

# Jigsaw Cooperative Learning as an Interactive Classroom Strategy for Fostering Students' Learning Interest

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## Abstract

This study aimed to examine the effect of the Jigsaw cooperative learning model on students' learning interest at SMA Negeri 15 Bone. This study used a quantitative approach with an ex post facto design. The research population consisted of 373 tenth-grade students, from which a sample of 34 students was drawn using a simple random sampling technique. Data were collected through a Likert-scale questionnaire covering four indicators of the independent variable (group cooperation, individual responsibility, interaction and communication, and learning engagement) and four indicators of the dependent variable (enjoyment, involvement, interest, and attention), which were validated through product-moment correlation and Cronbach's Alpha (.836 for the Jigsaw variable and .846 for learning interest). The data were analyzed using descriptive statistics, normality and linearity tests, and simple linear regression with the assistance of SPSS 26. The results showed that the implementation of the Jigsaw model fell into the fairly good category ( $M = 65.29$ ;  $SD = 4.98$ ), while students' learning interest fell into the good category ( $M = 74.41$ ;  $SD = 4.08$ ). The regression analysis produced the equation  $Y = 29.061 + 0.695X$ , indicating an effect on students' learning interest. These findings suggest that the Jigsaw cooperative learning model is an effective alternative strategy for enhancing students' learning interest at the senior high school level.

**Keywords:** Cooperative Learning; Jigsaw Model; Learning Interest; Senior High School; Simple Linear Regression

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## 1. Introduction

Learning interest is one of the affective aspects that determines the success of the learning process. Students with high learning interest tend to show attention, engagement, and great enthusiasm toward learning activities, whereas students with low learning interest are more likely to be passive and less motivated to participate optimally (Arlina et al., 2023). Interest does not arise on its own but is influenced by both internal and external factors, one of which is the learning model applied by the teacher in the classroom.

In practice, many teachers at the secondary school level still apply a conventional, teacher-centered learning model, so that interaction, discussion, and students' active participation become limited (Daring & Hayani, 2022). This condition was also found in preliminary observations at SMA Negeri 15 Bone, which indicated low student learning interest, reflected in minimal question-and-answer activity, low participation in class discussions, and students' passive attitude during learning.

One alternative learning model considered capable of increasing students' learning interest is the Jigsaw type cooperative learning model. This model emphasizes cooperation within small groups, in which each student is given responsibility for studying a specific part of the material to then teach it back to the members of their original group (Handayani et al., 2022). Through this mutual-teaching mechanism, students are required to be active, responsible, and directly involved in the process of knowledge construction, so that it has the potential to foster enjoyment, interest, and attention toward the subject matter.

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Several previous studies support this assumption. (Surya et al., 2021) found that the application of the Jigsaw model in graph theory learning was able to increase students' learning interest compared to conventional learning. (Bendriyanti et al., 2022) reported similar results among junior high school students, where the Jigsaw method increased both learning interest and student engagement in group discussions. (Ramadani et al., 2024) also showed that Jigsaw assisted by presentation media effectively increased students' learning interest in the topic of living-organism classification. However, most of these studies were conducted at the elementary, junior high, or higher education levels, so the generalization of their findings to the senior high school level remains limited and needs further empirical testing (Sunarya et al., 2025).

A similar phenomenon has also been found in the application of other active cooperative learning models, such as the Snowball Throwing model, which has been shown to have a significant effect on students' learning outcomes (Ulpa et al., 2025). This finding reinforces the assumption that active, group-work-based learning in general, not only Jigsaw, has the potential to support students' learning achievement, including affective aspects such as learning interest. Based on this gap, this study aims to empirically examine the effect of using the Jigsaw type cooperative learning model on the learning interest of tenth-grade students at SMA Negeri 15 Bone. The results of this study are expected to enrich the empirical evidence on the effectiveness of the Jigsaw model at the senior high school level and to serve as an alternative learning strategy for teachers in increasing students' learning interest.

## **2. Literature Review**

### **2.1 Learning Interest**

Interest can be defined as a feeling of liking and being attracted to an activity without any coercion, reflected in the closeness of the relationship between an individual and an object outside themselves (Naphani & Ramli, 2024) (Naphani & Ramli, 2024). In the context of learning, learning interest serves as the foundation that drives students to engage seriously from the initial stage through the completion of learning tasks, thereby contributing to optimal learning outcomes (Arlina et al., 2023); (Mimawati et al., 2025).

Referring to Slameto in (Alanur et al., 2025), learning interest can be identified through four main indicators, namely: (1) enjoyment, shown by cheerfulness and the absence of a sense of compulsion in following lessons; (2) student involvement, in the form of active participation in discussions and question-and-answer sessions; (3) interest, reflected in enthusiasm and persistence in completing tasks; and (4) student attention, in the form of concentration and focus during the learning process.

