

ANALYSIS OF LEARNING RESOURCE NEEDS OF *LEARNING* *MANAGEMENT SYSTEM* ON GEOGRAPHY SUBJECTS

Fitri Bugis

Jakarta State University (Indonesia)

Email: fitribugis147@gmail.com

Murti Kusuma Wirasti

Jakarta State University (Indonesia)

Email: urtikwirasti@gmail.com

Yuliani Nurani

Jakarta State University (Indonesia)

Email: yuliani.nurani@gmail.com

Corresponding authors: fitribugis147@gmail.com

Abstract. *The purpose of the study is to determine the student's need for learning resources by using Learning Management System (LMS) in geography subjects. The research method is quantitative with a research sample of class XI SMA N 3 OKU students who took geography subjects which were carried out with random sampling. The instruments used in this study were questionnaires and interviews, while the analysis method used Descriptive analytics. The tendency shows that presentations of 95% like online learning. The results of the questionnaire sources from the indicators of the need to pay attention to the 68.5% tendency of students that strongly agree and 31.5% agree if an LMS learning media was developed using Video. Besides the video, media of PPT and pdf documents also appear as options. Based on the results of this research, it can be concluded that it is necessary to develop LMS-based learning resources by combining more videos, then followed by PPT and pdf. Moreover, the assembling process must apply the science of piracy design which is not just uploading material.*

Kata kunci: *Learning Management System, Geography, Learning*

INTRODUCTION

A dynamic learning environment can be realized by utilizing technology in many fields. This is because computer technology and network infrastructure are already developed very well. Some developments in the learning environment have applied electronic media and information and communication technology in education (e-learning) [There are several types of e-learning applications based on the technology used, it is divided into technological bases, namely computer-based training (CBT), Learning management system (LMS), and WEB Z-based Elearning Applications (Novy Hidayati, 2010). Through this technology, it is very possible that techniques and methods in the

Received Sepeteber 07, 2022; Revised Oktober 2, 2022; Accepted November 22, 2022

*Corresponding author, e-mail fitribugis147@gmail.com

learning process and environment can better change. This is because e-learning can provide freedom for students with teachers or fellow students in interacting without the limited time and learning space. E-learning not only provides students with easy access to digital resources, especially in the 21st century, but also provides the challenges and needs of the impact of technological developments on human behavior and habits in using technology to communicate, interact, and learn.

The word *e-learning* means a type of learning based on information and communication technology (ICT). This way of learning makes it easier to create, adopt, and distribute content for a better purpose. Regardless of time or geographical limits, these allow learners to exchange opinions and information through ICT. In short, e-learning allows the learners to flexibly go through their educational process whenever they want, they can manage their own time, and access e-learning websites according to their effective learning time. The type of e-learning used in this study is the Learning management system which is used as a learning medium accessed through the Word Wide Web.

A learning management system (LMS) or also known as a *Virtual Learning Environment (VLE)* is learning management that has the function of providing material, supporting collaboration, assessing student performance, recording student data, and producing useful reports to maximize the effectiveness of learning (Yasar & Adiguzel, 2010). There are several examples of LMS platforms, such as *Google Classroom, Moodle, Quipper School, Kelase, Our Classroom and Smart School, Edmodo, Schoology, GeSchool, Learnboost, Medidu*, and others. There is an increasing interest in using Learning Management Systems supported by the internet, among educational institutions, students, and educators.

The concept of a Learning Management System can be considered a dynamic concept due to the constant evolution of digital technology, features, and potential, especially in the learning process. Web-based education systems are used by many universities, schools, and companies, not only to incorporate web technologies into their learning but also to complement their traditional face-to-face learning. The system collects large amounts of data that are useful for analyzing learning content and its use.

Learning Management System provides many special and unique features. Therefore, there are many opportunities to take advantage of, especially in the field of

education. Currently, the Learning Management System in the ICT-based teaching and learning process can be interpreted in three paradigms. First, ICT, as a tool or Learning Management System in the form of technology products that can be used as PBMs. Second, ICT as a content or Learning Management System as part of the material that can be used as the content of the teaching and learning process. Third, ICT as an application program or Learning Management System as a tool for the teaching and learning process effectively and efficiently (Munir, 2014).

