



Use of Model *Mind Mapping* of Motivation to Improve Student Achievement in Math Class Materials Integer V Elementary School 200201 Padangsidempuan State

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Abstract

The purpose of this study to determine the increase motivation in student learning outcomes through mind mapping model variations in the subjects of Mathematics of material properties on integer arithmetic processing in class elementary school 200201 Padangsidempuan. Model mind mapping on learning of Mathematics can improve students' motivation. Motivation is one of the things that affect the success of student learning activities. Without motivation, the learning process will be difficult to achieve optimum success. This article is intended to investigate the use of mind mapping to the mathematics achievement of students. This descriptive correlation study was conducted as a case study to the fifth grade elementary school students and the purpose of this study was to describe the level of influence student motivation toward mathematics achievement in the use of mind mapping to the material integers. There are a total of 26 fifth grade students from the elementary school Padangsidempuan City 200201 which is used as a sample in this study. The data collected through questionnaire instrument of learning motivation variable and variable test results of students as the average achievement of students. The results of the data processed through the statistical calculations and the average correlation, obtained through the use of SPSS 16.0. Data showed a high level of reliability interpretation magnitude learning motivation towards learning achievement in the use of mapping on material min integers amounted to 48.1%.

Keywords: Model; Mind Mapping; Motivation; Achievement Math; Integer.

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1. Introduction

Primary education plays an important role in the effort to improve the quality of human resources in the future. Therefore, the quality of education in primary schools should receive serious attention, especially in mathematics that is considered boring. Mathematics Elementary School fifth grade students directed to be more familiar with how to count, both in learning materials as well as in daily life. Through Math is expected to help students to gain a deeper understanding of the calculation. Mathematical generally have an important role in improving the quality of education, especially in producing quality learners, the man who is able to think critically, creatively, logical and initiative. This means to learn mathematics needed a way or method is appropriate and effective to enable students to more easily understand and not get bored and learning outcomes can be achieved as expected namely in accordance with the KKM (Minimum completeness criteria). To be able to learn mathematics well, students must be actively involved in learning. Learning Mathematics in Primary Schools need to be based on experience to help students learn. The main purpose of learning mathematics in primary school is to help students to feel motivated power in counting, understanding and skills (*lifeskills*). Thereby to increase their motivation as students while developing their motivation towards mathematics so that student learning outcomes when studying mathematics, a teacher must be able to search for appropriate learning models so that the material taught mathematics can be more easily understood, or understood by students. In the use of mind mapping can increase student motivation because learning motivation of the students in each learning activity plays an important role to improve student achievement in certain subjects [1] 'Students are motivated to learn allowing would earn higher learning as well, meaning that the higher the motivation, the intensity of the efforts and the efforts made, the higher the academic achievement obtained. Therefore, *Mind Mapping* is a learning model that allows students to motivate students on the subject matter of Mathematics. Students can take notes by using images, symbols until the code is written, with such records can cover the weaknesses of students' memory. Pursuant to the problems described above and the need for application of *mind mapping* in teaching mathematics, the authors are interested in creating a classroom action research using a model of *mind mapping* (map of thought) to improve motivation in student achievement, especially in learning mathematics, with a lift a research title "Model Uses *Mind Mapping* To Increase Motivation in Mathematics Learning Achievement students In Class V material Integer 200201. Elementary School

2. Discussion

Learning process

Itself Learning

Learning is the actions and behavior of students is complex.[2] Understanding psychological learning can be defined as: "a process of change that is a change in behavior as a result of interaction with the environment in meeting their needs" .Next Gagne in the journal [3]Brett Jones declared "learning is a very complex, after learning people have skills, knowledge, attitudes, and values ".

From the definition above, which is very necessary for us to underline is that improve the quality and quantity of a person's behavior is shown in the form of increasing the quality and quantity of that person's ability in various fields. Of the various opinions on the above it can be concluded that learning is a series of activities and soul to obtain a change in behavior as a result of individual experiences in interaction with the environment regarding the cognitive, affective, and psychomotor. For learning to be successful, before learning in the classroom a teacher needs to prepare or plan a variety of experiences that will be given to students where the learning experience should be in conformity with the objectives to be achieved will be the relationship between something (knowledge) is already understood and something (knowledge) that new.

