THE EFFECT OF LECTURER'S PROFESSIONALISM AND STUDENT'S STUDY INTEREST AND MOTIVATION ON ACADEMIC ACHIEVEMENT OF BACHELOR DEGREE STUDENT IN ONLINE LEARNING IN BINUS UNIVERSITY

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Abstract: Online learning is a learning method that doesn't close any possibility can be run with collaboration between learning asynchronous and synchronous model. This research is to find out whether lecturer's professionalism and student's interest and study motivation give significant effect to academic achievement of bachelor degree online learning in BINUS university either concurrent or partial. Sampling technique that is used is random sampling, and used sample is about 99 samples of active student. Hypothesis testing that is done using one lane analysis model, where analysis is done using regression analysis test and corelation analysis test either concurrent or partial. The result of this research can be concluded that there is significant effect between lecturer's professionalism, student's interest and motivation with student's academic achievement either partial or concurrent. This research result is hoped to be able to give benefit to BINUS University, so it can be suggestion in developing teaching and learning system in BINUS online learning by paying attention to external and internal factors that affect and increase student's academic achievement.

Keywords: Online learning; lecturer's professionalism; interest; motivation; academic achievement

INTRODUCTION

Seeing magnitude of industry needs and demand of technology development in education, BINUS University as an education institute based on information technology that has already experienced in holding education using information technology and communication (TIK) to student, takes wise decision to develop and hold BINUS online learning, studying through website http://online.binus.ac.id/s1 as online learning media for individuals who want to learn and develop themselves without bounded to certain schedule and place.

Education is an important aspect for humans to be able to develop ability and increase quality of life and self image as educated, excel and competent human resources. The results of learning are mark and grade that are achieved by student through teaching and learning process, or called as student learning achievement. In its achieving process, someone's success in learning is determined by many factors including internal and external factors. Internal factors that are meant include psychology factors like intelligence, attitude, interest, talent, motivation and physiological factors like the body organs condition of student.

Research that is done by Ref. [1] from Stanford University shows that the analysis result

quantitatively that quality of teacher has strong correlation on student's learning achievement. Research done by Ref. [2] states that (a) there is relation between student's perception about teacher's teaching skill with student's learning result (0.683), (b) there is relation between study motivation with student's learning result (0.662), (c) there is relation between student's perception about teacher's teaching skill and study motivation altogether with student's learning result (0.617).

From several previous researches, researchers see there are several factors that can affect student's academic achievement, which are factors from internal and external. Those things cause researcher interested in researching, whether there are significant effect between lecturer's professionalism, student's interest and motivation with academic achievement of bachelor degree student in BINUS online learning in BINUS University.

Literary Review

Ref. [3] explains that there are several learning models that are used in teaching and learning process with different transaction steps based on learning constructivism theory. Constructivism is learning view as process where active student build ideas or new concept based on knowledge or experience now

or before. In other words, learning builds knowledge and experience itself.

Online learning is an approach in teaching and learning process, which the process uses collaboration between internet technology and other communication medias so that it can be created an interaction between student with learning material, lecturer and other students Ref. [4].

Research done by Ref. [1] from Stanford shows from the result of analysis quantitatively that teacher's quality has strong correlation on student's learning achievement. The result of research that is done by Ref. [5] shows that 76.6% student's learning result is affected by teacher's performance, with details: teacher's teaching skill contributes 32.43%, mastery of learning materials contributes 32.38%, and teacher's attitude towards subjects contributes 8.60%.

The research result from Ref. [6] supports research hypothesis that is being researched now that there are positive relation between perceptions about competence of math teacher's professionalism with math study motivation in students in class I in SMA Negeri 1 Medan. This thing is shown by positive correlation value about 0.244 with p= 0.004 (p<0.005), which means there is tendency of the more positive student's perception about competence of math teacher's professionalism, then the higher math study motivation is.

Research done by Ref. [2] states (a) there is relation between student's perception about teacher's teaching skill with student's learning result (0.683), (b) there is relation between study motivation with student's learning result (0.662), (c) there is relation between student's perception about teacher's teaching skill and study motivation altogether with student's learning result (0.617).

