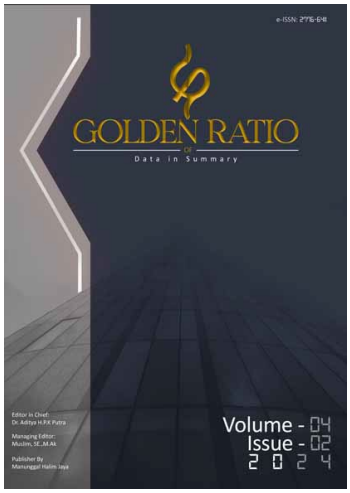
https://doi.org/10.52970/grdis.v4i2.692

Website: https://goldenratio.id/index.php/grdis

ISSN [Online]: 2776-6411



Received: September 25, 2024
Revised: October 18, 2024
Accepted: October 30, 2024

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DESCRIPTIVE OF QUANTITATIVE DATA | RESEARCH ARTICLE

The Effect of Jigsaw Type Cooperative Learning Model on Students Learning Outcomes In Social Studies Subjects: Case Study of SMP Reformasi Makassar, Indonesia

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Abstract: This study aims to: (1) provide an overview of the results of the analysis of learning tools for Social Studies (IPS), (2) provide an overview of the analysis of the Jigsaw-type cooperative learning model, and (3) determine the effect of the Jigsaw-type cooperative learning model on social studies learning outcomes of class VIII students at SMP Reformasi Makassar. This research is descriptive quantitative in nature. The population consists of all class VIII students, totaling 30, with a saturated sampling technique, meaning that the population equals the sample size of 30 students. The research location is SMP Reformasi Makassar, and a quantitative approach was used. Data collection techniques include written tests in the form of essay questions, observation, and documentation. Data analysis involved descriptive analysis, hypothesis testing (paired sample test), and validity and correlation tests. The results of the analysis of learning tools in this study indicate that, in general, they are valid, practical, and effective. The analysis of the Jigsaw-type cooperative learning model shows that it can: (a) improve cognitive learning outcomes, (b) increase student interest in learning Social Studies, (c) help students understand the learning material more quickly, and (d) encourage cooperation among students in understanding the material. The use of the Jigsaw-type cooperative model can also increase the level of student achievement. The probability value of X is < 0.01. The calculated t-value of 6.313 is greater than the estimated t-value of 2.045 (n-1 = 29, alpha 5%). Thus, it can be concluded that the Jigsaw-type cooperative learning model has a significant effect on the learning outcomes of class VIII students at SMP Reformasi Makassar.

Keywords: Jigsaw, Learning Outcomes, Social Studies (IPS).

1. INTRODUCTION

The application of various learning models significantly impacts improving student learning outcomes. These models are designed to create conditions where students are constantly interacting, thereby fostering their development. However, teaching often remains monotonous, with low awareness among teachers regarding the selection of learning models that align with the characteristics of the subjects. Teachers are frequently perceived as lacking innovation in delivering material, often using the same model across different subjects. One cooperative learning model that has proven effective in the teaching and learning process is the Jigsaw type. This model often involves students working on practice questions and engaging in question-and-answer sessions, making group discussions with peers a valuable tool for problem-solving. Students who seek clarification from their peers regarding the teacher's explanations tend to understand the material more easily because they typically use similar language and expressions. It is not uncommon for students to successfully explain complex ideas to their peers by translating the teacher's language into terms their classmates can better comprehend. In the context of this research, the Jigsaw type cooperative learning model was applied to the material on the Advantages and Limitations of Space and Their Impact on Economic, Social, and Cultural Activities in Indonesia and ASEAN. The learning tools developed for this research

https://doi.org/10.52970/grdis.v4i2.692

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included Learning Implementation Plans (RPP), Learner Books (BPD), Learner Worksheets (LKPD), and Learning Outcome Tests (THB). These tools are intended to support the learning process and enhance the effectiveness of the Jigsaw model in teaching social studies. Based on this background, the author is interested in investigating the effect of the Jigsaw Type Cooperative Model on the social studies learning outcomes of students at Makassar Reform Junior High School. This research aims to: (1) Provide an overview of the results from the analysis of learning devices using the Jigsaw Type Cooperative Model in social studies subjects at Makassar Reform Junior High School; (2) Provide an overview of the implementation results of the Jigsaw Type Cooperative Model in social studies subjects at the same school; and (3) Determine the impact of developing learning tools using the Jigsaw Type Cooperative Model on student learning outcomes in social studies at Makassar Reform Junior High School.

