Digital Learning Innovation Through Learning Management System (LMS) for Paket C at PKBM: Preliminary Research

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Abstract
This research aims to identify various needs from the point of view of pro-spective students studying package C (Paket C) regarding a technology-based learning platform in the Learning Management System (LMS) format. This research is a preliminary that uses a quantitative descriptive design approach. The research sample consisted of 35 people who included students or resi-dents studying package C. Data collection techniques used questionnaires and were analyzed on a percentage basis. The findings in this research indi-cate that students have a positive view of the presence of LMS to facilitate their learning. According to him, the presence of the LMS will be able to make learning more flexible in terms of time, they can still work and be ac-tive but on the other hand they can also continue to attend lessons whose material they can access at the LMS. In the context of learning package C, this research has the potential to provide a strong basis for the development of further learning innovations. By utilizing LMS technology, related parties can design learning approaches that are more effective, inclusive, and re-sponsive to students' needs and learning styles. It is hoped that through this research it can become the basis for the development of a learning innova-tion for package C learning residents.
Keywords: *Digital Materials , Learning Citizens, Learning Management System , Package C*

INTRODUCTION

It cannot be denied that the development of information requires people to have more complex knowledge (Acun & Karabulut, 2012). The Internet and the World Wide Web have had a major impact on ICT use (Lim et al., 2020). Apostolou (Apostolou, 2020) says that only when educators are properly trained in the use of ICT can we talk about the potential use of ICT in education. Educational innovation is important for prosperity, competitiveness, and ICT integration (Vanderlinde et al., 2014). There are many reasons to accept that a whole direction of modern culture has been created and continues to rapidly develop, aimed at the development and integration of ICTs in all areas of human activity (Qaddumi et al., 2021),(Shoraevna et al., 2021). There has been much discussion about the use of ICT in supporting student education. A group of technologies that enable users to dynamically create, publish, and share knowledge through collaboration and communication, one of which is packaged into an online learning format in the form of a Learning Management System or LMS (Juhary, 2014),(Mershad & Wakim, 2018). Many studies have shown that teachers really want to learn about this technology and use it in their teaching, especially when learning has shifted its paradigm from teacher-centered to student-centered during the Covid-19 pandemic yesterday (Thach et al., 2021),(Rakhmetov et al., 2022). Findings from past research indicate that students' perceptions of the effective application of ICT are prevalent in teaching mathematics, reading, and science.

We have hardly found teaching processes in the digital era that are teacher-centered, namely through the direct transfer of knowledge, norms, and behavior from adults to adolescents, from parents to children, from teachers to adolescents (Singh, 2016). In order to improve their teaching process, teachers and students have used many technology-assisted tools to complement their teaching and learning process (Surahman, 2019). A series of activities and a systematic approach that provides conditions for the development of adequate abilities to objectify knowledge in real-life situations, as well as in solving problems in practice, is called functional literacy (Gustina & Wibowo, 2020). Viewed in the context of contemporary educational goals, functional literacy is directly depended on the informatization of the educational environment. Due to its combination of dynamics, interaction and programming, the computer is the preferred communication tool in modern human life. This characteristic nominates them as an effective learning tool to accompany the educational process at all stages and levels.

In Indonesia the application of digital technology learning is still relatively new. Nonetheless, this innovation is predicted to further develop in the future, due to the massive speed and development of technology, so that the education system must be able to adapt to it (Ilin, 2022). Referring to technological developments and their usefulness in application in the field of education, learning management systems, also known as LMS, have enormous opportunities to be implemented. Research conducted by (Akhmalia et al., 2018) shows that the use of LMS can in fact increase students' understanding of the material being taught, besides that the use of LMS in the application of learning is also flexible and can be integrated with innovative learning models. Another research by (Juhary, 2014) who in his research concluded that LMS can be a learning platform to track and see the development of student learning processes, and be able to see how students are involved in online learning. Therefore, students tend to agree with the use of LMS for facilitate them in learning. However, it should be noted that the use of LMS can be optimal if students are familiar with technology and have good ICT literacy (Pretorius & van Biljon, 2010).

