

Analysis of Learning Interest and Learning Outcome for Mathematics Subject with SCL Approach

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Abstract: The purpose of the study was to inform about: 1) student's learning interest; and 2) the learning outcome of undergraduate student of PGSD STKIP MUHAMMADIYAH at Muara Bungo for the math lesson on the academic year of 2017/2018. The Research concept used descriptive researching method. This Research population include all members of second semester undergraduate students which has 4 classes. Meanwhile, two selected classes made for an example of Research it was Class B and C. Test instruments were used to describe the learning outcome. Questionnaires were used to describe students' learning interest. The founding of the research showed that; 1) with SCL approach, student's learning interest for both classes were in the high category; 2) with SCL Approach, student's learning outcome of those two classes are on high category.

1 INTRODUCTION

Learning mathematics is a lesson that must be done by all people, both young children and parents. Mathematics is very important to support the lives of all humans. Without mathematics, humans will find it difficult to live their lives. Meanwhile, in learning mathematics, it takes an interest in learning that comes from within and outside. In learning outcomes and implementation processes are influenced by several factors, namely internal factors and external factors (Slameto, 2003). Internal factors are factors that exist in individuals who are learning, while external factors are factors that exist outside the individual. In this case the internal factors that influence learning include learning interest. Interest is one of the very basic factors and is very important for students in a learning because with the students' interest in learning, it can determine the success of a learning. In addition, interest in learning is also a strong factor in determining one's success. Therefore, in order to succeed in every effort, one must cultivate an interest in what is desired, with the existence of great interest, one will try to obtain satisfying and maximum results despite the many obstacles that will be overcome.

Furthermore, argues that interest as a fixed tendency to pay attention continuously with a sense of pleasure. Someone who likes something, will get it to its full potential. One of the learning objectives to be achieved in a learning activity is an understanding of the subject (Slameto, 2003).

In addition, interest is defined as a condition that occurs when a person sees temporary traits or meanings of a situation that are linked to his own desires or needs. From some of the above understanding it can be said that interest is a tendency to be attracted to something that is relatively fixed to be more attentive and constantly remembering followed by a sense of pleasure (Sardiman, 2011). Interest is the choice of certain forms of an activity when a person is not under pressure from outside himself (Nitko, 2007).

Interest is not taken from birth but is obtained later. Interest in something is learned and influences further learning and influences the acceptance of new interests. So, interest in something is the result of learning and supporting further learning. Although interest in something is not essential to being able to learn about it, the general assumption states that interest will help someone learn it. Learning interest is a condition, the most convincing foundation in the success of the teaching and

learning process with no pressure on a person (Slameto, 2003).

Based on some of the meanings above, it can be concluded that interest is an active mental tendency which is always related to awareness, attention, willingness, and pleasure or a feeling of pleasure towards an object that is related to him, so that students' interest in learning can foster a sense of liking and can arouse self-motivation in carrying out an activity that can be measured through a sense of love, interest, having attention and involvement in following the learning process. Lecturer should be able to convince students that good learning outcomes is a key to be success. A lecturer should create a good circumstance in teaching learning process so that can improve student learning outcomes (Aunurrahman, 2013).

Learning is a complex action and behavior. As an action, learning is only experienced by students themselves. Students are the determinants of the occurrence or absence of learning processes (Dimiyati, 2013). Learning outcomes are abilities that students have after receiving their learning experience (Sudjana, 2004). Meanwhile, according to Horwart Kingsley in his book Sudjana divides three kinds of teaching and learning outcomes: Skills and habits, Knowledge and direction, Attitudes and ideals (Sudjana, 2004).

Learning outcomes are student achievement which becomes an indicator of competence and the degree of change in behavior concerned (Mulyasa, 2005). Competencies that must be mastered by students need to be stated in such a way as to be assessed as a form of student learning outcomes that refer to direct experience. Meanwhile learning outcomes are changes in behavior not just one aspect of human potential (Suprijono, 2010).

