Developing Students' Interest by Using Weblog Learning

Yayu Laila Sulastri
Mathematics Education
Nusantara Islamic University (UNINUS)
Bandung, West Java Indonesia
yayu_ls@yahoo.com

A. Barnas EK, Luki Luqmanul Hakim
Extraordinary Education Program, Mathematics Education Nusantara Islamic University (UNINUS)
Bandung, West Java Indonesia
barnas.ek@gmail.com, luqman.hakim19@gmail.com

***Abstract*—The observations on the Calculus I course shows that students' interest of this course are low. The problems are due to low ability students and the learning process that is being done by lecturers. This study reveals Influence of blogs on learning Calculus I in effort to increase students' interest. The purpose of this study is: to identify trends of interest in studying Calculus I courses through learning by using weblogs, benefits of this research is to improve the quality of learning for faculty, add insight, knowledge and experience for students, especially in the Calculus I course. The method used is a quasi experiment. The subject research is the students of the third semester of the academic year 2012/2013, with the object of the research is the interest of the students.**

Keywords- Students'Interest, Weblog Learning, Weblog.

I. INTRODUCTION

Calculus I course includes some basic concepts of mathematics which is needed as a prerequisite for mastery of subjects lainnya.Oleh Therefore, the results of learning Calculus I prosecuted either, because it will affect the ability of students to take another courses. Berdasarkan observation of student interest in learning to follow the course is less statisfies. Whereas in learning to use a variety of approaches, models, methods and assessment techniques varied. But the lesson has not been physically involved students.

According to Meier, Teachers provide course materials to students rarely involve physical activity, so most students feel bored and even fall asleep because there is no opportunity to involve physical activity [1]. Besides less student interest in learning it look less students responding in the learning process, Stambul [2] explains, "The definition of interest is a condition that produces a response directed to a fun and satisfying particular situation or object to him/her. Thus interest may give rise to an attitude of readiness when no specific stimulation in accordance with the circumstances".

In this connection, it should be attempted use of media-based Weblog learning to increase interest in learning. It expected students to be physically active and Calculus I respond to the material presented in the blog. In addition, the blog as a medium of learning is also possible to save time and more effective learning. The problem statemients n this study are:

1. How the tendency of students' interest in learning to the courses Calculus I with learning using weblog?
2. Are there differences in students' learning interest among low, medium, and high groups with learning using weblog?

In accordance with the problem statements above, the purpose of this study was to determine:

1. The tendency of students' interest to learn Calculus I course by using weblog learning
2. The differences of learning interest between low, medium, and high group students by using weblog.

The results of this study are expected to provide benefits:

1. For Lecturers, as entered in the effort to improve the quality of learning, especially in Calculus I subjects.
2. For Students, in addition to the insight, knowledge, and experience in the Calculus I course.
3. For researchers, it can provide a clearer overview of the effect of the use of blogs as a medium of learning to improve students' interest in learning.
4. For the development of science and technology, will further stimulate developments in technology and information, especially in the development of content-development weblog.

II. METHODS

The method of this study is quasi-experimental methods, which in actual experiments used to determine the causal relationship of variables that is studied. In this case the variables were learning to use Weblogs and learning interest of the students in the subject of Calculus I.

The subjects were all students of the third semester of the academic year 2012/2013. The total number of students who become subjects in this study were 33 people. The reason for choosing the third semester students for Calculus I course, because this course is given in third semester at Mathematics Education Program Teacher Training and Education Science Faculty of Nusantara Islamic University.

DOI: 10.5176/2345-7163_1.2.26

The research is needed to determine the difference of students' interest between low,medium, and high group of students by using weblog learning. Thus, in this study there is a treatment group. This study is a quasi- experimental study. Design used in this study is a pre - test post-test one group design. According to the type of data needed in this study , the research instrument was a questionnaire. Questionnaire is a comprehensive question or statement about something that is expected [3]. Questionnaire used was a enclosed questionnaire, which have alternative answers that have been provided, and subjects only have to choose one of the alternative answers that best suits their opinion. Questionnaire This study used questionnaires to measure and determine student interest in learning by using weblog as a learning medium.

To measure the content validation of the questionnaire, the authors ask colleagues and expert judgment. Content validation set based on suitability questionnaire grille with a grain of interest statement. To meet the requirements of a good instrument, instrument validation is considered adequate contents tested on 39 students outside of the subject sample . Test results obtained reliability of 0.79 means that on high reliability so that the instrument can be used to collect data . This study used a questionnaire instrument on student interest in learning roomates consists of 84 items. Each item is given a score of 1 (one) if they want , and a score of 0 (zero) if not. Next is to test the normality and homogenity of the average three samples using the F test or ANOVA test , with the assumptions used in the ANOVA test: the sample comes from a normally distributed population; samples have homogeneous variance (equal variances assumed); samples are not related to each other . but if the ANOVA assumptions are not met, the test is performed using nonparametric statistical tests. Nonparametric statistical tests in this study was using Kruskal Wallis test.

