The Influence of Talking Stick Learning Models on Students' Mathematics Learning Motivation at Class X MAN 1 Padangsidimpuan

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Abstract

This research is motivated by students' low motivation to learn mathematics, this is influenced by many factors, one of which is the learning model factor provided by the teacher. A learning model that creates a meaningful learning process environment and prioritizes the emergence of motivation to learn mathematics, one of which is the talking stick learning model. So the purpose of this research is to find out the influence of the talking stick learning model on the motivation to learn mathematics for students in class X MAN 1 Padangsidimpuan. This research is a quantitative research with Quasi-experimental method, a type of experimental design quasi experimental design method with the type of one-shot case study design with a sample of class X MIA-1 students totaling 18 people with purposive sampling technique. The data analysis used is descriptive and inferential statistical formulas, namely normality and homogeneity tests and hypothesis tests with one sample t-test. In accordance with hypothesis testing using the one Sample t-test test obtained a calculated price price = 45.249 and a 2-tailed sig value = 0.000, then according to the basis of decision making in the t Test, it can be concluded that H0 is rejected and Ha is accepted at a significance level of 5% (α = 0.05) this shows that there is a significant influence from the application of the Talking Stick learning model on the Students' Motivation in Learning Mathematics at Class X MAN 1 Padangsidimpuan.

Keywords: *Talking Stick, Motivation in Learning Mathematics.*

Abstrak

Penelitian ini dilatarbelakangi oleh motivasi belajar matematika siswa yang masih rendah hal ini dipengaruhi banyak faktor, salah satunya adalah faktor model pembelajaran yang diberikan guru. Model pembelajaran yang menciptakan sebuah lingkungan proses belajar yang bermakna dan mengedepankan munculnya motivasi belajar matematika salah satunya adalah model pembelajaran *talking stick*. Sehingga tujuan penelitan ini adalah untuk mengetahui pengaruh model pembelajaran

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talking stick terhadap motivasi belajar matematika siswa di kelas X MAN 1 Padangsidimpuan. Penelitian ini merupakan penelitian kuantitatif dengan metode Quasi eksperimen, jenis desain eksperimen metode *quasi experimental design* dengan jenis *the one-shot case study design* dengan sampel siswa kelas X MIA-1 jumlah 18 orang dengan teknik sampling purposive. Analisis data yang digunakan adalah rumus statistik deskriptif dan inferensial yaitu uji normalitas dan homogenitas serta uji hipotesis dengan uji *one sample t-test*. Sesuai dengan pengujian hipotesis yang menggunakan uji *one Sample t-test* diperoleh harga harga t_{hitung} = 45,249 dan nilai sig 2-tailed = 0,000 maka sesuai dasar pengambilan keputusan dalam Uji t, dapat disimpulkan H_0 ditolak dan Ha diterima pada taraf signifikansi 5% (α = 0,05) hal ini menunjukkan bahwa terdapat pengaruh signifikan dari penerapan model pembelajaran *Talking Stick* terhadap Motivasi Belajar Matematika Siswa Di Kelas X MAN 1 Padangsidimpuan.

Kata Kunci: Talking Stick, Motivasi Belajar Matematika.

INTRODUCTION

The progress of the community is closely related to the level of education. If we want to see a picture of the prosperity and well-being of a nation then we can see from the level of education. The development of the world of education can be seen from the learning process such as curriculum development, the use of learning models, the selection of learning methods, the use of teaching materials and so on (Hendri et al., 2021). In a good and effective learning process will be able to achieve good learning outcomes as well so that the goals of a learning will be achieved. If the purpose of a learning is achieved, then the educational goals will be easily achieved as expected.

Education is an important thing for every human being. Both for himself and for survival with his family. With education, a person can determine how his fate in the future. Education can have an influence on man himself. In the absence of education, ubisa loses its way in life hidupnya (Wulandari et al., 2022). Deciding which direction a person will do, is greatly assisted by the education he has gone through. The good or bad of a person's behavior is greatly influenced by how a person applies in his education. If the education goes through a good learning process, it will be possible to get a good quality education as well.

The quality of education is one of the factors that determine the quality of human resources (HR) of a nation. Therefore, education must be carried out as well as possible in order to carry out its role in preparing quality human resources and ready to face global challenges (Ayuningsih & Dwijayani, 2019). One of them is by studying well and seriously.

Learning itself is a process of a person seeking to acquire a form of change, a form of sedentary behavior (Lase, 2018). A process or effort made by each individual to get a change in behavior, both in the form of knowledge, skills, attitudes and positive values as an experience from various materials that have been studied is something that someone must go through in the learning process. Learning can also be interpreted as an individual process of students in building ideas, knowledge or understanding of information or material, either through physical experience, mental experience, or social experience (Arief & Saman, 2021). Meanwhile, mathematics learning is learning about order, organized structures, concepts that are arranged hierarchically from simple to the most complex (Rafiqoh, 2020).

