

## Effectiveness of Jigsaw Type Cooperative Learning Method to Increase Motivation and Learning Outcomes of Pancasila Class X Students IPS High School 1 Meukek South Aceh District

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### ABSTRACT

This study examines the effectiveness of the jigsaw-type cooperative learning method to increase the motivation and learning outcomes of sociology students in class X IPS SMA N1 Meukek, South Aceh Regency. This research is quantitative and experimental. The sample was class X with two learning models, one treatment and one control. Researchers used observation methods, questionnaires, and analyzed statistics in SPSS for Windows 23. The results showed that the learning motivation and learning outcomes of students in the experimental class using the jigsaw cooperative learning model. It can be seen that student learning motivation in the experimental class increased from the category of often to always, with the highest score of 85 and an average score of 51.4%. While the learning outcomes of experimental class students were effectively used in improving student learning outcomes in sociology subjects, with the highest pretest score of 86 with an average of 66.7994 and the highest post-test score of 86 with an average of 80.9854, which means that the use of the jigsaw-type cooperative learning model in increasing student motivation and learning outcomes is very effective.

### INTRODUCTION

Education is one of the most important things to determine the progress or decline of a nation. Indeed, the success or failure of education carried out will determine as well as be the key to the back and forth of a country. In the teaching and learning process in the classroom, there is a close relationship between teachers, students, curriculum, facilities, and infrastructure. The teacher has a duty as a teacher, and the teacher chooses the right learning methods and approaches in accordance with the material presented in order to achieve educational goals<sup>1</sup>.

The success of a country's education is closely related to the teacher's ability to deliver the material. The assumption in society is that the teacher's inability to deliver material causes students not to understand the material presented. Most teachers deliver material using boring learning models, so students get unsatisfactory learning results<sup>2</sup>.

The learning process should be able to condition and provide encouragement to be able to optimize and awaken the potential of students, so that it will ensure the dynamics in the learning process and boredom of students' passivity. The learning process can be considered a system. Its success can be determined by the various components that make up the system itself; one of the determining components is the teacher<sup>3</sup>.

Things that affect motivation and learning outcomes must be known by teachers in determining learning methods or models because one of the tasks of teaching itself is to guide and help students learn. Student learning motivation will not grow by itself but is influenced by the learning model used by the teacher. When a student pays less attention to the learning process, it may be because the teacher who teaches still continues to use conventional learning models, so that it cannot foster student attraction to follow the subject matter presented. For this reason, one of the cooperative learning models that can be used to overcome these problems and learn sociology is the Jigsaw-type cooperative learning model<sup>2</sup>.

Jigsaw-type cooperative learning is expected to be more interesting and suitable if used in learning sociology. Given that sociology is a subject that can be learned by dividing it into subjects that do not require a sequence of delivery, The Jigsaw-type cooperative learning model emphasizes group discussions with a relatively small number of members and is heterogeneous. The main thing that distinguishes Jigsaw from ordinary group discussion is that in the Jigsaw model, each individual learns their own section and then exchanges knowledge with their friends. In this learning model, students will have the same perception, have individual and group responsibility for learning the material provided, share tasks and responsibilities equally within the group, and can learn leadership<sup>4</sup>.

Based on the results of interviews by social studies teachers at SMA Negeri Meukek, South Aceh Regency, it shows that the ongoing sociology lesson process still uses conventional learning models. This learning model emphasizes the verbal delivery of material from a teacher to students by explaining, giving examples, asking questions,



and giving assignments. Students only record explanations from the teacher. Although there are discussion activities, they seem less lively. Another problem is that the social studies learning outcomes of class X students are still very low because there are some students whose scores have not reached the minimum completeness criteria (KKM) that has been determined, namely a score of 70. In addition, students are still less active and less enthusiastic during the lesson. Students' understanding of the material is still very low because, during the learning process, the teacher still explains verbally the teaching material in front of the class by referring only to the textbook, and the teacher does not maximize the use of media that is already available to support the teaching and learning process.

