

# IT Infrastructure Implementation Evaluation of The Process Of Learning , E-Learning ( Case Studies in SMA Negeri 16 Palembang)

**Akhsani Taqwiym, Dedi Rianto Rahadi, Syahril Rizal**

Master of Information Technology  
Bina Darma University  
e-mail:Oshiensheany@ymail.com  
e-mail:dedi1968@mail.binadarma.ac.id  
e-mail:syaril\_rizal@mail.binadarma.ac.id

## ***Abstract***

*This thesis discusses the evaluation of the implementation of e-learning implementation on increasing student performance. developments in technology, especially the media learning e-learning applied to the subjects of information and communication technology in schools on students' learning performance, have IT infrastructure as media. Therefore, the evaluation examined the effectiveness of e-learning system implementation of efforts to improve student performance . Evaluation is done is the analysis , implementation, documentation and observation . Analysis was done on the IT infrastructure , implementing e-learning and increase learning outcomes . In this study treatment used is pre-test and post test . Effectivity of e-learning system is obtained from the formula t-test is  $t = 2.70$  . d.b. =  $( Nx + Ny - 2 ) = 60 + 60 - 2 = 118$  ,  $t = 2.70$  price and  $db = 118$  . With this stated learning outcomes of using e-learning system better than the system learn classified . Access e-learning accessible to a variety of good media using WIFI , USB modems, external modems or Internet cafe . All media is embedded in the IT infrastructure no student will be denied access.*

**Keywords :** *Evaluation, Implementation of e-learning , learning performance*

## **1 INTRODUCTION**

The development of information and communication technology ( ICT ) has an impact on education, especially in the learning process . Communication as a medium of education is done by using communication media such as telephone, computer, internet, e - mails, and so on . Interaction between teachers and students is not only done through face-to -face relationships but also performed using these media. Teachers can provide service without having to deal directly with students. Similarly, students can obtain information in a broad scope of various sources through the virtual space by using a computer connected to the

Internet. The most recent case is the development of " cyber- teaching " or virtual teaching, ie teaching process is done by using the internet. Another term is the current e - learning is a model of learning by using media and information communication technology, especially the Internet. According to Rosenberg ( 2001: 28 ).

Supporting educational technology develops very rapidly so that if it does not follow that it is aware of the changes will be far behind. This of course will affect the facilities and the use of media in teaching and learning, especially in nformation and communication technology lessons high school.

With the change and development of information and communication technology, the basis and motivation for teachers in delivering science and learning materials to students by utilizing technology -based digital media, as well as create professional educators who have a certain karimah that benefit themselves, the community, the nation, and state . In today's world a lot of media education teaching e -learning is not yet fully understood by the students due to several factors such as the effect in this case is the lack of media support access to the digital network, computer equipment and supplies, less pahamnya learners to access digital media.

With the developments in media technology, especially e-learning are applied to the subjects of information and communication technology in schools on student achievement, have IT infrastucture as a medium. Therefore, evaluation of the effectiveness of the application will be examined e-learning system on improving student achievement, the researchers wishing to conduct research entitled " Evaluation of the Implementation of IT Infrastructure at e-learning process ( case study at SMAN 16 Palembang ) " .

## 2 LITERATURE

1. Evaluation of learning outcomes is the overall activity measurements (data collection and information), processing, interpretation and judgment to make decisions about the learning outcomes achieved by students after learning activities in order to achieve specified learning objectives learning outcomes refers to the achievement of learning, while learning achievement it is an indicator of the presence and degree of changes in student behavior. (Dr. Oermar Hamalik, 2009:159).
2. In a simple implementation could be interpreted implementation or application. Majone and Wildavsky (in Nurdin and Usman, 2002), suggests the implementation of the evaluation. Browne and Wildavsky (in Nurdin and Usman, 2004:70) argues that "the implementation of extension activities are mutually adjust". Understanding of implementation as mutually adjusting activity was also expressed by McLaughlin (in Nurdin and Usman, 2004). As Schubert (in Nurdin and Usman, 2002:70) argues that "implementation is a systems engineering."
3. the learning process can be done directly using the class and e-learning systems. Understanding teaching is essentially an attempt to create conditions or environmental systems that support and enable the process of learning (Sardiman, 1990:47).