In learning mathematics, the concepts are arranged hierarchically, requiring high-level thinking and abstract nature. Therefore motivation in learning mathematics is needed by a student, so that students are excited and stimulate the students' thinking power. Good motivation will affect one's desire to learn, especially learning mathematics.

Motivation is a very important factor in the learning process in order to achieve the expected achievements. This is because motivation is an individual driver and driver that can cause and provide direction for individuals to carry out certain activities to achieve their goals. Grade standards, both nationally established learning completion and graduation scores that must be achieved by students can increase student motivation in learning and achievement. As well as making students required to change their study habits for the better.

Motivation is the drive, desire, need of a person to perform certain activities in this case the motivation to learn. Motivation is essentially a factor of stimuli that occur both internally and externally that come from outside, which

will further cause the human being to experience stimuli or impulses and then behave and behave (Cleopatra, 2015). A series of attitudes and values that influence individuals to achieve specific things according to individual goals are part of motivation. These attitudes and values are invisible that provide strength to encourage individuals to achieve goals.

Based on preliminary observations made by researchers at MAN 1 Padangsidimpuan, the learning carried out by the teacher is still centered on the teacher, students are only slightly involved, this makes students bored and dependent on the teacher alone and students are not motivated to learn mathematics well. Students only listen to what is said by the teacher, so their enthusiasm in learning is very lacking, even when working on math problems they are less enthusiastic and less motivated. The habit of only accepting what the teacher says is one of the reasons they are less motivated in working on math problems during the learning process.

One of the learning models that is expected to overcome the above problems is cooperative learning that can develop academic achievement, social skills, strong motivation to learn, tenacity in the face of difficulties, the desire or desire to succeed, thus providing opportunities for students to be more active with joyful and pleasant feelings to accept the learning provided by the teacher. There are many types of cooperative learning models, two of which are talking stick learning models.

Talking Stick is one of the tools in learning with the help of a cane, whoever holds the stick is obliged to answer questions from the teacher after the student learns the subject matter. Talking stick is one of the cooperative learning models, because in the learning process it is carried out in groups. Then in the cooperative learning model, there is a stick when they want to speak. The talking stick model gives students the opportunity to express their opinions as broadly as possible and is obliged to tell the story in front of the class when they receive the rotating stick.

This model has been used as a model for classroom learning, the steps are for the teacher to divide the class into groups of 5 or 6 students. The teacher

prepares a stick after which the teacher delivers the subject matter to be studied and gives the group the opportunity to read and study the subject matter. After the students have finished reading the subject matter and studying the content, the teacher invites the students to close the reading content. And the teacher takes a stick and gives it to one of the students, after which the teacher gives a question and the student holding the stick must answer it (Syafi'i & Fatmalawati, 2018).

Based on the description above, the author is interested in conducting research with the title "The Influence of Talking Stick Learning Models on Students' Mathematics Learning Motivation at Class X MAN 1 Padangsidimpuan".

RESEARCH METHODS

This research is a type of quantitative research using the quasi-experimental design method with the type of the one-shot case study design. The population in this study was all students of class X MAN 1 Padangsidimpuan with a total of 324 people. In this study, the author took a sample, namely class X MIA-1 students, totaling 18 people as an experimental class, namely by using the Talking Stick Learning Model.

The instrument used in this study was a questionnaire used to determine students' motivation for learning mathematics after the mathematics learning process using the Talking Stick learning model. The questionnaire was compiled based on the indicators of students' motivation to learn mathematics.

Table 1. Motivational Questionnaire Grids for Learning Mathematics

No	Indicators	Number of Question	Sum
1.	Intrinsic Motivation		
	Needs	16,17,21,22,23,25	6
	Interests	7,11,12,13,14,15	6
	Curiosities	5,6,18,20	4
	Pleasures	1,8,9	3
2	Extrinsic Motivation		
	Clarity of Learning Objectives	2,3,4,10	4
	Reward	19,24	2

The questionnaire was compiled based on indicators of students' motivation to learn mathematics, for each alternative answer a weight was given according to the following table:

Table 2. Alternative Respondents' Answers

Description		Quality
SS	: Strongly Agree	4
S	: Agree	3
TS	: Disagree	2
STS	: Strongly Disagree	1

As for the criteria for the students' motivation to learn mathematics scores, they are categorized as in the following table:

Table 3. Interpretation of Student Mathematics Learning Motivation

Score Interval	Category
100 – 125	Very High
74 – 99	High
48 – 73	Enough
22 – 47	Low
< 22	Very Low

Before the questionnaire is tested, the questionnaire is validated first. The questionnaire needs to be validated so that the questionnaire describes the degree of validity or correlation of student scores on the relevant items compared to student scores on all items (Ida Farida, 2019). The validity of the questionnaire items is calculated using a formula according to the form of the questionnaire used, namely the correlation of moment products. In this study, researchers used a questionnaire with a total of 25 items. Of the 25 questionnaire items, all of them are valid according to the validity criteria with a significance level of 0.05. The questionnaire was also seen as reliable. Based on the calculations carried out, the value of r11 = 0.937 is in the interval 0.90-1.00. This value is very high, in other words, this instrument is worth using in research.