### **2.2 Cooperative Learning Model**

The cooperative learning model is a learning approach that emphasizes student cooperation in small groups to achieve shared learning goals, in which each member helps one another and is responsible for the group's success (Mandopa et al., 2025). This approach is built on several basic principles, namely positive interdependence and individual accountability, which together encourage the creation of constructive social interaction in the classroom (Damayanti Nababan, Lasmaria Sihalo, 2023).

### **2.3 Jigsaw Type Cooperative Learning Model**

The Jigsaw model is a variant of cooperative learning that involves small groups of students with diverse backgrounds and abilities, in which each member has a specific portion of material and responsibility that must be mastered and then taught back to the original group (Handayani et al., 2022); (Harefa et al., 2022). The implementation steps generally include: forming the original (home) groups, distributing sub-topics to each member, forming expert groups to study the same sub-topic in depth, having expert group members present the material back to their original group, presenting the results of the group discussion, and evaluation by the teacher (Rahmi et al., 2024).

This model is based on the social constructivist learning theory proposed by Piaget and Vygotsky, which emphasizes that knowledge is constructed through active interaction with other people and the surrounding environment (Syauqi & Murni, 2025). The advantages of the Jigsaw model include encouraging students' creativity in solving problems,

building a harmonious relationship between teachers and students, and integrating various learning approaches. On the other hand, this model also has limitations, such as requiring careful classroom management for discussions to run effectively and a longer time allocation compared to conventional learning.

## 2.4 Conceptual Framework and Hypothesis

Based on the theoretical review above, the use of the Jigsaw type cooperative learning model (variable X), with indicators of group cooperation, individual responsibility, interaction and communication, and learning engagement, is presumed to affect students' learning interest (variable Y), with indicators of enjoyment, student involvement, interest, and student attention. The hypotheses proposed in this study are:

H0: There is no effect of using the Jigsaw type cooperative learning model on students' learning interest.

H1: There is an effect of using the Jigsaw type cooperative learning model on students' learning interest.

## 3. Research Method

This study used a quantitative approach with an ex post facto research design, namely research that traces the causal factors of a condition that has already occurred without direct manipulation of the independent variable (Sugiyono, 2023). The research was conducted at SMA Negeri 15 Bone, Ulaweng Cinnong Village, Ulaweng District, Bone Regency, South Sulawesi, from February to May 2026.

The research population consisted of all tenth-grade students at SMA Negeri 15 Bone in the 2026/2027 academic year, totaling 373 students spread across 11 class groups. The research sample was determined using a simple random sampling technique, resulting in 34 students from class X.C being selected as respondents. The independent variable (X) in this study was the use of the Jigsaw type cooperative learning model, while the dependent variable (Y) was students' learning interest.

The research instrument was a five-point Likert-scale questionnaire (Strongly Agree – Strongly Disagree) consisting of 32 statements, comprising 16 items for variable X (indicators of group cooperation, individual responsibility, interaction and communication, and learning engagement) and 16 items for variable Y (indicators of enjoyment, student involvement, interest, and student attention). The validity test using Pearson product-moment correlation showed that all items on both variables were valid, with calculated  $r$  values ranging from 0.380 to 0.775, all greater than the  $r$ -table value (0.306) at the 5% significance level. The reliability test using the Cronbach's Alpha formula produced a coefficient of 0.836 for variable X and 0.846 for variable Y, both of which fall into the high reliability category (above the threshold of 0.60).

Data were collected through questionnaires and documentation of learning activities, then analyzed with the help of the IBM SPSS version 26 program through the following stages: (1) descriptive statistical analysis to determine the minimum, maximum, mean, and standard deviation values of each variable; (2) classical assumption tests consisting of the Kolmogorov-Smirnov normality test and the linearity test; and (3) hypothesis testing using simple linear regression analysis with the equation  $Y = a + bX$ , where  $Y$  is students' learning interest,  $X$  is the use of the Jigsaw learning model,  $a$  is the constant, and  $b$  is the regression coefficient.

## 4. Results and Discussion

### 4.1 Descriptive Analysis Results

The results of the descriptive analysis of 34 respondents are presented in Table 1.

**Table 1. Descriptive Statistics Results**

| Variable              | N  | Min | Max | Mean  | SD   |
|-----------------------|----|-----|-----|-------|------|
| Jigsaw Model (X)      | 34 | 56  | 72  | 65.29 | 4.98 |
| Learning Interest (Y) | 34 | 66  | 80  | 74.41 | 4.08 |

Source: SPSS 26 data processing results (2026).

Table 1 shows that the use of the Jigsaw type cooperative learning model falls into the fairly good category ( $M = 65.29$ ;  $SD = 4.98$ ), while students' learning interest falls into the good category ( $M = 74.41$ ;  $SD = 4.08$ ). The higher mean value of learning interest compared to the implementation of the model indicates that students responded positively to the cooperative learning experience, even though the implementation of the model was not yet fully optimal.

