted. If Fcalculate > Ftable, then H0 is rejected. In this case, if H0 is accepted, it means that X and Y data have homogeneous or equal data. Vice versa, if H0 is rejected it means that X and Y data have inhomogeneous data.

Test the Hypothesis of Normal and Homogeneous Distributed Data with T test steps with independent samples according to (Payadnya &; Jayantika, 2018: 80) as follows:

1) Creating Hypotheses

H0 = Average of group 1 equals group 2

H1 = The mean of group 1 is not equal to group 2

2) Calculate the average value of each data group

$$\bar{X}_1 = \frac{\sum X_i}{n_1}$$

$$\bar{X}_2 = \frac{\sum X_i}{n_2}$$

3) Calculates the standard deviation value of each data group

$$S_1 = \sqrt{\frac{\sum(X_i - \bar{X})^2}{n_1}}$$

$$S_2 = \sqrt{\frac{\sum(X_i - \bar{X})^2}{n_2}}$$

4) Calculate the combined standard deviation (S)

$$S^2 = \frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{(n_1 + n_2 - 2)}$$

5) Calculate the calculated value using the following formula:

$$t_{hitung} = \frac{\bar{X}_1 - \bar{X}_2}{S\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

6) Calculating degrees of freedom and ttable values

$dk = (n_1 + n_2 - 2)$

$t_{tabel} = (1 - \alpha, dk)$

7) Determining conclusions with the test criteria are:

If tcount ≥ ttable, then H0 is rejected

If tcount < ttable, then H0 is accepted

Where ttable is seen from the distribution table t at the level of significance α = 0.05 or 5% with degrees of freedom $dk = (n_1 + n_2 - 2)$.

Information:

$\bar{X}_1$ = Average of data group 1

$\bar{X}_2$ = Average of data group 2

S^2 = Combined standard deviation

S_1 = Combined standard deviation of data group 1

S_2 = Combined standard deviation from data group 2

n_1 = Number of subjects from data group 1

n_2 = Number of subjects from data group 2

Dk = Degrees of freedom

Test Hypotheses with Normal Undistributed Data

For a data obtained data that is not normally distributed, a non-parametric statistical test can be used, namely *Mann Whitney* (Payadnya &; Jayantika, 2018: 170). The test hypothesis is:

$$H0 : \bar{\mu}_1 = \bar{\mu}_2$$

$$H1 : \bar{\mu}_1 > \bar{\mu}_2$$

Test formula *Mann Whitney* According to is :(Siegel, 1985)

$$U = n_1 n_2 + \frac{n_1(n_1+1)}{2} - R_1$$

Or

$$U = n_1 n_2 + \frac{n_2(n_2+1)}{2} - R_2$$

Choose the formula with the result of the smallest U-value . If n2 > 20, then the significance of the price *U* is approached according to the normal distribution by converting *U* into the number z with the formula:

$$z = \frac{U - \frac{n_1 n_2}{2}}{\sqrt{\frac{n_1 n_2 (n_1 + n_2 + 1)}{12}}}$$

If the proportion of the same rank is very large, then a correction is made to *z* and calculated by the formula:

$$z = \frac{U - \frac{n_1 n_2}{2}}{\sqrt{\left(\frac{n_1 n_2}{N(N-1)}\right)\left(\frac{N^3 - N}{12} - \sum T\right)}}$$

Where

$$\sum T = \frac{t^3 - t}{12}$$

Information:

N = Number of equal values for a given rank

For the Mann Whitney *test criterion* is that H0 is rejected if z ≤ 1 – α. If the observation price *U* has a probability equal to or less than the significant level of α that has been set at 0.05 or 5% then H0 is rejected.

