Blended Learning Design As A Means
For Improving Learning In Higher Education

M. Rozahi Istambul, Widyatama University, Rozahi.istambul@widyatama.ac.id

Abstract

As the development of information technology lead to a variety of activities also take advantage of powerful features. Education played a role in the utilization , development of one of them by learning how to use an electronic or known as e -learning . However, many ways in which the institutions in the implementation of e-learning. As performed at the University Widyatama institution to make the learning process in the context of e-learning system , the main issue that will arise is, what activities will be conducted by faculty and students in the e-learning system, so it can be said there is a process of learning, which is equivalent or more than the faceto face in the classroom. Rules in the e-learning thiswould be a way to be able to motivate and increase participation of students to be able to play an active role and participate in the learning process, as well as being student centered learning (SCL).Another thing that becomes the focus of this study regarding the number of meetings, which would still have to refer to the rules of the national education ministry. Furthermore, the number of meetings will be designed in order to meet the rules that apply nationally. Similarly, meeting face to face and e-learning system, which needs to be designed activities, the faculty and students as stakeholders must understand the duties and responsibilities in the learning process. The design will be produced later in the class face to face with the virtual class, will result in a blended learning that meets the rules that apply to education in Indonesia.

Keywords: Instructional Design, Blended Learning , Activities, LearningAactivities, Learning Process

Introduction

One part of the learning activities, the learning process . Currently learning process can be supported by the use of information technology, technology support are important because they can provide increased student interaction in conducting learning activities in particular the transfer of knowledge from teacher to learner and directs learners to meet a number of materials have been obtained from various sources power. However, the condition of higher education in general in Indonesia are still not able to contribute optimally to take advantage of the information technology because of the various problems that arise in the internal environment of the college concerned. In general, e-learning system is a breakthrough in the management of Information technology based education, which support; facilitate; as well as significantly improve relationships, and service to the university students. In this context, it is understood that faculty and students are stakeholders of e-learning systems .

Differences traditional learning with e-learning is a conventional classroom (face to face) and virtual classroom or online, in a conventional classroom the lecturer is regarded as the most understanding / knowing the problem and was assigned to transfer knowledge to students or known as the teacher centered learning (TCL), while the virtual classroom, the main focus lies on the term student centered learning (SCL), meaning that the student activity entirely. E-learning atmosphere in the hope it will motivate the students perform a more active role in the learning process. This learning style can be categorized as mastery learning (learning through it) with the module teaching techniques, namely students when to start planning learning activities and look for the material with his own effort and initiative.

As the development of technology, there needs to be a learning process requires innovation , which provide different ways of learning. Innovations are expected to be used by faculty in the implementation of an e-learning system , the student will be able to play an active role as a center of learning. That is, each student has their own way in the plan; understand; problem solving; and experiential learning; as well as time to perform the learning process. The learning process is student centered learning in the manner expected to have a more significant role than the conventional way of learning.

Based on the assumptions above, the application of e-learning systems need to be designed so as not merely as a means to exchange information between faculty and students or otherwise. E-learning system is a unified whole and sustainable in providing a wide variety of activities to do in the learning process, as well as learning activities conventional (non e-learning). Requires continuous planning process associated with the syllabi teaching and interacting scenarios to how to vote. Therefore, the use of e-learning system, the learning process can be pursued to optimize all the functions available in the e-learning platform by way of learning and understanding the principles that will happen and can improve the interaction; motivation; and discipline students.

During the lecturers only as a center of learning, meaning learning resources just put in the position of lecturer. Everything will be done by students should refer to faculty course supervisors , so that lecturers always do that by selecting the best professor viewpoint. In fact, in today's era, the findings and the views of the students are very diverse and the desire to use a different way. Opportunities and student opportunities in conventional learning will lead to a lack of independence preformance students create on and innovate, because of limitations in presenting existing resources and the opportunity to make comparisons with different viewpoints according to students.

Structuring the learning process in a database design course are designed so that the interaction occurs is well, corresponding course objectives to be achieved. Furthermore, the activity that occurs needs to be evaluated to see how effective the learning process can provide insight / understanding both of the students and for faculty in facilitating student needs. So for both of them can still view the recording activity, following the experience that has been passed at will.