The learning approaches and models contained in the 2013 curriculum require students to be able to learn independently. Besides, the learning process is no longer centered on educators (*teacher center*) but student-centered. Therefore, students are expected to play an active role during the learning process. The rapid development of technology and science demands the need for innovations in the world of education, various alternatives are needed to face the times that are increasingly developing towards modernization. Generally, at the high school level, the learning process in the classroom is less conducive due to the limited allocation of insufficient time from the online learning system to offline learning. Where the current learning which was originally 4x45 minutes became 2x45 minutes. This has an impact on not achieving the Minimum Grade Requirements (*KKM*) value in the learning process.

Geography is a very complex subject. The material object of geography is very wide (Holt-Jensen, 2003). This sometimes makes geographers (especially in Indonesia) trapped in the auxiliary science of geography and often intersects with other clumps of knowledge (Suharsono & Budi, 2006). This condition is exacerbated by the increasing tendency of specialization in geography which includes physical, social, and engineering geography. As a result, geography is no longer interpreted as a complete science. This condition makes this lesson seem to have no distinctive characteristics (Hadi Sabari Yunus, 2008).

In addition, in the context of geography education, the facts show that the conditions of geography learning in Indonesian schools starting from elementary to secondary level tend to memorize concepts (names of rivers, lakes, countries, capitals, etc.). This can be seen from the textbooks used by educators and students in learning dominated by facts/data (Ishak Furqan Aksa, 2019). The textbook does not direct learners to think critically and analytically. This makes geography learning that takes place in

schools unattractive to learners. This condition is different in some developed countries, for example in America where the geography curriculum has been designed to be life-based (Bednarz, 2011).

Geography subjects are integrated into information technology subjects with an appropriate learning duration of only one hour a week (*Kemendikbud*, 2014). Its approach still relies on meeting with educators in the classroom. From the interview results, the limited learning time in class and the lack of teaching materials for students to learn at home make educators feel that they are not optimal at teaching graphic design lessons. As for creating teaching materials, educators must learn other skills of making videos with sign language. It seems like educators need to ask others to make it as learning material. As a complement to student learning needs, learning material needs to be facilitated with appropriate technology (*Anggraeni et al.*, 2019).

Learning through Learning Management System in geography subjects shows that students have a very high level of understanding after using its product (*Aulia Arifka, Sumarmi*, 2021). In addition, using LMS has proven feasible and effective to help students improve their understanding (*Imam Widodo*, 2018). Besides, Learning Management System with a scientific approach shows the results that make learning easy to implement, practical, and effective (*SUSILOWATI2*, 2019).

Furthermore, researchers found that learning strategies with a scientific approach proved effective in learning geography subjects in the classroom. It is proved that the results of the implementation of scientific-based LMS can show practical, effective, and simple learning characteristics in its implementation (*Chatwattana, P & Nilsook*, 2017) which shows that a web-based learning system is a flexible teaching activity and learning management system and the learners can get efficient learning from the system. According to (*Rudyanto*, 2014), learning tools of learning models with a character-charged scientific approach can improve to be valid, practical, and effective for creative thinking. Meanwhile, (*Lonn, S., & Teasley*, 2019) stated that Learning Management System can be efficient in the learning process and students are enthusiastic about using it as a learning media. Thus, it can be concluded that the Learning Management System is one of the learning technologies that can be implemented in this study.

Research Methodology

This research is survey research to explore the need for online learning for students of SMA N 3 OKU. In this study, the samples of 34 students were carried out by random sampling. Data collection techniques in this study used questionnaires and interviews. The data collected was sourced from data on the perception of teachers and students, regarding the need for learning resources through LMS. Aspects of perception included knowledge and acceptance, understanding, and also online learning through an LMS. In addition, the need for online learning games is seen from the supporting facilities and infrastructure, access, and use. Online learning format, includes content coverage, display, and ease of navigation. The data collection instruments were in the form of questionnaires and interview sheets.

