

# Competence Lecturers and Learning Module Influences Student Achievement (A case study in the Diploma-3 STIAMI Institut Jakarta)

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**Abstract:** Education is a system in which there are components that are interrelated. This research aims to determine the effect of the direct competence of lecturers and learning modules on student achievement.

The research data was collected by taking samples at Diploma-3 students STIAMI Institute Jakarta of the academic year 2015-2016 regular program totally 60 people. Data analysis techniques was used by SPSS for Windows Ver.22, which showed that: (1) the competence of lecturers positive and significant effect 30.5% to the students achievement (2) learning modules positive and significant influence 33% of the student achievement (3) the competence of lecturers and learning modules positive and significant impact on the achievement students was 41.3%. The better the competence of lecturers and learning modules will also be better for student achievement.

This study needs to be followed up by adding other variables such as motivational factors of learning, interest in learning, intelligence, intellectual ability, campus culture, learning model, learning facilities, as well as patterns of learning are applied at home.

**Keywords:** Competence Lecturers, Learning Module, Achievements

## 1. Introduction

The concept of the education system may be changed in accordance with the development of society and the transfer of cultural values. The concept of education today can not be separated from education which should be in accordance with the demands of the educational needs of the past, present, and the future

The era of globalization requires each individual to continue learning to follow and to develop science, technology and art. This learning process can be carried throughout the life and anywhere, although the formal education is still used as indicators of the quality of human resources in a country, the Indonesia unemployment rate is still being a concern, indicating that the education has not been able to produce competent human resources, so that the improvements in the education system in Indonesia is necessary.

Education is a system in which the components are closely interrelated. Many things become problems and challenges in the education, such as follows: the challenge in the educational institutions to be able to produce the human resources quality, some subjects which are considered difficult and frighten some students, the lack of effective learning methods that have been used by lecturers, lack of availability of media and the means which are sufficient to support the learning process, learning styles and different types of each learner. The competence of lecturers and learning modules as learning support media are expected to play a role in achieving educational goals to the maximum including learners achievement.

Based on this research problem it is formulated as follows: 1. How much influence the lecturers' competence on student achievement of D3 STIAMI Mardani Institut Jakarta. 2. How much influence learning modules on student achievement of D3 STIAMI Mardani Institut Jakarta. 3. How much influence the lecturers' competence and learning modules on student achievement of D3 STIAMI Mardani Institut Jakarta.

The purposes of this study are: 1. To analyze and to determine the influence of the lectures competence on student achievement of D3 STIAMI Mardani Institut Jakarta. 2. To analyze and to determine the influence of the learning modules on student achievement of D3 STIAMI Mardani Institut Jakarta. 3. To analyze and to determine the influence of the lecturers' competence and learning modules on student achievement of D3 STIAMI Mardani Institut Jakarta.

## 2. Literature Review

### 2.1 The Lecturers Competency

Charles (in Mulyasa 2009) suggests that: Competency as rational performance which satisfactorily meets the objective for a desired condition. The competency is a set of knowledge, skills, attitudes and values which affect the performance of roles, actions, achievements as well as a person's job. Meanwhile, Covey, Roger and Merrill in Mangkunagara (2005) said that the competency includes; (1) The technical competence: knowledge and expertise to achieve the results that have been agreed, the ability to consider the issue and to look for new alternatives. (2) The conceptual competencies: the ability to see the big picture, to test various assumptions and perspectives modifiers. (3) The competency to live in interdependent capabilities effectively with others, including the ability to listen, to communicate, to get a third alternative, to create a win-win agreement, and to try to reach a solution of third alternative, the ability to view and to operate effectively within the organization or system wholly.

Gary and Margaret (in Mulyasa 2009) argues that: The professional effective and competent teachers has the following characteristics: (1) have an ability to create a conducive learning climate, (2) have an ability to develop strategies and learning management, (3) have an ability to provide feedback and the reinforcement, and (4) have an ability to get self-improvement.

The teachers' and lecturers' competency are very essential in relation to the learning process.