3. Motivation

According to Clayton Alderfer [4] Motivation to learn is the tendency of students in learning activities that are driven by a desire for achievement or the best possible learning outcomes. Motivation is seen as a mental boost that drives and directs human behavior, including learning behavior. Contained in the motivation of their desire to enable, mobilize, channel and direct attitudes and behavior in individuals studied [5]. To increase motivation to learn by Abin Syamsudin M [6] we can do is identify some indicators in certain stages. Indicators of motivation among other things: 1) The duration of activity, 2) Frequency of activities, 3) Persistence on the purpose of activities, 4) fortitude, tenacity and ability in the face of actions and difficulties to achieve the goals, 5) devotion and sacrifice to achieve goals, 6) Depth aspiration to be achieved by the activities carried out, 7) Level of qualification achievements, 8) Directions attitude toward the target activity.

4. Learning achievement

Reference [7] Provide terms of learning achievement that "the results achieved by a person in an attempt to learn as stated in the report cards" Next Winkel [8] says that "learning achievement is a testament to the success of learning or a person's ability students in learning activities in accordance with the weight it achieves" Meanwhile, according to [9]; learning achievement is "one achieves perfection in thinking, feeling and doing, achievement learning said to be perfect if it satisfies three aspects namely: cognitive, affective and psychomotor, otherwise said to be unsatisfactory achievement if one has not been able to meet the targets in the three criteria.

"achievement of one's learning will be increased if supported by motivation in itself [10]. Generally, school performance is about how the success of students can master the material of learning objects [11]. Based on the above understanding, it was explained that learning achievement is the human level of the students in accepting, rejecting and evaluate information obtained in the learning process. One's learning achievement in accordance with the level of success in learning the subject matter is something that is expressed in grades or report cards every field of study after experiencing the learning process. Student achievement can be determined after evaluation. The results of the evaluation can show high or low on student achievement.

5. Learning Model Mind Mapping

Mind Mapping is a diagram used to illustrate a theme, idea or main idea in the subject matter [12]. Defining "*Mind Mapping*" is: "a technical graphics that allow us to explore all of the abilities of our brain for thinking and

learning purposes".

Mind Mapping can connect the new and unique ideas with ideas already giving rise to any specific action undertaken by students with the use of colors and symbols of interest will create a new mind mapping results and different. Mind mapping is a creative product produced by students in learning activities.

Reference [13] *Mind Mapping* is also a great road map for the memory to provide convenience to us in arranging the facts and of the ideas in a way such that the way our brains naturally work involved from the beginning. This means that the effort to recall (*remembering*) and retract (*recalling*) information in the future will be easier, and more reliable than when using the traditional way of recording.

From the opinions on the use of the learning model *Mind Mapping* then be concluded that the learning model *Mind Mapping* can provide assistance to students to think creatively and increase the motivation of students as a whole, because in the process of learning students do a lot of mental activities by highlighting the problems from various aspects in order finding a solution, both from the students themselves, the environment, and society.

Steps Mind Mapping.

6. Characteristics Model *Mind Mapping*

Reference [14] *Mind Mapping* is a learning method that works the same way with how our brains work. *Mind mapping* is the easiest way to put the information into the brain and take information out of the brain. *Mind mapping* is a creative way of record, effective and literally will map our thoughts.

Reference [15] According to Tony Burzan *mind mapping* has several characteristics, namely: 1) to provide a holistic view of the subject matter or large areas, 2) allows us to plan a route or make choices and know where we are going and where we are, 3) collect large amounts of data from one place, 4) encourage problem solving by giving us see the streets breakthrough new creative, 5) fun to watch, read, digest and remember, 6) increasing the speed of thinking, 7) gives you the flexibility of unlimited , 8) venturing far from your thoughts where original ideas waiting.

7. Steps Making Notes *Mind Mapping*

1. Starting from the middle of the paper Place the paper with elongated position and start writing from the middle

2. Use pictures to central idea

Specify image in accordance with the subject, and place those images in the middle of the paper, which serves as a central.