Based on the understanding of experts, it can be concluded that the understanding of learning outcomes is an increase in the ability of students obtained through the delivery of information and messages by educators after the learning process takes place, which is in the form of numbers or during a certain period. In mathematics learning, when students are given different questions than examples, there are still many students who are still confused in solving the questions given by the lecturer. So, every student is required to have a serious interest in learning so that the expected learning outcomes are better, so that students can master mathematics learning well.

Meanwhile, based on the teaching experience in the STKIP Muhammadiyah Muara Bungo Elementary Teacher Education class (PGSD STKIP-

MB), it was seen when the presentation group was in front, the students as auditors were noisy in the discussion. Furthermore, sometimes the time made to look for answers from the audient is too long so that students tend to be noisy again. This kind of time is very unfortunate, because it's wasted. Furthermore, the time the lecturer has had to conclude the subject is very little because it has run out for discussion.

Based on the learning that took place from the beginning of the lecture until the middle of the semester it was seen that some students had low learning outcomes, this was seen in most of the material taught in the mathematics learning courses which had very low semester exam scores. When learning takes place, students are less willing to convey and ask about the difficulties they face, as well as in understanding the material and in working on questions given by the lecturer. Student initiatives were not seen, it was seen when the lecturers gave students the opportunity to ask questions and not be used properly by students. This is because students are ashamed to ask questions and or students are ashamed of other friends if they explain that they do not understand what the lecturer has said.

Other data found by researchers is that the learning interest of students in participating in learning activities is very lacking. This can be seen from the many students who occupy themselves behind while other groups are presenting. In this case, when the moderator is not firm, the audience is a lot of noise. Students look a lot who play smartphones and chat with other friends. In fact, mathematics courses, especially mathematics learning subjects, students pay attention to lectures are difficult, especially if the students do not pay attention to the group and even lecturers who deliver learning.

Approach in the learning process is important, student center learning (SCL) that priority knowledge of learners about influences future learning. Than assessment SCL provide opportunities for feedback as learning process leading and judgment at the end of learning process (Nicol, 2006).

Students of the second semester of PGSD, have completed their studies at the high school level, so they are expected to have authority over elementary school learning, because they have studied mathematics from elementary school to high school. Meanwhile, to find out how far the success of the PGSD S1 program in improving the quality or quality of elementary school teachers, especially in

terms of interest and learning outcomes of mathematics, it is necessary to do research. So, with the existence of these problems, the researchers intend to conduct research with the title of interest analysis and mathematics learning outcomes for undergraduate students of PGSD STKIP-MB.

Based on the background of the problem that has been described, the formulation of the problem of this study is:

- 1.1 How is the students' learning interest with student center learning in semester 2 of academic year 2017/2018?
- 1.2 How is the students' learning outcome with student center learning at semester 2 of academic year 2017/2018?

2 METHODOLOGY

The design of this study is to use descriptive research methods. This type of research is quantitative research. Quantitative research is a method that emphasizes objective aspects of measurement of social phenomena and includes numbers. So, the research design is a design with the final test of a single group, the one group posttest (Anggoro, 2007). Which is a research design using one experimental group, where the measurement is done once at the end of Test.

This research was carried out in STKIP-MB and was conducted for one month with six discussion material for students of Semester II PGSDSTKIP-MB Study Program Academic Year 2017/2018.

Population and sample from research are all students of PGSD (Elementary school education Department) STKIP-MB. Sample: purposive sampling, select by 2 classes PGSD II B and PGSD II C.

The research variable is Independent variable and dependent variable. Independent variable is student center learning approach, and dependent variable is learning outcome and learning interest.

Technique of collecting data this research is test instrument (To measure learning outcomes it consists of 6 questions), and non-test instrument (a questionnaire to find out student's learning interest consist of 30 statements).

Technique of analyzing data this research is describing students' learning interest and describing the students' outcome.

2.1 Describing Students' Learning Interest

The researcher describes the data about students' interest in learning mathematics obtained from instruments in the form of a checklist on a Likert scale, the data were analyzed with descriptive statistics. Descriptive analysis is carried out only to obtain scores of students' interest in learning mathematics. Furthermore, classified according to the standard score, the inquiry questionnaire interest in the study was adjusted according to the number of questionnaire interest statements. So that with 30 items in the questionnaire, the lowest and highest score can be determined, so the range of interest questionnaire has a range of 30 to 150. To determine the criteria for measurement results used classification based on ideal average (\bar{X}_i) and Standard Deviation (S_{bi}).

$$\bar{X}_i = \frac{(30 + 150)}{2} = 90 \text{ and } S_{bi} = \frac{(150 - 30)}{6} = 20.$$

Table 1: Learning interest criteria.