### METHOD

The type of research conducted is using experimental research methods with a quasi-experimental design, which can also be called a pseudo-experimental design. The data collection design in this study used the pretest-posttest control group design model. This model is done by giving an initial test to both classes before being given treatment to measure the initial conditions. Furthermore, the experimental class was given treatment, and the control class was not given treatment. After completing the treatment, both classes were given a test again as a posttest.

1. Can the Jigsaw-type cooperative learning model increase the motivation to learn Pancasila of students in class X IPS SMA Negeri 1 Meukek, South Aceh Regency?
2. Can the Jigsaw-type cooperative learning model be an alternative to improve the learning outcomes of Pancasila class X IPS SMA Negeri 1 Meukek South Aceh Regency?

### RESULT

In this chapter, the author discusses the results of research that has been conducted to provide answers to the problems studied and discusses the data in the form of interviews that the author has obtained at the research location. This chapter also describes the effectiveness of the jigsaw-type cooperative learning method to increase motivation and learning outcomes in sociology at SMA Negeri 1 Meukek, South Aceh Regency.

#### Overview of the Research Location

Aceh Selatan District is one of the districts in Aceh Province, Indonesia. The district consists of 18 sub-districts and 248 villages. There are three tribes that inhabit this region, including the Aneuk Jamee tribe, the Kluet tribe, and the Aceh tribe. South Aceh Regency has an area of 3,841.60 km<sup>2</sup>, and the number of senior high schools (MA) in South Aceh Regency consists of 44 schools (BPS, 2018). Meukek is one of the kecamatan located in South Aceh, which is the place where this research was conducted. The precise location of this research is SMA NEGERI 1 Meukek Kabupten Aceh Selatan. The population of this research is the X-class students of SMA Negeri 1 Meukek, South Aceh Regency, with a total of 89 students. The sample in this study amounted to 62 students, consisting of class XI with a total of 31 students, and class X2 was used for validation testing with as many as 31 students.

#### Descriptive Analysis of Research Variables

##### Descriptive Analysis of Pancasila Learning Motivation Variables of Students in Class X IPS SMA Negeri 1 Meukek

Student learning motivation questionnaire data can be described with the help of SPSS for Windows version 23.0. The results of this study compare the student learning model into two groups classes, an experimental class, and a control class. The jigsaw-type cooperative group model and the direct learning group model. The results of the descriptive variable measurements are presented in Table 1 below, which summarizes the description of student learning motivation data that has been classified based on the categories Always (SL), Often (S), Sometimes (KK), Never (TP), and static description with minimum and maximum score sizes. Mean standard deviation and standard error mean, as well as data distribution to see normality in table 1, are as follows:

Table 1. Descriptive Statistics of Motivation to Learn Pancasila Subjects

Group	N	Minimum	Maximum	Mean	Std deviation
Jigsaw type cooperative learning model	35	68	85	76.2286	4.16620
Direct Learning Model	27	62	74	67.8519	3.61305

Table 1 shows that the learning motivation variable, with a total number of total data points (N) of 62 respondents who are divided into two study class groups, the jigsaw-type cooperative learning model group totaling 35 respondents, has a minimum score in the student learning motivation questionnaire of 68 and a maximum score of 85, with an average value of 76.3386 and a standard deviation of 4.16629. Meanwhile, the direct learning model group, totaling 27 respondents, has a minimum score in the student learning motivation questionnaire of 67.8519 and a standard deviation of 3.61305. The direct learning model group, totaling 27 respondents, had a minimum score of

67.8519 and a standard deviation of 3.61305. To determine the high and low learning motivation variables, we used four categories, namely, always, often, sometimes, and never. The formula used to find the range of learning motivation is as follows:

$$\text{Interval} = \frac{\text{Highest Score} - \text{Lowest Score}}{\text{category}}$$

$$\text{Interval} = \frac{85 - 62}{4} = 5.75$$

Thus, the high and low measurement results are categorized in Table 2. as follows:

