

Application of Computer Based Learning Model Tutorial as Medium of Learning

Ambar Sri Lestari*

State Islamic Institute of Kendari

*Corresponding author: ambarlstr@gmail.com

Received March 02, 2015; Revised May 15, 2015; Accepted May 20, 2015

Abstract This study aimed to describe the application of computer-based learning tutorial models in presenting learning materials. The approach used in this study is a qualitative approach in the form of assignment to students about the application of computer-based learning tutorial model as a medium of learning by using portfolio assessment. This research was conducted on students of Islamic religious education (PAI) in class III A, B and C odd semester 2014/2015 who take courses learning media. Assessment used in this study is an assessment portfolio because of: 1) the assessment should be based on the work / student work, 3) assessment include cognitive, affective and psychomotor student. Provides an overview of research results by applying a computer-based learning tutorial models are more motivated students in receiving and delivering the material because it is more varied and not monotonous at a lecture course, in addition to the students to be more creative in the presentation of the material. With the tutorial models are abstract concepts that can visualized more concrete so that learning becomes more meaningful.

Keywords: *computer based learning, model tutorial, learning media*

Cite This Article: Ambar Sri Lestari, "Application of Computer Based Learning Model Tutorial as Medium of Learning." *American Journal of Educational Research*, vol. 3, no. 6 (2015): 702-706. doi: 10.12691/education-3-6-6.

1. Introduction

Media as a means of learning in class requires interaction between the materials, methods, techniques or models and strategies that can be combined in an integrated manner so as to create an interactive learning that is necessary to provide the motivation to learn so that will have an impact on learning outcomes are increasingly both conceptually and practically. At present still a lot of learning in the classroom using the lecture method, the use of computers is still less than optimal, it can be seen in his presentation unattractive, there are still a lot of text that is written it is and too many sentences without adding aesthetic elements such as sound, picture, video while presenting presentation using powerpoint. In the manufacture of presentation, there are still many students who have not able to utilize the services powerpoint application as a medium of learning to make the presentation more interesting. Some constraints that cause low student motivation are: learning is centered on the educators so students are less motivated, methods and learning models that are monotonous that makes students bored with learning, competence and intellectual level of different students so that lecturers using any of the methods that lecture , and students are still lacks in asking questions or expression in the learning process.

Based on classroom observations in order overcome these problems, the authors are interested in doing

research on the application of computer learning tutorial models as a medium of learning can increase students' motivation in receiving and understanding the concept of learning. This study was based on the views expressed by Iskandar (2012: 188), that motivation is driving force in a person to do something to achieve the desired goal. That is, students who motivated within himself, then to consciously and earnestly to be learned for future needs. The method is intended as an effort to increase student motivation is through the method of computer-based learning tutorial models. The reason for selecting this model is like the opinion Rusman (2011: 301), that the purpose of computer-based learning tutorial models are: 1) to improve the mastery of knowledge independently by the students according to the material contained in the program, 2) so that students can enrich the material relevant, 3) assist students in finding and solving problems in learning independently, and 4) increase the independence of the students in the study of other materials. On the basis of this opinion, this model be appropriate in the classroom, especially in the course of learning media because of the learning process is already implementing the technology. In a computer-based learning model of this tutorial may be made through the presentation of the material in the form of presentation using Powerpoint which there is elements of matter, a question and answer exercises and presentation of that requires an element of the image, sound and video to better explain the concept.

2. Theoretical Study

2.1 Model of Computer-Based Learning Tutorial

Computer-based learning is learning to use the computer as a tool (Wena, 2011: 203). Through this learning teaching material is presented through the medium of the computer so that the learning activity becomes more interesting and challenging for students. According to Hick and Hyde (in, Wena 2011: 203) says that the computer-based learning students will interact and dealing directly with individual computers so that what is experienced by the students will be different from what is experienced by other students. One of the most interesting characteristics of computer-based learning is the ability to interact directly with the students. Meanwhile, according Warsita (2008: 137) says that computer-based learning is one of the media that is very attractive and increased the motivation of learners.