LMS availability can be commercial for a price or no cost or open source. An open source LMS means that the software is open to the public; source code modification and improvement is possible to meet the needs (Mohd Kasim & Khalid, 2016). Despite the complexity, risk and cost, the use of LMS is growing among

students. This certainly proves that the opportunities for implementing LMS are still wide open and very large, especially in the education sector. It should be noted that LMS carries at least six elements of attraction, namely providing facilities to increase teaching efficiency to deliver large-scale resource-based learning programs, enriching students' knowledge, LMS fulfilling students' expectations where they become more facilitated in their learning process, and includes technology. sophisticated (Bervell et al., 2020),(Christensen, 2002). However, the activity of creating an LMS must go through a needed identification and analysis step. Therefore, this paper aims to provide an overview of the needs and views of students regarding learning management systems to increase understanding of a material, which means being able to answer research questions, namely: what are the needs of students in studying learning material using a learning management system?

METHODS

This research is the initial stage of a series of research to create an educational product or program. The research will be carried out using a descriptive quantitative approach (Salim, 2019). The number of research subjects who participated in this study were 35 students who were in Package C or upper secondary education or equivalent in Bojonegoro. The data collection technique uses a non-test technique, namely a needs analysis questionnaire (Fadli, 2021), the instrument used is a questionnaire. The data analysis technique adopted in this research uses a quantitative descriptive technique with percentages which are then interpreted in the form of tables or graphs and descriptions (Maisarah, 2019). The data validity technique in this study uses an internal validity technique, which measures the validity of the data by referring to conformity with reality (Oducado, 2021). Considering that this research only focuses on students' perceptions of opportunities for the development of a learning management system (LMS), the questionnaire used adopted several studies from (Roemintoyo & Budiarto, 2021),(Alturki et al., 2016) with the focus of the questions is related to the use of online learning platforms, as well as students' perceptions of the development and use of learning management systems (LMS) as learning media. In addition, the results of the needs analysis are taken into consideration in developing learning products or programs through the LMS.

RESULTS AND DISCUSSIONS

This study aims to be able to answer the formulation of the research problem, namely identifying students' needs in learning activities facilitated by a learning management system. Based on the results of the student questionnaire, it was found that students were not happy with the learning process that was currently taking place, this was due to the busyness of the students who tended to be working or helping their parents sell, plus the subject matter also had no digital format. Students stated that if textbooks were media that were often used for the learning process, this textbook would of course be in a printed version. Besides that, the teachers also sometimes provide additional modules which are also still in print format. Even though sometimes the material provided by the teacher also includes a website link or learning video link, it's just that the teacher sends it in the WhatsApp group which is then piled up with the latest messages or information, causing students to find it difficult to find the video link or learning website link again. The results of student responses are summarized in table 1 below.

Table 1. Media for Delivering Lesson Material

Type Media	F (N=35)	Persentase (%)
Textbook	12	34,3%
Print module	11	31,4%
Electronic module	9	25,7%
Learning video links	3	8,6%
Type Media	F (N=35)	Persentase (%)

The next question is to identify students' understanding of the existence of a learning management system and its use. It was identified from this question that students tend to have knowledge about technology, so when they are given a brief description of a learning management system for learning, they immediately want it and assume that the presence of a learning management system as an application and learning platform will be able to help them learn the material. , actively discuss, and access materials in various digital formats. The following is a recapitulation of student responses regarding their views on learning management systems (LMS).