RESEARCH RESULTS

This study determined class V Medina as an experimental class with an average pretest of 72.3 and class V Mecca as a class of konntrol with an average pretest of 75.8. The study was conducted as many as 2 meetings in the experimental class, namely class V Medina and 2 meetings in the control class, class V Mecca. The first meeting in the experimental class will be held on January 23, 2024 at 08.40-11.30 WIB and the second meeting will be held on January 30, 2024 at 08.40-11.30 WIB. Furthermore, the first meeting in the control class will be held on January 22, 2024 at

10.20-12.30 WIB and the second meeting will be held on January 29, 2024 at 10.20-12.30.

After two meetings held in the experimental class and the control class, the final test will be held on January 31, 2024 at 2:15 p.m. in the experimental class and in the control class. The final test in both classes was attended by as many as 20 students in the experimental class, namely class V Medina and 21 students in the control class, class V Mecca.

Problem Trial Data Analysis

The questions or tests tested consisted of 30 questions in the form of multiple choice or objective conducted by 14 students from the VB class of SDN 32 Bungo Pasang. The steps taken to get the questions used are as follows:

a) Question Validity

In this study, to find out whether or not the question / test to be used is valid, the researcher conducted an analysis using the *Product Moment correlation formula* with rough numbers. Then obtained the validity results of the questions / tests from 30 test questions. In this study, researchers used test questions with very high, high, sufficient, low, and very low criteria. Based on the analysis of the validity of the trial questions, the following results are obtained in the table below:

Table 8: Results of the Calculation of the Validity of the Question Trial

No	Criterion	Question Item / Question Number	Sum
1	Very High	0	0
2	Tall	2,12,16, 23 and 24	5
3	Enough	17, 19, 22, 25, 29, and 30	6
4	Low	5, 11, 14, 18, and 26	5
5	Very Low	1, 3, 4, 6, 7, 8, 9, 10, 13, 15, 20, 21, 27, and 28	14

Based on table 9 above, it can be concluded that the questions on the very high criteria are 0 (zero) questions, the high criteria are 5 (five) questions, the criteria are enough to be 6 (six) questions, the low criteria are 5 (five) questions and the very low criteria are 14 (fourteen) questions.

b) Question Difficulty Index

After the validity test of the questions is carried out, then the calculation is carried out for the difficulty index of the test question items. In this study researchers used difficult, medium, and easy criteria. From the calculation of the difficulty index of the trial questions, the results are obtained as in the following table:

Table 9: Results of the Calculation of the Difficulty Index of the Question Trial

No	Criterion	Question Item/Question Number	Sum
1	Difficult	5, 9, 12, 21, 25, and 28	6
2	Keep	2, 4, 8, 10, 18, 20, 22, 26, and 30	9
3	Easy	1, 3, 6, 7, 11, 13, 14, 15, 16, 17, 19, 23, 24, 27, and 29	15

Based on table 10 above, it can be concluded that the difficult criteria are 6 (six) questions, the medium criteria are 9 (nine) questions, and the easy criteria are 15 (fifteen) questions.

c) The Differentiating Power of the Question

After calculating the validity of the trial questions and the sound index, then the calculation of the distinguishing power of the questions was carried out to distinguish high-ability students from low-ability students. The criteria that researchers use are bad, enough, good, very good and negative (-). Based on the calculation of the distinguishing power of the trial questions, the results are obtained as in the following table:

Table 10: Results of the Calculation of the Discriminating Power of the Trial Question

No	Criterion	Question Item/Question Number	Sum
1	Ugly	3, 9, 13, 15, 17, 19, 20, 21, 25, 26, and 27	11
2	Enough	1, 5, 8, 12, 14, 16, 29 and 30	8
3	Good	2, 11, 22, 23, and 24	5
4	Very Good	0	0
5	Negative (-)	4, 6, 7, 10, 18, and 28	6

Based on table 11 above, it can be concluded that the questions/tests on the bad criteria are 11 (eleven) questions, the criteria are enough to have 8 (eight) questions, the good criteria are 5 (five) questions, the very good criteria are 0 (zero), and negative are 6 (six) questions.