According Arsyad (2005: 25), the computer has a role as a media servants or support in the learning process or commonly known as computer-assisted learning or Computer- Assisted Instruction (CAI). According Trianto (2011: 22) argues that the learning model is a plan or a pattern that is used as a guide in learning in the classroom and to determine the learning tools including books, movies, computers, curriculum and others. It also said that in this model, the computer can display the learning, using various types of media (text, images, sound, video), provides activity and learning atmosphere, quizzes or by providing interaction of students, evaluating students' answers, provide feedback and determine the activity further the appropriate. Meanwhile, according to Hanafi (2010: 41) that the learning model is one approach in order to anticipate changes in the behavior of learners are adaptive and generative. The learning model is strongly associated with learning styles of learners (learning styles) and teaching styles of teachers (teaching style).

Rusman (2011: 300), states that "Tutorial is giving directives, assistance, guidance and motivation to the students to learn effectively and efficiently". There are several models assisted Computer Instruction is offered as a medium of learning, the model of tutorials, drills and practice, simulation, and instructional games. Applications with computer-assisted instruction includes (Warsita, 2008.137):

- a. Tutorial, ie the presentation of teaching materials gradually
- b. Drills and Practice, ie exercises to help students master the material that has been studied previously
- c. Games and Simulations, namely practice applying new knowledge and skills learned
- d. Data Base, ie a source that can help students add information and knowledge in accordance with the wishes of each.

Computer-based learning has several advantages, Wena (2011: 204) says there are 11 advantages and benefits to be derived by the computer-based learning, ie:

- a. Provide opportunities for students to solve problems individually
- b. Provide compelling presentations with animations
- c. Provides a choice of learning contents which are many and varied

- d. Capable of motivating students to learn
- e. Capable of activating and stimulating teaching methods well
- f. Enhance the development of students' understanding of the material presented
- g. Stimulate students to learn with passion, material presented
- h. easily understood by students.
- i. Students gain experience is concretely, increased student retention
- j. Giving feedback directly
- k. Students can determine their own pace of learning
- l. Students can perform a self-evaluation

Referring to the above-mentioned problems, the Weda (2011: 208) describes the development of computer-based learning has several advantages for some parties, including:

a. For Teachers

Computer-based learning is very important for teachers because (1) the teachers will be more of a role as a facilitator for students, (2) provide an alternative variety of learning methods, (3) to help develop learning media, because not all teachers have the creativity and time to do, (4) provide guidelines for further development, and (5) to minimize the level of misunderstanding of the concept / theory that is often experienced by students so that the effectiveness and efficiency of learning can be achieved optimally.

b. For Students

Computer-based learning is also very important for students because, (1) students will more easily and quickly understand the learning material that is abstract, because the concept / theory of abstract will be presented carefully and concretely, so easily captured by the five senses, (2) can increase student motivation during the learning process, (3) improving student learning outcomes, (4) control of learning is on the student so that the speed of learning can be tailored to the level of ability, and (5) be able to accommodate students who are slow because it can create an effective climate a more individualized in a way.

c. For Institutions / Schools

With the computer-based learning model is developed, then in school (1) will be available teaching materials which have been validated according to the field of study so that each teacher can use easily, (2) development of learning content will be in accordance with the main points of discussion, and (3) as a practical guide learning implementation in accordance with the conditions and characteristics of learning.

So based on expert opinion on the above, it can be concluded that computer-based learning is a teaching and learning activities undertaken by teachers with computers as a tool in delivering learning materials so that students do not get bored and motivated in participating in ongoing learning activities in the classroom.