Score (X)	Criteria
$X > 126$	Very High
$102 < X \leq 126$	High
$78 < X \leq 102$	Medium
$54 < X \leq 78$	Low
$X \leq 54$	Very Low

2.2 Describing Students' Learning Outcome

Learning outcomes data were obtained from the results of tests conducted on two classes in the form of questions about mathematics learning subjects. From both classes, the data is analyzed descriptively, so that the mathematics learning outcomes will be seen at which level.

So that with 6 items in the questionnaire, the lowest and highest score can be determined, so the range of interest questionnaire has a range of 0 to 100. To determine the criteria for measurement results used classification based on ideal average (\bar{X}_i) and Standard Deviation (S_{bi}).

$$\bar{X}_i = \frac{(6 + 100)}{2} = 53 \text{ and } S_{bi} = \frac{(100 - 6)}{6} = 15,67.$$

Table 2: Learning outcome criteria.

Score (\bar{X})	Criteria
$X > 81,2$	Very High
$62,4 < X \leq 81,2$	High
$43,6 < X \leq 62,4$	Medium
$24,8 < X \leq 43,6$	Low
$X \leq 24,8$	Very Low

Data of student learning interest is described based on the questionnaire given at the end of the lesson. Description of data on interest in learning is a description of the data obtained to support the discussion in the study. Description of the data discussed is the result of giving questionnaires given to research subjects, namely Class B students and Class C PGSD STKIP-MB Study Program second semester.

Table 3: Learning interest data.

No	Description	Class B	Class C
1	Average score	106,59	104,06
2	Maximum score	131	119
3	Minimum Score	71	87
4	Deviation standard	13,19	8,59
5	Ideal Maximal Score	150	150
6	Ideal Minimal Score	0	0
Total		45	26

Based on Table 3, information is obtained that the average number of questionnaire scores of students' interest in learning mathematics in Semester II class B is 106.59, while for Class C Semester II students is 104.06. Both are in the high category.

Meanwhile, for learning outcome are described based on the tests given at the end of the learning in the form of 6 essay questions about mathematics learning subjects. Description of learning outcome data is a description of the data obtained to support the discussion in the study. Description of the data discussed is the result of giving the test given to the research subject, namely Class B students and Class C PGSD STKIP-MB Study Program second semester.

Based on Table 4, it was obtained information that the average number of test scores of the second semester students' mathematics learning outcomes in class B was 78.07, while for class C students in Class C was 78.42. Both are in high criteria.

Table 4: Learning outcome data

No	Description	Class B	Class C
1	Average score	78,07	78,42
2	Maximum score	88,38	88,04
3	Minimum Score	63,55	60,74
4	Deviation standard	5,21	5,90
5	Ideal Maximal Score	100	100
6	Ideal Minimal Score	0	0
Total		45	26

3 RESULT AND ANALYSIS

3.1 Description of Student Learning Interest Categories

In describing student interest learning categories, the researchers describe the data through the results of the instruments given to students in the form of questionnaires which are checklist on a Likert scale, the data are analyzed descriptively with the help of Microsoft Excel.

Descriptive analysis is carried out only to obtain scores of students' interest in learning mathematics. Furthermore, classified according to the standard score, the inquiry questionnaire interest in the study was adjusted according to the number of questionnaire interest statements. So that with 30 items in the questionnaire, the lowest and highest score can be determined, so the range of interest questionnaire has a range of 30 to 150.