3. Use color

Modify notes with various colors to make it look more attractive

4. Connect the main branches to picture

draw connecting lines between central image with sub subject

5. Make a branch in the form of curved

Try to form the connecting lines in the form of curved to seem to have art

6. Use keywords

Choose the word -said that is easy to remember as keywords

7. Use image

8. Teaching Materials

processing arithmetic properties are as follows:

A. nature of Commutative (exchange)

I. Commutative summation

General form: $a + b = b + a$

II. Commutative on multiplication

general form: $axb = bxa$

B. Nature Associative (grouping)

I. Associative summation

general form: $(a + b) + c = a + (b + c)$

II. Associative the multiplication

general form: $(axb) xc = ax (bxc)$

C. Nature Distributive (Spread)

I. Distributive multiplication to summation

general form:

$$ax (bxc) = (axb) + (AXC)$$

II. Distributive multiplication to the reduction of

general form:

$$ax (b - c) = (axb) - (AXC)$$

Shape *Mind Mapping* in the execution count above is as follows:

Qualities of Work on Count In Integer

Associative Nature

(Classification)

$$(A + B) + C = A + (B + C)$$

$$(A \times B) \times C = A \times (B \times C)$$

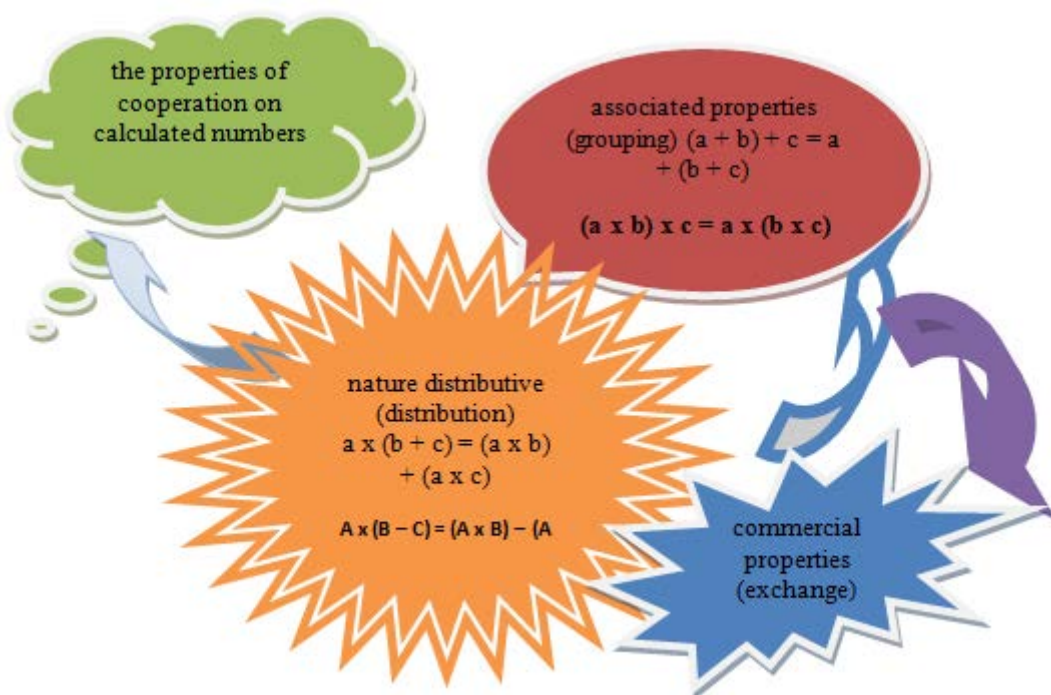


Figure 1: Integer Number

9. Research Methods

Research methods quantitative research was conducted in class primary school 200201 City Padangsidempuan with a sample of 26 students and conducted over four months from August to November 2016. the independent variable in this study is the students' motivation to 8 indicators as in dictated by the journal Diana [16] then compiled in the form of questionnaires (Likert scale) with the number of 20 questions. This questionnaire was first tested the validity and reliability before being used in the field. While the dependent variable is the value of formative tests mathematics courses are derived from documentation of data on average student achievement in learning. Research data from questionnaires and student achievement data is processed by averaging and is calculated based on the category of Riduan [17]: $X \geq X_{id} + 0.61_{sd}$ is perceived or high enough. $X_{id} - 0.61_{sd} < X < X_{id} + 0.61_{sd}$ is reasonably perceived or moderate. $X < X_{id} - 0.61_{sd}$ is less perceived or less. After that the normality test, test and test correlation coefficient of determination based on the hypothesis (H0) "There is no increase learning motivation on student achievement in mathematics". While Ha "There is increasing learning motivation on student achievement in mathematics on the material integers. Analysis was performed on all data obtained with the SPSS Statistics 16.0.

