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Exploring the online learning response to predict students' satisfaction

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Abstract. Online learning is carried out as an effort to utilize information technology available in higher education institutions in anticipation of changes in the educational environment. Using appropriate technology in learning management is believed to be a drive to improve learning performance particularly in literary learning. This study aims to reveal and describe the implementation of online learning. The data was obtained based on student responses. The results of this study will be the basis for improving online learning management. This research is a qualitative descriptive study involving 42 students as respondents. There are 9 questions to determine students' understanding and perception. The data in this research are processed qualitatively using the concept of Affinity diagram and Pareto diagram. From these diagrams, interpretation can be made by referring to the results of other researchers and relevant theories. The results of this study reveal that the main inhibiting factors in implementing online learning are the level of access to the internet, the low flexibility of the assignments submission deadline, ineffective feedback to students, and unclear instructions. In the LMS (Learning Management Systems) display, students find it is less attractive (the selection of appropriate themes of the display). However, with the online learning, the students felt that it potentially eases them in obtaining content and sending assignments/learning projects, and gives the flexibility of study time.

1. Introduction

Online learning is carried out as an effort to develop available information technology in higher education institutions in anticipation of changes in the educational environment. Besides, online learning is carried out to facilitate learners who have better literacy of information technology than the previous generation. Specifically, online education has been a significant contribution to the university education. In the context of higher education, in the implementation of online learning it is very important to look into the various diversity groups and potential learners in providing various options and understanding for better engagement. Consequently, this requires the availability of various

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flexible delivery modes to ensure opportunities and accessibility for them to continue their education effectively [1]. Nowadays, cyberspace becomes a comfort zone for students. Reference [2] have proven that students as millennial generations prefer online learning because they are close to online activities in their daily life. Therefore, the appropriate utilization of information technology is needed to meet the goal of education and effectively assist students in achieving the learning objectives.

Opportunities and advantages that could be taken involving technological developments in education, especially in the online learning process, are students becoming more comfortable with various interactions that sometimes cannot be implemented during face-to-face learning. The flexibility of time and space in online learning enables the lecturer and student to manage time better and achieve the best results. With various features in the learning management system, it allows students to access knowledge from various sources. Reference [3] postulated other advantages of online learning are enhancing communication between learners and lectures, cost effective, convenience and accessible in terms of time and place. Some students may feel more comfortable during online lectures or discussions. Involvement of students who may be passive in class in the discussion board may illustrate the online teaching potentiality for their better engagement.

Online learning is something that cannot be avoided in this technological era. Aninformation technology tool that can be used for online learning is blog. A study concluded that blogging has the potential to be a transformational technology for an online learning process [4]. An interesting finding in the success of online learning is about the generative neural, end-to-end, neural conversational model for open-domain dialogue with unique combinations and showing relevant interesting semantic responses that can be used as as train personas with mood and style of conversation [5].

However, the implementation of online learning must still meet the principles of pedagogy. Therefore, educators and educational institutions need to regulate the continuity of interaction among students. The online learning process has consequently changed the interaction process in a short time hence appropriate efforts are required [6],[7]. A similar idea also explained in Reference [8] study that online learning has led many parties to submit various problems and questions involving social presence, cognitive and learning, coding requirements, and validity. Likewise those questions and problems are interesting to be documented to provide appropriate solutions and constructive ways to overcome the problems. Reference [9] also commented that online learning can be pursued by creating an effective learning model, for example in MOOCs students must be active in SLR so that learning can show positive interventions that affect the implementation of learning by students. An interesting to note is that there is a relationship between the satisfaction of values obtained by students in online learning and its sustainability [10].

In connection with the demands of solutions to these problems, blended learning is considered to have challenges and other needs in its implementation. Reference [11] stated in his research that mixed learning programs are a challenging because instructors and students switch between different media, which requires a lot of adaptabilities and increases the need for social presence. Furthermore, other researchers who study online learning have also agreed that support in the implementation of online learning is needed. This study reiterates the importance of building a multicultural presence in online learning and suggests the best pedagogical methods for teaching minority students in online learning [12]. Another interesting activity that also needs to be created in online learning is an online discussion that is expected to provide thinking skills for students, from social interaction to metacognition activities to achieve the meaning of the learning process [13]. As mentioned earlier, the effectiveness of online learning is determined by various factors. One of the factors issocial presence which opportunity is mediated by online learning to ensure communication that occurs among students. Consequently, they contribute to students' satisfaction. in short, the presence of educators, and the presence of others are key for online learning success [7],[14],[15].

