Integrated E-Learning Implementation at University Learning Process

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Abstract: Even e-Learning application in some universities in Riau has began in 2010, but in learning practice, the eLearning has not been done with integration with other methods. Therefore, the study was interested to be done. The study was conducted at 2 universities in Riau in 2018. The sample of study was the students followed e-Learning. The sampling technique was purposive sampling. From the findings, it is seen that the application of distance education or e-learning during the processes of learning in both universities were still limited. From the interviews, the students' opinions were summarized as follows: 1) To provide appropriate materials in the e-learning, 2) To offer more variations in e-learning, 3) To add more attractive images, 4) To integrate the e-learning in learning processes 5) To announce information about activities in the university, 6) To add words and video of motivation, 7) Each material should be attributed to applied context. The integrated design of e-learning in the university is proposed to be implemented in both university with the steps of integrated e-learning that can be divided into 3 steps as below: 1) Preliminary 2) Progress and 3) Evaluation. In supporting the e-learning integration, the facilities and methods required were identified.

1 INTRODUCTION

The implementation of ICT (Information and Communication Technology) recently grows so rapidly. Even, the current ICT utilization has developed to various areas such as economic, social, trade, agriculture, education and other areas. This phenomenon is increasingly recognized inseparable from the belief in the benefits perceived by the public in assisting the tasks and activities undertaken. When the use of ICT in the 2000s was considered a new and luxurious, but currently, ICT is no longer like that happened 10-15 years ago. From the people in the village to the city, from lower education to university is very dependent and really need this ICT utilization. From various usage of ICT, browsing activity may be one of the most common Internet activities performed. By browsing, an internet user will obtain the desired text. Off course, an administrator (usually abbreviated admin) of e-learning course can see the potential of research in e-learning. But they are not alone. People who have used the Internet also (or using e-learning) can see the potential of the research. The emergence of e-learning research is still virtually new, because it is the advent of e-learning is also crowded not until a dozen of years.

Presently, the number of universities that have implemented Distance Education or e-learning is still very minimal. From total 4,741 universities in Indonesia, only 15-20 campuses of them have already applied the online lectures. "How many of the 4,741 tertiary institutions, about 15-20 universities have already implemented e-learning," said Minister of Research, Technology and Higher Education, Mohamad Nasir after the ceremony commemorating the 2019 National Education Day, on University of Indonesia (UI) campus, Depok, Thursday, May 2, 2019.

The lecturers preparation is not only done through training, but also grouping or clustering. From the results of FGD, the next stage is training the campus to prepare studio infrastructure. "The next is the online lecture system, later the lecturers and later we will coordinate the chancellors in universities in Indonesia," Nasir concluded. The Ministry of Research, Technology and Higher Education targets an increase in the higher education gross enrollment rate (APK) of 50 percent in the next five years. In addition to continuing to run lectures on conventional (face-to-face) courses, the target will also be boosted by increasing the application of Distance Education or e-learning in universities.

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In general, we should understand on what the e-Learning is in fact. e-Learning is a distance learning which use technology, network of computer and or Internet. e-Learning makes possible the learners to learn through computers in their respective places without having to physically go to follow lessons / lectures in class. e-Learning often understood as a form of web-based learning that can be accessed from the intranet on a local network or the Internet.

Although the appplication of e-learning systems that exist today are very varied, but all of it is based on a principle or concept that e-learning is intended as a distribution of learning materials through media of electronic or the Internet, so that students are able to access them anytime from around the world. The characteristic of learning with e-learning is to create a learning environment that is flexible and distributed. The flexibility became the key word in the e-learning system. Students become very flexible in choosing the time and place to study because they do not have to come in somewhere at a certain time. On the other hand, the lecturer can renew its learning materials anytime and from anywhere. In terms of content, the learning material can be made very flexible ranging from text-based lecture material to material that is loaded with multimedia components.

The quality of learning with e-learning was also very flexible or varied, which could be worse or better than face-to-face learning system (conventional). To get a good e-learning system is needed a good design as well. The distributed learning refers to learning in which teachers, students, and teaching materials situated in different locations, so that students can learn anytime and from anywhere they are. In designing e-Learning systems, we need to consider two things, namely the participants or students who become targets and the expected learning achievements. An understanding of the learners is very important, namely, among others, the expectations and their goals in a follow e- learning, the speed in accessing the Internet or a network, bandwidth limitations, the cost for Internet access, as well as background knowledge concerning the readiness of the following study. To understand the outcomes of learning required to determine the material scope, learning achievement assessment framework, as well as prior knowledge.

