What is the effect of learning models and interests on study results?

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ABSTRACT

This study aims to determine whether there is a significant influence between the learning model (NHT and STAD) and student interest on learning outcomes. This study uses a mixed methods approach with a sequential explanation. Sequential explanatory is a research where the initial data collection is quantitative, which is then followed by qualitative data. The data collection instrument is in the form of a response questionnaire for the STAD and NHT learning models with 18 statements, student interest questionnaires of 11 statements, and learning outcomes test sheets containing 7 questions. Furthermore, the data were analyzed by descriptive statistics to find the average value and using inferential statistics in the form of multiple regression and ANOVA tests to see quantitative data, while for qualitative data using Miles & Huberman, namely data reduction, data display, and conclusions. This study uses 327 students of SMK 1 and SMK 4 in Jambi City by using a total sampling technique, namely the entire population is used as the research sample. Then interviewed 20 students who were willing to conduct interviews. The results of this study indicate that Student responses to the STAD learning model have a good category, which is 60.2% (197 of 327) and student responses to the NHT learning model of teacher pedagogic competence have a low category. good that is equal to 58.7% (192 of 225). Student interest in learning also has a good category of 60.9% (199 out of 327). There is a significant influence between learning models, interests, and student learning outcomes, with the determination coefficient value of (R^2) 0.729. This means the contribution of the learning model and student interest in student learning outcomes by 72.9 %, while other variables influence the remaining 27.1 %.

Keywords: interest, learning outcome, Number Head Together, Student Team Achievement Division

INTRODUCTION

Schools are educational institutions that have the task of delivering students to develop all their potential. Schools are also believed to be the only way so that people today can live steadily in the future (Pure et al., 2018). In the implementation of education in schools that involve teachers as educators and students as students, it is realized by the interaction of teaching and learning or the learning process. The success of education in schools is very dependent on the teaching and learning process in the classroom (Buchari, 2018; Nugraha, 2018)s. In learning in schools, there are many interrelated elements and determine success in the teaching and learning process. These elements are: educators (teachers), students (students), curriculum, teaching, tests, and the environment (Aditya et al., 2020). Students as subjects in the process also play a very important role in the success of learning activities teaching (Sudjana, 2001).

In practice, the teaching and learning process that takes place in schools is actually inseparable from the interaction between teachers and students (Namiroh, 2018). The relationship between the two is created in several ways, both in relationships within the classroom and relationships outside the classroom. One of the relationships in the classroom between teachers and students is seen in the learning process in the classroom (Inah, 2015). Related to the

relationship between teachers and students in the classroom, there are several problems that arise in the world of education, especially in the learning process in schools, namely the learning outcomes obtained by students are not maximized.

Many factors can affect the good or bad learning outcomes obtained by students. In general, the factors that can affect learning outcomes in general can be divided into two, namely factors originating from within students (internal) and factors originating from outside students (external) (Utami & Gafur, 2015). Factors that come from within students can be seen from physical factors (physical health), psychological (student readiness, motivation, interests, talents, maturity, attention) (Stevani & Gumanti, 2018). While those from external factors are in the form of learning materials, competent teachers, learning models, infrastructure (facilities, learning media) and the environment (Noviyanti, et al., 2015). Seeing so many factors that can affect student learning outcomes at school, in this case, creative teachers are needed who can make learning more interesting and liked by students. The classroom atmosphere needs to be planned and built in such a way by using the right learning model so that students can get the opportunity to interact with each other so that in turn optimal learning achievement can be obtained.

The selection of the right learning method will affect a pleasant learning atmosphere and allow students to develop creativity. As expressed by Djamarah (2006) that use Various teaching methods can excite students' learning, under certain conditions a child will feel bored with the lecture method, the teacher needs to divert the atmosphere by using other methods, such as the question and answer method, discussion or assignment method so that boredom can be cured and the atmosphere of teaching activities is far away from lethargy. One of the learning models that can increase student activity in the learning process is to use a *cooperative learning model*. (Rahmawati et al., 2014). Cooperative learning is also known as group learning. According to Slavin (2005) all method Cooperative learning contributes to the idea that students who work together in learning and are responsible for their teammates are able to make themselves learn as well. The tasks given are not to do something, but to learn something as a team.

In addition to the learning model, other factors that come from within students that can affect learning outcomes are interest in learning. In learning, interest is the driving force that can generate enthusiasm for learning and provide direction to student learning activities (David, 2012). Interest in learning is a psychological factor that is non-intellectual (Andryvo, 2013)s. A student who has a fairly high intelligence, sometimes he gets low learning outcomes caused by a lack of interest in learning.