In connection with the implementation of online learning, various research results have shown comparative studies of conventional and online learning which include the areas of various obstacles and solutions to online learning. One type of learning model that is considered effective in conventional learning is collaborative learning. This Learning Model has also proven to be effectively

implemented in online learning with substantially different applications [16]. Other research on the application of online learning concludes that educators and students need to be equipped with technical skills to be able to utilize technology properly. Besides, more studies are also needed to explore the attitudes of educators and students towards online learning [17]. Reference [18] conducted a comparative study between students with variations in-class exchange and those who did not exchange classes. The result of the study indicated that there a small positive effect on learning outcomes, but no effect is found on student satisfaction regarding the learning environment [18]. Therefore, creative efforts in online learning are necessary for educators in creating a comfortable learning environment both online and face-to-face learning.

The implementation of online learning cannot be separated from the perception of both educational institutions and educators as the key to the online learning system. Both are important parts of aligning goals to achieve a fun and meaningful learning. A study indicated that educators acquire positive impact on online learning due to the flexible schedules and professional development opportunities. However, to achieve satisfaction in implementing online learning, it is necessary to review whether educators have professionally implemented online learning, and how faculty perceptions are in mastering LMS and other devices [19]. Also, other studies that discuss success in online learning emphasize the need for a framework that contains guidelines for researchers and academics when exploring the involvement of online learning both conceptually and practically in research so that forms of online participation can be identified [20]. Reference [21] concluded that it is necessary to review the latest literature and changes in the behavior of students and educational institutions in the implementation of online learning continuously so that a cohesive education is formed. As part of the concern for online learning, evaluation of the social presence, and development of more valid social attendance measurement tools is needed [22].

Student characteristics are one of the important aspects of the implementation of learning and also become the basis in choosing menus used in online learning, especially in the use of Moodle applications. Moodle is an LMS has more complete features compared to various other LMS. However, this completeness sometimes becomes an obstacle in learning management because the lecturer must have the skills to use this application by the learning design. Some of the main features used in this study include uploading files and assignments. Types of learning content are provided in various formats (DOC, PDF, PPT, MP4) and sources (uploaded files, links). This variation is provided to ensure students have an interest in learning. Regarding the effectiveness of the LMS Mooddle, Reference [23] highlighted the success of online learning with Moodle to determine students' satisfaction was also achieved. Following this learning objective, the expected effect is students to be able to write scientific papers in the form of studies of two literary texts. In the achievement towards this goal, students need good reading skills. In the LMS, lecturers provide a variety of primary reading sources in relevant scientific journals related to their studies. With the learning situation, this study aims to uncover and describe the implementation of online learning based on student responses. The results of this study will be the basis for improving online learning management.

2. Methods
Setting
This research was conducted on Indonesian Language and Literature Education Department in Comparative Literature class at Private Universities in Yogyakarta, Indonesia. Forty-two students were involved in this class. The teaching-learning process was done by using Moodle as a learning management system. The main objective of this class is students can conduct a comparative study of literary texts using an intertextual approach.

Design
This research is a qualitative descriptive study. There are 9 questions are consisting of three open questions and six closed questions to determine students' understanding and perceptions. Open questions are used to obtain a more detailed explanation of closed questions. The data in this research are processed qualitatively using the concept of Affinity diagrams and Pareto diagrams. From those

diagrams, interpretation can be made by referring to the results of other researchers and relevant theories.