2. LITERATURE REVIEW

2.1. Jigsaw Cooperative Learning Model

The Jigsaw model was developed and tested by Elliot Aronson of the University of Texas, and adopted by Slavin at John Hopkins University. Jigsaw type cooperative learning is a cooperative learning model consisting of several members in one group who are responsible for mastering part of the learning material and being able to teach the material to other members in their group. Jigsaw learning model is a cooperative learning model used in teaching reading, writing, listening, or speaking. The Jigsaw model combines reading, writing, listening and speaking activities (Pratiwi 2015).

2.2. Overview of Learning Outcomes

Learning outcomes according to Sudjana are the results obtained in the form of impressions that result in changes in the individual as a result of learning activities. Changes in behavior are indicators that are used as guidelines to determine individual progress in everything obtained at school.

2.3. Overview of Social Studies (IPS)

Achmad Sanusi and Syafrudin Nurdin define social science as social science consisting of social science disciplines that are academic in nature and are usually studied at the university level. Disciplines that study groups of human beings can be formulated into groups of social sciences. According to Permendiknas No. 22 of 2006 concerning Content Standards for Primary and Secondary Education units that social studies subjects aim that students have the ability to:

- Recognize concepts related to the life of the community and its environment.
- Have basic abilities for logical and critical thinking, curiosity, inquiry, problem solving, and skills in social life.
- Have a commitment and awareness of social and human values.
- Have the ability to communicate, cooperate and compete in a pluralistic society, at the local, national and global levels.

3. RESEARCH DESIGN AND METHOD

The development of Jigsaw type cooperative learning tools was carried out at SMP Reformasi Makassar and as the test subjects at the research location were class VIII students of SMP Reformasi Makassar in the even semester of the 2023/2024 academic year. This research is planned from month

https://doi.org/10.52970/grdis.v4i2.692

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2024 to month 2024. The research is quantitative method research. In addition, researchers intend to understand social situations in depth, find patterns, hypotheses and theories.

The population in this study were Class VIII students of Makassar Reform Junior High School, totaling 30 people. Using saturated sampling technique So that the sample taken in this study is the entire population of class VIII students totaling 30 students who will be given a questionnaire. The data collection technique used by researchers in this development research is a questionnaire. According to Aedi (2010: 4) Questionnaire is a data collection method, the instrument is called according to the name of the method and the form of the questionnaire sheet can be in the form of a number of written questions, the purpose is to obtain information from respondents. Hypothesis testing using the analysis of the difference between two sample means according to Kadir (2010). The hypothesis used is:

H0: = μ_1 μ_2

H_1:$\mu_1 \neq \mu_2$

To test the difference between two means, the *t-test* was used, with the formula:

a. If the variance of the two classes is equal ($\sigma_1^2 = \sigma_2^2$), the formula used is:

$$\text{t-calculated}=\frac{\bar{X_1}-\bar{X}2}{S\sqrt{\frac{1}{n_1}+\frac{1}{n_2}}}$$

Description:

$\bar{X}_1$: Average score of the experimental group

$\bar{X}2$: Average score of the control group

n_1: Number of experimental group subjects

n_2: Number of control group subjects

Testing criteria:

if t-calculated$_{\leq\ t\text{-}estimated}$ then the null hypothesis (H_0) is accepted

if $_{tcount>\ ttable}$ then the null hypothesis (H_0) is rejected.

4. RESULT AND DISCUSSION

4.1. Research Results

1. *Learning Outcome Test (THB)*

In this activity, the THB grids, THB items, and THB scoring guidelines were designed. The test prepared is a description test with an allocation of 2 x 45 minutes with 10 items.