Conditions of current students are also increasingly diverse in understanding the material in the learning process, the various ways students can make an effort in order to receive knowledge when learning takes place. The learning process of database design course been so arranged in a curriculum, so that the design needed a well-organized curriculum. Definition of curriculum design in this case is the mapping of the position and course credit weights setting up lesson plans for each semester. So the database design course have the competencies expected to be understood by students as the course participants.

In the scope of database design courses, how do the interactions between students and faculty are very diverse. Often these e-learning provide motivation for students to be able to initiate or create in any subject material provided by the lecturer. The other side of conventional learning can give students that cause demotivation not excited / out of focus in following each material, and tend to avoid the subject with the task or not present in the lecture. This is where the importance of a rule to be able to change the character / habits of the students in e-learning , to be more disciplined.

In the context of e-learning systems learning in the curriculum there needs to be an evaluation , as proposed by Hamid Hasan (2009) that an evaluation plan ; evaluation process; and evaluation results to assess the effectiveness of the use of learning. In the present study more specifically on the evaluation process, namely the e-learning activities are carried out by means of combining the conventional way of learning (face to face) and online (virtual), it is known as blended learning. Various techniques will be done in a virtual way to see how far the optimal functioning of the e-learning system able to solve problems that have been described previously.

Identification of the Problem

Based on the above we can identify emerging issues related to the implementation of e-learning system, as a means to optimize the learning process in the course of designing the database. Here are the things that can be identified on the planning process of online learning, which has been running at half ago.

1. The implementation of e-learning led to consequences that are not easy to do, because a lot of factors that need to be prepared, such as investments; infrastructure; resources (builders, managers, users); rules; and curriculum content;
2. Policies and rules underlying curriculum distance education as well as have an impact on higher education institutions;
3. Curriculum planning needs to be done to give the direction of the implementation of e-learning courses for database design;
4. Lecturers need to prepare materials that are conventional and virtual;
5. Students will independently perform activities of learning and the work assignment in accordance curriculum planning;
6. Interaction between faculty and students as well as face to face in the classroom, the virtual activity should also go according to plan curriculum;
7. In addition, students can be independent in their learning collaboration also needs to be done in groups or activities in virtual learning;
8. Shape related activities carried out in a scheduled assignment due date and no settlement;
9. The entire process of online learning activities for each topic will be performed by the student for a period of one week;
10. The use of e-learning system that will optimally change the culture and behavior of student learning, so that students are expected to be more understanding of database design courses;

Operational Definition

In the development of blended learning design, which draws from a number of theoretical opinion or experience of some other studies, point to provide input at the time of going to design a learning process, which combines face-to-face classes and virtual classes. The following references are used as sources in the design of blended learning at the University Widyatama.

1. Pedagogy
   According to Judith & Rita (2010) on learning that cite the following definition of pedagogy by Basil Bernstein, a British sociologist and linguist, Suggests some interesting possibilities as to the means of instruction, par-ticularly in our world of learning objects, tutorials, simulations, and the mobile everything : Pedagogy is a sustained process whereby somebody (s) acquires new forms or develops existing forms of conduct, knowledge, practice and criteria from somebody (s) or something deemed to be an appropriate provider and evaluator. Appropriate either from the point of view of the acquirer or by some other body (s) or both.

2. Mastery Learning
   Instructional systems based on this model is applied to provide instruction to students at all levels of age in areas that span from basic skills to highly complex material in an academic discipline. With proper adjustment, the model can also be applied to students who are intelligent and talented, as well as the students who have emotional problems including those that would be an athlete or an astronaut, this is expressed by Munir (2013).

   According to Nasution (2011) in his book "Approaches to Learning & Teaching", that controls learning (mastery learning) is a frame of mind in a series of instructional planning, which is formulated by John B. Carroll and Benjamin Bloom. Mastery learning model is an attractive method to increase the likelihood of students , to be able to achieve a satisfactory level of performance.

   Carroll looked at the talent as the amount of time spent studying the material for a particular person, and not a person's capacity to master the material. Bloom Carroll transforming view, that is if the instruction is processed in this way, Bloom believes that the learning time can be tailored to the talents of the students. There are three initial ideas of Skinner is still maintained and used widely :

a. Circuit objects sequentially, either in the form of questions or statements must get a response from the students;
b. Response of students who might be written in sebuh list, can lead an answer to the question posed choosing one among several options the answer is no or solve a problem;
c. Debriefing to inform immediate responses, sometimes within the program itself or in a different location.