3. Result and Discussion

The Implementation of e-learning

On the e-learning, the subject of Comparative literary is equipped with opening sentences and a video of introductory as an illustration for students who will attend lectures (see Figure 1).
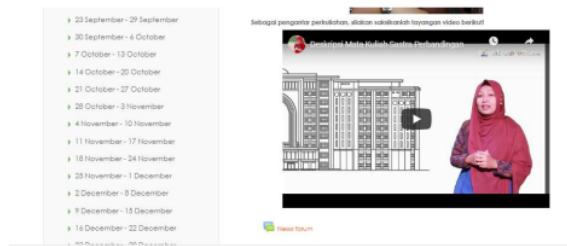

Figure 1. Video of introductory on LMS

Comparative Literature Learning utilizes e-learning to support lectures in various objectives; first, to provide teaching materials so that they can be easily accessed by students; second, replacing face-to-face lectures with certain activities that have been directed; third, as a means to collect lecture assignments so that students do not need to collect in the printed version.
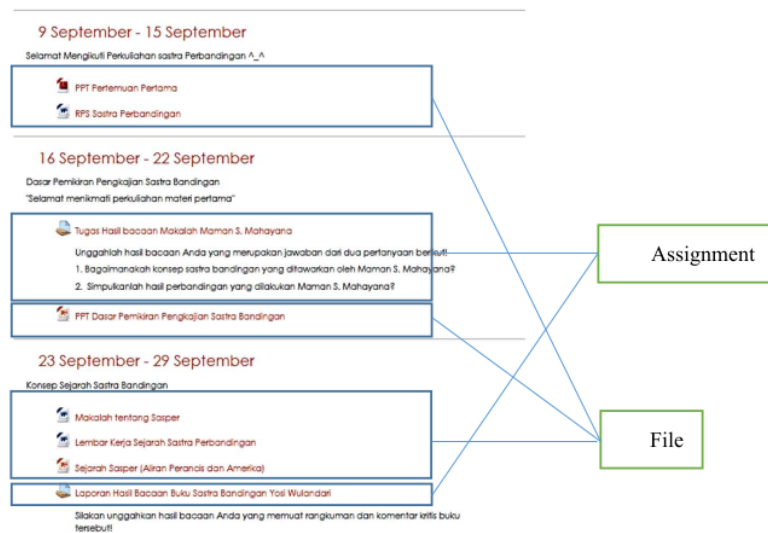

Figure 2. Weekly learning activities

In Figure 2, online learning is conducted at the second meeting (16-22 Sept) and the third (23-29 Sept) with various activities. The main activities of students are reading and reporting the results of their reading. Thus, the features used are for their fileand Assignment.

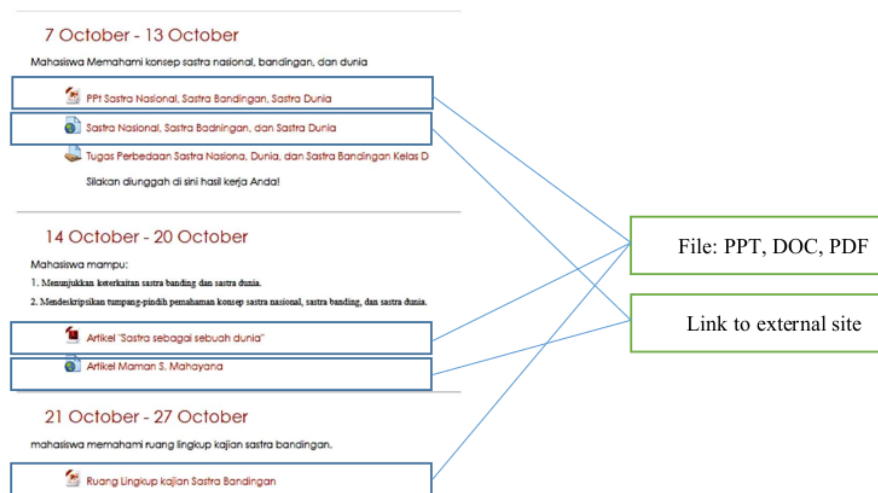In this Moodle, various types of teaching materials have also been provided (see figure 3).

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**Figure 3**. Various learning sources in online learning

In this meeting, lecturers have tried to facilitate the students with various learning resources so that learning objectives are achieved. Variation in learning resources is expected to foster interest and meet student learning needs. With the availability of learning resources on the internet freely (Open Educational Resources), learning achievements are more likely to be achieved. The use of this concept learning refers to the concept developed by UNESCO. Open Educational Resources (OER) are teaching, learning and research materials in any medium - digital or otherwise - that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions. The results of studies have shown that the use of OER has been able to effectively improve student achievement.