Tabel 2. Distribution of Student Learning Motivation Using the jigsaw type cooperative learning model based on Criteria

catogory	criteria	N	Percentage (%)
85-76	Always	18	51,4%
75-74	Often	9	25,7%
73-70	Sometimes	6	17,1%
69-68	Never	2	5,7%

Tabel 3. Distribution of Student Learning Motivation Using direct learning model based on Criteria

catogory	criteria	N	Percentage (%)
76-69	Always	12	44,4%
67-66	Often	7	25,9%
65-64	Sometimes	5	18,5%
63-62	Never	3	11,1%

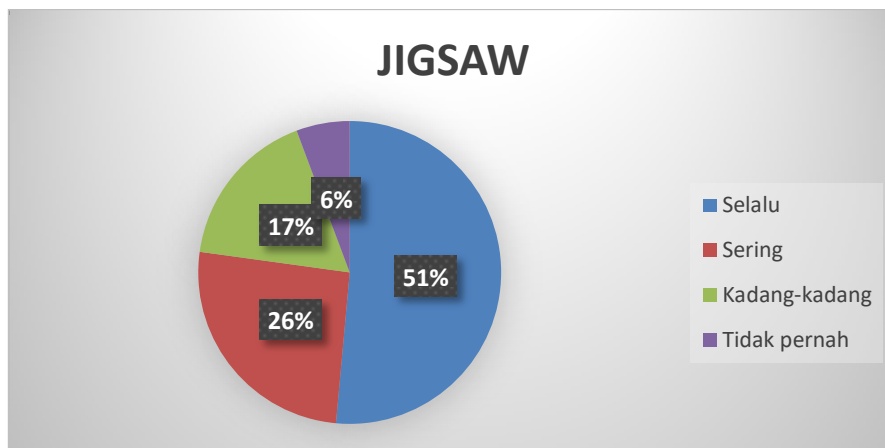


Figure 1. Percentage Distribution of Student Learning Motivation of the jigsaw type cooperative learning models

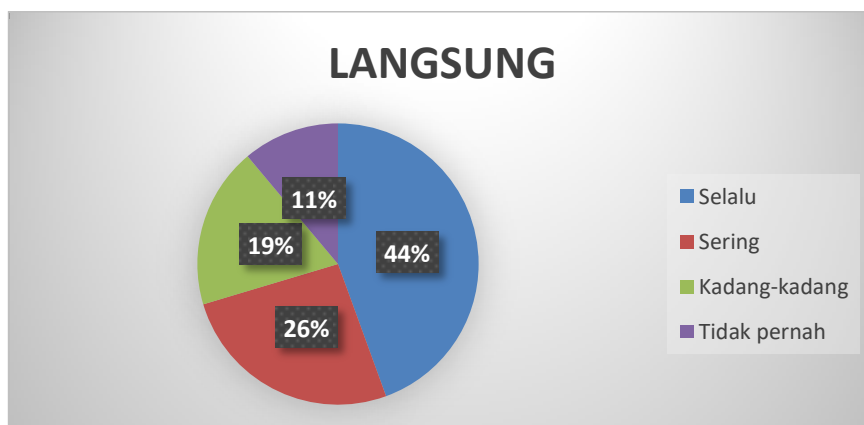


Figure 2. Percentage Distribution of Student Learning Motivation for direct learning models

From the distribution table of the measurement of student learning motivation above, it can be explained that students who have motivation to learn Pancasila in learning with the jigsaw type cooperative model in the always category amounted to 18 students with a percentage of 51.4%, students who have learning motivation in the frequent category amounted to 9 students with a percentage of 25.7%, while students who have learning motivation in the occasional category amounted to 6 students with a percentage of 17.1%, and students who have learning motivation in the never category amounted to 2 with a percentage of 5.7%.

While Pancasila learning motivation in the direct learning model in the always category amounted to 12 students with a percentage of 44.4%, students who had learning motivation in the frequent category amounted to 7 students with a percentage of 25.9%, while students who had learning motivation in the never category amounted to 3 students with a percentage of 11.1%. Thus, it can be concluded that learning motivation in class X1 and X2 students at Negeri 1 Meukek, South Aceh district, based on the data presented above, shows that the jigsaw-type cooperative learning model class is able to significantly increase student learning in sociology learning subjects compared to the learning model with direct learning.