2.2. Theory of Learning and Motivation

Behavioristic learning theory considers that learning as changes in behavior as a result of the interaction between the stimulus with the response (Asri Budiningsih, 2005: 20). According, Baharudin & NurWahyuni (2010: 87) states that learning theory behavioristik view learning as an activity that is mechanistic between the stimulus and

response. Thorndike in Budiningsih Asri, 2005: 21 stated that the stimulus is whatever can stimulate learning activities such as thoughts, feelings, or other things that can be captured through the senses. While the response of reactions that appear learners when learning, which can also be in the form of thoughts, feelings or movement / action. Several implications can be given by behavioristic theory in the development of computer-based learning media with interactive multimedia, ie: (1) multimedia able to apply the concept of stimulus-response as well as reinforcing factors; (2) multimedia able to develop a stimulus that may be given in the form of example problems, exercises, quizzes and others; (3) multimedia able to analyze the response of students to learn through an interactive response; and (4) is able to provide reinforcement by giving a score or value on the answers of learners that can be viewed directly in an interactive way. According Sutrisno (2012: 1-2), some important aspects taken into consideration in develop the technology based on the value of practical, economical and ease of learning. These values are used in order to become a more conducive learning environment, effective, and productive academic environment able to grow the learning. The function of the use of technology in learning is also expressed by Rusman (2011: 287) which states that, "a computer-based learning have a wider function, the software in the computer can be used as a tool or resource in studying individual". In defining the functions of computer technology as a medium of learning, the students can be trained to learn independently without depending on the teacher as the center of information and knowledge.

Motivation is something that is needed in the learning process as driving force student learning activities (Muh.Asrori, 2008: 183). Motivation to learn according Sardiman (2011: 75) is "Overall driving force within the students that lead to learning and which provide direction on learning activities, so that the desired destination by studying subjects that can be achieved". According to Iskandar (2012: 181), which states that "The motivation to learn is the driving power of the individual to perform learning activities to increase knowledge and experience". Said by Iskandar (2012: 184), an indicator that shows the students have the motivation to learn are as follows: 1) the desire or the will to succeed in learning; 2) the desire, the passion and the need to learn, 3) have the hopes and ideals of the future, 4) the award in the learning process, and 5) the existence of an environment conducive to study well.

Hamzah B.Uno (2012: 23), also revealed that: The nature of the motivation to learn is internal and external encouragement to students who are learning to hold a change of behavior by some indicators or elements that support. Hamzah also revealed that, "Indicators of motivation to learn can be classified as follows: 1) the passion and the desire succeed, 2) the encouragement and learning needs, 3) their hopes and ideals of the future, 4) the award in learning, 5) the desire of interest in learning, 6) the existence of a conducive learning environment that allows students to study well ". Some of the ways that can be done to motivate students in learning activities. According Sardiman (2011: 92) that there are several ways in which to foster students' motivation to give them value / number, giving gifts, making competition,

foster ego involvement, give tests, allowing the students to know the results of their study, giving praise and punishment and tell students about the purpose of the study material. According Sobry Sutikno (2013: 71), that "There are several strategies that can be developed in an effort to cultivate and develop the students' motivation in the learning process, among other things: explain the purpose of learning to students, games, give gifts, give praise and encouragement to the students raised to study, giving numbers, humor or humorous stories, helping the difficulties students and groups individual, applying various methods, varying the styles in teaching students, using both media and give punishment ".

3. Research Methods

The research approach used in this study is a qualitative approach by giving assignments to students about computer-based learning tutorial model as a medium of learning by using portfolio assessment. This research was conducted on students of Islamic religious education (PAI) PAI in class III A, B and C odd semester 2014/2015 who take courses learning media. Consideration of selection the basis of this research are: 1) has the potential to investigated because of problems in accordance with the actual conditions, 2) an assessment should be based on the work / student work, 3) assessment include cognitive, affective and psychomotor student.

4. Results and Discussion

This research is a form of assignment to the students to make the presentation of the material by the application of computer-based learning tutorial models as a form of some kind of computer-assisted learning. Model tutorial is done in several stages, ie:

1. Presentation of information by viewing the material on the syllabus
2. Preparation of computer-based learning materials with applications powerpoint tutorial models
3. In the presentation of the material contained presentation question and answer at the same responses or answers and providing answers assessment score
4. There is also a presentation of the material on the use of a specific application to be applied by the user

The assessment on computer based learning tutorial model perform with portfolio. A student portfolio is a systematic collection of student work and related material that depicts a student's activities, accomplishment, and achievements in one or more school subjects. The collection should include evidence of student reflection and self evaluation, guidelines for selecting the portfolio contents, and criteria for judging the quality of the work. The goal is to help students assemble portfolios that illustrate their talents, represent their writing capabilities, and tell their stories of school achievement (Venn,200: 530-531). Two types of portfolios (Venn,2000:533):

1. A Process portfolio documents the stages of learning and provides a progressive record of student growth.
2. A Product portfolio demonstrate mastery of a learning task or a set of learning objectives and contains

only the best work....Teachers use process portfolios to help students identify learning goals, document progress over time, and demonstrate learning mastery....In general, teachers prefer to use process portfolios because they are ideal for documenting the stages that students go through as they learn and progress.