Table 1. Revision of Lesson Plans Based on Validation Results

Things revised	Before revision	Revision result
Contents	In one of the stages in the Jigsaw type cooperative learning model, namely motivation, the learning activities are written motivation that is still general in nature such as the expression Man Jadda Wajadda which means that whoever is serious will get the results. The above expression is not directly related to the material discussed, namely the material on the advantages and limitations of inter-space and its influence on economic, social, cultural activities in Indonesia and ASEAN.	In one of the stages in the Jigsaw type cooperative learning model, namely motivation, in learning activities, motivation is given related to the material of the advantages and limitations of inter-space and its influence on economic, social, cultural activities in Indonesia and ASEAN such as why learning social studies is very important for students?

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Things revised	Before revision	Revision result
	The subject matter contained in the lesson plan is still too long because it is already contained in the Teaching Materials for Students (BAPD).	The lesson material in the lesson plan has been shortened
Assessment	Scores on affective, cognitive, psychomotor assessments are not spelled out.	Scores on cognitive, affective, and psychomotor assessments are described in detail

2. *Results of Revised Learner Worksheet (LKPD)*

Table 2. Revision of LKPD Based on Validation Results

Things revised	Before revision	Revision result
View	The writing of the LKPD title only says the first meeting and material 1 which should be written directly material such as the Lewis symbol.	Writing the title of the LKPD is clearly written about what will be discussed at meeting 1 and so on.
Contents	In the instructions for writing the names of the expert group members, it is not clearly written to write the names of the group members.	The instructions for writing expert group members are clear.

3. *Revised Results of Teaching Materials for Learners (BAPD)*

In the preparation of BAPD, several aspects that need to be considered in device validation are the format of teaching materials for students, the content of teaching materials for students, and the benefits of teaching materials for students. According to the validator, overall, each aspect has met the validity criteria.

4. *Revised Learning Outcome Test (THB)*

The general assessment by the experts for this THB was very good with minor revisions. The results of revisions based on corrections and suggestions from validators are as in Table 3.

Table 3. Revision of THB Based on Validation Results

Things revised	Before revision	Revision result
About	The written questions need to be clarified by the teacher and the students' responses to the questions.	The questions are clearly written
Answer key	Scores on assessments are not broken down in detail	Scores on assessments are broken down in detail

5. *Results of Expert Revisions to Assessment Instruments*

In this stage of the instrument analysis process, there are several data collection instruments developed through the validation process. The instruments in question are learning implementation sheets, problem solving ability instruments, teacher response questionnaires, and student response questionnaires. The general assessment by experts for this research instrument is very good and can be used without revision.

6. *Overview of Jigsaw Cooperative Learning Outcomes*

The results of the implementation of learning Researchers first get acquainted with students, then give a little explanation to students for the first meeting. The researcher conducted an initial test to determine the initial ability of students on the material "Inter-space Advantages and Limitations and Their Effects on Economic, Social, Cultural Activities in Indonesia and ASEAN". The initial test was conducted for 2 x 45 minutes with a total of 5 questions that have been validated. The following is the data on student Pretest results as table 4. below:

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Table 4. Pretest Results

Value Maximum	Value Minimum	Average
80	45	63,7

Based on the data from the student Pretest results above, the maximum score achieved is 80, while the minimum score is 45 with an average of 63.7 out of 16 students. The first meeting is still on the same day and date as the initial test on Tuesday, March 17, 2020, the researcher continues learning in the data processing material with the sub-material of picture diagrams, bar charts and line diagrams using the Jigsaw model with learning stages according to the lesson plans that have been made. As students are divided into two groups (origin and expert), they join their respective groups. The teacher gives a problem sheet to students to discuss or solve problems together. At the end of learning, students are given an initial formative test individually, to determine students' understanding of the material that has been explained.

7. Posttest Data Description

The implementation of the posttest was carried out on May 27, 2024, the researcher gave a posttest to obtain data on the improvement of students' abilities in the material of Inter-space Advantages and Limitations and Their Effects on Economic, Social, Cultural Activities in Indonesia and ASEAN. The final test was carried out for 4 x 45 minutes. There are 5 questions that have been validated in the form of paper. At the final meeting the researchers carried out the final test (post-test) to determine the level of students' abilities after being taught the material with the Jigsaw Cooperative Learning Model and obtained the posttest results as in table 5 below:

Table 5. Posttest Results

Maximum Value	Minimum Value	Average
90	75	82,1

Based on the data from the students' posttest results above, the maximum score achieved was 90, while the minimum score was 75 with an average of 82.1 from 16 students. From the data on the results of the pretest and posttest, it can be seen that the increase in the level of student ability with the Jigsaw cooperative learning model.