From the research of the KTP students, the readiness of PSB course participants in e-Learning are as below : 1). Quite adequate utilization of IT experience to follow e-Learning, but there was still 7% who did not have sufficient experience, 2). Accessibility of technology usage has a great achievement of 70%, but the rest of 30% is still limited in accessibility, 3). IT-based learning habits of students were adequate, but there were 14% of students that were not used to learn by utilizing IT, 4). Online learning preferences of students shows that 19% of students prefered the conventional way. From the results, it deserves to be utilized as a communication option that complements the traditional classroom, but still requires the consistently development, where it is visible on the side of the design that was quite feasible used but it was only in the good criteria (75%). In the aspect of media display, it's categorized as good (74%). Specifically from the aspect of media, the usage of images and videos that were relevant to support the presentation improved the quality of the web significantly (Pujiriyanto, 2010).

E-Learning application in the universities in Riau, Indonesia varied based on facility and supported policy in each university. In UIN Sultan Syarif Kasim Riau as a state university in Riau, e- learning had initiated with workshop and training provided to lecturers from 2010 to 2014, while in Universitas Islam Riau had started e-learning from 2015. In fact, there are still small number of lecturers that apply it in the process of learning. To encourage the achievement of the vision and mission of university and study programs, they should be formulated in the Strategic Plan of each university, therefore e-Learning and its implementation for the lecturers and students to face 4.0 Industrial Era are very urgent to be applied. Therefore this study is very interested to be done by the universities in Indonesia, especially in Riau.

2 LITERATURE REVIEWS

Yusuf (2005) explained that the education has been influenced by ICTs, that have undoubtedly given the effects on the teaching, learning, and research. Then Al-Ansari (2006) had the opinion which a lot of researches have proven the benefits to the education quality. ICTs provide the potential to innovate, accelerate, enrich, and deepen the skills, to motivate and engage the students, to help experiences of the schools to work practices, create economic viability for tomorrow's workers, as well as to strengthen teaching and helping schools change (Davis and Tearle, 1999; Lemke and Coughlin, 1998; cited by Yusuf, 2005). Then Jhurreev (2005) declared that so many has been declared and reported about the technology effects, especially computers, in education. In the first, the computers were used to teach computer programming but the development of the microprocessor in the early 1970s

saw the introduction of affordable microcomputers into schools at a rapid rate. The computers and applications of technology became more pervasive in society which led to a concern about the need for computing skills in everyday life.

New Media Consortium (2007) states that ICT gives an entirely new learning environment for students, thus requiring a different skill set to be the successfulness of critical thinking, research, and evaluation skills are growing in importance as students have increasing volumes of information from a variety of sources to sort through. ICT is changing teaching and learning processes by adding elements of vitality to learning environments including virtual environments for the 6 purposes. ICT is a potentially powerful tool for offering educational opportunities. It is difficult and maybe even impossible to imagine future learning environments that are not supported, in one way or another by ICT.

E-learning is learning that is structured with the aim of using electronic or computer system that can support the process of learning (Michael, 2013), while according Chandrawati (2010) e-Learning is a distance learning process by combining the principles of the learning process technology. Ardiansyah (2013) defines e-Learning as a learning system that is used as a tool for teaching and learning process is carried out without having to come face to face directly between teachers and students. According (Heinich et al., 2005), e- learning can often be done in a live, face-to-face teaching and learning is called blended or mixed (hybryd learning). Likewise, e-Learning is intended to complement online learning, not for conventional learning.

The characteristics of E-learning based on the opinion of Nursalam (2008: 135) are described as follows:

- To utilize the electronic technology service.
- To utilize the computer advantages (digital media and networks of computer)
- To use the teaching materials which is independent (self-learning materials) and then stored in the computer, so it can be accessed by the lecturers and students anytime and anywhere.
- To use the schedule of learning, curriculum, learning progress results, and all matters related to the education administration can be checked any time on the computer.

E-Learning in a broad sense can include the learning that are available in electronic media (internet) either formally or informally. E-Learning formally, for example learning with the curriculum, syllabus, subjects and tests that have been organized and prepared on a schedule agreed upon relevant parties (manager of e-Learning and learners themselves). The learning like these are usually high level interaction and required by the company to its employees or distance learning managed by universities and companies (usually consulting firms) which are usually engaged in the e-Learning provision to the public (Rahmasari and Rismiati, 2013).