Three view of the above very clearly illustrates the meaning of learning, that in terms of research on e-learning system, there needs to be instruction instructional design made by the lecturer and then students can learn according to their comprehension. That is, there is phasing efforts undertaken to understand more deeply the students according to their needs which may be repeating material already learned without losing / missing information.

3. Resource Based Learning
Other learning methods appropriate to the learning e-learning system is a resource based learning. According to Beswick, Norman in his book "Resource based Learning" cited by Nasution (2011) on resource based learning, meant any form of learning that directly confronts students with a learning resource or a number of individual or group with all the learning activities related to the. This illustrates that the lecturer is not the only source of learning but there are other sources that can be referenced by the students .
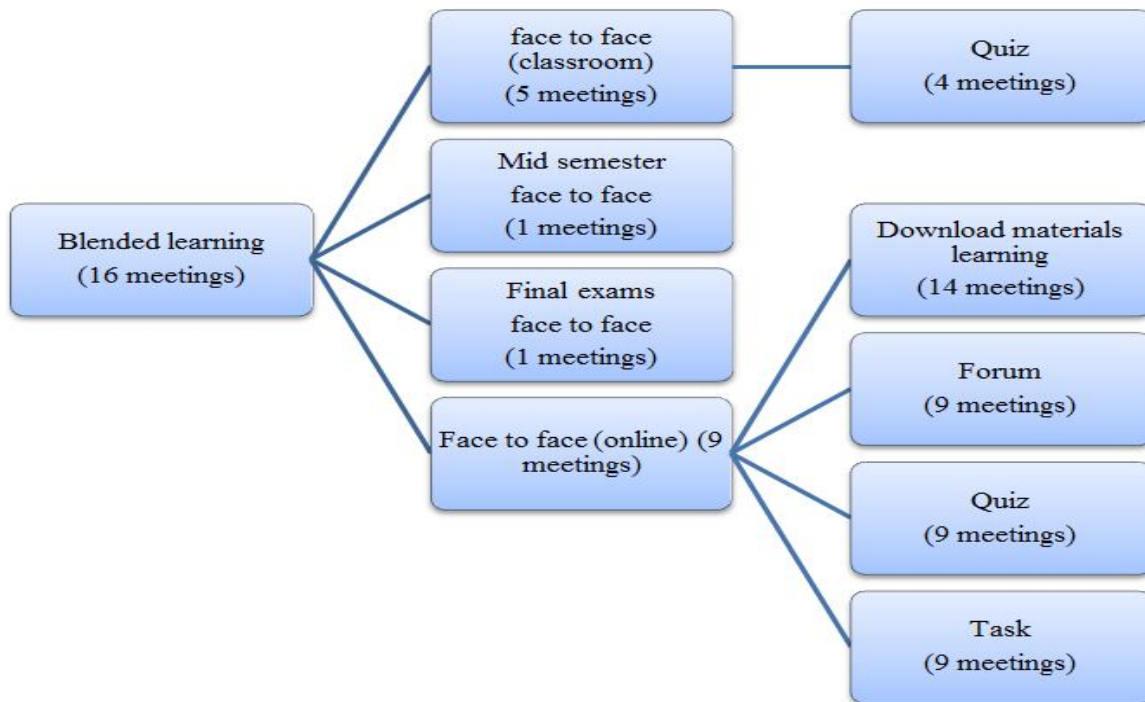
4. Blended Learning
According to Thorne (2003) blended learning as "it is an opportunity to integrate Represents the innovative and technological advances Offered by online learning with the interaction and participation Offered in the best of traditional learning". The essence of the definition of Thorne that there is an opportunity to combine learning between faceto face with the use of innovative online technology to provide the best learning experience.

Formulation of the problem

Frame of mind in the learning process using a system of e-learning course on database design, which is in the process of learning in the curriculum. Of course inseparable from strategy meetings and activities of faculty and students including the use of information technology support. In the context of the implementation of the model introduced e-learning system combined with conventional learning process or otherwise adopted the conventional learning to e-learning models.