### 2.2 Learning Module

Learning module is a teaching materials arranged systematically and attracting attention including the content, methods and evaluation that can be used independently to achieve a level of expected competence, according to Anwar (2010). A module can be said as a proper and interesting module when having the following characteristics:(1) Self Instructional; using the module participants can learn by themselves, not depend on other parties. (2) Self Contained; means that all learning materials from one unit of competency or from sub-competencies consists in the module as a whole. (3) Stand Alone; means that the modules development does not depend on any other media or it doesn't have to be used together with other instructional media. (4) Adaptive; means that the adaptive power module should have a high level of development of science and technology. (5) User Friendly; module should be friendly to the users.

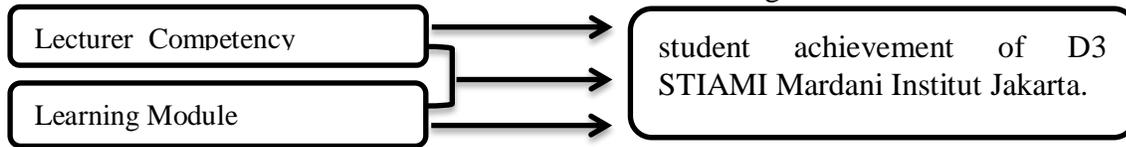
The use of the module is based on the fact that if students are given an adequate time and learning conditions they will get a competence completely. If students do not get enough time and adequate conditions, the completeness of the learning will be influenced by the degree of learning. The success of the learning to use the module depends on the criteria of learners supported by learning tutorial. The criteria include persistence, time for learning, learning content, quality of teaching and learning, and the ability to understand the instructions in the module.

### 2.3 Student Achievement

The achievement is the results which have been achieved by person in doing activities. An ability of skill or factual results that can be achieved in a time or in a certain period. The learning achievement is the result of learning that can be expressed in the form of numbers, letters, symbols and words reflecting the results which have been already achieved by individual learners in a given period resulting changes in the learning process. Hamalik (in Haris and Jihad, 2013) suggests "learning outcomes are patterns of actions, values, notions and attitudes, as well as perception and ability". Bloom states in Suharsimi Arikunto (1990) that "learning outcomes can be divided into three aspects, namely cognitive, affective and psychomotor". Harjati (2008: 43), states that "achievement is the result of efforts and resulted in the change that is expressed in the symbol to demonstrate the ability of achievement in work within a certain time".

Student achievement in this study is the achievement of a goal in the process of studying in high educational institutions. Measurements of the learning achievement of the students in formal education have been set in the time period of quarterly and are often referred to as a midterm (UTS) and final exams (UAS). However, in the learning achievement the expectation is the increase gaining in the material which is being taught.

Figure 1  
Framework of thinking



The hypothesis of this study found that:

1. The lecturers competency affect significantly on student achievement of D3 STIAMI Mardani Institut Jakarta.
2. The learning modules influence significantly on student achievement of D3 STIAMI Mardani Institut Jakarta.
3. The lecturers competency and learning modules simultaneously affect significantly on student achievement of D3 STIAMI Mardani Institut Jakarta.

### 3. Research Methods

#### 3.1 Research Approach

Approaching research using explanatory quantitative research method, which describes and analyzes the competence of lecturers and learning modules that affect on student achievement.

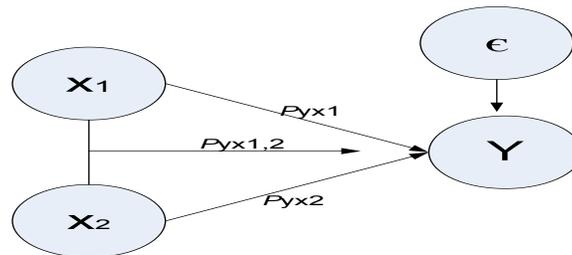


Figure 1 Model Research

Information :

- $X_1$  = Lecturers Competency
- $X_2$  = Learning Module
- $Y$  = Students Achievement
- $\epsilon$  = Other factors beyond the  $X_1$  and  $X_2$  affecting
- $\rho_{yx_1}$  = correlation coefficient  $X_1$  and  $Y$
- $\rho_{yx_2}$  = correlation coefficient  $X_2$  and  $Y$
- $\rho_{yx_1x_2}$  = correlation coefficient  $X_1$  and  $X_2$  together with  $Y$

#### 3.2 Data analysis technique

The data were analyzed using SPSS 22 for Windows to examine, as follows:

- (1) Test Data Quality;
- (2) Test Requirements Analysis;
- (3) Testing Criteria Statistics; and
- (4) Hypothesis.