It can be known that teacher or lecturer that has good performance in learning activity, then they will be able to explain lesson well, so it can be easy to be understood, then can be good and friendly motivator, also can give guidance and direction in learning activity so student can follow learning excitedly, happily and motivated to get good academic achievement too. The strong effect between student's learn interest with learning result is academic achievement.

Based on result of previous research result, there are 2 hypotheses that will be used in this research, which are:
• H1: there is significant effect between lecturer's professionalism, students's study interest and study motivation with student's academic achievement partially.
• H2: there is significant effect between lecturer's professionalism, students's study interest and study motivation with student's academic achievement concurrently.

METHOD
Binus Online Learning

Learning in BINUS online leaning consists of 12 weeks of meeting, that consist of 1 inaugural lecture week and exam, 10 weeks of online lecture and 1 onsite lecture week. Inaugural lecture is used as introduction session between lecturer and students, then lecturer explains outline of the lecture materials that will be learnt by students, however before starting the inaugural lecture, student will follow exam before on Saturday and Sunday in twelfth week.

Table 1: online learning model

			Meeting										
		Inagural lecture	1	2	3	4	5	6	7	8	9	10	11
Outline	Self learning		√	√	√	√	√	√	√	√	√	√	
	Discussion forum		√	√	√	√	√	√	√	√	√	√	
	Assignment		√	√	√	√	√	√	√	√	√	√	
	Conference	√					Optional						
Onsite (face to face)												√	√
Exam		√											

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Population and sample

In this thing, researcher does research in BINUS online learning where it is a part of BINUS university. Population in this research is all students of BINUS online learning academic year 2012 (BINUSIAN 2016) that amount 320 students that consist of three departments which are information system, accounting and management that can be seen in table below.

Sample taking is taken by using random sampling technique, which is taking sample randomly, where each subject population is seen same because sample is taken randomly from 320 students, this thing is done because member of population is stated as homogeneous.

Table 2: student population
from 3 departments intake 2012

Department	Intake	Batch	Total
Information system	2012 1	7	83
Information system	2012 2	8	149
Management	2012 1	7	33
Management	2012 2	8	40
Accounting	2012 1	7	6
Accounting	2012 2	8	9
	Total		320

Sample taking technique using formula from (Taro Yamane or Slovin in Riduwan & Akdon, 2005:249), as following:

$$n = \frac{N}{N \cdot d^2 + 1} \tag{1}$$

Where:
n : amount of sample that is sought
N : amount of population
d2 : precision (is set 10% with trust level 90%)

$$n = \frac{320}{320(0.1)^2 + 1} = \frac{320}{4.2} = 7 \tag{2}$$

From equitation above with total population 320 students, then it is obtained minimum amount of sample is 77 students, but for this research researcher uses sample about 99 students based on amount of total respondents in answering online questionnaires that are spread as much as the population. Researcher adds the amount of sample because it is concerned that there are invalid or biased several samples, also is supported from sample taking theory by Ref. [7] that the more samples is taken, the smaller possibility of error is in research.

Research Design Model (Construct Model)

In this research, it will be analyzed whether there is relation between lecturer's professionalism, student's interest and motivation with student's academic achievement intake 2012 (BINUSIAN 2015) of BINUS online learning in information system, management and accounting in BINUS University. One lane model is model that sees direct effect of independent variable on dependent variable, either it is the effect altogether or which variable that has more dominant effect. That thing can be pictures with one lane research model like this:
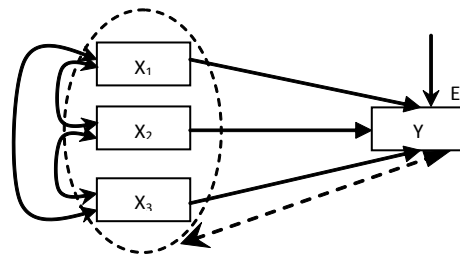

Fig 1: one lane analysis model

**Description:
X1 = lecturer's professionalism
X2 = student's study interest
X3 = student's study motivation
Y = student's academic achievement

Research Instrument

This research uses attitude scles. Attitude scales that is used is Likert scale. Main principle of Likert scale is determining someone's notch location in a attitude continuum on attitude of object, start from very negative until very positive. That location determining done by quantifying someone's respond towards statement or question provided.