Several indicators show that problem solving, quality, and affordability of education are the three biggest challenges for higher education today. This indicator determines the learning success and student success. The results of large-scale studies of impacts (OER) show that OER improves student achievement [24]. Several studies have shown the use of OER could improve student learning performance [25], higher graduation rates [26], or lower failure and withdrawal rates [25].

The understanding of e-learning

E-learning is part of the new dynamic that characterizes educational systems started in the 21st century. In the society, the concept of e-learning is subject to constant change. In addition, it is difficult to come up with a single definition of e-learning that would be accepted by the majority of the scientific community. The different understandings of e-learning are conditioned by particular professional approaches and interests. To uncover the success of online learning, researchers made several concise questions and distributed them to students through the LMS. There are some important findings obtained from student responses. This data is processed by grouping similar responses to new factors with affinity techniques. Next, the frequency of each factor is calculated and sorted from highest to least (Pareto technique).

From the data obtained, the majority of students (39 of 42) expressed an understanding of e-learning, However, after being given in-depth questions, the respondents' answers not all refer to the formal definition of e-learning. Figure 4 shows the shared opinions of students about e-learning.
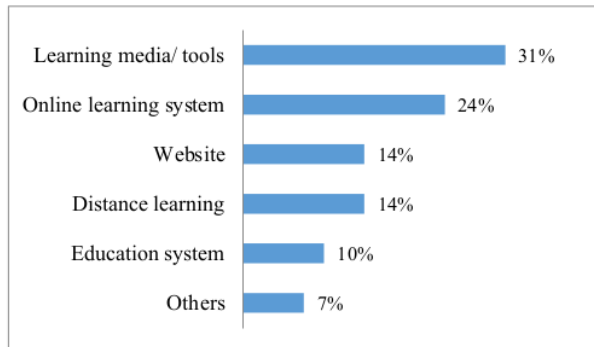
Figure 4. Students' response on e-learning definition

Based on Figure 4, it can be seen the number of students in each response classification. Students who state that e-learning is a media or application to facilitate learning (13), online learning systems (10), distance learning (6), websites for sending and downloading material/assignments (6), education systems (4)), and Others (3). Some of their responses to the concept of e-learning are as follows:

Student 1: "E-learning is a page for sending assignments or retrieving files used for online-based lessons".

Student 2: "E-learning is a tool/application used as a medium to facilitate the learning process".

Student 3: "E-learning is a page for sending assignments or for retrieving files used for online-based lessons".

Responses are obtained after students who took part in online learning with Moodle. By combining these various perspectives, in general, students are relatively able to understand the concept of e-learning, given that there is no specific definition of e-learning. The definition of e-learning is very dependent on one's background [27]. After the analysis of the contributions of the participating experts, the research arrived at the general conclusion that e-learning is part of the new dynamic that characterises educational systems in the 21st-century. The results are based from the , the merge of different disciplines, such as computer science, communication technology, and pedagogy, since all the collected definitions contained characteristics of more than one discipline. Consequently, the concept of e-learning can be expected to continue to evolve for a long time. In today's world, learning needs change very quickly and the concept and functions of e-learning must continuously be adapted to these needs.

The Learning Benefit

In comparison with the face to face learning, students' perspective on the implementation of e-learning is much easier especially for Comparative Literature course. The facilities are assessing materials, distribution of tasks and lecture information. The students' views as per in Figure 5.
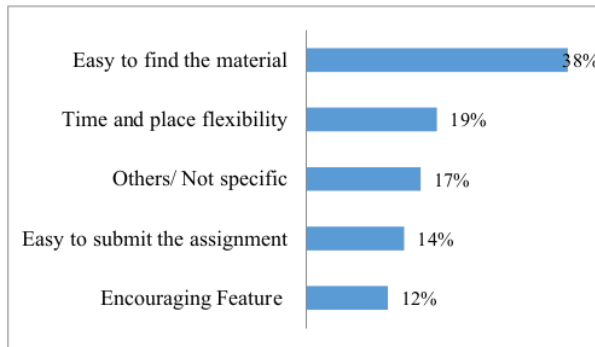
Figure 5. The response about the benefit of e-learning

Based on Figure 5 it can be seen that there are four classifications of aspects from the benefits of e-learning that was expressed by the students. The number of students who find that it easy to find learning material(16), flexibility in place and time (8), easy to submit their assignments (6), get motivated because of its features (5), Other/ Not specific (7). the statement "Other/Not specific" is a statement that cannot be immediately understood, for example: "very helpful in lectures", "the use of e-learning has not been fully used in every course", or "good". Some student responses about the benefits of e-learning are as follows:

Student 4: "E-learning is a website for sending assignment or downloading files used for online learning".