The questionnaire that was compiled included a closed questionnaire using a modified Likert scale with four ratings, Strongly Agree (SS), Agree (S), Disagree (TS), and Disagree (KS), as well as 5 open questions. The questionnaire for students contains 25 items, while for teachers contains 10 items and interviews through open questions. Before being distributed to students, the instruments were validated through expert judgment. The data analysis technique was a quantitative descriptive statistical analysis technique by calculating the percentage of the number of answer scores based on the scoring of each answer from the respondent. The percentages obtained were then compared into criteria to determine the need for a criterion (Sudjana, 2002).

Results and Discussion

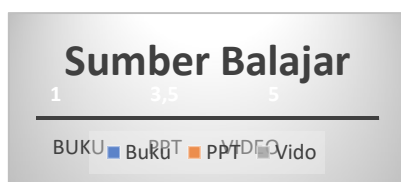
Based on observations during the geography learning process, students' reactions to the learning process are enthusiastic class, but when at the stage of applying the learning process they are less enthusiastic. The thing that becomes a challenge during the geography learning process was that student participation during the learning process was still lacking. Students only obtained material in the form of textbooks, the scope of which is still difficult to understand due to a lack of examples or limited time and references in this subject. Strategies in the learning process applied to Geography were still classical, such as lectures and exercises. The teacher in charge of the subject agrees to create or develop and use the LMS that is already available and according to the material/sample of the material so that it can directly engage the students to study independently. Besides, the use of LMS as a medium to carry out the learning process can be a good way because it can monitor student learning progress (Wiragunawan, 2022).

The results of the analysis of teachers' perceptions of LMS show that teachers already understand current technological developments. The selection of LMS is important in learning even though it is not choosing a particular platform for its use (Mandiri *et al.*, 2022). Educational technology is very useful as a learning medium because it can help teachers convey material to the students. Teacher and student perceptions of LMS have an important role in recognizing their interest in using LMS and the extent of knowledge about their education. Based on the results of the study, it is known that students' perceptions of online learning or the use of LMS in learning were included in the good category. Good interest will be able to improve learning outcomes (Ismail *et al.*, 2021). In addition, many teachers have developed their learning into online learning that produces good Moodle LMS products (Siregar & Aswan, 2019).

The results of the analysis from the questionnaire that was distributed regarding the need for the development of teaching materials at LMS that students need learning resources that can be accessed from anywhere, such as at home or other places, and are connected to the internet with activities, such as listening to the teacher's lectures in class even though they are not in class. Thus, they can re-examine the learning material until they understand it correctly. The application of strategies applied in the learning process so far such as lectures and exercises both in class and online. The learning resources used so far are less interesting because they are only in the form of text and images. The questionnaires distributed by students showed that the need for LMS is high.

Videos, PowerPoints, and pdf in the LMS are required because students can re-watch the explanations through the LMS. Based on the data from the research results, it is necessary to develop learning media in LMS because it can facilitate students to learn, both with educators and independently.

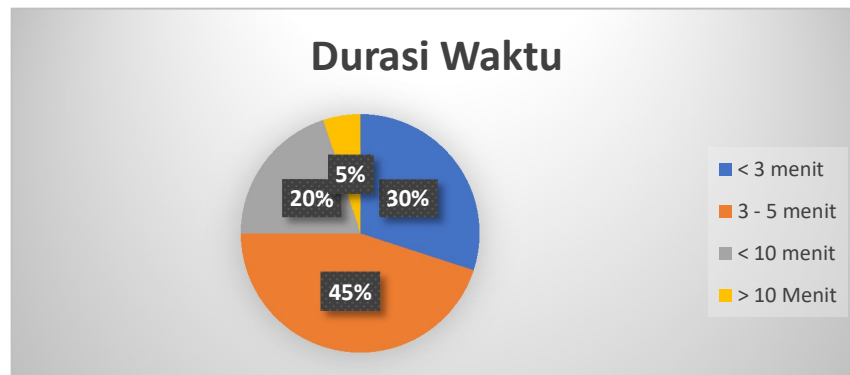
Table 1. Analysis of Learning Resource Needs