#### 4.2 Classical Assumption Tests

**Table 2. Normality Test Results**

| Kolmogorov-Smirnov Value | Significance Level | Description          |
|--------------------------|--------------------|----------------------|
| 0.193                    | 0.05               | Normally distributed |

Source: SPSS 26 data processing results (2026).

**Table 3. Linearity Test Results**

| ANOVA Component          | Sig.  |
|--------------------------|-------|
| Linearity                | 0.000 |
| Deviation from Linearity | 0.559 |

Source: SPSS 26 data processing results (2026).

The Kolmogorov-Smirnov normality test produced a significance value of 0.193 ( $> 0.05$ ), indicating that the research data were normally distributed. The linearity test produced a linearity significance value of 0.000 ( $< 0.05$ ) and a deviation from linearity value of 0.559 ( $> 0.05$ ), indicating that the relationship between variables X and Y is linear without meaningful deviation. With both assumptions met, the research data were suitable for further analysis using simple linear regression.

#### 4.3 Hypothesis Testing

**Table 4. Simple Linear Regression Analysis Results**

| Variable         | Coefficient B | Sig.  |
|------------------|---------------|-------|
| Constant         | 29.061        | 0.000 |
| Jigsaw Model (X) | 0.695         | 0.000 |

Source: SPSS 26 data processing results (2026).

The simple linear regression analysis produced the equation  $Y = 29.061 + 0.695X$ . The regression coefficient of 0.695 indicates that every one-unit increase in the implementation of the Jigsaw learning model is followed by a 0.695-unit increase in students' learning interest. Thus, the alternative hypothesis ( $H_1$ ), which states that there is an effect of using the Jigsaw type cooperative learning model on students' learning interest, is accepted, while the null hypothesis ( $H_0$ ) is rejected.

#### 4.4 Discussion

The findings of this study indicate that the Jigsaw type cooperative learning model has a positive and significant effect on students' learning interest at SMA Negeri 15 Bone. This result is in line with the social constructivist learning theory proposed by Piaget and Vygotsky in (Syauqi & Murni, 2025), which asserts that knowledge is constructed through social interaction and individuals' active involvement in the learning process. In the Jigsaw model, each student acts as an "expert" responsible for mastering and teaching the material back to their group, so that they serve not only as a receiver of information but also as a provider of information. This condition fosters a

sense of responsibility, self-confidence, and cooperation, which in turn increases students' enjoyment, interest, involvement, and attention toward learning.

This finding reinforces the results of previous studies. (Surya et al., 2021) found an increase in students' learning interest in graph theory material after the implementation of the Jigsaw model, while (Bendriyanti et al., 2022) reported an increase in junior high school students' learning interest through discussion activities and peer assessment in Jigsaw learning. The consistency of findings across different educational levels ranging from junior high school and senior high school to higher education indicates that the mutual-teaching mechanism in the Jigsaw model has a relatively stable leverage effect on learning interest, not limited to a particular subject or educational level.

Nevertheless, the mean value of the Jigsaw model implementation variable (65.29), which falls into the fairly good category, is lower than the mean value of learning interest (74.41) indicating that the implementation of the model was not yet fully optimal, possibly due to limited learning time, group management, or students' still-limited experience with collaborative learning models. This is in line with the observation that the effectiveness of Jigsaw greatly depends on the teacher's ability to guide students to cooperate effectively, since poor group management can hinder the discussion process (Arlina, Fatma Ayu Winata, Sri Aqilah Maulida, 2024). Therefore, optimizing the implementation of Jigsaw through group-management training for teachers and habituating students to collaborative learning has the potential to strengthen its effect on learning interest.

This study has limitations, including a relatively small sample size (34 students) and coverage limited to one school and one class, so the generalization of the findings needs to be made carefully. Future research is recommended to involve a broader, cross-school sample and to consider other variables that may influence learning interest, such as learning motivation, the learning environment, or the use of instructional media. (Napitupulu et al., 2024); (Putri et al., 2022)

## 5. Conclusion

This study concludes that the use of the Jigsaw type cooperative learning model affects the learning interest of tenth-grade students at SMA Negeri 15 Bone. The implementation of the Jigsaw model falls into the fairly good category ( $M = 65.29$ ), while students' learning interest falls into the good category ( $M = 74.41$ ). The simple linear regression analysis produced the equation  $Y = 29.061 + 0.695X$ , which means that the better the implementation of the Jigsaw model, the higher students' learning interest. This finding confirms that the Jigsaw model can be used as an effective alternative learning strategy to increase students' learning interest through more active, interactive, and collaborative learning. Schools and teachers are advised to consistently support the implementation of this model, while future research is recommended to expand the sample coverage and add other relevant variables.

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