Analysis Learning Management System in vocational education

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Abstract The development of e-learning is developing because of the demands of learning methods that require innovation in improving learning, so that students are not bored and not monotonous in the learning process. Therefore it is applied or the emergence of various learning systems based on e-learning which is one of the learning models that supports learning based with information technology (IT). The purpose of this study is to analyse and compare several Learning Management Systems (LMS) in the scope of vocational education. LMS is a software application for online activities, electronic learning programs (e-learning programs) and training content. With the advent of various e-learning systems one of them is LMS. Learning Management System is expected to make students more independent, creative and facilitate the implementation of learning that can be done anywhere and anytime. In addition, online learning also makes it easy to control student assignments. LMS has the scope of administration, delivery of material, assessment, monitoring, and communication. Materials in pedagogic and professional competencies, which are made with multimedia packaging (text, animation, video, sound) in the LMS will accelerate mastery of science and technology.

1. Introduction
Competencies that must be possessed by humans are called superior, among others: HR who are able to think creatively, be productive, be able to make the right decisions, able to solve problems, be able to learn how to learn, be able to collaborate, and be able to self-manage [1]. As a solution to the problem, educators in particular must be able to carry out the process of learning activities that can facilitate their students to have learning independence. This means that the teacher or lecturer should design a learning that can make students become independent in learning (Brazilian empirical study).

The e-learning system in learning is implemented by distributing learning material through electronic media or the internet, so that the teacher or lecturer can transfer knowledge and learning styles. An institution uses LMS to complement face-to-face learning where each tertiary institution organizing learning develops and shares digital learning material via the Internet. In this case, LMS is used as an electronic repository of learning material [2].

E-learning innovation is a new learning model or system in education which provides a large role and function for the world of education. Weaknesses and weaknesses of conventional education (education in general) include limited space and time in the conventional education process [3]. Learning Management System (LMS) method is software that is used for activities in the network, or electronic and online learning programs (e-learning), containing learning materials and training conducted online. By facilitating students in the online learning process anywhere and anytime.
LMS can be called a software or software for administration, documentation, material search, report an activity, providing training materials for teaching and learning activities online that are connected to the internet [4]. LMS is used to create web-based online learning materials and manage learning activities and their results. This LMS is often called the e-learning platform or learning content management system (LCMS). The point is LMS is an application that automates and virtualizes the learning process electronically [5]. The results showed that online learning activities had higher participation rates compared to conventional classes [6].

2. Methods

Literature review is identified by browsing the Web of Science database, followed by Scopus by entering the keywords "Learning Management system", "E-Learning" and "Vocational school". As a result, as many as 40 articles in the last 5 years with vulnerable time between 2016 and 2020. Of the 40 articles in can then be read, analyzed and coded using a spreadsheet program.

2.1. Coding schema

The coding scheme is adapted from a structured / systemic approach to the literature review. The approach uses four main categories in analyzing articles, namely the following: (a) Basic data: author, year of publication, journals, place of study, (b) Research methods: research approaches, methods, themes, data collection, analytical methods, research results. (c) Content analysis: Learning management systems, e-learning, vocational schools, content areas and pathways designed (ie, how researchers / educators prepare independent learning methods for students (d) Discussion: issues discussed, future instructions, personal comments.

Table 1. Research coding schemes.

| Basic Data | Research Methods | Analysis of Content | Discussion |
|------------|------------------|---------------------|------------|
| A multitude of modes :: considering 'blended learning' in context | Literature review on recent research results analyzing considering 'blended learning' | The main findings indicate that these results have been thrown into the question whether 'face-to-face' mode truly exists at Birkbeck any more |

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Table 1 shows how the research coding schemes carried out in this study, which starts with searching for basic data, research methods, content analysis and discussion.

3. Results and discussion

Learning management system is made through various stages. These stages are designing the system design, coding and installation on the hosting server. The initial stages in making this LMS are designing system design including template, database and algorithm design [7]. One of the drawbacks of the Learning Management system is that not all places have good and stable internet access, but students actually respond positively related to the use of LMS in learning, even though some students can only access LMS at school [8].

Based on the results of research on the aspects of use, it can be concluded that this Learning management system can be used as an alternative learning class with the condition of the use of training so that teachers and students can use LMS properly. Students need training before using e-learning to develop independent learning skills [9,10].
The design of the Learning Management System (LMS) model is: (1) LMS is a tool or assistance to help teachers and students in the learning process. (2) The learning process of LMS allows teachers and students to carry out teaching and learning processes without being limited by space, and time. (3) Even though the presence of LMS does not mean that it will erase the teaching and learning process in the classroom, because the author considers that the process is still the best process for delivering learning material [11,12].

Some researchers propose various approaches and criteria for evaluating LMS platforms based on their application and use in the learning process, one of the first studies is related to evaluating the quality of e-learning platforms. The learning environment can be conceptualized by four different components, each of which is embedded with different perspectives on quality: 1) Students, 2) Learning Environment, 3) Objectives and Intentions, 4) Topics and Content Å [13,14].

LMS users can be classified into three categories namely: 1) Students who use the system to participate through distance (in place and / or time) for the education process. In fact, students are the main users of LMS, feeling that this system is being developed to meet some of their needs and solve their problems. 2) Instructors, become teachers and their teacher assistants who use the system to train, supervise, assist, and evaluate students (eg notify important issues about electronic notice boards, engage in electronic discussions to communicate and exchange private messages with students, collect scores, and return results shipments, etc.) 3) The system administrator, who performs support from all other users of the system and maintains the proper operational status.

4. Conclusion

The use of LMS technology aspects or Learning Management System mainly is students. Learners must be independent at a certain time and be responsible for their learning. The learning atmosphere by using this LMS requires students to play a more active role in their learning. Despite significant progress in software development and a relatively long period of use of e-learning systems, they still do not meet all the criteria for LMS, even though their authors define it as e-learning systems. Characteristics. The Management System is expected to make students more independent, creative and facilitate the implementation of learning that can be done anywhere and anytime. In addition, online learning also makes it easy to control student assignments. LMS has the scope of administration, delivery of material, assessment, monitoring, and communication. Materials in pedagogic and professional competencies, which are made with multimedia packaging (text, animation, video, sound) in the LMS will accelerate (accelerate) mastery of science and technology.

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