According to Pranoto et al (2009: 309) that some of the benefits of learning E-learning can be described as follows:

- The e-learning utilization to support the implementation of the learning process can improve the students absorption on the material being taught.
- Increasing the active participation of students.
- Improving the self-learning ability of students.
- Improving the quality of teachers and training materials.
- To improve the ability to display information with information technology devices, where the devices are very difficult to implement.

While related to integrated e-learning, the study of Geoffrey Kituyi and Irene Tusubira (2013) concluded that the requirements for the integration of e-learning and other learning methods were identified as the use of projectors, mixing face-to-face and e-learning, harmonizing course content for elearning and face-to-face during design phase and incorporation of 3D pictures in face-to-face. In addition, the use of videos, audio tapes, guest lecturers, textbooks and other reading materials and training were also suggested as requirements for successful integration of e-learning. These findings agree with Kanovsky and Or-Bach (2001); Raja (2004; O'Neill et al, (2004).

3 METHODS

3.1 Location, Sample, Sampling Technique and Instruments

Research was done at the State Islamic University (UIN) of Sultan Syarif Kasim Riau and Universitas Islam Riau in 2018, Pekanbaru.

Data was collected with purposive sampling in both university. population was restricted to students who had been studying in this college at least for 2 year, so that they can provide objective opinions and

judgments and unreliable about the implementation of e-learning in learning processes.

The research instruments used in this study were Interviews, observations and documentations from the universities in Riau.

3.2 Research Steps

The steps performed in this study are as follows:

- Preparation: theoretical frameworks and research instruments
- Development: Design Development of integrated e-Learning
- Application of e-Learning: integrated e-Learning Application
- Model of integrated e-Learning based on interviews and observations.
- Conclusion: Summing up the findings of research

3.3 Data Analysis

The data was analyzed descriptively after the observations and interviews done. According to Agus Irianto (2004) that even descriptive research results are simple, but the user of this simplification can take the meaning of the data. The assumption that this would cast doubt not always true, because there is the possibility of the nature of existing data can only be analyzed descriptively.

Procedures of analysis began with the descriptions of e-learning implementations in both universities with their own characteristics. Then, the proposed model of integrated e-learning is submitted as the future model of integrated e-learning that can be applied in each university.

4 FINDINGS AND DISCUSSION

4.1 Research Findings

From all the descriptive statistical analysis obtained in the study, then the researcher subsequently provided conclusions and discussions related to the data that was generated. Discussion and conclusions obtained were followed or supported by the theories that have been constructed by the researchers associated with the discussion.

In addition to the existing theory, researcher also included some information or additional information obtained from the students or respondents' opinions about the role of higher education in general. The application of ICT through e-Learning at UIN Sultan Syarif Kasim Riau is done as follows:

- 1) E-learning UIN Suska Riau is implemented with integrated online learning paradigm using the LMS (Learning Management System) which is very well known "Moodle".
- The system of e-learning has been functioning as being expected and can be accessed via the URL: http://elearning.uin-suska.ac.id
- With e-learning system, the lecturers can manage the learning material, namely: preparing a syllabus for the course, uploading the learning material, assigning tasks to the student, the student receives a job, creating the tests / quizzes, providing students' scores, monitoring the activity of students, interacting with students and other lecturers through discussions in forums and chat and others. In addition, students can access information and learning materials, interact with students and lecturers, conducting transactions of lecturing assignments, taking tests / quizzes, and so forth.
- E-learning at UIN Sultan Syarif Kasim Riau is implemented by using LMS Moodle. LMS is a software for creating course materials on-line (web based), managing learning activities and results, facilitating interaction, communication, cooperation between lecturers and students.
- e-Learning with Google Classroom also has been developed by PTIPD UIN Sultan Syarif Kasim Riau to support learning processes with online base.

Moodle is an open source LMS which can be got freely through http://moodle.org. Moodle can easily be used to develop an e-learning system. The e-learning portal with Moodle can be modified as needed. Currently there are over 28 thousand e-learning sites in more than 186 countries developed with Moodle (http://moodle.org/sites/). Meanwhile, in Indonesia there are more than 157 sites developed with Moodle elearning included in UIN Sultan Syarif Kasim Riau.