Characteristic from relation between lecturer's professionalism, student's learning interest and motivation with academic achievement of bachelor degree student in BINUS online learning is given assessment as following:
1. Strongly disagree (1)
2. Disagree (2)
3. Less agree (3)
4. Agree (4)
5. Strongly agree (5)

Criteria of accepting and rejecting hypothesis

Decision making about accepting and rejecting hypothesis is done by doing hypothesis test that has requirement like this:
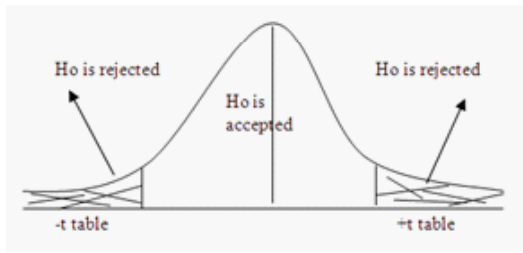
Regression analysis test partially (t test)

Fig 2: picture of position determining of Ho regression partially

Testing criteria:
- Ho is accepted if –t table £count£ t table
- Ho is rejected if –t count < -t table or t count > t table
- Significance level uses α = 5%

t count formula on regression analysis is:

$$Tcount = \frac{r\sqrt{n-k-1}}{\sqrt{1-r^2}} \qquad (3)$$

Description:
r = partial correlation coefficient
k = amount of independent variable
n = amount of data or case

This test is used to find out whether in regression independent variable model (X1, X2, ...Xn) partially affects significantly on dependents variable (Y).
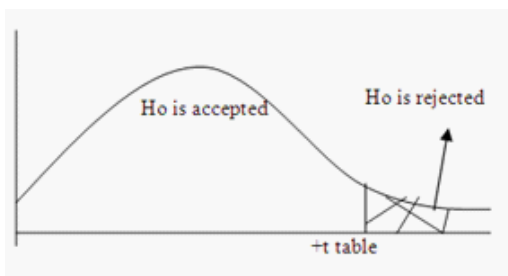
Regression analysis test concurrently (f test)

Fig 3: picture of position determining of Ho regression concurrently

Testing criteria:
- Ho is accepted if F count £ F table
- Ho is rejected if F count > F table
- Significance level uses α = 5%

F count formula in regression concurrent analysis is:

$$Fcount = \frac{R^2/k}{(1-R^2)(n-k-1)} \qquad (4)$$

Description:
R2 = determination coefficient
n = amount of data or case
k = amount of independent variable

This test is used to find out whether variable independent (X1, X2,.....Xn) altogether affect significantly on dependent variable (Y). or to find out whether regression model can be used to predict dependent variable or not.

RESULTS AND DISCUSSION

Normality test
Here is the result of normality test table:

Table 3: result of normality test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		99
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	.40185496
Most Extreme Differences	Absolute	.091
	Positive	.068
	Negative	-.091
Kolmogorov-Smirnov Z		.906
Asymp. Sig. (2-tailed)		385

a. Test distribution is Normal.

b. Calculated from data.

This research uses regression where it has error assumption (residual) must be normal distribution. From the data result above we see in Kolmogorov-Smirnov column and can be known that significance value is 0.385 or 38%. In this discussion, it uses one sample Kolmogrov-Smirnov test by using significance level 0.05. Residual is stated as normal distribution if significance is bigger than 5% or 0.05, then it can be concluded that data above is normal distribution.

Hypothesis test
Here is the picture of one lane analysis model, where in accordance with the listed arrow in picture that it will be done hypothesis between 3 big bound variables and 1 variable and also know significant correlation value between free or bound variable.
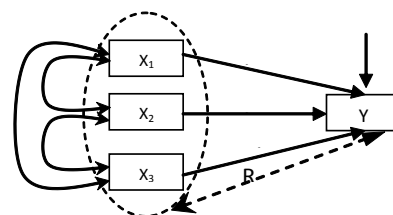

Fig 4: one lane analysis model

One lane structural analysis equation that includes X1, X2, X3 as free variable and Y as bound variable and E= error is as following:

$$Y_1 = b_1 YX_1 + b_2 YX_2 + b_3 YX_3 + E \qquad (5)$$

**description:
X1 = X1 = lecturer's professionalism
X2 = student's study interest
X3 = student's study motivation
Y = student's academic achievement
E = error

As for hypothesis that will be tested are:
H1: there is significant effect between lecturer's professionalism, students's study interest and study motivation with student's academic achievement partially.