Several studies have proven that interest in learning has a positive influence on learning outcomes, including research conducted by Sardini, Buwono, S and Parijo (2013), Putri, DTN and Isnani, G (2015), Noviyanti, YB, Santosa, D and Widodo, J (2015), and Lestari (2013). Interest is basically the acceptance of a relationship between oneself and something outside oneself. The stronger or closer the relationship, the greater the interest. According to Slameto (2003: 180) interest is a sense of preference and interest in a thing or activity without anyone telling. Interest is a strong source of motivation to learn and is the cause of student participation and activeness in learning activities. Without interest in learning in students, it will result in less than optimal results in the learning process. It is said so because according to Slameto (2003: 181) students who have an interest in certain objects tend to give greater attention to these objects.

Interest has a great influence on a person's activities because with interest he will do something he is interested in. On the other hand, without one's interest it is impossible to do something. In other words, interest is the cause of someone doing something he wants (Novelisa & Sunarti, 2021) . Interest in learning can be defined as a constant interest and tendency to pay attention and be involved in learning activities because they realize the importance or value of the things to be learned. (Laa et al., 2017) . Interest can arise from the outside or the heart. Great interest in something is a big capital means to achieve or obtain the desired goal. No exception in studying Economics subjects. Students who have a high interest in learning will always give full attention in their efforts to achieve learning goals.

Previous research relevant to this research was conducted by Aryana, Idrus and Harjono (2015) which discussed the influence of the NHT and STAD Cooperative Learning Model on the learning outcomes of students' attitudes at SMA Negeri 2 Gerung. The similarity between this

study and this research is that they both examine the NHT and STAD learning models in learning. However, what distinguishes these two studies lies in the variables studied and in the type of learning adopted. In this study, the variables studied were the NHT and STAD learning models, interest in learning, and learning outcomes. Meanwhile, Aryana, Idrus and Harjono's (2015) research did not review the existence of a learning interest variable in the use of the NHT and STAD models, and the learning outcomes seen were student attitudes, not the acquisition of grades in learning. In addition, the difference is that in this study, the subject of learning that was adopted was economics, while the research of Aryana, Idrus and Harjono (2015) raised the type of biology learning. Therefore, this research was carried out to complement the GAP of previous research and strive to improve existing research. In this study, a study was conducted using four variables at once and saw the relationship between these variables, namely the NHT and STAD learning model variables, learning interest and learning outcomes.

The results of this study can have implications in the world of education in particular and society in general. With the results of this study, it will be known how the appropriate learning model to be used in learning economics, and how the importance of interest in learning affects student learning outcomes. A student who has a high interest in learning will perform the tasks given by the teacher as well as possible (Jufrida et al., 2019) and vice versa so that good learning results will be obtained as well. The existence of a high interest in learning will also make students more enthusiastic in learning activities. A positive interest in learning will also have a positive (good) impact on students, while a bad interest in learning can have a negative/unfavorable impact on the students themselves. Therefore, the researcher wants to know whether there is a significant influence between the learning model and student interest on learning outcomes, with the research formulation as follows; (1) how do students respond to the STAD and NHT learning models?; (2) how is the student's interest in learning economics?; and (3) is there a significant influence between learning models, interests and student learning outcomes?

METHOD

This study uses a mixed methods approach. Martens (2010) "mixed methods can refer to the use of quantitative and qualitative data in answering research questions as well as being part of a larger research program and designed as a complement to provide information related to different methodological approaches. The type used is sequential explanatory. Sequential Explanatory research is research in which the initial data collection is quantitative which is then followed by qualitative data, which means that quantitative data is strengthened by qualitative data to be obtained (Creswell, 2012).

Where, quantitative data was obtained through the provision of questionnaires for teacher competence and teacher performance, then followed by qualitative activities, namely conducting interviews with students. This study used 327 students of SMK 1 and SMK 4 in Jambi City using a total sampling technique. The total sampling technique is an example of a collection technique that uses the entirety of a population (Kerlinger, 2014; Kholilah et al., 2020) , then interviewed only 20 students who were willing to conduct interviews.