III. RESULTS

1. Students' interest tendency after learning by using weblog

The questionnaire score for students is 0 or 1. 0 was give for students who answer NO to the affirmative statement and YES to the negative statement. 1 was give for students who answer YES to the affirmateive statement and NO to the negative statement [4]. From 33 subjects, obtain 2772 as the maximum of ideal interest score from overall and 2708 as the maximum of actual interest score. It means that the actual score was in high classification.

Table 1
Overall Interest Cassification

Score	Classification
1849 – 2772	High
925 – 1848	Medium
0 – 924	Low

Table 2
Interest Cassification of Group

Higher Group		Medium Group		Lower Group	
score	Classi fication	Score	Classi fication	score	Classi fication
505 – 756	High	841 – 1260	High	505 – 756	High
253 – 504	Medium	421 – 840	Medium	253 – 504	Medium
0 – 254	Low	0 – 420	Low	0 – 254	Low

9 subjects of Higher group obtain 551 actual maximum score. 15 subjects of medium group obtain 970 actual maximum score. And 9 subjects of medium group obtain 970 actual maximum score The data indicate that all of groups have high interest.

2. Analysis Result of Learning Interest Questionnaire

The statistical analysis of students' interest will explain first from the mean and standard deviation of learning interest questionnaire.

Table 3
Mean Score and Standard Deviation of Students' Interest

Group	Mean	Standard Deviation
High	61,22	13,590
Medium	64,73	11,659
Low	57,00	12,580

To see the significance of mean score of students' interest, one way anova test was done. This test can be done if the data was take from the population that nomarlly distributed and homogeneous. If the assumption doesn't happen, the statistical test will use non parametric tes with Kruskal Wallis Test

a. Normality Test

The Normality test use Kolmogorov-Smirnov test with level of significance $\alpha = 0{,}05$. Data processing was done by assistance of computer using SPSS 17 for windows. The results of nomality test for all of groups are drawn by table 4 below.

Table 4
Normality Test Results
of Students' Interest Data

Group	Df	Sig.	Result
High	9	0,200	Normal
Medium	15	0,200	Normal

Low	9	0,200	Normal

From the result of nomality test, all of the group obtain the sinificance value 0.200. It means that every group was take from the population that normally distributed. The nomality can be seen from Normally Q-Q plot figure. It explained that: "if the data is normally distributed, it will scattered surrounding the line (z-score).

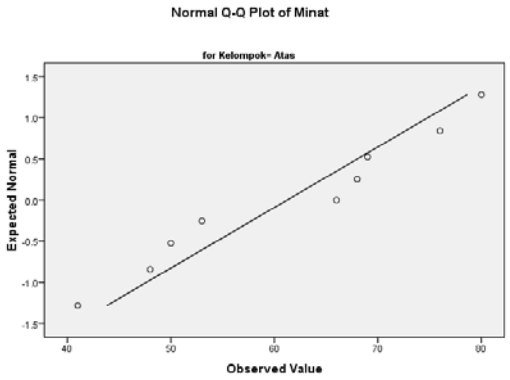

Figure 1.
Normally Q-Q Plot of High Group Students' learning Interest

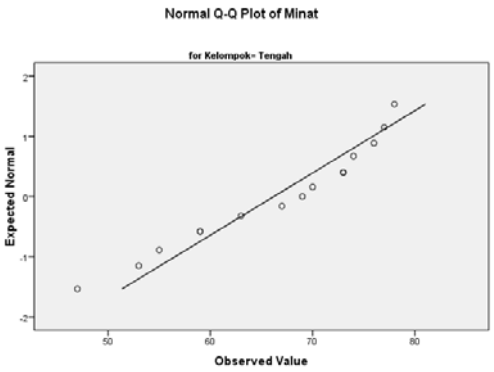

Figure 2.
Normally Q-Q Plot of Medium Group Students' learning Interest

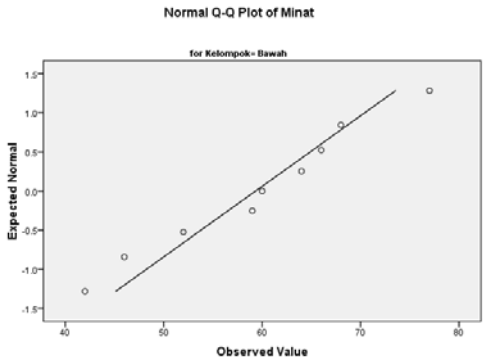

Figure 3.
Normally Q-Q Plot of Lower Group Students' learning Interest

b. Homogenity Test

After normally test, homogenity test would be done. The manual to make a decision are as follow:

1) If significance value or probability level is higher than α = 0.05, there is no difference between the data.
2) If significance value or probability level is lower than α = 0.05, there is the difference between the data.