8. Statistical Analysis Result Data

An instrument is declared valid if the correlation coefficient of the table at a significance level of 1% or 5%. The instrument validity test was carried out using the Pearson product moment correlation method where the test was carried out by looking at the correlation coefficient (r_{xy}) which states the relationship between the statement instrument score and the total score (item-total correlation). To determine the validity of the question, then r-calculated is compared with $r_{calculated}$ at α 0.05 in this study were 30 respondents (n-1), with r-estimated = 0.355. If r-calculated > r-estimated then the statement is valid. The results of the instrument validity test can be seen in the table below:

Table 6. Instrument Validation Test of Student Learning Outcomes of Social Studies Subjects at Makassar Reform Junior High School (Y)

Variable Instrument	Statement Item	R-calculated	r-estimated	Description
Learning Outcomes (Y1)	M.1	0.609	0,355	Valid
	M.2	0.769		
	M.3	0.753		
	M.4	0.585		
	M.5	0.713		
	M.6	0.544		
	M.7	0.729		

https://doi.org/10.52970/grdis.v4i2.692

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Variable Instrument	Statement Item	R-calculated	r-estimated	Description
	M.8	0.384		
	M.9	0.629		
	M.10	0.581		
	M.11	0.447		
	M.12	0.650		
	M.13	0.517		
	M.14	0.723		
	M.15	0.569		

Table 6. shows that all items on the Learning Motivation instrument are valid. It can be seen that the Corrected Item-Total Correlation number ≥ 0.355 in each item. The reselarch instrument in the form of a questionnaire can then be used in collecting research data.

Table 7. Results of Cronbach Alpha Reliability Test of Student Learning Outcomes of Social Studies Subjects at SMP Reformasi Makassar

Reliability Statistics		
Group	Cronbach's Alpha	N of Items
Learning Outcome (Y)	,877	15

Table shows that the Student Learning Outcomes Instrument is proven reliable in explaining the variables observed because it has a Cronbach alpha coefficient greater than 0.6.

9. *Classical Assumption Test*

The normality test aims to determine whether the dependent variable has a normal distribution or not. Good data is normally distributed data and if the results are not normally distributed, then the resulting statistical test is invalid.as in table 8 below.

Table 8. Data normality test

One-Sample Kolmogorov-Smirnov Test			
		Pre_Test Learning Outcomes	Post_Test Learning Outcomes
N		30	30
Normal Parametersa, b	Mean	48.5000	54.8000
	Std. Deviation	5.64923	3.04450
Most Extreme Differences	Absolute	.229	.120
	Positive	.098	.094
	Negative	-.229	-.120
Kolmogorov-Smirnov Z		1.252	.657
Asymp. Sig. (2-tailed)		.087	.781

Table 8 shows that the confounding or residual variables have a normal distribution. The analysis results provide evidence that the data is normally distributed, to see that the data has a normal distribution lies in the Asymp. Sig. (2-tailed)

- Pre-test group Learning Outcomes 0.87 significance value > 0.05.
- Post-test group Learning Outcomes 0.781 has a significance value> 0.05.

So based on these results it can be stated that the data used in the research is normally distributed and the data can be used in the next testing stage.

https://doi.org/10.52970/grdis.v4i2.692

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10. Homogeneity Test

Table 9. Data Homogeneity Test

Test of Homogeneity of Variances			
Learning Outcomes			
Levene Statistic	df1	df2	Sig.
5.002	1	58	.029

From table 9. homogeneity of variances test data there is a Learning Outcome value of 0.029> 0.005 So based on these results it can be stated that the data used in the research is homogeneous and the data can be used in the next testing stage.