In the first data collection process, because it uses a sequential explanation type, the first data obtained is quantitative data through response questionnaires for STAD and NHT learning models, and student interest questionnaires. The response questionnaire for the STAD and NHT learning models was developed by researchers and obtained 18 valid statements with a Cronbach alpha value of 0.71, the interest questionnaire was adapted from Dewi (2021) with valid statements of 11 statement with Cronbach alpha of 0.76. As well as a test for learning outcomes containing 7 questions that have been validated by experts in their field. All questionnaires used as instruments in the study used a Likert scale 4. Then to process the data, the SPSS 21 program was used to obtain descriptive and inferential statistics to view quantitative data, while for qualitative data, Miles & Huberman were used, namely data reduction, data display, and conclusions (Miles, 1994; Fitriani et al., 2020; Tanti et al., 2022). Descriptive statistics are presented in summary frequency, such as mean, mode, median, minimum, maximum and standard deviation (Cohen, Manion & Morrison, 2007; Fitriani, Kholilah, et al., 2021). In this study the

descriptive statistics used are mean, min, Max, and Category and the inferential using multiple regression.

In table 1, you can see the categorization of student responses to learning models, learning interests and student learning outcomes.

Table 1. Categories of student responses and student interest in learning

Category	Interval			
	STAD response	NHT Response	Learning Interest	Learning Outcome
Very Not Good	1 8.0 – 31.5	1 8.0 – 31.5	19.0 – 33.3	0.0 – 1.75
Not Good	31.6 – 45.0	31.6 – 45.0	33.4 – 47.5	1.76 – 3.5
good	45.1 – 58.5	45.1 – 58.5	47.6 – 61.8	3.6 – 5.25
Very Good	58.6 – 72.0	58.6 – 72.0	61.9 – 76.0	5.26 – 7.0

During data collection, the first activity that must be done is to select students based on the categories provided by the researcher, then give questionnaire of response STAD and NHT, Learning interest and learning outcome, the instrument is then processed using SPSS 21 application data to see descriptive statistics, in the form of, the mean, min, max, percentage, and category of students and see if there is an impact the three variables.

All data were obtained from the questionnaire of response STAD and NHT, Learning interest and learning outcome. Instrument on student values and collected and calculated and assisted with the SPSS 21 application. Descriptive statistics are given to calculate the frequency, percentage, mean, min, and max of a sample (Creswell, 2012). In this study, quantitative data were analyzed using parametric statistics from multiple regression to determine whether there was an impact between the learning model used and student interest on student learning outcomes. This study uses SPSS 21 at a significance level of 0.05. And followed by interviews which are used to strengthen the results of quantitative data.

FINDING AND DISCUSSION

Finding
Learning Model
The results of the questions given and the results obtained using the SPSS 21 application can be seen in the table 2.

Table 2. Results of student responses to the STAD learning model

Classification						
Interval	Category	Total	%	mean	Min	Max
1 8.0 – 31.5	Not very good	12	3.7			
31.6 – 45.0	not good	31	9.5			
45.1 – 58.5	good	197	60.2	52.2	27	70
58.6 – 72.0	Very good	87	26.7			
TOTAL		327	100			

From table 2, which came from 327 respondents from the Vocation School in kota jambi after they were obtained and the results obtained using the SPSS 21 application program, for student responses to the STAD learning model the dominant result was good, with a percentage of 60.2 %, very good at 26.7 %, not good at 9.5 %, and very bad at 3.7 %. From 327 students, the mean result is 52.2, the maximum score is 70, and the minimum score is 27. The results of the questionnaire analysis in table 2, the student responses to the STAD learning model have a good category of 60.2% (197 of 327). This is indicated by the interaction between teachers and students where this can be seen from the results of interviews as follows: "Does the learning carried out by the teacher using the STAD model make it easier for you to understand economics learning?". "Yes, with the application of the STAD model in economics learning, it makes it easier for me to understand and understand the economic material taught by the teacher, this is due to the

cooperation between fellow group members so that if there is something unknown, we can ask each other and express opinions according to what is known in the learning so that fellow members in the group can understand and understand the economic material. "Does the learning carried out by teachers using the STAD model make economic learning more fun?". "Yes, the application of the STAD model in economics learning makes economics learning more fun, this is because the STAD model places students in study groups consisting of several people with different academic abilities, namely some are smart, moderate, and ordinary, so that it can help us in constructing concepts and solving various economic problems through group discussion activities and cooperation with each other.". "Are you able to do the economic test with your own ability after implementing learning using the STAD model"? "Yes, I am able to work on economic test questions with my own abilities, because previously I had understood the material being tested through the application of the STAD model in the classroom, where I and my group mates would work together to solve existing problems and make each member able to work together. mutual understanding and understanding regarding the issues to be resolved".