The designed e-Learning in UIN Sultan Syarif Kasim Riau can be found as below :

Universitas Islam Riau (UIR) has been carrying out an E-Learning program since 2015, but has not been implemented effectively. E-Learning is a computer electronics that gets learning materials that are suitable for their needs and delivered teaching materials to students using internet media, or other computer network media.

Figure 1: E-Learning with Moodle in UIN Sultan Syarif Kasim Riau

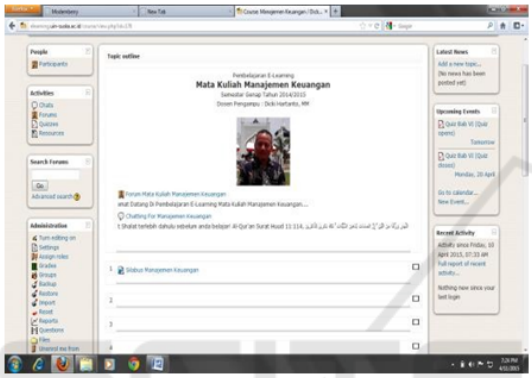

Figure 2: Implementation of e-Learning for all faculties in UIN Sultan Syarif Kasim Riau

The purpose of UIR is to implement E-Learning to improve the quality of lecturers in providing learning, making it easier for students to understand the material and assignments given by the lecturer because they have been informed from the beginning. So that the classroom atmosphere becomes more active.

E-learning implemented in Universitas Islam Riau with integrated online learning paradigm is described as below :

- Implementation was done by each faculty with various methods
- Lecturers and students must have an UIR email. UIR email can be registered at sikad.uir.ac.id on the email registration menu provided like edu.uir.ac.id for the lecturers and student.uir.ac.id for the students

E-Learning application is intended for all lecturers and all fields of study. For this reason, UIR needs to make various efforts so that this system can be implemented such as making internet shops so that students who do not have laptops can also take part in this program. ”By implementing this system, the lecturers in the class are only facilitators both theoretically and pragmatically. ”Field issues and empirical data can enrich students and lecturers in conducting discussions and there are still many obstacles faced such as lecturers who are still stuttering technology and students who do not have facilities such as laptops and UIRs themselves do not have large capacity servers to accommodate this system so that communication is smooth and not slow,” said Deputy Rector I UIR, Dr. Nurman, S.Sos, M.S (AKLaMASI on Friday 24/2/2017).

Figure 3: E-learning in FKIP UIR

Figure 4: E-learning in Psychology UIR

When interviewed about E-learning there were students who disagreed like Putri Royantika (Teaching and Education Faculty) and Nartiyani (Faculty of Economics) on the basic reason that the e-Learning system was complicated and difficult, while Desti Nur Anisa Sundari (Faculty of Communication Sciences) if e-learning is implemented it will make it easier to follow the fields of study provided by lecturers and more closely follow technological developments.

In recent years, UIN Sultan Syarif Kasim Riau has continued to promote the development of ICT in order to support the development of the quality of teaching, administration and finance in supporting

the effectiveness and efficiency of higher education in order to support the achievement of the vision and mission of UIN Sultan Syarif Kasim Riau, one of which is related to the development of technology.

As for efforts in improving the quality and academic services, UIN Sultan Syarif Kasim Riau issued several strategic policies such as the implementation of SIMAK (Academic Management Information System), KRS Online and Free Wifi for the academic community. Even in 2015, it was developed further of Integrated Systems of Iraise through the innovation conducted by Computer Center at UIN Sultan Syarif Kasim Riau. This was done in addition to the use of technology in support of academic and simplify the process of academic services, as well as to amend paradigna from a manual system to a digital system.

While in the field of teaching education, UIN develops special blog for lecturers and students, provides special e-mail for university such as: dicki.hartanto@uin-suska.ac.id, continues to develop e-learning, e-journal that can be accessed directly online, the alumni- online based tracking system, the manufacture of correspondence and other online. In 2015, LPPM is also as one of the institutions at UIN Sultan Syarif Kasim Riau that applied the registration process for research and community services with online system. From the use of ICT, it is expected in the next few years, both academic, financial and teaching began gradually shifting from the traditional one into the multimedia system.