11. Hypothesis Test

Table 10. F-test

ANOVA					
Learning Outcomes					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	595.350	1	595.350	28.913	.000
Within Groups	1194.300	58	20.591		
Total	1789.650	59			

In table 10, the simultaneous test shows that there is a significant effect between the independent variables (X) Pre-test and Post test simultaneously on the independent variable (Y) which can be seen in the table above, namely with a sig value. test Fsesar 0.000 at a significant level of 0.05. This value is smaller than 0.05 which indicates that all independent variables, namely consisting of; Pre-test and Post-test Jigsaw Cooperative learning model together have an effect on the Learning Outcomes of students in class VIII of Makassar Reform Junior High School.

Table. 11 Descriptive data and t-test results

Paired Samples Correlations				
		N	Correlation	Sig.
Pair 1	Post_Test Learning Outcomes & Pre_Test Learning Outcomes	30	.329	.076

Paired Samples Test					
		Paired Differences			
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference
					Lower
Pair 1	Post_Test Learning Outcomes - Pre_Test Learning Outcomes	6.30000	5.46557	.99787	4.25912

Paired Samples Test					
		Paired Differences	t	Df	Sig. (2-tailed)
		95% Confidence Interval of the Difference			
		Upper			
Pair 1	Post_Test Learning Outcomes - Pre_Test Learning Outcomes	8.34088	6.313	29	.000

In table 11 Partial test is a test to determine the effect of each independent variable on the independent variable. The decision-making criteria can be done by comparing the probability or sig. value with the significance level of 0.05. If the probability value ≥ 0.05, the effect between the independent variable (X) on the dependent variable (Y) is not significant. Conversely, if the

https://doi.org/10.52970/grdis.v4i2.692

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probability value <0.05, the effect between the independent variable (X) on the dependent variable (Y) is significant. The following conclusions can be drawn from the table 11 state the probability value of X is 0.000. This value is smaller than 0.05 or the t value is 6.313> t-estimated 2.045 (n-1 = 29 alpha 5%) so it can be concluded that there is an effect of the Jigsaw Cooperative learning model jointly affecting the Learning Outcomes of students in class VIII of Makassar Reform Junior High School.

4.2. Discussion

a. Overview of Jigsaw Cooperative Learning Device Analysis

The Jigsaw cooperative learning device analysis process uses Thiagarajan's 4D development model, which consists of four stages: defining, designing, developing, and disseminating. The stages started with the initial final analysis, which aimed to identify and determine the basic problems faced in the learning process. The main problem faced at Makassar Reform Junior High School is students' low problem-solving ability, which impacts low learning outcomes. Learning activities that still use conventional models, which do not involve students in learning activities, cause students to be unaccustomed to building knowledge because they only listen and record the material presented, resulting in boredom and lack of enthusiasm in the learning process. Therefore, a learning model is needed to help students build concepts, and the implementation of this learning process must be supported by the right tools, in this case it is necessary to develop a Jigsaw type cooperative learning tool.

Learner analysis was conducted to determine the characteristics of students in accordance with the design and development of learning devices. Through observation, it was found that students at Makassar Reform Junior High School have heterogeneous abilities, namely high, medium, and low abilities. In the material analysis, the main concepts in the material are obtained and arranged in a hierarchical order. The hierarchical order of the material that has been obtained is used in the learning device. Furthermore, task analysis is conducted to ensure that the tasks given can provide an understanding of the material studied. The tasks in the LKPD are done in groups during learning and then continued with quizzes or evaluations that are done individually.

After that, the learning objectives are analyzed to obtain the learning objectives to be achieved, so that the learning outcome tests to be developed and the design of learning devices can be formulated. This stage consists of three steps, namely the preparation of tests that aim to measure the achievement of student learning outcomes, the selection of media that are suitable for the purpose of conveying learning materials, and the selection of formats that determine the format of the content of learning devices. Therefore, a format that is in accordance with the characteristics and steps of Jigsaw-type cooperative learning is chosen. The next stage is to develop the learning tools, including lesson plans (RPP), learner worksheets (LKPD), learner teaching materials (BAPD), and learning outcomes tests (THB). The last stage is to evaluate learning devices through a series of processes, namely expert validation, revision, and device trials so that valid, practical, and effective learning devices are produced.

b. Overview of Learning Outcomes of the Jigsaw Learning Mode

Student learning outcomes were analyzed before and after the application of the Jigsaw learning model in the experimental class consisting of 30 students. The results of the pretest and posttest analysis showed that during the pretest, the highest score was 80 and the lowest score was 45 with an average of 63.75. At this stage, students still did not understand the material "Advantages and Limitations of Inter-space and its Effect on Economic, Social, Cultural Activities in Indonesia and ASEAN," so they had difficulty in answering the questions given.