Seen in Figure 1, that the blended learning is a way to use information technology, which can be combined with conventional learning activities (face to face). It is behind the selection of blended learning models, due to current technological developments is sufficient to use and easy to install his system. According Rozahi (2010), that one of the main problems is thought to be a college is the extent to which provides a variety of existing resources as well as a way of learning in higher education to support the achievement of the application of blended learning.

Figure 1 : Models Implementation of e-learning at the University Widyatama

In figure 1, it appears that the use of blended learning models are divided into several meetings, which is done in the classrooms scheduled (conventional) and online. As a general guideline application database design courses using e-learning system at the University Widyatama, are as follows :

1. Courses in e-learning system, which is a process of learning courses combine faceto face meeting between the activity in the classroom to outside the classroom (virtual classroom).
2. Meeting expenses,
   Load in question is meeting face to face activities are carried out in the classroom and in the virtual classroom (e-learning). Number of meetings in the course of using e-learning as many as fourteen times face to face for the learning process and two times face to face for the evaluation, the midterm and final exams. The number of different meetings, faceto face in the classroom as much as five meetings and virtual classroom as much as nine meetings.
3. Teaching materials
   Teaching material is material provided by lecturers based on the syllabus. Instructional materials other than textbooks refer to the source / ebook also can through the information on the website link.
4. The learning activity
   a. Learning activity consists of the provision of teaching materials; discussion topic; assignment; and quizzes.
   b. Learning activity consists of two sections, namely the activities carried out in the classroom and virtual classroom .
   c. Duration classroom activities adjusted for weight semester credit system (SKS) concerned, while the time for assignments and quizzes can be done in the classroom during a lecture schedule, or when the virtual classroom activities in each weekly period.
   d. Duration virtual classroom activity lasts for one week / meeting, and conducted over nine weeks. Weekly period from Monday to Sunday (seven days) for each relevant course credits weight, each week will follow specific rules regarding the applicable activity.
   e. Component in the virtual classroom consists of : upload teaching materials; discussion forums; quiz; and assignment.

f. Upload instructional materials, are teaching materials (compulsory) in word or pdf format totaling a minimum of eight pages and the format is valid at the University Widyatama.

g. Activity of learning in a virtual classroom can be in design as well as in class activity, ie no individual or group assignments; individual or group presentations; and question and answer directly to the student.

h. Teaching materials of any e-learning course is prepared and made by lecturers appointed at the beginning of each semester. When the number of lecturers more than one for the same course (naming, SKS weight, and contents of the same material), then the group made the lecturer to produce only one the same teaching materials.

i. Related to point seven above to design a group discussion; assignment; and quizzes are given full rights to each faculty (not necessarily based on the group).

j. Learning activity is fully managed by the lecturer, both in face-to -face in classroom or virtual classroom. Freedom of the management of this class is the primary right of faculty, to manage the class according to their needs. Such as assessing the activity of each student; forms of interaction (question and answer, presentation, discussion); and quizzes, as well as the provision of duty. This freedom can go beyond the rules of e-learning standards are defined.

Outcomes Research

In the e-learning process will generate a new learning experience for students. As for the learning process in e-learning are identified to improve student learning motivation, namely :

1. Schedule e-learning activities
   Class schedule in conventional activities determined by the weight of credit that is converted into a 50 minute / credit. However, in e-learning schedule for each course for one week and 24 hours a day. This, it allows students to set their own best time to perform any activity in e-learning . As each activity is set up e-learning activities due date. Also, students are still expected to discipline any deadline for completion of the regulation of these activities.

2. Material
   The material is an instructional materials that have been prepared in advance by the lecturer to upload soon. Students are required to download the material to be deemed to have followed the initial activity per week. This material is an instructional materials that can be read by the student , related topics will be discussed in the week. Beside that also the student also directed, to be able to find / see some ebook / internet links related to the topic being discussed. The scope of the material can be expanded to provide more flexibility for students to be able to find your own, there are references on the Internet in accordance with the understanding of each.

3. Forums
   Space serves to discuss topics of discussion are presented in teaching materials that have been downloaded by the student. The things that are not understood by the students can be presented in the discussion forum. Description explanation not only from the course lecturers, but the students are suggested to be able to participate in giving an idea / explanation of the problems faced by other students.

   This forum is multi direct, meaning that questions and answers can be done by faculty and students. All questions and responses will be recorded and well documented in the e-learning system, so that students can review / repeat back what has not been understood, or because the first time following the discussion of the topic in the forum. This indicates the student does not need to be present at a the questions and responses appear, but the student can follow and learn again at another time on a case and settlement issues without fear of losing information.