### 2.1 FRAMEWORK

The framework is designed to solve research problems encountered in the study. Based on the identification of the problems outlined in the previous section that this research aims to

develop a network LAN infrastructure at the Department of Public Works Highways South Sumatra Province. Research arrayed in the process of collecting data by interview, observation, documentation and literature as well as the end result is a design that is desired.

### 3 RESEARCH METHODOLOGY

Concepts and methods in this study were performed using an evaluation that is used can be classified into two kinds, namely test and non- test. In this study as an evaluation tool is Test. The test is a series of questions or exercises intended to measure skills, knowledge of intelligence, or the ability of the individual samples. The method used in this study is a quantitative method which is a comparative study of data research results in the form of numbers ( digits ). Methods for gathering research data using observation, testing, documentation. The research instrument is an instrument or facility used to collect the data is observational guidelines.

In his opinion ( 2009:224 ) the development of a system includes the analysis, design, implementation and testing. The research method is a sequence or steps that must be performed in the completion of the study, so that the final goal of this study is the evaluation of the effectiveness of the implementation of e-learning systems to the improvement of learning achievement. The research method in this study are as follows :

#### 1. Network Analysis

Network analysis is performed to determine the problems and weaknesses of the existing computer network systems in SMAN 16 Palembang . In this phase, researchers will conduct direct observation of observing systems and computer networks to process questionnaires to ask what obstacles exist when using a system of learning in the classroom and the learning system of e -learning . In addition , the analysis was conducted on the analysis of service users as well as management analysis bandwidth .

#### 2. Implementation

On the implementation of an application for a long time, so in order to better understand the advantages and disadvantages of the implemented system . Implementai was conducted on the learning outcomes of students in the class to learn the system and learn to use e-learning systems .

#### 3. Examination

The next framework is a test of implementation ie , network performance to student access to e-learning system , test the students' understanding of e-learning system and test performance infrastucture it affects the implementation of e -learning .

### 3.1 Method of Data Collection

This research is a descriptive study using a qualitative approach and evaluative research . Adapum variables in this study are :

1. Network analysis
2. documentation
3. observation

#### 4 DISCUSSION AND ANALYSIS INITIAL CONDITIONS

SMA Negeri 16 Palembang is a high school located in the pristine valley road districts sako mature accreditation forms, telephone (0711) 7083729. In the 2013-2014 school year at SMAN 16 Palembang particular class X (ten) has a grade 6 class that X1, X2, X3, X4 X5, and X6. On the subject of information technology has the subject matter and the same assessment and treatment of the same subject teachers. Internet network used in SMA 16 Palembang is a WIFI network that can be accessed by administrators, teachers and students.

Based on the results of the evaluation study entitled IT infrastructure implementations in e-learning process ( case study at SMAN 16 Palembang ) Researchers draw the following conclusion : IT infrastucture instrumental in helping to access , whether it's uploading , downloading , in every process in the implementation of e-learning system that is Edmodo class X SMA Nagei 16 Palembang in the school year 2013-2014 . Based on the results of students in need of IT infrastucture in accessing existing site virtual world , be it using WIFI , external modem , USB modem or cafe if the provision of data transfer approximately 12.8 Mbps / sec then penerpaan e-learning system can work well without disorder or often called Disconnect.

implementation of e-learning systems implementation is obtained from the formula t - test is  $t = 2.70$  . d.b. =  $( N_x + N_y - 2 ) = 60 + 60 - 2 = 118$  , with the price of  $t = 2.70$  and  $d = 118$  . With the results of this study can be expressed by using the e -learning system better than the system studied in class.

Access e -learning can be accessed by various media whether it uses WIFI, USB modems, external modems or Internet cafe. All of these media are summarized in the IT infrastucture no student will be denied access. Media to access the e -learning which is owned by 56%, this implies that in a new sample of 239 students of class X, who has only a few percent of the school's media while the media can limit some leptop use WIFI because if leptop WIFI connected with the school exceeds 6 leptop network performance will be weakened and will be easy to Disconnect.

#### References

- Arikunto, S., (2006), *Research procedures*. Jakarta : Rineka Reserved.
- Arikunto, S., (2009), *Fundamentals of Educational Evaluation*. London: Earth Literacy.
- Arikunto, S., (2000), *Management Research*. Jakarta : PT . Rineka.
- Sugiyono, (2013), *Metodepenelitian education ( quantitative approach , qualitative , and R & D )*. Bandung : Alfabeta.