4.2 Discussion

The below model is one integrated model that was proposed by Geoffrey Kituyi and Irene Tusubira (2013) that was divided into 3 phases as below :

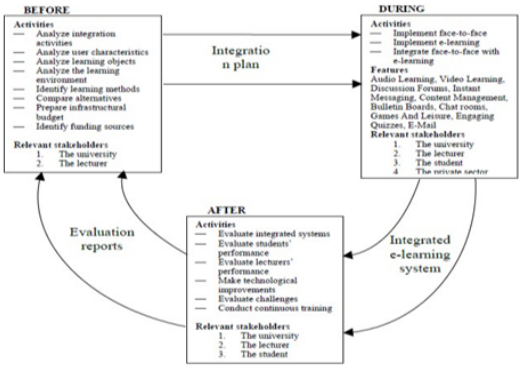

Figure 5: Integrated E-learning Framework by (Kituyi and Tusubira, 2013)

The application of e-learning in both university in Riau still varied and have different design, although they have some similarities like the implementation of e-mail for lectureres, stass and students. In learning process, UIN Sultan Syarif Kasim Riau has used e-learning with moodle, while in UIR has applied e-learning by using blogspot or any designed web in each faculty. In general, the implementation of e-learning in the universities in Riau is still very limited and not grow quickly.

The current implementations of e-learning can be explained as below :

- E-learning is applied in moodle and blogspot or paid web design.
- E-learning is not managed properly by both universities
- Methods of e-learning implementation in both universities are not clear.
- There are no particular policies from universities to implement e-learning.
- Limited training and workshops are done to support e-learning application in the university.

Therefore, the integrated design in e-learning in the university is proposed to be implemented in both university that become the sample of this study.

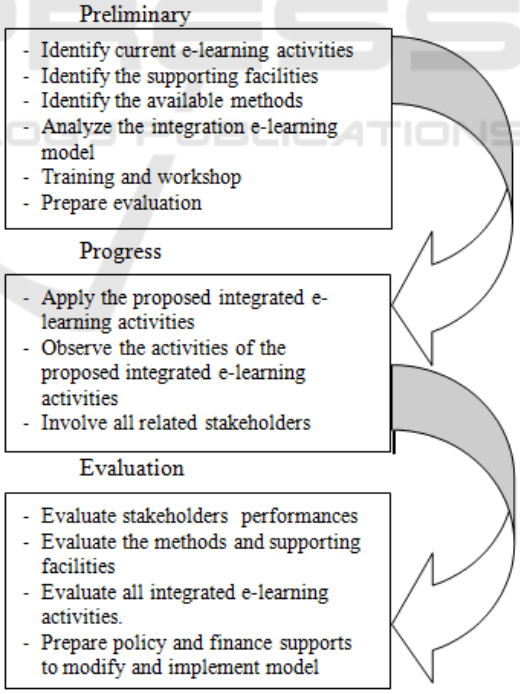

Figure 6: Proposed Integrated E-learning Model (Yuliani and Hartanto, 2019)

To support the e-learning integration, the facilities and methods required were identified like projection equipment as infocus; implementation of e-learning

methods to teach online and direct learning method to administer the tests and exams; course content harmonization for e-learning and direct learning method during design phase; incorporation of 3D pictures, audio and videos in classrooms among others, integration traditional methods with update social media implementation like Whatssup, Line, Facebook, Instagram and others online methods like website or blogs that can be freely done.

From the observations and interviews, some respondents' opinions of students about e-Learning-based are summarized as follows: 1) To provide appropriate materials with integration, 2) To offer more various learning, 4) To announce information about activities in university, 5) To integrate e-learning in learning processes 6) To add words and video of motivation, 7) Each material should be attributed to applied context.

5 CONCLUSIONS

This study concluded that the e-Learning implementation in both universities seems limited and need to develop the alternative model by the supports of university management. Some efforts to improve the e-learning as below: 1) To provide appropriate materials in the e- learning, 2) To offer more variations in e-learning, 3) To add more attractive images, 4) To integrate the e-learning in learning processes 5) To announce information about activities in the university, 6) To add words and video of motivation, 7) Each material should be attributed to applied context. The integrated design of e-learning in the university is proposed to be implemented in both university with the steps of integrated e-learning that can be divided into 3 steps as below: 1) Preliminary 2) Progress and 3) Evaluation. In supporting the e- learning integration, the facilities and methods required were identified. Then, it is recommended to conduct next study on the e-Learning implementation based on integration by each university and lecturers. Then, the design of e-Learning should be updated frequently to improve the learning processes.

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