**Normality Test Analysis of Learning Motivation Data**

The normality test is used to determine whether the data population is normally distributed or not. The normality test used in this study is the One Sample Kolmogorov-Smirnov Test. In this study, if the significant value is greater than 0.05 at P 0.05, it is normally distributed. And if the significant value is smaller than 0.05 at P 0.05, then the distribution is not normal. The results of the normality test of the data measuring each variable of Pancasila learning motivation can be seen in Table 4 as follows:

Tabel 4. Description of Statistical Test of Normality of Pancasila Learning Motivation Data  
One-Sample Kolmogorov-Smirnov Test

	Kelompok	Statistic	Df	Significant
Student Motivation	Direct learning model	149	27	.130
	Jigsaw type cooperative learning model	102	35	.200

The table describes the results of statistical tests on the distribution of sociology teaching motivation data with the One Sample Kolmogorov-Smirnov Test technique. Based on the results of calculations through the SPSS for Windows version 23 program using the Kolmogorov-Smirnov technique, the learning outcomes of class students using the jigsaw-type cooperative learning model and direct learning were found to be more than 0.05, so the data were normally distributed.

An overview of the normal distribution of Pancasila learning motivation data can be seen in graph 1. And graph 2. Below:

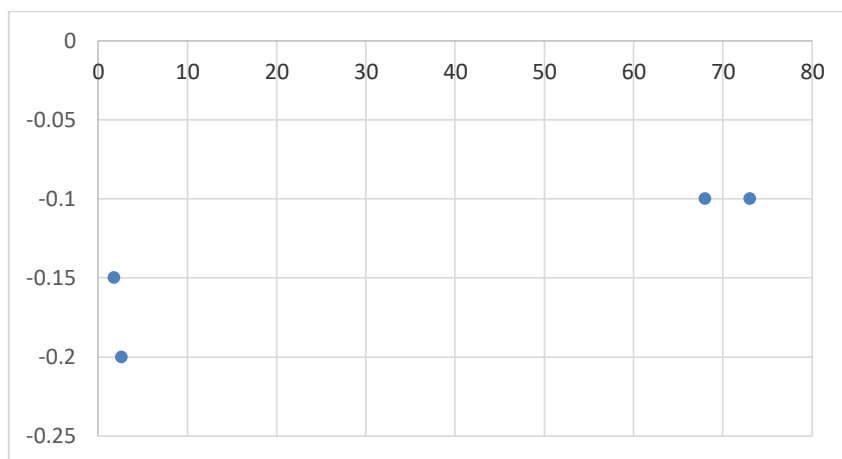


Figure 3. graph1 Defended Normal Q-Q Plot of Student Motivation For group Jigsaw type cooperative learning model

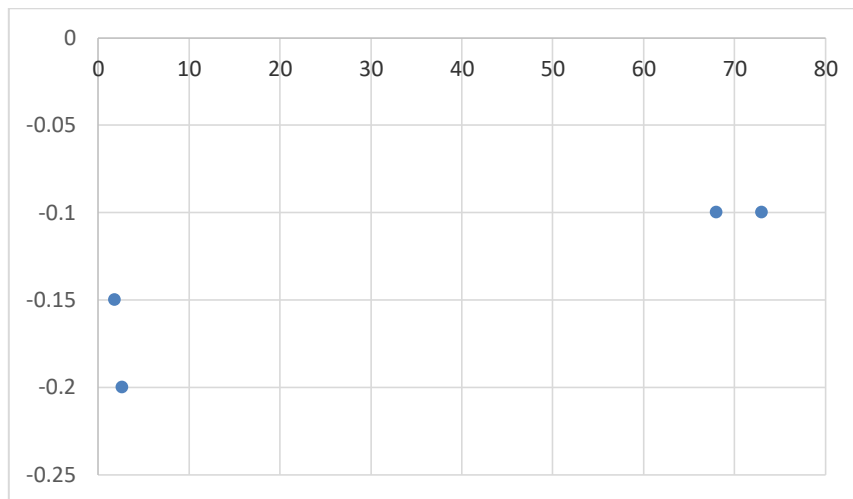


Figure 4. graph 2 Defended Normal Q-Q Plot of Student Motivation For group Direct learning model