d) Reliability of the Question

High and low reliability is empirically indicated by a number called the reliability coefficient which ranges from 0.00 – 1.00. The higher the reliability coefficient of a problem that is close to 1.00, the higher the reliability. In this study, researchers used calculations using the *Kuder-Richardson method* (K-R. 20) which is a reliability coefficient that can describe the variation of items for true/false answers that are given a score of 0 or 1. Based on the calculation of the reliability of the trial questions, the results are obtained as in the following table:

Table 11: Results of Reliability Calculation of Trial Questions

No	N	S2	∑pq	R11	Information
1	13	8,746	1,929	1,082	Very High

Based on table 12 above, it can be concluded that the result of the calculation of the reliability of the trial questions is 1.08, namely with very high criteria (0.80 < 1.08 > 1.00).

e) Recapitulation of Trial Analysis of Validity, Difficulty Index, Discriminating Power, and Reliability of the Question

After the test questions were carried out on January 13, 2024, then calculations were carried out on the validity, difficulty index, discriminating power, and reliability of the trial questions as many as 30 questions, then it was found that the questions to be used amounted to 13 questions, namely question numbers (1, 2, 5, 8, 11, 12, 14, 16, 22, 23, 24, 29 and 30) and there were 17 discarded questions, namely question numbers (3, 4, 6, 7, 9, 10, 13, 15, 17, 18, 19, 20, 21, 25, 26, 27, and 28).

Analysis of Research Data

a. Normality Test

Test result data in the experimental class and control class are processed to determine the normality test. In this normality test, a liliefors test is used as proposed in data analysis techniques. The criteria in the lilieforst test are:

If Lcalculate < Ltabel, then the data is normally distributed

If Lcalculate > Ltable, then the data is not normally distributed

Based on the normality test of the experimental class and the control class, L0 and Ltabel were obtained at the real level α = 0.05 as in the table below:

Table 12: Normality Test Results of the Experimental Class and Control Class

No	Class	N	A	Lcalculate	Ltabel	Information
1.	Experiment (V Medina)	20	0,05	0,1357	0,190	Normal Distributed Data
2.	Control (V Mecca)	20	0,05	0,1486	0,190	Normal Distributed Data

Based on table 13, the normality results of normally distributed data with Lcalculate < Ltabel at the real level α = 0.05. For the experimental class n = 20 obtained Lcalculate < Ltable, which is 0.1357 < 0.190, thus the data is normally distributed. For the control class n = 20 which is also obtained Lcalculate < Ltable which is 0.1486 < 0.190, thus the data is normally distributed.

b. Homogeneity Test

The homogeneity test was carried out on two groups, namely the experimental class and the control class which had homogeneous variances or not, then the F test was carried out. The results of the homogeneity analysis can be seen in the table below:

Table 13:Test Results of Homogeneity of Experimental Class and Control Class

No	Class	N	Fcalculate	Ftabel	Information
1	Experiment	20	1,6245	2,168	Homogeneous
2	Control	20			

Based on table 14, it can be seen that the results of the homogeneity test calculation of the final test value of the experimental class and control class at a significant level of 5% or α = 0.05 with numerator dk n1 - 1 = 20 - 1 = 19 and denominator dk n2 -1 = 20 - 1 = 19 obtained Fcalculate < Ftable, which is 1.6245 < 2.168, then both classes have homogeneous variances.

c. Test the hypothesis

Based on the normality test and the homogeneity test of the experimental class and the control class, it was found that the data were normally distributed and both groups of data w ere homogeneous, so the t-test was used to test the hypothesis. The results of the hypothesis analysis can be seen in the table below:

Table 14: Hypothesis Test Results of the Experimental Class and Control Class

Class	S	Tcalculate	Ttabel	Information
Experiment Control	10,5619	1,7367	1,68595	H1 accepted

Based on table 15, it can be seen that the hypothesis test or t test with tcount is compared to ttable with dk = n1 + n2 – 2 = 20 + 20 – 2 = 38, at the level of confidence α = 0.05 obtained ttable = 2.168 and tcalculate = 1.3. This means that the tcount > ttable is 1.7367 > 1.6859 in other words H1 is accepted.