Steps in the portfolio assessment process (Venn, 2000: 540):

1. The teacher and the student need to clearly identify the portfolio contents, which are samples of student work, reflections, teacher observations, and conference records.

2. The teacher should develop evaluation procedures for keeping track of the portfolio contents and for grading the portfolio.

3. The teacher needs a plan for holding portfolio conferences, which are formal and informal meetings in which students review their work and discuss their progress. Because they encourage reflective teaching and learning, these conference are an essential part of the portfolio assessment process

Three main factors guide the design and development of e-portfolio (Barton,1997):

1. Purpose

The purpose that the portfolio will serve, portofolio is guidelines for collecting materials, for example, is the goal to use the portfolio as data to inform program development? To report progress? To identify special needs.

2. Assessment Criteria

One the purpose or goal of the portfolio is clear, decisions are made about what will be considered success (*criteria or standard*) and what strategies are necessary to meet the goals, items are then selected to include in the portfolio because they provide evidence of meeting criteria, or making progress toward goals.

3. Evidence

Evidence can include artifacts (*item produced in the normal course of classroom or program activities*), reproductions (*documentation of interviews or projects done outside of the classroom or program*), attestations (*statements and observations by staff or others about the participant*), and productions (*item prepared especially for the portfolio, such as participant reflexions on their learning or choices*).

Here are the results of the assignment tutorial models made by students, including: Examples. Computer-Based Learning Tutorial Models



Figure 1. The Presentation Models Tutorial



Figure 2. Discussion of the material



Figure 3. Learning Activities 3 About The Function of Instructional Media

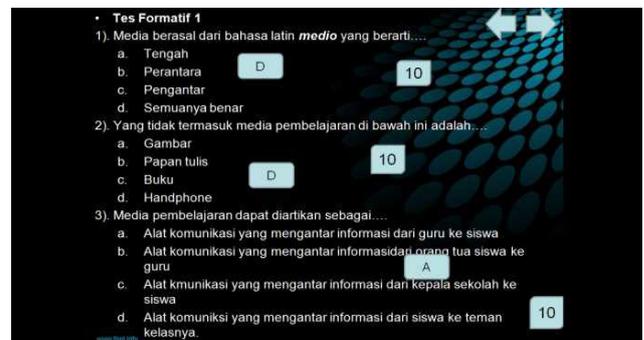


Figure 4. Multiple Choice Tes Formatif



Figure 5. Essay Tes

Reflective pieces require students to articulate and reviews components of the portfolio and are a part of a comprehensive assessment. Reflections allow students the time and space to analyze their achievement in relation to class standars, evaluate their final products, and determine growth as well as needs (Fernste, 2005: 303-309). In portfolio assessment, the learners reflect on their work , the reflection should say something about why the learners have made the choices they have made in the portfolio, and describe the method used to arrive at the final result. If two learners submit the same work for assessment, the individual reflections may make the difference. Even if a learner has failed with the content presented in the assessment portfolio to a certain degree, he or she might be rewarded for mature reflections on the work.