RESULTS AND DISCUSSION

To obtain data that is in accordance with this study, the authors used a data collection tool in the form of a questionnaire. The questionnaire used is a questionnaire about students' motivation to learn mathematics. As previously explained, the questionnaire was prepared based on indicators of students' motivation to learn mathematics.

After the research data is collected, the next step is to check the correctness of the data and conduct an analysis. Analysis of questionnaire data is carried out by determining the percentage of students' answers to each question in the questionnaire is analyzed descriptively and then quantitatively analyzed. Preliminary data analysis used normality tests and homogeneity tests. And the data is normal and homogeneous.

The calculation of the normality of the motivation data for learning mathematics for class X MAN 1 students who were taught using the talking stick learning model is as follows:

Table 4. Normality Test of Motivation Data for Learning Mathematics Through Talking Stick Learning

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Motivasi Talking Stick	.144	18	.200*	.920	18	.130

Based on the output table of the "Test of Normality" above, it is known that the significance (Sig.) value of the motivation variable for learning mathematics for class X MAN 1 Padangsidimpuan students who were taught using the Talking Stick learning model was 0.20. Because the value of Sig. 0.20 > 0.05, then as the basis for decision making in the normality test above, it can be concluded that the data is normally distributed.

From the results of the questionnaire, data were obtained that were used as a basis for testing research hypotheses. The data hypothesis test is carried out a

statistical test with an average similarity test or the t test used is the One Sample t-test. You can see the following table:

Table 5. Description of Mathematics Learning Motivation Value Data

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Motivation Value for Learning Mathematics	18	98.06	9.194	2.167

Tabel 6. Hasil Uji One Sample t-Test

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Motivation Value for Learning Mathematics	45.249	17	.000	98.056	93.48	102.63

From Table 6 above, it shows the calculated t count = 45.249 and the 2-tailed sig value = 0.000, then according to the basis of decision making in the t Test, it can be concluded that H_0 is rejected and H_a is accepted at a significance level of 5% ($\alpha = 0.05$) this shows that there is a significant influence from the application of the Talking Stick learning model on the Students' Motivation in Learning Mathematics at Class X MAN 1 Padangsidimpuan.

The researcher acts as a teacher, then carries out the learning using the Talking Stick learning model. The Talking Stick learning model is learning whose activity uses stick media. In its implementation, the stick will rotate with the accompaniment of the song sung by the student together until it stops, then the student who gets the stick when the song stops must answer the question asked by the teacher. But researchers brought Al-Qolam media, which is a kind of small

TV that is easy to carry around, with the accompaniment of Al-Qolam this Talking Stick learning model can be run well. Through this Talking Stick learning model, students are highly motivated to learn mathematics. Because students do not feel burdened to answer the math problems given. While listening to Al-Qolam chanting which can be soothing, students also feel happy and happy when learning mathematics. This feeling of joy and happiness and not being burdened makes students' thinking power rise so that they are motivated in learning mathematics. The motivation to learn mathematics students who were taught using the Talking Stick learning model showed a minimum score of 86 and a maximum score of 114. It can be seen in the table below.

Table 7. Motivation to Learn Mathematics Through Talking Stick Learning

			Statistic	Std. Error
Talking Stick Motivation	Mean		98.06	2.167
	95% Confidence Interval for Mean	Lower Bound	93.48	
		Upper Bound	102.63	
	5% Trimmed Mean		97.84	
	Median		95.50	
	Variance		84.526	
	Std. Deviation		9.194	
	Minimum		86	
	Maximum		114	
	Range		28	
	Interquartile Range		17	
	Skewness		.435	.536
	Kurtosis		-1.150	1.038

Based on the table above, it can be seen that the mean of students' motivation to learn mathematics through the Talking Stick learning model is 98.06 with a standard error of 2.167. The motivation score of learning mathematics of students taught using the Talking Stick learning model can be seen in the following table:

Table 8. Motivational Criteria for Learning Mathematics Through Talking Stick Learning

Score Interval	Total of Students	Criteria
100 - 125	7	Very High
74 – 99	11	High
48 – 73	0	Enough
22 – 47	0	Low
< 22	0	Very Low

From the table above, it can be seen that the motivation criteria for learning mathematics, the criteria for "very high" are 7 students, and the motivation criteria for learning mathematics with the criteria of "high" are 11 students, while the criteria of "enough", "low" and "very low" do not exist. Based on the table it is clear, it can be seen that by using the Talking Stick learning model the average student is in the high category, which means that students' interest in learning mathematics after learning with the Talking Stick model is very enthusiastic. Talking Stick can increase students' motivation in learning mathematics.