   This activity is very important, given the various references popping up that also comes from the students in addition to faculty only, so that students have different learning styles with the same

goal. Besides, the motivation and creativity to obtain information from various resources, providing increased student confidence about the results obtained and experiences in learning.

4. Quiz

    Quiz is to measure the extent to which the activity of the students understand the material in the relevant week . Obviously, this quiz as a competency test for student understanding, of what has been discussed in the forum discussions, based instructional materials that have been downloaded or reference results obtained by the student 's own search.

    These activities provide refreshment and a summary of the scope of the topic discussed, so that students can better understand the depth of each topic are delivered on a weekly basis. This quiz will be conducted every week that students should always be prepared and considers this activity as a means to measure the ability of an understanding of the extent to which the topic has been mastered by the student weekly. This quiz is likely to provide an explanation that is not too heavy, and does not require indepth analysis, however consists of a set of questions that can be answered briefly by the student.

5. Task

    Activities that require indepth analysis of a topic that has been discussed since a few weeks before until now. This activity can also be used as material to complete the task independently or in groups, so that the task was not given in every week but at a certain week after discussing several topics before. So be drawn regarding the activities of this task as a test of the ability of students from different linkage previous topics, and of course the weight assignment questions will be higher than quiz.

Criteria for these activities can be done well, as a way of learning that do not require students to learn the conditions that force is not liked by the students. In the context of learning as identified previously, the students feel an ease; comfort; and freedom of expression, so the students are expected to gradually improve its capabilities through a number of evaluation (looping learning history), which is conducted independently. Besides, students can also look back on a number of material and the previous discussion to catch up on the part of any topics that have been discussed together.

In this study, all the activities have been carried out by looking at how far the success rate of the use of e -learning systems to improve the way of learning. This can be obtained by students of various learning resources that have been facilitated in the e-learning system. In the following table illustrated a number of activities that have been carried out for one semester.

Table 1 : Activity Week 9 meetings online

Description	The number of student participation in week -								
	3	**4**	**5**	**6**	**9**	**10**	**12**	**13**	**14**
Download teaching materials	24	23	25	24	25	25	24	26	27
Forum	21	23	25	22	23	20	22	21	25
Quis	22	24	23	24	25	22	23	25	24
Task	-	23	-	24	-	-	22	-	25

Students involved in conducting e-learning activities as much as nine weeks with a number of 27 students. However, the average of the student participation in the learning process as seen in the table, namely :

1. students to download the material on average 24 students, these activities in addition to donwload matter of lecturers, students can also send a few links that may be visited by other students related to the topic of the week.

2. students are often discussed in forums on average 22 students, in this activity faculty will provide a case for discussion, so that students will respond to the case given by the lecturer . In addition to giving students a view resolution of the case, students are also able to provide the information that comes from sharing a particular link. And they will each respond to the information that appears in the discussion forum, while lecturers will act as a director of each of the responses coming.

3. quiz students on average 23 students, the activities in the form of short questions with multiple answers choiche; true / false; or choose. Turnaround time is only about a 10-15 minute quiz.

4. student tasks on average 23 students, these activities require analysis, so students must do the work in advance in the form of offline tools in an application , then the results are submitted to the e-learning system. Task processing time about 2-3 days.

5. Based on the results shown in the table above, it can be seen the extent to which the effectiveness of e-learning process for database design courses. Referring to the activities of the 4 criteria that exist in the table , it can be said to be an average of 23 students are active in the learning database design courses from a total of 27 students taking the course.

Conclusion

This study provides an explanation of the application of the learning process in e-learning system . Rules of the ministry of national education Indonesian republic, about the number of meetings that must be met for each course remains as basis for implementing an e-learning system. In the implementation, first made the general rule regarding the number of face to face meetings, ie face to face meetings in the classroom as much as five times. While meeting online meetings substitute in the classroom amounted to nine meetings, where the whole meeting will be arranged alternately.

The results of the e-learning process can directly be seen, that the participation and contribution of the student in the learning database design course be increased by the large number of active students. It is directly proportional to the increase in the level of discipline in following the activity, because every activity, especially quizzes and task completion due date specified .

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