After obtaining the data quantitatively, the researchers analyzed the data according to the criteria achieved by the Semester II Regular Class Study Program students of PGSD STKIP-MB and categorized into very high, high, medium, low or very low levels. In this study, it is known that before giving a questionnaire on interest in learning, students are given student-centered learning with group presentations. Treatment in both classes uses the same learning methods, namely student-centered learning with group presentations. The results of the analysis of learning interest in learning in Class B of Second Semester Study Program Students of PGSD STKIP-MB are that most students have interest in learning in the high category, namely 25 students or 55.56%, medium category 13 students or as much as 28.89%, low category there were 2 students or 4.44%, very high there were 5 students or 11.11%, while for the very low category none of the students had a learning interest in that category.

From the data that has been described above, the highest average student interest in learning is in the

high category, namely as many as 25 students or 55.56%. In learning outcomes and process activities are influenced by several factors, namely external and internal factors, all learning by students is influenced by internal and external factors (Slameto, 2003).

Meanwhile, for the description of the data on the learning interest at Class C of Semester II Students of the PGSD STKIP-MB Study Program, the majority of students also have an interest in learning in the high category, namely 13 students or 50%, the middle category is 10 students or 38.46%, and a very high category of 3 students as much as 11.54%, while there were no students in the very low and low categories.

From the data that has been described above, the highest average student learning interest is in the high category, namely as many as 13 students or 50%. This is in accordance with what was expressed by (Slameto, 2003), in learning outcomes and process activities are influenced by several factors, namely external and internal factors, all learning by students is influenced by internal and external factors.

Based on the results of the discussion of data descriptions in both classes, the learning interest of PGSD students in STKIP-MB is in the high category. However, this category is a minimum high category, namely 106.59 and 104.06. Student learning interest in the high category is between 102 and 126. So, from the description of the data, the researcher hopes that there will be special actions to improve the learning interest for PGSDSTKIP-MB Study Program students in the very high category or high category at the maximum limit.

3.2 Description of Student Learning Outcome Categories

Data of students' mathematics learning outcomes are described based on the tests given at the end of the learning. The test consisted of 6 essay questions about Mathematics Learning subjects. Description of learning outcome data is a description of the data obtained to support the discussion in the study. Description of the data discussed is the result of giving the test given to the research subject, namely Class B students and Class C PGSD STKIP-MB Study Program second semester.

After obtaining quantitative data, the researchers analyzed the data according to the criteria achieved by the Semester II Regular Class students of the PGSD STKIP-MB Study Program and categorized them into very high, high, medium, low or very low

levels. In this study, it is known that before giving a learning outcome test, students are given student-centered learning with group presentations. The treatment in both classes uses the same learning method, namely student-centered learning with group presentations.

For the PGSD STKIP-MB Study Program class B, the data obtained after conducting the learning outcomes test were the students with the highest number in the high criteria, which were 33 students or 73.33%, at very high criteria of 12 students or 26, 67%, and the criteria are very low, low and there are no students.

In addition to this, when viewed globally, the lowest value in class B is 63.55, while the highest value is 88.38, and has an average of 78.07. The average value if seen from the criteria table, then the ability of class B students of PGSD STKIP-MB study program is on high criteria.

Meanwhile, for the C class students of PGSD STKIP-MB Study Program, the data obtained after testing the results of the learning outcomes is the value of students with the highest number in the high criteria, just like class B, which is 15 students or 57.69%. In the Medium criteria as many as 1 student or as much as 3.85%, on Very High criteria there were 10 students or 38.46%, in the low and very low criteria there were no students.

In general, for class C the lowest value is 60.74, while the highest value is 88.04, and has an average of 78.42. The average value if seen from the criteria table, then the ability of class B students of PGSD STKIP-MB study program is in the high criteria, which has a range between 62.4 and 81.2.

In addition, based on the discussion of the results of research on mathematics learning outcomes for students of Semester II PGSD STKIP-MB, for both classes the average is not in very high criteria. For class B has a high criterion, so also for class C is on the high criteria.

Based on the results of research conducted in STKIP-MB especially the PGSD study program, researchers feel that the learning that has been carried out must be further enhanced by combining student-centered learning with the development of learning models and methods. So that, student interest and learning outcomes can be increased again.

4 CONCLUSIONS

The result showed that: 1) with SCL approach, student's learning interest for both classes were in

the high category; 2) with SCL Approach, student's learning outcome of those two classes are on high category.

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