## 4. Results and Discussion

### 4.1 The characteristics of Respondents

Respondents consist of students of two department at the Institute STIAMI D3 Mardani Jakarta, the mapping respondents in this study is based on lecturing major studies as described in the following table:

Table.1: Respondents Mapping Based on Studies Programs

Study Programs	Frequency	Percentage
Taxes	44	73.3%
Business	16	26.7%
Total	60	100.00%

Source: Primary data are processed, 2016.

Data Quality Test using SPSS for Windows ver.22. Validity Testing Results rxy Pearson Product Moment Correlation  $X_1$  against r-table and r-critical, the test results of all of the variables show valid with  $r_{xy} > r$ -table or r-critical, a significant level of 5%.

### 4.2 Reliability Examination

Cronbach Alpha reliability examination against the whole data is as follows:

- The value of the variable  $X_1$  Cronbach Alpha of 0.947 shows that the overall statement on the  $X_1$  variables have perfect reliability.
- Cronbach Alpha value of 0.858  $X_2$  shows that the overall statement on the variable  $X_2$  has a high reliability.
- The value of the variable Y Cronbach Alpha 0.893 shows that the overall statement on variable Y has a perfect reliability.

### 4.3 Normality Test

The test of Normality using the Kolmogorov-Smirnov test and test of Normality, gives the value of Asymp. Sig. in the amount of 0.066 and 0.063, the data in this study have a normal distribution because the Sig.  $> 0.05$ .

### 4.4 The Multicollinearity Test

The Multicollinearity test against the overall statement indicates:

The variable of lecturers' competency have VIF  $1.406 < 10.00$ , the tolerance values  $0.711 > 0.10$ .

Variables learning modules have VIF  $1.406 < 10.00$  and the tolerance values  $0.711 > 0.10$ .

The results show no correlation occurs (the multicollinearity does not occur).

### 4.5 The Autocorrelation Test

The value DW  $1.900 > 1.652$  (the value of dU Durbin Watson table) and DW value  $1.900 < 2.348$  (the value is 4-dU). The value of DW is located between dU and (4-dL), it can be interpreted that  $H_0$  is accepted which indicates there is no autocorrelation.

### 4.6 Heteroskedasticity Test

The significance value which is based on the test table shows:

The variable of lecturers' competence have the Sig. value of  $0.193 > 0.05$ , heteroskedasticity does not occur. The variables learning module, have the Sig. value of  $0.399 > 0.05$ , heteroskedasticity does not occur.

Hypothesis Test, The examination using Partial Regression Testing shows a significant result.

Table 2: The Result of Hypothesis Testing with Partial Regression test (t test)

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	19,974	6,811		2,933	,005
	Kompetensi Dosen	,185	,065	,343	2,848	,006
	Modul Pembelajaran	,513	,158	,390	3,246	,002

a. Dependent Variable: Prestasi

Hypothesis Test Using Simultaneous Regression Test / F test shows a significant result.

Table 3: The Result of Hypothesis Test Using Simultaneous Regression Test (F Test)

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1333,983	2	666,991	20,091	,000 <sup>b</sup>
	Residual	1892,351	57	33,199		
	Total	3226,333	59			

a. Dependent Variable: Prestasi

b. Predictors: (Constant), Modul Pembelajaran, Kompetensi Dosen

The Multiple Correlation Coefficient Test and Coefficient of Determination shows of 41.3

Table 4: The Testing Results of Multiple Correlation Coefficient and Coefficient of Determination

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,643 <sup>a</sup>	,413	,393	5,76187

a. Predictors: (Constant), Modul Pembelajaran, Kompetensi Dosen

The Coefficient of Determination Simple Test

The test is performed to know simply the percentage of determination of each independent variable against dependent variable.