### Descriptive Analysis of Pancasila Learning Outcomes Variables of Students in Class X IPS SMA Negeri 1 Meukek

Student learning motivation questionnaire data can be described with the help of SPSS for Windows version 23.0. Research Results of student learning models with jigsaw-type cooperative groups with pre- and post-test research. The results of the descriptive variable pengukuran are presented in tables 4.5 and 4.6 below, which summarize the data description of student learning outcomes that have been classified based on the categories Always, Often, Sometimes, and Never, statistical descriptions with minimum and maximum score sizes. Mean standard deviation and standard error mean, as well as data distribution to see its normality in pre-test table 5 and post-test table 6, are as follows:

Table 5. Descriptive Statistics of Pre-test Learning Outcomes of Pancasila Subjects Group Statistics

Group	N	Minimum	Maximum	Mean	Std. Deviation
Jigsaw type cooperative learning model	35	51	86	66.7994	7.05174
Direct learning model	27	55	86	66.9280	8.07686

Table 5 shows that the variable assessment model Pretest learning outcomes with the number of total data points (N) as many as 62 respondents has a minimum score of 51 on the student learning outcomes questionnaire and a maximum score of 86 with an average value of 66.7994, and the standard deviation amounts to 7.05174. While the pre-test research on direct learning results amounted to 27 respondents, they had a minimum score of 55 and a maximum score of 86, with an average value of 66.923 and a standard deviation of 8.07386.

Tabel 6. Descriptive Statistics of Post-test Learning Outcomes of Pancasila Subjects

Group	N	Minimum	Maximum	Mean	Std. Deviation
Jigsaw type cooperative learning model	35	58	86	60.9854	5.63480
Direct learning model	27	68	86	89.4770	7.20101

Table 6 shows that the variable post-test assessment model of learning outcomes with the total number of respondents (N) is 62. Post-test assessment jigsaw-type cooperative learning totaling 35 respondents has a minimum score of 58 and a maximum score of 86, with an average value of 80.9854 and a standard deviation of 5.63430. While direct learning with a post-test assessment of 27 respondents has a minimum score of 58 and a maximum score of 86, with an average value of 69.4770 and a standard deviation of 7.20101. Thus, we can conclude from the two tables above that pre-test and post-test learning with the jigsaw-type cooperative model is much more effective than the direct learning model.

### Normality Test Analysis of Learning Outcome Data

The normality test is used to determine whether the data population is normally distributed or not. The normality test used in this research is the One Sample Kolomogrov-Smirnov Test. In this study, if the significant value is greater than 0.05 at P 0.05, it is normally distributed. And if the significant value is smaller than 0.05 at P 0.05, then it is not normally distributed. The results of the normality test of measurement data for each Pancasila learning motivation variable can be seen in tables 7 and 8 as follows:

Tabel 7. Test Analysis of Learning Outcome Data

Learning Outcome	Groups	Kolmogorov-Smimov <sup>a</sup>		
		Statistic	Df	Sig.
Pre-test	Direct learning model	.141	27	.182
	Jigsaw type cooperative learning model	.179	35	.006

The table describes the results of statistical tests on the distribution of sociology learning outcomes data using the One Sample Kolmogorov-Smirnov technique version 23.0. Using the Kolmogorov-Smirnov technique, the learning outcomes of class students who use the jigsaw-type cooperative learning model and direct learning were found to be more than 0.05, so the data is normally distributed.