Table 2. Students' views of LMS

Questions / Statements	Answer (%)	
	Yes	No
Do you know the Learning Management System (LMS)?	89,2%	10,8%
LMS will make it easy for me to learn the material?	77,6%	22,4%
The presence of the LMS will later provide access to material that is not limited, and can be accessed at any time	95,4%	4,6%
With the LMS, later I can get subject matter in digital format	96,7%	3,3%

Referring to the student responses in table 2, it can be seen that students tend to agree with the presence of the LMS as a learning platform, this is because the students whose conditions are mostly while doing other jobs, or entrepreneurship. So that face-to-face presence makes them have to sacrifice work or entrepreneurial activities to take part in learning. Therefore, most of them hope that the presence of LMS will be able to become a tool for them to study material and access information without being limited by space.

As is known, this research is a preliminary study that contains a needs analysis or identification of student needs. This research is certainly very important in order to know a field condition and the level of field needs for the presence of innovation in the form of a learning management system (LMS) for Package C learning in the Bojonegoro region. The findings of this research succeeded in showing that basically students tend to have difficulty carrying out continuous face-to-face learning, they expect there to be a combination of face-to-face meetings with discussions or assignments. Because they have quite a hard time dividing their time for education and entrepreneurship/work. LMS turned out to be one of the solutions to facilitate students' needs in accessing material and gaining access to education.

As it is known that in the digital era like today, technology, both smartphones and computers, has become an important part of education (Hadaya & Hanif, 2019),(Sari et al., 2021). Learning by utilizing the LMS will later be able to facilitate students to be able to study independently, and manage their learning time (Ghosh et al., 2021). With this LMS platform, the course materials also change from the printed version to the digital version, so that these digital course materials will later contain the characteristics of stand-alone, self-instruction, self-contained, adaptive and user friendly so that they can be accessed. by students at any time and is able to attract their attention to read or study it (Rugube & Govender, 2022). Learning will be meaningful if using varied teaching materials according to the characteristics of the material, with this LMS various types and formats of digital material can be a supplement and complement for students to enrich their knowledge.

We must understand that needs analysis is an important stage in the development of a Learning Management System (LMS) because it allows the developers and stakeholders involved to understand and identify the unique needs of the users that the system will serve (Mohd Kasim & Khalid, 2016). By conducting a comprehensive needs analysis, challenges and opportunities in learning that must be addressed by the LMS can be identified. In addition, the needs analysis also helps design appropriate LMS features and functions, focusing on learning quality, flexibility, and affordability (Rugube & Govender, 2022),(Baragash & Al-Samarraie, 2018). By understanding user needs and learning objectives in depth, developers can create an LMS that can increase the efficiency and effectiveness of the learning process, increase student engagement, and create a learning environment that is inclusive and responsive to technological developments and future learning demands (Pamungkas et al., 2020). As it is known that several previous studies stated that the use of e-learning with LMS was able to facilitate student learning optimally asynchronously and was able to improve student learning outcomes (Lam et al., 2020).

CONCLUSION

The results of this study succeeded in answering the formulation of the problem by providing a descriptive description of students' needs in order to optimize learning at the Package C level. Referring to the results of the research, it was identified that students tended to think that learning was not very enjoyable, they sacrificed a lot in order to obtain education, so they need a tool to accommodate access to education and entrepreneurship/job continuity, one tool that can accommodate that is a learning management system (LMS) as a learning platform to facilitate synchronous and asynchronous learning. Basically this research is an early stage research which still has limitations, therefore future researchers are expected to be able to design and develop a learning management system (LMS) for students at the Package C level so that it can then be implemented to facilitate learning. In addition, in future research, it is suggested that researchers can involve more participants from various backgrounds and levels of ability in package C learning. This will help gain a more comprehensive insight into students' needs and expectations of LMS. In addition, researchers are also

expected to conduct a thorough evaluation of the effectiveness and efficiency of the developed LMS in improving learning outcomes and learning experiences for students. By carrying out further research that is more in-depth and focuses on developing an efficient LMS, it is hoped that the implementation of this technology can significantly improve the quality of education for Package C level students and contribute positively to the progress of education as a whole.

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