The most preferred media tendency is video media because of its ease of use. It can only press the play button and then the images and sounds in the video will have

immediately appeared. Moreover, what kind of videos are liked by those students. Two open questions given in the questionnaire indicate that students like videos with not too long duration. Students put varied answers in this paper, the answers can be categorized into three parts as in the table below.

Figure 1. Learner Video Length



The picture above shows the LMS duration that students like the most. 45% or almost half of the students stated that 3 to 5 minutes duration was the best duration to watch learning videos. Furthermore, as many as 30% of students preferred 3-minute or less-long videos which were divided into several parts of the video. Then, in less than 10 minutes as many as 20% of students selected this number, and the remaining 5% voted for more than 10 minutes. This shows that students preferred videos that were not too long which could cause boredom in the learning process. Another study showed that in optimizing the video distance learning process, students preferred not too-long videos and even make videos with no more than 10 minutes (Susanti *et al.*, 2018). In line with the research, the video is short duration, making students continue to watch videos without being bothered by boredom so that it could increase engagement in the learning process (Suasta, 2021). This is important to maintain a better learning process and quality.

Besides the matter of duration, music or backsound also needs to be considered in its use. Based on the results of the distribution of questionnaires, the majority of respondents stated that the use of music did not interfere with their understanding of the material. On the contrary, the use of music in educational videos motivates them to keep paying attention to it. However, 5% of students said the use of music in an LMS could interfere with their understanding of the material. Too loud music or an unstable rhythm sometimes soft and loud could disturb the learning process. Therefore, the expected music in the learning video is music with a medium and constant rhythm. Other studies also

mention that music in the video can be used in LMS as long as the music does not interfere with learning (Wisada *et al.*, 2019). In addition, music can also increase engagement in the learning process and encourage students to be more active and enjoy the learning process through LMS.

Conclusion

Based on the results of research that has been carried out, it can be concluded that the analysis of students' needs for the use of online learning by LMS in geography subjects at SMA N 3 OKU mentioned that they need to develop online learning which contains a variety of learning resources. The tendency shows that presentations of 95% like online learning. The results of the questionnaire sources from the indicators of the need to pay attention to the 68.5% tendency of students that strongly agree and 31.5% agree if an LMS learning media was developed using Video. Meanwhile, the use of books was also still a favorite but not as much as videos. Students do not have to access learning material at school only, but they can also access the media wherever and whenever they are through android media devices that students already have. In addition, the use of videos must refer to the rules in the learning process and not only in the form of patches or sweeteners in the LMS. The researcher suggests further research to develop an LMS that contains a lot of appropriate videos in its development and also further research on student readiness both in terms of technological literacy and infrastructure that is not included in this research.

BIBLIOGRAPHY

- Aulia Arifka, Sumarmi, A. K. P. (2021). Pengembangan digital learning Geografi berbasis learning management system moodle pada materi dinamika kependudukan kelas XI SMA. *Jurnal Integrasi Dan Harmoni Inovatif Ilmu-Ilmu Sosial*, 1(7), 832–844. <https://doi.org/10.17977/um063v1i72021p832-844>
- Bednarz, R. S. dkk. (2011). *The components of spatial thinking: empirical evidence. Procedia Social and Behavioral Sciences. International Conference: Spatial Thinking and Geographic Information Sciences*. (Available%0Aonline at www.sciencedirect.com)
- Chatwattana, P & Nilsook, P. (2017). A Web-based Learning System using Project-based Learning and Imagineering. *International Journal of Emerging Technologies in Learning (IJET)*, 12(5), 4–22.