Student 5: "I like the use of e-learning because it eases students to access the material of comparative literature course".

Student 6: "The use of e-learning in comparative literary courses makes it easier for students to learn because learning material is available in e-learning, in addition to the existence of e-learning that makes it easy for students to submit assignments".

Student 7: "E-learning facilitates students to send assignments online and eases the students to study without the need for class or face-to-face meeting".

The Obstacles during the implementation of e-learning

In general, the student's obstacles when participating in online learning is the accessibility of internet networks or internet data. These problems commonly occur when students access e-learning outside the campus environment. Other obstacles are the supporting devices owned by the students (gadgets, laptops), and students' knowledge and skills in using the devices. However, there are also students who have no difficulty at all. In general, the information on the students' obstacles in e-learning can be seen in Figure 6.
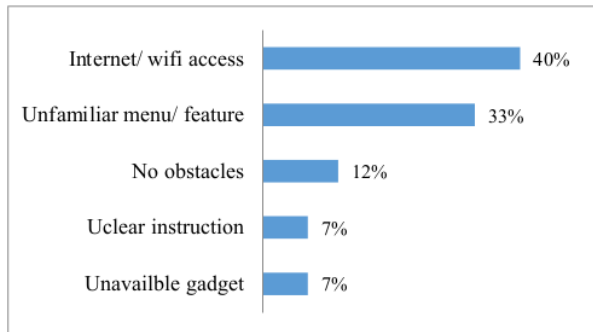
Figure 6. The Obstacles of the student during e-learning

The Expected Improvement

Various researchers have reviewed that online learning not only requires cognitive presence but also social presence [11],[15]. With the existence of a different learning environment today, the ability of lecturers in managing online learning including technological literacy is very important. Additionally, supporting facilities and student readiness greatly influences the implementation of good online learning [3],[19]. From the open-ended questions that are shared with the students, there are some hopes for improving online learning. Namely, Provision of stable networks and servers, e-learning displays the need to be adapted to student psychology, Deadline notifications for gathering assignments with providing notification, Provide feedback on assignments and lecturer responses to student comments for improved understanding, Increase socialization and training regarding e-learning operation features, and Limits for assignment collection to be more flexible for optimum results. The results in the percentage are shown in Figure 7.
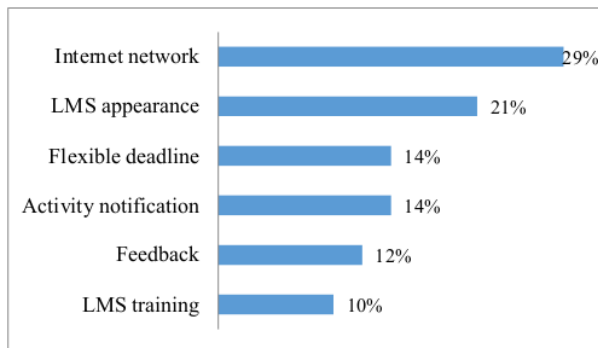

Figure 7. The student's hope for the improvement of e-learning

4. Conclusion

Online learning is a potential alternative in literary learning. Several factors drive and hinder the success of online learning. Although the availability of internet networks in Indonesia is good, the main complaint from students is on internet accessibility. This problem is an input for higher education managers to increase the bandwidth ratio of each student. Aspects that are important to be considered to improve the learning interactions are the flexibility of assignment deadlines, student work feedback, and clarity of instruction. Students consider the LMS screen display to be less attractive therefore, the layout management or more appropriate theme selection is needed., Online learning also has the potential in terms of the easein getting relevant content to the course, the

flexibility of study time, and the ease of sending assignments/ learning projects. Lecturers can use these results to improve online learning.

Acknowledgement

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