Tabel 8. Test of normality

Learning Outcome	Group	Kolmogorov-Smimov <sup>a</sup>			Shapiro-wilk		
		Statistic	Df	Sig.	Statistic	Df	Sig.
Pre-test	Direct learning model	.141	27	.182	.948	27	.196
	Jigsaw type cooperative learning model	.179	35	.006	.947	35	.093

The table discusses the results of statistical tests on the distribution of sociology learning outcomes data using the One Sample Kolmogorov-Smirnov Test technique. Based on the results of calculations through the SPSS for Windows version 23.0 program using the Kolmogorov-Smirnov technique, the learning outcomes of class students using the jigsaw-type cooperative learning model and direct learning were found to be more than 0.05, so the data were normally distributed.

An overview of the normality of the distribution of data on sociology learning outcomes with pre-test assessment can be seen in graph 3 and graph 4 below:

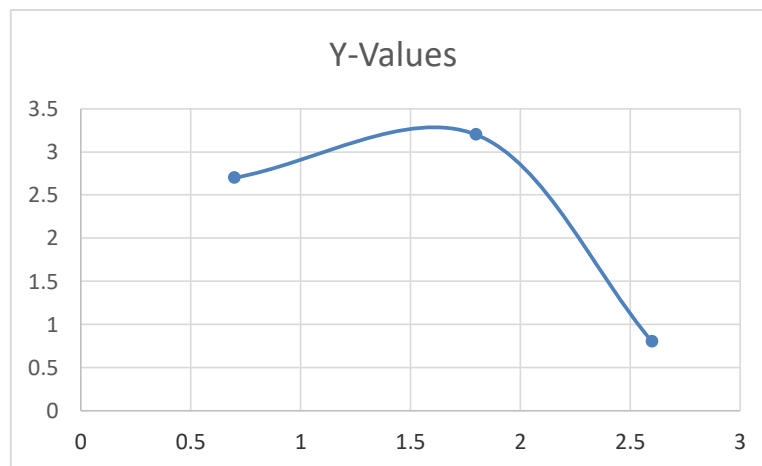


Figure 5. graph 3 Normal Q-Q Plot of Posttest Learning Outcomes For Group Jigsaw type cooperative learning model

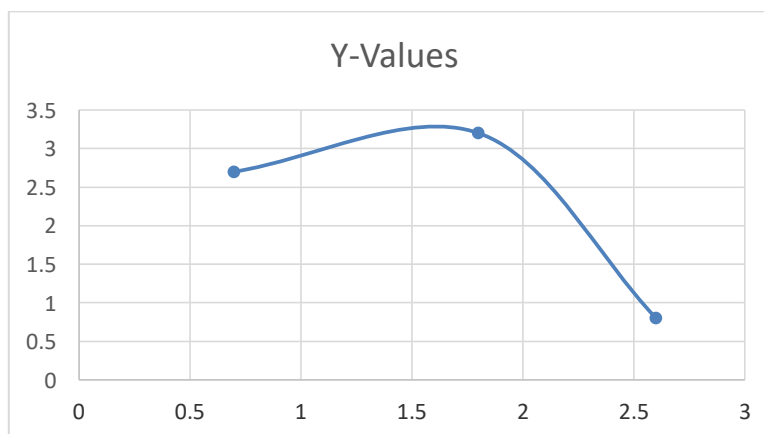


Figure 6. graph 4 Normal Q-Q Plot of Posttest Learning Outcomes For Group Direct learning model



An overview of the normality of the distribution of data on Sociology learning outcomes with Post-test assessment can be seen in graph 5 and graph 6 below:

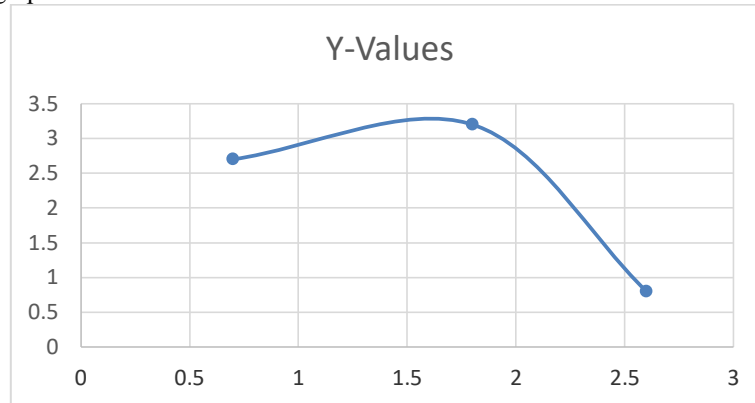


Figure 7. graph 5 Normal Q-Q Plot of Posttest Learning Outcomes For Group Jigsaw type cooperative learning model