DISCUSSION

Based on the results of the analysis of the final test data, the average learning outcomes of PPKn students in the experimental class were higher at 92 than the control class, which was 86.2. Students in the experimental class were more active and only a few students were less active in learning. In the control class, more students are less active because it is dominated by the teacher's role in explaining learning material.

This can be seen from the results of the hypothesis analysis obtained tcount > ttable where tcount = 1.7367 and ttable = 1.6859 that means H0 is rejected and H1 is tiered. The terms of decision making of the hypothesis accepted or rejected are based on the magnitude of the significance value. If the significance is less than or equal to 0.05 (≤ 0.05) then the hypothesis is accepted.

In the experimental class, treatment was given in the form of learning using a *Jigsaw type cooperative learning model*, while in the control class was given treatment in the form of a conventional learning model. Thus, it can be concluded that there is no influence of the Jigsaw type cooperative learning model on the learning outcomes of PPKn grade V students of SD IT Nurul Ikhlas.

Research conducted in experimental classes, at first students seemed to have difficulty and confusion when researchers conveyed the steps that students would take in applying the *Jigsaw* type cooperative learning model. To overcome students' difficulties and confusion, teachers explain to students about *the Jigsaw* type learning model , how the rules and what students must do during learning using the *Jigsaw* type learning model. For the next meeting the student can understand and carry out the tasks assigned to him.

According to Putra (2021: 9), the cooperative learning model is a learning model that is effectively and efficiently carried out by teachers and students to achieve learning objectives. The Jigsaw-type cooperative learning model requires students to work in groups, which are divided into expert groups and origin groups. The group of people from each got a different subtopic, so they gathered and formed a new group called the expert group. This Jigsaw-type learning model has the advantages that it can stimulate learning motivation, the learning atmosphere is more cheerful, and there is communication between students and between teachers.

Then the research conducted in the control class is a conventional learning model using lecture and question and answer methods. "The conventional learning model is learning that still uses a system that is still commonly done by teachers, namely lectures or expositories". Learning using the lecture method causes students to tend to be less active in the learning process. This can be seen from the lack of interaction

between students and students and between students and teachers. Students tend to listen to the explanation delivered by the teacher, students do not dare to ask the teacher or answer the questions the teacher asks even though there is material that he does not understand.(Kurniawan, Rokhmat, & Ardhuha, 2015)

Learning carried out in the control class using lecture and question and answer methods has weaknesses, namely students are less active in the learning process, only high-ability students want to learn seriously, student interaction with teachers is lacking, and students only pay attention to the teacher and record material summaries from the teacher. The advantage of the conventional learning model is that it can be used on a large number of students. So the role of the control class teacher is as an informer and students wait for an explanation from the teacher only. So that the learning process using the lecture method feels very long and boring. This causes students' PPKn learning outcomes to be low.

Based on this explanation, it can be concluded that there is an influence of learning outcomes in experimental classes using the *Jigsaw* type cooperative learning model. This is evident from the test results given, where the experimental class got a higher average score compared to the control class. Thus, learning using the *Jigsaw* type cooperative learning model is proven statistically and hypothetically acceptable, so that it can answer the problems in this study.

CONCLUSION

Based on the results of research and discussion that have been stated in the previous chapter, it can be concluded that the average cognitive learning outcomes of PPKn grade V students in the experimental class are 92 and the control class is 86.2. From the final test results, the average of the experimental class is higher than that of the control class. It can be seen from the results of the t-test calculation for *posttest data* obtained tcalculate values > ttable where 1.7367 > 1.689 in other words H0 is rejected and H1 is accepted. Therefore, the Jigsaw type cooperative learning model has a significant influence on the learning outcomes of PPKn grade V students of SD IT Nurul Ikhlas.

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