Homogenity test in this research was using F-test (Lavene's test) with significance level $\alpha = 0.05$. Homogenity test result are as follows:

Table 5
Students' Learning Interest Homogenity Test

		Levene Statistic	df1	df2	Sig.
IInterest	Based on Mean	.311	2	30	.735
	Based on Median	.165	2	30	.848
	Based on Median and with adjusted df	.165	2	29.812	.848
	Based on trimmed mean	.324	2	30	.726

According to the data in table 5 above, it can be concluded that there is no difference between the three groups of students or all of the group are homogeneous.

c. Mean Difference Test

To test the difference of mean, it was used the one way anova. One way anova was being used because there are three means from three groups. The nul hypothesis and it comparator or alternative hypothesis is as follow:

H_0 = All of three means are identical

H_1 = All of three means aren't identical

The test was done by using SPSS 17 for windows and the result can be seen in table 6.

Table 6.
The Results of Mean Difference Test of Students' learning Interest

F	Df	Sig.	Decision
1,094	2	0,348	H_0 accepted

According to the data in table 6 above, it can be concluded that there is no difference between the three groups of students.

IV. DISCUSSION

Based on data analysis that has been done, the discussion the results of the research that has been conducted based on issues that have been formulated . Based on the analysis of the students' learning interest questionnaires outcomes is known that the classification of the overall student interest inventories are at high levels with the maximum actual level 2078 of the actual number of base 2772 . While students' learning interest in overall groups, in lower gropup medium group , and high group shows are in the same classification that is higher classification. In the lower group obtained the actual maximum score 514 of ideal maximum score 756. In the m group were obtained from the ideal maximum actual maximum 970 1260. The medium group obtained the actual maximum score 551 of ideal maximum score 756. It is possible to use instructional media which are new first time students use weblogs as a medium of learning . Because the students usually get learning materials from lecturers to use the lecture method, so students' learning interest is high. In any statistical test, it is said that there is no difference between students' learning interest outcomes groups of low, medium, and high.

The height of students intertest based on the study is influenced by The intrinsic and extrinsic aspect.

1. The intrinsic aspect

The intrinsic aspects are including the willingness to have achievement, The readiness of studying, and keen on mathematics.

The willingness of having achievement shown by the 83% of asking in the study, 91% wanting to have good mark, 65% having good understanding on the study, and 65% of them do the exercise and assignment faithfully.

The readiness of having a class or study shown by the 93% presence in the classes, 81% do the assignment, 71% find out the reference in accordance to mathematics and 93 % understand the purpose of the study well.

The keen on mathematics shown by 93% like the class activities, 82% like to do the assignment, and 94% like to have a discussion.

2. The extrinsic aspect

The extrinsic aspect has something to do with the material, the methods, the media, and the lecturers giving the classes.

The relation with the material shown by the 70% interested in the material of mathematics, 71% likes the new exercises that haven't been explained, and 89% likes to discuss everything related to the class material.

The relation with the method used shown by 63% the method used in the classes, and 63% understand the material with the method given.

The relation with the media used shown by 68% love the classes using projector, and 37% like to work using internet.

The relation with the lecturer who give the lecture shown by 80% like the appearance of the lecturer, 80% lecturer develop good interaction with the students comfortably, and 80% lecturer treat the students fairly.

REFERENCES

[1] Meier, D. (2010). *The Acelerated Learning Hand Book, Panduan Kreatif dan Efektif Merancang Program Pendidikan dan Pelatihan.*Bandung: Kaifa Mizan.

[2] Stambul, C.S. (2003). *Prinsip dan Teknik Pengukuran dan Penilaian di dalam Dunia Pendidikan*. Jakarta: Mutiara Sumber Widia..

[3] Ruseffendi, E.T. (2005). Dasar-Dasar Penelitian Pendidikan dan Bidang Non Eksakta Lainnya. Semarang:IKIP Semarang Press.

[4] Sarwono, J. (2013). Statistik Multivariat Aplikasi untuk Riset Skripsi. Yogyakarta: CV. Andi Offset.

[5] Stambul, C.S. (1986). Prinsip dan Teknik Pengukuran dan Penilaian di dalam Dunia Pendidikan. Jakarta: Mutiara Sumber Widia.

Yayu Laila Sulastri, place and date of birth: Bandung West Java Indonesia, 18 September 1965, is a Master Graduate from Postgraduate School of Indonesia University of Education Bandung West Java Indonesia. His major field of study is Mathematics Education.

She is a LECTURER of mathematics education program at the faculty of education of Nusantara Islamic University Bandung Indonesia.. His position in the University is a Chief of Mathematics Education program at the Faculty of Education. Yayu Sulastri, M. Pd. , is an Indonesian Mathematical Society member.