Portfolio Assessment

Courses	:				
Student Name	:				
Date	:				
Prodi / Sem/Class	:				
Basic Competencies	:				
No	Assessed aspects (Cognitive)	Level of Ability			
		1	2	3	4
1	Knowledge of competency achieved				
2	Knowledge of the material presented				
3	Knowledge of material integration with each other				
4	Knowledge of issues / problems related to the material				
5	Knowledge / insight in the deepening of the material				
6	Knowledge / insight in the provision of problem solving (problem solving)				
7	Understanding of the the assignment given				
Note: 4 = Very Good 3 = Good 2 = Enough 1 = Less					
No	Assessed aspects (Affective)	Level of Ability			
		1	2	3	4
1	Presentation of the material with a straightforward				
2	With a brief presentation of the material, clear and meaningful				
3	Presentation materials openly in question				
4	Presentation material with discussion				
5	Active in discussions				
6	Discipline in the lectures				
7	Self-control				
Note: 4 = Very Good 3 = Good 2 = Enough 1 = Less					
No	Assessed aspects (Psychomotor)	Level of Ability			
		1	2	3	4
1	Use planning in work				
2	Utilization in the learning process				
3	The use of the media in the work				
4	Presentation of the results of work				
5	Timeliness in work				
6	Cooperate in the task of individual practice / group				

5. Closing

Learning model of tutorial can be done in class to improve students' motivation and give opportunities for students to explore information in accordance with the speed of learning. computer-based learning provides a more attractive presentation of the material by utilizing the elements text, voice, images, video to further clarify of matter to make it more meaningful. Computer-based learning model of tutorials includes subject matter, learning activities, exercises or practise problems, and evaluations. The use of portfolio assessment can be seen from the results of the students' work integrally includes cognitive, affective and psychomotor.

References

- [1] Arsyad, Azhar. *Instructional Media*. Jakarta: PT. Raja Grafindo Persada.2002. Arsyad, Azhar. *Instructional Media*. Jakarta : PT. RajaGrafindo Persada. 2007.
- [2] Barton, J., & Collins, A. (Eds.). *Portfolio Assessment: A Handbook For Educators*. Menlo Park, CA:Innovative Learning. 371.27 PORTFOL 1997.
- [3] Dahar, R. W. *Theories of Learning*. Jakarta: Erlangga. 1996.
- [4] Daryanto. *Instructional Media*. Bandung: Sarana Tutorial Nurani Sejahtera. 2011.
- [5] Fernsten,L., & Fernsten,J. *Portfolio Assessment and Reflection: Enhancing Learning Through Effective Practice*. Reflective Practive 6 (2), 2005.
- [6] Hanafiah. *The concept of Learning Strategy*. Bandung. PT Refika Aditama.2010. Iskandar. *Psikology Of Education: New Orientation*. Jakarta: Referensi. 2012.
- [7] Munir. *Based Curriculum Information and Communication Technology*. Bandung: SPS Universitas Pendidikan Indonesia. 2008.
- [8] Newby, T. J., Stepich, D. A., Lehman, J. D., & Russel J. D. *Educational Technology for Teaching and Learning*. Upper Saddle River, NJ : Pearson Merrill Prentice Hall. 2006.
- [9] Rusman. *Learning Models: Development Teacher Professional*. Jakarta. Raja Grafindo Persada. 2011.
- [10] Sadiman, A. S., Rahardjo, R., Haryono, A., & Rahardjito. *Media Education: Definition, Development and Utilization*. Jakarta : Rajawali Press. 2008.
- [11] Sardiman. *Interaction and Learning Motivation*. Jakarta. Rajagrafindo Persada. 2011.
- [12] Sutikno, Sobry. *Teaching and learning: Creative Efforts In Creating Successful Learning*. Lombok: Holistika. 2013.
- [13] Sutrisno. *Developing Creative Information Technology-Based Learning Activities*. Jakarta. Referensi. 2012.
- [14] Trianto. *Models Constructivist Oriented Innovative Learning*. Jakarta:Prestasi Pustaka. 2011. Uno, Hamzah B. Learning: *Creating a Learning Process Creative and Effective*. Jakarta: Bumi Aksara. 2009.
- [15] Uno, Hamzah B. Learning. *Motivation Theory and Measurement*. Jakarta: Bumi Aksara. 2012.
- [16] Wena, Made. *Contemporary Innovative Learning Strategies: A Conceptual Overview of Operations*. Jakarta: Bumi Aksara. 2011.
- [17] Warsita, Bambang. *Learning Technology: Foundations and Applications*. Jakarta:Rineka Cipta. 2008.