To make it even clearer to see a picture of the motivation to learn mathematics for students who are taught using the Talking Stick learning model, it can be seen in the following histogram image:

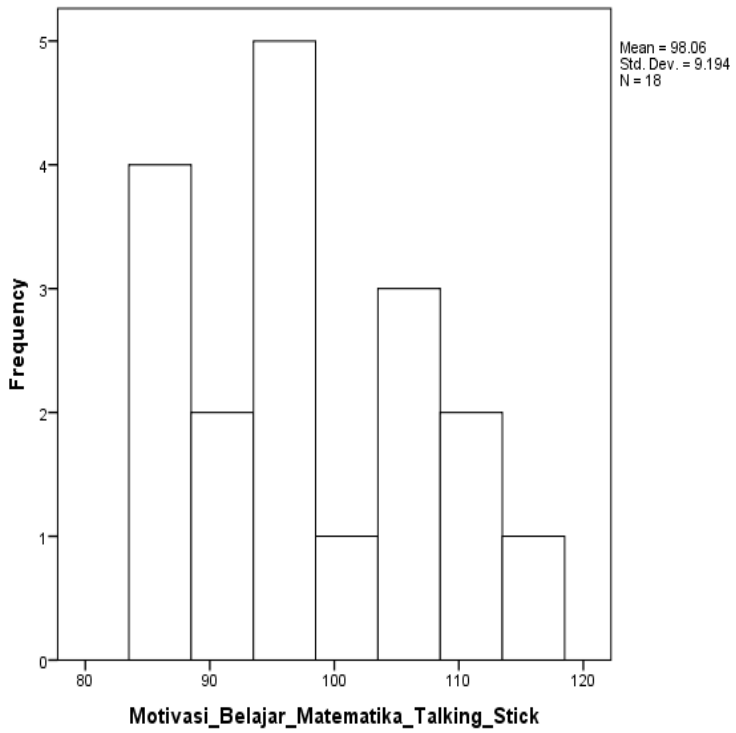

Figure 1. Histogram of Motivation to Learn Mathematics Through Talking Stick Learning

From the information above, it can be concluded that the motivation score for learning mathematics of students taught using the Talking Stick learning model with a mean of 98.06 is in the "high" criteria. Through the Talking Stick learning model, the average criterion of motivation to learn mathematics is "high". Thus students are motivated in learning mathematics, students are enthusiastic when the learning process begins through the Talking Stick learning model.

The Talking Stick learning model is learning whose activity uses stick media. In its implementation, the stick will rotate with the accompaniment of the song sung by the student together until it stops, then the student who gets the stick when the song stops must answer the question asked by the teacher. Researchers brought Al-Qolam or Samrt Hafidz media, which is a kind of small TV that is easy to carry around, with the accompaniment of Al-Qolam, this Talking Stick learning model can be run well.

The stages of Talking Stick learning are (Eka, 2015):

a. Before the implementation of learning, students are given student worksheets to study.
b. The teacher prepares accompaniment music and prepares sticks to give to the students.
c. Students give sticks to other students to take turns to be accompanied by music.
d. Students holding sticks at the moment when the music stops, give questions in advance according to the learning material. Then the music is revived and the sticks are given in turn.
e. When the music is dismissed again, the student holding the stick must answer the question previously given. After successfully answering the questions, the student also asked questions for the other students. So next until finally the teacher who gives the questions to the students.
f. The teacher leads the students to conclude the learning.

Conducting evaluations and also reflections.

Some of the advantages of talking stick type cooperative learning are,

a. Test student readiness
b. Practice reading and understanding of material quickly
c. To be more active in learning the material earlier

Meanwhile, the drawback is that it makes students with heart gymnastics or more expend energy.

Through this Talking Stick learning model, students are highly motivated to learn mathematics. Because students do not feel burdened to answer the math problems given. With this Talking Stick Learning Model can also develop academic achievement, social skills, strong motivation to learn, tenacity in the face of difficulties, the presence of a desire or desire to succeed, thus giving students the opportunity to be more active with joyful and pleasant feelings to accept the learning provided by the teacher. This is in accordance with previous research (Cahyono, 2020), (Dewi Wulandari et al., 2018), (Syafi'i & Fatmalawati, 2018), related to the Talking Stick learning model and motivation to learn mathematics.

CONCLUSION

Based on the results of this study, it can be concluded that there is a significant influence from the application of the Talking Stick learning model on the mathematical Self Concept of class VII MTsN 1 Padangsidimpuan students on the Students' Motivation in Learning Mathematics at Class X MAN 1 Padangsidimpuan.

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