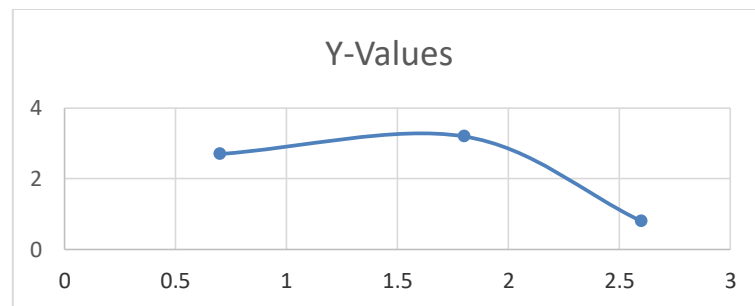


Figure 8. graph 6 Normal Q-Q Plot of Posttest Learning Outcomes For Group Direct learning model

## DISCUSSION

### Descriptive Analysis of Sociology Learning Motivation Variables

Based on the learning motivation of students in the control class who learn using the direct learning model, it shows that the highest score obtained by students is 74, while the lowest score is 62 with an average of 67.8519, when compared to the results in the jigsaw-type cooperative learning model class, whose results are obtained above direct learning, where the highest score is 85 with an average value of 76.2286.

From the explanation above, it indicates that the learning process of the direct learning model control class can only increase student learning motivation from the category of never to sometimes. This means that the control class was not given special treatment, so researchers can find out from the scores obtained by students at SMA Negeri 1 Meukek, South Aceh Regency.

Not optimal learning motivation of students who use direct learning models in the control class, because students get learning that is not effective. This is due to the direct learning model, where the learning process emphasizes the lecture method and notes so that it causes boredom for students, meaning that students are less interested in sociology subjects. So that it has an impact on students who are reluctant to be actively involved.

Based on the learning motivation of experimental class students who learn using the jigsaw type cooperative learning model, it shows that the highest score obtained by students is 85, while the lowest score is 68 with an average of 76.2286 when compared to the results in the direct learning model class, whose results are obtained under the jigsaw type cooperative learning model, where the highest score is 74 with an average value of 67.8519.

From the information above, it indicates that the jigsaw-type cooperative learning model increases students' learning motivation from the category of often to always. This means that the jigsaw-type cooperative class is given a special learning method so that researchers can find out from the scores obtained by students at SMA Negeri 1 Meukek, South Aceh district.

The optimal learning motivation of students who use the jigsaw-type cooperative learning model in the experimental class is because students receive different learning methods. This is due to the jigsaw-type cooperative learning model, where the learning process is divided into several groups so that students are eager and enthusiastic to gain knowledge from the teacher and fellow students. Students are given the alternative of working together with other learning friends to solve problems. The jigsaw-type cooperative model emphasizes creative and varied learning media so as to attract students' interest in learning.

Based on the above, we can know that the jigsaw-type cooperative learning model can increase student learning motivation at SMA Negeri 1 Meukek, South Aceh district. This can be seen because the highest score obtained by students in the experimental class of the jigsaw-type cooperative learning model is 85, with an average of 76.2286, and the score category is 51.4%, often 25.7%, sometimes only 17.1%, and never 5.7%.