Table 1: Student Motivation Descriptive

	N		Mean	Std. Deviation	Min	Max	Sum
	Valid	Missing					
X	26	0	87,46	7,596	72		2274

Data Descriptive results of students' motivation in this study explained that there are number of cases of 26 students who completed questionnaires to the average (mean) of 87.46; standard deviation (standard deviation) = 7.596; the minimum score of the data the students' motivation is low = 72 and the maximum score from the data of students' motivation = 99. While the number of overall score of 2274. While Comparative average every indicator of Total students can be seen from the picture below:

Average Score

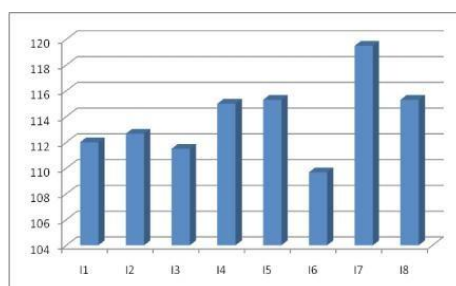


Figure 2: Comparative average every indicator of Total students can be seen from the picture below:

Average Score

Motivation Indicators Figure 2. Trunk results the average Questionnaire Each Indicators results of student achievement value calculated by the calculation descriptive as Table 4:20 as follows:

Tabel 2: Descriptive Achievement of Use Mind Mapping to Content Integer

	N		Mean	Std. Deviation	Min	Max	Sum
	Valid	Missing					
Y	26	0	88,46	7,317	70	100	2300

Descriptive results of learning achievement data mathematics in the use of mind mapping in this study explained that there are 26 students who completed questionnaires to the average (mean) of 88.46; standard deviation (standard deviation) = 7.317; the minimum score of the data the students 'motivation is low = 70 and the maximum score from the data of students' motivation = 100. While the number of overall score of 2300.

Based on the hypothesis test is obtained, the magnitude of the correlation coefficient (r) is equal to 0.693 greater than 0.491 with a degree significant 1%. Thus we can conclude that H accepted that "there has to increase motivation to learn by using mind mapping on mathematics achievement" If consulted with Arikunto opinion, Reference [18] the magnitude of these correlations were in the range from 0.600 to 0.800 with a high degree of correlation. Thus, the data above have a high level of correlation between the students' motivation and learning achievement in mathematics with matter integers. Meanwhile, based on the formula coefficient determination with $KP = r^2 \times 100\%$, showing the contribution of variable X (the student's motivation) to variable Y (mathematics achievement integers material) effect at 48.1%, while 51.9% are influenced by another unknown factor. The results showed that in general the use of mind mapping improves learning motivation and achievement of students of class primary school V 200201 Padangsidimpuan City fair. The analysis also showed that the influence of the motivation to learn a great influence on mathematics achievement in integers of students. That the learning achievement can be seen from the changes in the results of personal input in the form of motivation and hope to succeed. Improving student learning outcomes are influenced by many factors, one of which is the motivation for learning in the use of mind mapping. The results also inform a significant difference between the motivation to student achievement. This means that if the student has a motivation in learning, the learning performance would be good (high). Conversely, if the student has a bad habit of learning, the learning performance would be poor (low).

10. Conclusion

Response fifth grade students of SDN 200 201 City Padangsidimpuan to use mind mapping in a good motivation to learn interpreted as the average value (87.46) is in category X e "61. Achievement each student is

different there are high and some are low. Learning achievement at grade V SDN 200 201 City Padangsidempuan generally interpreted either as the average score (88.46) is in category X e "61. Based on the processing and analysis of data with SPSS 16.0 program assisted the correlation coefficient (r) of 0.693 means of motivation learning with student achievement has a significant effect, thus it can be concluded that there is an increase in achievement motivation to use mind mapping in integer ". After correlated showed a high level of reliability interpretation of the effect of learning motivation towards mathematics achievement with material integers fifth grade students of State Elementary School 200 201 Padangsidempuan amounted to 48.1%.nBy using mind mapping models on increasing student motivation toward integers material can increase the motivation of knowledge, and provide flexibility in the delivery of the message. Which can allow students to learn independently anytime and anywhere according to their interests and abilities are motivated to its efficiency.

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