H2: there is significant effect between lecturer's professionalism, students's study interest and study motivation with student's academic achievement concurrently.

Partial output regression analysis

In this analysis the test of effect partially between free variable and bound variable uses comparison of t cont value and t table value (tα/2:df(n-2) or significance value and alpha value (α). Known α= 5%, then t table value = t 5%/2: df (99-2) = =1.984 or -1.948. To determine how big the effect of lecturer's professionalism, students's study interest and study motivation on student's academic achievement can be seen in standardized coefficient (beta). Here is the table:

Table 4: result of partial regression test

Model		Unstandardized Coefficients		Standardized coefficient	t	Sig.	Collinearity	
		B	Std. Error	Beta			Tolerance	VIF
1	(constant)	3.282	.317		10.350	.000		
	X1	.008	.004	.250	2.164	.033	.699	1.431
	X2	-.028	.009	-.529	-3.207	.002	.342	2.926
	X3	.018	.008	.343	2.129	.036	.358	2.796

a. Dependent variable: Y

Based on the result of output in table 4, it can be concluded like this:
- It is known t count value of lecturer's professionalism (X1) is 2.164 and significance is 0.033, then it is obtained comparison t count 2.164 > t table 1,985 or significance level 3.3% < alpha 5%, then Ho is rejected, that means there is significant effect between lecturer's professionalism (X1) with student's academic achievement (Y). The amount of effect of lecturer's professionalism (X1) with student's academic achievement (Y) is 0.0250 or 25%.
- It is known t count value variable of student's study interest is 3.207 and significance is 0.002 or 2% then it is obtained comparison of t count -3.207 > t table -1.985 or significance value 0.2% < alpha 5% then Ho is rejected, that means there are significant effect between student's study interest (X2) with student's academic achievement (Y). The amount of effect of student's study interest (X2) with student's academic achievement (Y) is -0.529 or -52.9%.

- It is known t count value variable of student's study motivation (X3) is 2.129 and significance is 0.036 or 3.6% then it is obtained comparison of t count 2.129 > t table 1.985 or significance value 3.6% < alpha 5% then Ho is rejected, that means there are significant effect between student's study motivation (X3) with student's academic achievement (Y). The amount of effect of student's study interest (X3) with student's academic achievement (Y) is 0.343 or 34.3%.

Concurrent output regression analysis

In this linear concurrent (multiple) regression test, where this test is done using α=5%, F table = F α; (df1, df2) = F5%; df1 (3); df2 (99-3-1)= 2.70 to determine significant or insignificant value of lecturer's professionalism, student's study interest and motivation regression coefficient (X123) concurrently on academic achievement (Y). Here is the table:

Table 5: result of concurrent regression test

ANOVA[a]					
Model	Sum of square	Df	Mean square	F	Sig.
1 Regression	2.074	3	.691	4.150	.008[b]
Residual	15.826	95	.167		
Total	17.900	98			

Based on result from output table 5, it can be concluded that comparison between F count is 4.150 > F table 2.70 and significance is 0.008 or 0.8% < 5%, then Ho is rejected, it means there are significant effect between three free variables which are lecturer's professionalism, student's study interest and motivation (X123) on student's academic achievement (Y) and significant predicators regression coefficient value X123.

Partial correlation output (single) analysis

This correlation analysis is to find out association level or relation that happens between free variable of lecturer's professionalism, student's study interest and motivation (X123) on student's academic achievement (Y). Here is the table:

Table 6: result of partial correlation test

Correlations		X1	X2	X3
X1	Pearson Correlation	1	.534**	.502**
	Sig. (2 tailed)		.000	.000
	N	99	99	99
X2	Pearson Correlation	.534**	1	.796**
	Sig. (2 tailed)	.000		.000
	N	99	99	99
X3	Pearson Correlation	.502**	.796**	1
	Sig. (2 tailed)	.000	.000	
	N	99	99	99

**. Correlation is significant at the 0.01 level (2- tailed)

Here is correlation output analysis partially (single) in each variable:

- Correlation variable between lecturer's professionalism (X1) and student's study interest (X2). In table 6, it can be concluded that correlation coefficient of lecturer's professionalism and student's study interest are 0.534 and significance is 0.000 or 0.0%. if significance 0.0% is compared with alpha 5% then relation of lecturer's professionalism and student's academic achievement is significant

with relation level is as big as 53.4% with medium relation criteria and that relation is positive, it means that the higher lecturer's professionalism skill, then the more it increases student's study interest.