The results of the questions given and the results obtained using the SPSS 21 application can be seen in the table 3.

Table 3. Results of student responses to the NHT learning model

Classification						
Interval	Category	Total	%	mean	Min	Max
1 8.0 – 31.5	Not very good	11	3.4			
31.6 – 45.0	not good	32	9.8	42.2	29	68
45.1 – 58.5	good	192	58.7			
58.6 – 72.0	Very good	92	28.1			
TOTAL		327	100			

From table 3, which came from 327 respondents from the Vocation School in kota jambi after they were obtained and the results obtained using the SPSS 21 application program, the student response to the NHT learning model has the dominant result being good, with a percentage of 58.7 %, very good at 28.1 %, not good at 9.8 %, and very bad at 3.4 %. From 327 students, the mean result is 42.2, the maximum score is 68, and the minimum score is 29 . The results of the questionnaire analysis in table 3, on student responses to the model This is indicated by the interaction between teachers and students where this can be seen from the results of interviews as follows: "Does the learning carried out by the teacher using the NHT model make it easier for you to understand economic learning?". "Yes, it became easier for me to understand the economics learning material, due to group discussions where each group member can exchange ideas with each other and find answers that are felt to be the most appropriate collaboratively in solving existing problems". "Does the learning done by teachers using the NHT model make economics learning more fun?". "Yes, economics learning feels more fun by using the NHT model, this is because my group of friends and I have become more active in learning, especially in terms of problem solving given by the teacher. I became motivated to study economics and made me more trained and responsible for fellow group members to actively participate in economic learning to solve existing problems". "Are you able to do the economic test with your own ability after implementing learning using the NHT model"?. "Yes, I can do the economic test by myself according to my ability, this is because I have been trained to participate actively during economic learning so that I can exchange ideas with my group mates and with the teacher regarding what I still don't understand so that I can understand and understand it, that's why I was able to do the test on my own."

Learning Interest
The results of the questions given and the results obtained using the SPSS 21 application can be seen in the table 4.

Table 4. Results of student learning interest

| Classification | | | | | | |
Interval	Category	Total	%	mean	Mix	Max
19.0 – 33.3	Not very good	9	2.8			
33.4 – 47.5	not good	27	8.2	54.1	29	71
47.6 – 61.8	good	199	60.9			
61.9 – 76.0	Very good	92	28.1			
TOTAL		327	100			

From table 4 , which came from 327 respondents from the Vocation School in kota jambi after they were obtained and the results obtained using the SPSS 21 application program, on the indicator of teacher support in the student learning environment the dominant result is good, with a percentage of 60.9 % , very good at 28.1 %, not good at 8.2 %, and very bad at 2.8 %. From 327 students, the mean result is 54.1 , the maximum score is 71 , and the minimum score is 29. The results of the questionnaire analysis in table 4, the student's interest in learning has a good category of 60.9% (199 of 327). It is supported based on interviews that have been conducted with the following results: "During the lesson, did you take notes on the important things that were explained during the lesson?"

"Yes, I took notes on important things that were explained during the economics lesson, especially if the material was used as material for the exam. This is because I am very interested in learning economics so I am enthusiastic about taking notes on important things in learning economics." "During the lesson, if there is something you don't understand, what do you do?" "If there is something I don't understand, I will immediately ask the related teacher that I don't understand so that I can understand and understand the material being taught, besides that I can also ask my group of friends to discuss and exchange ideas regarding the material being taught." "How do you respond when you are discussing with your group friends?"."I respond well to discussions with my group friends, I am active in discussions in my group and I also listen if my friends express their opinions to exchange ideas and work together to solve existing problems". The results of the questions given and the results obtained using the SPSS 21 application can be seen in the table 5.

Table 5. Results of student learning outcomes

| Classification | | | | | | |
Interval	Category	Total	%	mean	Mix	Max
0.0 – 1.75	Not very good	9	2.8			
1.76 – 3.5	not good	25	7.5	4.2	1	6
3.6 – 5.25	good	198	60.6			
5.26 – 7.0	Very good	95	29.1			
TOTAL		327				