### **Descriptive Analysis of Sociology Learning Outcome Variables**

Based on the learning outcomes of students in the control class using the direct learning model with the pre-test and post-test assessments, it shows that the highest pre-test score obtained by students is 86, while the lowest score is 51, with an average of 66.9340. And the highest post-test score obtained by students was 86, while the lowest score was 58, with an average of 69.4770. From the explanation above, it indicates that the control class learning process with pre- and post-test assessments shows that the learning outcomes of students are less effective. Caused by the control class learning model, the learning process is one-way, which emphasizes the delivery of learning material only dominated by the teacher, meaning that what is conveyed by the teacher in learning is only memorized by students. According to David Ausbel, the memorization method is a process carried out by remembering word for word, or the information obtained only fills the cognitive structure. While learning, meaningful is a series of learning processes that provide meaningful results (Yatim Riyanto, 2009: 15).

This means that in the direct learning model, students have not been able to build their own knowledge in receiving subject matter because students are still focused on what they receive directly from educators, resulting in the understanding and knowledge of students who become passive in class. Based on the learning outcomes of students in the experimental class who studied using the jigsaw-type cooperative learning model, the pre-test assessment obtained by students was 86, while the lowest score was 51, with an average of 66.7994. And the highest post-test score obtained by students was 86, while the lowest was 58, with an average of 80.9854. From the information above, we can know that student learning in experimental classes that learn to use the jigsaw-type cooperative model with pre- and post-tests is very effective. This means that the jigsaw-type cooperative learning model is given a special learning method so that researchers can find out from the scores obtained by students at SMA Negeri 1 Meukek, South Aceh district.

The effective learning outcomes of students using the jigsaw-type cooperative learning model in the experimental class are optimal. This is because the learning model is divided into small groups so that it has an impact on increasing the knowledge of students obtained from students as their learning friends in the group. Also, students are given by alternative educators to work together with their group learning friends to solve problems. Learners are not awkward about asking questions and do not hesitate to express opinions and answer questions from the teacher and even other learning friends. On average, students who are actively involved in group discussions are not only those who have high academic abilities, but also those who are still in the low academic value category. They are actively involved and carry out tasks according to their responsibilities. In the process, it shows that the use of the jigsaw-type cooperative learning model, such as the willingness to ask questions, the ability to answer questions and express opinions, responsibility in tasks, the ability to work together, and the ability to draw conclusions from the material that has been learned, further increases the knowledge of the students from good to very good at each meeting. The elements that influence jigsaw-type cooperative learning are that students have the assumption that they are in the same life, strive together to achieve common goals, are responsible for the tasks they carry out, have common goals, there is a division of tasks, there are awards and evaluations imposed on all members, and there are skills to communicate in groups so that they can work together (Isjoni, 1010: 41-42).

The cooperative learning model provides opportunities for students to work together and collaborate to search for and find their own subject matter. So from the findings of this study, it can be concluded that the use of the jigsaw-type cooperative learning model really helps improve the learning outcomes of sociology students in class X IPS SMA Negeri 1 Meukek in South Aceh district. This learning model can not only be applied to sociology subjects but can also be applied to other social subjects.

### **CONCLUSION**

Based on the findings of the research conducted by the author regarding the effectiveness of the jigsaw-type cooperative learning method to increase motivation and learning outcomes of sociology students in class X IPS SMA Negeri 1 Meukek, South Aceh district, as described in the previous chapters, in this section some conclusions are stated as follows:

Learning motivation for class X IPS at SMA Negeri 1 Meukek as an experimental class increased student learning motivation from the category of often to always. This means that the experimental class was given a special learning method in sociology subjects by using the jigsaw-type cooperative model. This can be seen from the average score of students in the experimental class based on the learning motivation test, with the highest score of 85 and the lowest score of 68, with an average score of 76.2286 and a score category of always 51.4%, often 25.7%, and sometimes only 17.1% and never 5.7%.





The use of the jigsaw-type cooperative learning model with pre- and post-test assessment is very effective in improving student learning outcomes in sociology subjects in class X IPS at SMA Negeri 1 Meukek. This is based on the fact that the highest pre-test score obtained by students is 86, while the lowest score is 51, with an average of 66.7994. And the highest post-test score obtained by students is 86, while the lowest score is 58, with an average of 80.9854.

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