- Correlation variable between lecturer's professionalism (X1) and student's study motivation (X3). In table 6, it can be concluded that correlation coefficient of lecturer's professionalism and student's study motivation are 0.502 and significance with relation level is 0.000 or 0.0%. if significance 0.0% is compared with alpha 5% then relation of study interest and student's academic achievement is significant with relation level is as big as 53.4% with medium relation criteria and that relation is positive, it means that the higher lecturer's professionalism skill, then the more it increases student's study motivation.

- Correlation variable between student's study interest (X2) and student's study motivation (X3). In table 6, it can be concluded that correlation coefficient of student's study interest and student's study motivation are 0.796 and significance with relation level is 0.000 or 0.0%. if significance 0.0% is compared with alpha 5% then relation of study motivation and student's academic achievement is significant with relation level is as big as 79.6% with strong relation criteria and that relation is positive, it means that the higher student's study interest, then the more it will increase student's motivation to learn.

Concurrent correlation output (multiple) analysis

This analysis is used to know relation of two or more independent variables on dependent variable simultaneously. This test is seen from R value, if R ranges from 0 to 1, value is more reaching, which means relation that happens is stronger, on the contrary value is more reaching 0, then the relation that happens is weaker. Here is the table:

Table 7: result of correlation test concurrently

Model summary				
Model	R	R square	Adjusted R square	Std. Error of the Estimate
1	.340a	.116	.088	.40815

a. Predictors: (Constant), X3, X1, X2

Based on result of table &, correlation coefficient of lecturer's professionalism, student's study interest and motivation on academic achievement concurrently (R) is 0.340 and relation that happens is included in low positive. As for three free variables can explain happened relation

with student's academic achievement or is said as determination coefficient (D) is shown by R square as big as 0.116 or 11.6%. While the rest 88.4% is explained by other variables.

To determine relation above significant or insignificant, it is by seeing F count value (see table 6) is 4.150 > F table 2.70 and significance is 0.008 or 0.8% < 5%, it means relation of lecturer's professionalism, and student's study interest and motivation on student's academic achievement is significant.

So the equation model of one lane regression analysis is:

$$Y_1 = b_1 X_1 + b_2 X_2 + b_3 X_3 + E$$
$$Y = 0.250_1 - 0.529_2 + 0.343_3 + 8.4\%$$

Here is the discussion summary above in picture of one lane equation:
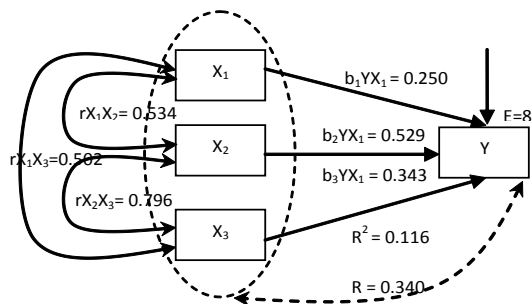

Fig 5: Summary one lane analysis model

CONCLUSION

Here are the results of H1 and H2 discussion in using one lane analysis model:
1. Effect of lecturer's professionalism on academic achievement is 0.250 or 25.0%
2. Effect of student's study interest on academic achievement is 0.529 or 52.9%
3. Effect of student's study motivation on academic achievement is 0.343 or 34.3%
4. Effect of lecturer's professionalism, student's study interest and motivation on academic achievement is 0.116 or 11.6% and F count is 4.150
5. Relation of lecturer's professionalism on student's study interest is 0.534 or 53.4%
6. Relation of lecturer's professionalism on student's study motivation s 0.502 or 50.2%
7. Relation of student's study interest and student's study motivation is 0.796 or 79.6%
8. Relation of lecturer's professionalism, student's study interest and motivation on academic achievement concurrently (R) is 0.340 or 3.40%

9. Relation of lecturer's professionalism, student's study interest and motivation on academic achievement concurrently can explain that relation is 0.116 or 11.6%
10. Relation that can't be explained by lecturer's professionalism, student's study interest and motivation on academic achievement or explained by other variables concurrently is 88.4%

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