From table 4, which came from 327 respondents from the Vocation School in kota jambi after they were obtained and the results obtained using the SPSS 21 application program, the student learning outcomes have the dominant result is good, with a percentage of 60.6 %, very good at 29.1 %, not good at 7.5 %, and very not good at 2.8 %. From 327 students, the mean result is 4.2, the maximum value is 6, and the minimum score is 1. The results of the questionnaire analysis in table 5, the student learning outcomes have a good category of 60.6% (198 of 327). This can be seen based on the interviews conducted with the following results: "What are the learning outcomes that you get after implementing learning using the STAD and NHT models?" "In my opinion, my learning outcomes have improved after the implementation of the STAD and NHT learning models because learning is fun for me and there is group discussion learning to exchange ideas" "What is your role in learning economics to improve your learning outcomes?" "I am active during economics lessons so that my learning outcomes can improve, I always ask friends and teachers about what I don't understand so that I can understand the material so that my learning outcomes can improve." " Do you always work on economic tasks seriously so that your learning outcomes increase?" "Yes, I do my assignments seriously, this is intended so that

my learning outcomes can improve and my abilities can be honed and understand more about the material being taught"

Influence of Learning model and Interest to Outcomes

For the results of the influence of the learning model and learning interest for learning outcomes can be seen in table 6.

Table 6. The impact of Learning Model and Learning Interest Student for Learning Outcome Students

Variable	Unstandardized Coefficients		Standardized Coefficients	T	sig.
	B	Std. Error	Beta		
1 (Constant)	14,247	3.327		4.361	.000
Professional Competence	.164	.149	.148	2,531	.016
Pedagogic Competence	.159	.134	.133	2,328	.017

From table 5, it can be seen the results of a multiple regression test found that the regression equation is $Y = 14.247 + 0.164 X_1 + 0.159 X_2$. For the number of contributions from Professional and Pedagogic Competence for Teacher Performance can be seen in table 7 below.

Table 7. Contribution from Learning Model and Learning Interest Student for Learning Outcome Students

Model	R	R square	Adjust R Square	Std. Error of the Estimate
1	.854	.729	.687	2.805

The results of multiple regression analysis show that the value of the determination coefficient is (R^2) 0.729. This means that the contribution of the learning model and student interest in learning to student learning outcomes is 72.9 %, while the remaining 27.1 % is influenced by other variables. Furthermore, to see the difference between the application of the STAD model and the NHT model in economic learning, it can be seen in table 8 below:

Table 8. ANOVA Test Differences between STAD Model and NHT Model in Economics Learning

	Sum of Squares	df	Sig
Between Groups	3281,529	3	.001
Within Groups	12858,629	323	
Total	16140.158	326	

The results of the ANOVA test analysis showed that the results of the student response questionnaire with the application of the STAD model and the NHT model in economic learning were significant differences. If the significance value obtained is less than 0.05, it can be concluded that there is a significant difference. Based on table 8, obtained a significance value of 0.001, it is concluded that there is a significant difference between the use of the STAD model and the NHT model in chemistry learning.

Discussion

Study before Aryana, Idrus and Harjono (2015) discussed the influence of the NHT and STAD Cooperative Learning Model on the learning outcomes of students' attitudes at SMA Negeri 2 Gerung. The similarity between this study and this research is that they both examine the NHT and STAD learning models in learning. However, what distinguishes these two studies lies in the variables studied and in the type of learning adopted. In this study, the variables studied were the NHT and STAD learning models, interest in learning, and learning outcomes. Meanwhile , Aryana, Idrus and Harjono's (2015) research did not review the existence of a

learning interest variable in the use of the NHT and STAD models, and the learning outcomes seen were student attitudes, not the acquisition of grades in learning. In addition, the difference is that in this study, the subject of learning that was adopted was economics, while the research of Aryana, Idrus and Harjono (2015) raised the type of biology learning. Therefore, this research was carried out to complement the GAP of previous research and strive to improve existing research. In this study, a study was conducted using four variables at once and saw the relationship between these variables, namely the NHT and STAD learning model variables, learning interest and learning outcomes.

Obtaining quantitative data results showing that students have a response to the learning model of interest and good learning outcomes, this is supported by qualitative data obtained from interviews. Based on the results of interviews that have been conducted on students, some of the questions given show the results that students give good responses to learning using the STAD and NHT models. The average student interviewed responded that the student had a sense of pleasure and was interested in learning economics with the models and strategies used. Students become more diligent in studying economics well because of the use of STAD and NHT learning which makes it easier for students to complete and find solutions given in learning. By using this learning model, students become more interested and active in learning.