Meanwhile, on the posttest, the highest score was 90 and the lowest score was 75 with an average of 82.1. At this stage, students' understanding in the class about the material "Inter-spatial Advantages

https://doi.org/10.52970/grdis.v4i2.692

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and Limitations and Their Effects on Economic, Social, Cultural Activities in Indonesia and ASEAN" is quite good, so that on average students can understand the questions well and can use the formula according to the questions given. Based on the calculation of students' N-Gain of 0.655, which is in the medium effective category or quite effective, it can be concluded that the Jigsaw type cooperative model is quite effective in learning social studies class VIII at Makassar Reform Junior High School on the material of Advantages and Limitations of Inter-space and its Effect on Economic, Social, Cultural Activities in Indonesia and ASEAN.

c. Jigsaw Learning Analysis

During the implementation of the research in the field, several main research findings were obtained First, the Jigsaw type cooperative model was able to improve the cognitive learning outcomes of grade VIII students at SMP Reformasi Makassar. Second, this model can increase students' interest in learning in social studies subjects. Third, the use of the Jigsaw-type cooperative model can help students understand the learning material more quickly. Fourth, the use of this model encourages students to work together or help each other in understanding the learning material. Fifth, the use of the Jigsaw-type cooperative model increased the level of student completeness, where at the pretest there were 3 students who were complete and 13 students were not complete. Meanwhile, during the posttest, there were 16 students who were complete, where all students met the KKM score of 75.

d. The Effect of the Jigsaw Cooperative Learning Model on Learning Outcome

The probability value (p-value) of X is 0.000, which is smaller than 0.05. The calculated t value of 6.313, which is greater than the t-estimated value of 2.045 (n-1 = 29, alpha = 5%), indicates a significant effect of the Jigsaw cooperative learning model on the learning outcomes of students in grade VIII of Makassar Reform Junior High School. This result is in line with Arends' theory, which states that the Jigsaw learning model is a cooperative learning model in which students learn in heterogeneous small groups with positive dependence and are responsible for completing part of the subject matter to be learned and delivering the material to other group members. Jigsaw learning model is also known as expert cooperative Each group member faces a different problem, but the problem faced by each group is the same, and each student assigned to a different group discusses the same material or acts as a team of experts. With an interesting, group-based, and student-centered learning model, it will certainly increase students' learning motivation, facilitate peer tutors, and encourage students' responsibility for learning, so that there is greater attention to the learning process.

5. CONCLUSIONS

This study provides a comprehensive analysis of the effectiveness of the Jigsaw-type cooperative learning model, specifically tailored to improve the cognitive learning outcomes of eighth-grade students at Makassar Reform Junior High School. The research validates the developed learning devices as valid, practical, and effective tools that support the instructional process. Through expert validation, the learning devices—comprising Learning Implementation Plans (RPP), Learner Activity Sheets (LKPD), Learner Teaching Materials (BAPD), and Learning Outcomes Tests (THB)—were determined to be "Very Valid," underscoring the robustness and reliability of the instructional tools. Practicality was demonstrated through observations during the trial, where the learning devices were fully implemented, and both teachers' and students' responses fell into the "Very Positive" category. Furthermore, the devices were deemed effective, with classical student learning completeness achieved, signifying their capability to foster significant learning improvements.