Table 5: The Result of Simple Determination Test On Lecturers' Competence and Learning Modules

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,552 <sup>a</sup>	,305	,293	6,21745

a. Predictors: (Constant), Kompetensi Dosen

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,574 <sup>a</sup>	,330	,318	6,10478

a. Predictors: (Constant), Modul Pembelajaran

#### 4.7 Discussion about Lecturers' Competency against Achievement

The Lecturers' Competence at the Institute of STIAM I D3 Mardani Jakarta which covers the dimensions of pedagogic, personality, social, and professionalism has been in line with the expectation of educational institutions, especially the Institute of STIAM I D3 Mardani Jakarta.

The lecturers' competence in the dimension of pedagogic can support and implement a learning system in accordance with the provisions of educational institutions, the lecturers' competence in this dimension can also make them as a lecturers and a coach for their student.

Lecturers' Competence in personality dimensions makes a lecturers as an enviable figure by students. A steady and stable personality, mature, wise, authoritative, and having good morals is a very important component of personality belonged to lecturers.

The lecturers' competence in social dimension focuses on the interactions with students, fellow educators, and students' parents reflecting a lecturers as social beings who always interact with other individuals. The lecturers' competence in the professionalism dimension is expected to realize and maximize learning outcomes in line with expectations of the educational institutions and to run through the learning system in an orderly and to be guided.

Regression test shows a linear relationship between the lecturers' competence and the achievement, the better the level of lecturers' competence the better student achievement.

This study is supported by Puji Lestari's and Irianing Suparlinah's research (2010) with the results of the studies stating that the quality of teaching is measured by the presence of lecturers and teaching methods applied by the lecturers.

This research is also supported by Devi Hardian Tyasari's research (2011) with the results that the lecturers' competence affects positive significantly on the student learning motivations, the better the lecturers's competence the better the student learning motivation which implicates the learning achievement maximizing gaining.

#### **4.8 Discussion about the Learning Modules against Achievement**

Learning modules at the Institute of STIAMI D3 Mardani Jakarta which includes the dimension of the function of attention, affective, cognitive, and compensatory have been in line with expectations of the educational institutions, especially the Institute of STIAMI D3 Mardani Jakarta. A good learning module can stimulate readers to apply the learning system of self-instructional, that is the learning "which doing self-learning", the self-contained, which means that the integrity of the teaching materials are covered in the modules, the stand-alone that can be interpreted that the learning modules don't have to be used together with the other learning media, the adaptive indicates that the modules which are available in educational institutions is the latest materials in today's science development, and the user-friendly means to require a learning module which can be helpful and friendly to the users. This study is supported by Elis Mediawati's research (2011) stating that an increase learning outcomes due to learning using learning media of accounting comics.

#### **4.9 Discussion about the Lecturers' Competence and Learning Modules against Performance**

The lecturers' competence together with learning modules make a better contribution to student achievement. The height of student achievement indicates the success of the learning process at the time. In the location of the research the study evaluation is performed periodically to monitor and to comprehend the development of the learning process and to be implemented effectively.

### **5. Conclusion**

1. The lecturers' competence affect positively and significantly in the amount of 30.5% on the variation of achievement with a significance value of 0.006.
2. The learning module affects positively and significantly in the amount of 33% on the variation of achievement with the significant value of 0.002.
3. The lecturers' competence and learning modules affect significantly and positively in the amount of 41.3% on the variation of achievement with the significant value of 0.000.

This study has shown that the lecturers' competence was important to be improved day by day in the process of transmitting the education material, as the realization of effort in order to achieve the purpose of the teaching effectiveness at the Institute of STIAMI Mardani Jakarta. It is linearly related to the readiness and completeness of the learning modules as the supporting medium of the teaching based on the self-oriented learning.

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