The Student Team Achievement Division (STAD) learning model is one of the cooperative learning methods that is considered the simplest and best used for novice teachers. This cooperative model with the STAD type was developed by Robert Slavin and his colleagues at a private university in the United States, namely John Hopkin University (Rusman, 2013) . STAD is one of the most widely used learning models in cooperative learning. The STAD model places students in study groups consisting of several people with different academic abilities, so that in each group there are students who have high, medium, and low achievements, gender variations, or other social groups (Sudana & Wesnawa, 2017) . The STAD model helps students construct concepts and solve problems. The STAD model generally consists of groups of 4 to 5 students heterogeneously (gender, character, ability) and each group will present the results of the group (Noviana & Huda, 2018) . This learning model is suitable to be applied in economics learning. Another relevant learning model to be applied in economics learning is the NHT model.

Numbered Heads Together (NHT) learning model has the potential to be applied in collaborative teaching of economic concepts. The NHT model was developed by Spencer Kagan (1992) about numbering thinking together (Elendiana & Prasetyo, 2021; Sujiyati, 2021). According to Huda (2011), the use of the NHT model in group discussions can provide opportunities for students to exchange ideas with each other and find answers that are felt to be the most appropriate collaboratively (Yasa et al., 2020) . Through this model, students will become active in learning, especially in terms of problem solving given by the teacher. Students will be accustomed to building their knowledge through a group discussion process, so that each student will be more motivated to learn to use the NHT model (Wijayanti, 2016). The existence of a collaborative process in groups makes students practice in terms of the responsibilities of each group member, so that all members actively participate in group discussions (Hasanah, 2021). When viewed from the syntax, the STAD and NHT learning models are not the same, but these two models have one side in common, namely learning is focused on student activities to work together so as to foster student interest in learning.

Interest in learning is a very important factor in the learning process. This is because interest is one of the internal factors that can affect learning (Tambunan, 2018) . Interest in learning according to Qomariah and Ketut (2016) is defined as a feeling of liking or desire of students in a learning so as to encourage them to learn and be able to master the knowledge and experience shown by the participation and activities of students in seeking such knowledge and experience. In the learning process, if students are not interested or not interested in participating in learning, it will create a learning atmosphere that is not conducive and vice versa (Arianti, 2017) . Therefore, a good interest in learning can encourage students to be active in learning so that they have the initiative to always be eager to learn and feel very useful/important for themselves because it affects the learning outcomes that students will get.

Learning outcomes are interpreted as a tangible manifestation of achieving the goals of education so that the learning outcomes measured depend on the educational goals. Therefore, students who have a high enthusiasm for learning in economics learning will be able to influence and even improve student learning outcomes. So that the learning outcomes obtained can be optimal, it is necessary to have a very high involvement and participation from these students in learning (Dwijayanti & Pathoni, 2016), namely students must work hard to answer the problems given. Because, the success or failure of achieving an educational goal, depends on the student's learning process and how the learning outcomes obtained by students. Therefore, every student must have a high interest in learning, in order to obtain high learning outcomes, especially in economics learning. The results of this study can have implications in the world of education in particular and society in general. With the results of this study, it will be known how the appropriate learning model to be used in learning economics and how the importance of interest in learning affects student learning outcomes. A student with a high interest in learning will perform the tasks given by the teacher as well as possible (Jufrida et al., 2019) and vice versa so that good learning results will be obtained as well. The existence of a high interest in learning will also make students more enthusiastic in learning activities. A positive interest in learning will also have a positive (good) impact on students, while a bad interest in learning can have a negative/unfavourable impact on the students themselves.

CONCLUSION

STAD learning model have a good category, which is 60.2% (197 out of 327). Meanwhile, in the student response to the NHT learning model, the pedagogical competence of the teacher is also in the good category, namely 58.7% (192 of 225). This is indicated by the interaction between teachers and students and the teacher wants to discuss lessons outside of class hours. This can also be seen from the results of interviews that have been conducted. Students' interest in learning has a good category, which is 60.9% (199 out of 327). This is indicated by the interaction between teachers and students and the teacher wants to discuss lessons outside of class hours. It can also be seen from the results of interviews that have been conducted that the teacher provides support by motivating students, so that students are able to do it and when students find a problem in the lesson, students are allowed to go to the teacher's room and ask the teacher about it, and the teacher answers it and gives direction even though it is not learning hours. There is a significant influence between the learning model, interest and student learning outcomes which based on the results of multiple regression tests indicate that the value of the determination coefficient is (R2) 0.729. This means that the contribution of the learning model and student interest in learning to student learning outcomes is 72.9 %, while the remaining 27.1% is influenced by other variables.

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