The research also affirms that the Jigsaw-type cooperative learning model holds substantial promise in enhancing the educational experience for students. Specifically, it not only improves learning outcomes but also significantly increases students' interest in Social Studies, a subject that often challenges engagement. The cooperative model promotes quicker comprehension of learning

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materials, fostering a collaborative environment where students help one another to grasp complex concepts. This peer-assisted learning approach cultivates a sense of responsibility and engagement among students, leading to improved retention and understanding. Moreover, the model demonstrated a marked increase in student completeness rates from pretest to posttest, showcasing its effectiveness in bridging knowledge gaps and elevating overall academic performance. In the broader context of educational research and practice, this study underscores the critical importance of implementing innovative, student-centered learning models like Jigsaw in secondary education. The findings highlight how such models not only address the cognitive needs of students but also contribute to creating a more dynamic and interactive classroom environment. By shifting the focus from teacher-centered to student-centered learning, the Jigsaw model aligns with contemporary educational paradigms that prioritize active learning, collaboration, and critical thinking. This research, therefore, adds to the growing body of evidence supporting cooperative learning models as essential tools in modern education, offering practical implications for educators and policymakers striving to improve student engagement and academic outcomes.

However, like any research, this study is not without its limitations. One significant limitation is the scope of the research, which was confined to a single school and a specific grade level, thus potentially limiting the generalizability of the findings. Additionally, the study relied heavily on quantitative measures, such as pretest and posttest scores, to assess learning outcomes. While these metrics are valuable, they may not fully capture the depth of students' understanding or the nuances of their learning experiences. Future research could benefit from a more mixed-methods approach, incorporating qualitative data to provide a richer, more holistic view of the learning process. Moreover, the study did not explore the long-term effects of the Jigsaw cooperative learning model on students' cognitive development. While the immediate impact on learning outcomes was evident, it remains unclear how sustained exposure to this model might influence students' academic trajectories over time. Longitudinal studies would be valuable in addressing this gap, providing insights into how cooperative learning influences not only academic performance but also critical thinking, problem-solving skills, and collaborative abilities in the long run.

REFERENCES

Ali, M., & Rusydiyah, E. F. (2016). Desain pembelajaran inovatif dari teori dan praktik. Jakarta: PT Raja Grafindo Persada.

Isjoni. (2007). Cooperative learning. Bandung: Alfabeta.

Jackson, C. M. (2011). Chemistry as the defining science: Discipline and training in nineteenth-century chemical laboratories. Endeavour, 35(2–3), 55–62. https://doi.org/10.1016/j.endeavour.2011.05.003.

Mahfudz, A. (2011). Be a good teacher or never. Bandung: Nuansa Cendikia.

Maisaroh, & Rostrieningsih. (2010). Peningkatan hasil belajar siswa dengan menggunakan metode pembelajaran active learning tipe quiz team pada mata pelajaran keterampilan dasar komunikasi di SMK Negeri 1 Bogor. Jurnal Ekonomi dan Pendidikan, 8, 157–172.

Mariani. (2007). Peningkatan ketuntasan kelas dalam belajar kimia melalui metod pembelajaran kooperatif tipe jigsaw pada siswa kelas X5 SMAN 1 Binamu Kab. Jeneponto.

Nurmala, R. S., Corebima, A. D., & Ibrohim, I. (2015). Pengaruh strategi problem based learning dipadu jigsaw terhadap kemampuan berpikir kritis dan hasil belajar kognitif siswa kelas X SMA. Jurnal Pendidikan Sains, 3(3), 130–136.

Parsazadeh, N., Ali, R., & Rezaei, M. (2018). A framework for cooperative and interactive mobile learning to improve online information evaluation skills. Computers & Education, 120, 75–89. https://doi.org/10.1016/j.compedu.2018.01.010.

Permendiknas No 22 Tahun 2006 tentang standar isi untuk satuan pendidikan dasar dan menengah bahwa mata pelajaran IPS.

Pratiwi, I. A. (2015). Pengembangan model kolaborasi jigsaw role playing sebagai upaya peningkatan kemampuan bekerjasama siswa kelas V SD pada pelajaran IPS. Jurnal Konseling Gusjigang, 1(2). https://doi.org/10.24176/jkg.v1i2.411.

Slavin, R. E. (2005). Cooperative learning: Teori, riser dan praktik (15th ed.). Bandung: Nusa Media.

Sudjana, N. (2014). Dasar-dasar proses belajar mengajar. Bandung: Sinar Baru Algensindo.