- Hadi Sabari Yunus. (2008). Struktur Tata Ruang Kota. Yogyakarta: Pustaka Pelajar.
- Lillesand, Thomas M & Ralph W Kiefer (2006). Remote Sensing And Image Interpretation. *New Jersey : John Wiley & Sons.Inc.*
- Holt-Jensen, A. (2003). *Geography History & Concepts*. Sage Publications.
- Imam Widodo, M. (2018). PENGEMBANGAN E-LEARNING MATA PELAJARAN GEOGRAFI UNTUK MENINGKATKAN HASIL BELAJAR PESERTA DIDIK KELAS X SMA. *Jurnal Inovasi Teknologi Pendidikan, Volume 5*(No 1), (12-25).
online: <http://journal.uny.ac.id/index.php/jitp%0D>
- Ishak Furqan Aksa, et all. (2019). *Geografi dalam Perspektif Filsafat Ilmu*. Fakultas Geografi UGM dan Ikatan Geograf Indonesia (IGI). <https://jurnal.ugm.ac.id/mgi>
- Ismail, S. N., Hamid, S., Ahmad, M., Alaboudi, A., & Jhanjhi, N. (2021). Exploring students' engagement towards the learning management system (LMS) using learning analytics. *Computer Systems Science and Engineering, 37*(1), 73–87.
<https://doi.org/10.32604/CSSE.2021.015261>
- Lonn, S., & Teasley, S. D. (2019). Saving Time or Innovating Practice: Investigating Perceptions and Uses of Learning Management Systems. *Computers & Education, 53*, 686–694.
- Mandiri, J. B., Sani, I., Manggala, A., & Mukti, T. S. (2022). PELATIHAN PEMANFAATAN LMS EDMODO UNTUK MENUNJANG PEMBELAJARAN DARING BAGI GURU MADRASAH DI KECAMATAN SUMENEP. *Jurnal Berdaya Mandiri, 4*(1), 911–924. <https://doi.org/10.31316/JBM.V4I1.1716>
- Munir, M. (2014). Pengembangan Media Pembelajaran Interaktif Kompetensi Dasar Register Berbasis Inkuiri Terbimbing. *Journal Pendidikan Teknologi Dan Kejuruan, 22*((2)), 184–190.
- Novy Hidayati. (2010). Sistem E-Learning untuk meningkatkan proses belajar mengajar studi kasus pada SMA Negeri 10 bandar lampung. *Jurnal Telematika MKOM, Vol 2 No 2*.
- Rudyanto, H. E. (2014). *Model Discovery Learning dengan Pendekatan Sainstifik Bermuatan Karakter untuk Meningkatkan Kemampuan Berpikir Kreatif*. Premiere Educandum.
- Siregar, E., & Aswan, D. (2019). Development of Blended Learning for Optimization

Courses in the Education Technology Master Program. *International Conference on Education Technology*, 372, 235–241.

Suasta, I. G. (2021). PEMBELAJARAN INTERACTIVE ENGAGEMENT BERBANTUAN VIDEO MENINGKATKAN HASIL BELAJAR IPA SISWA. *Jurnal Santiaji Pendidikan (JSP)*, 11(2). <https://e-journal.unmas.ac.id/index.php/jsp/article/view/2478>

Sudjana. (2002). *Metoda Statistika*. Tarsito.

Susanti, E., Harta, R., Karyana, A., & Halimah, M. (2018). DESAIN VIDEO PEMBELAJARAN YANG EFEKTIF PADA PENDIDIKAN JARAK JAUH: STUDI DI UNIVERSITAS TERBUKA. *Jurnal Pendidikan Dan Kebudayaan*, 3(2), 167–185. <https://doi.org/10.24832/jpnk.v3i2.929>

Suharsono & Budi, T. P. (2006). Penajaman dan kejelasan objek kajian dalam disiplin ilmu geografi. *Majalah Geografi Indonesia*, 20(2), 2187–2201.

SUSILOWATI2, B. S. & A. T. (2019). Effectiveness of Learning Management System (LMS) on In-Network Learning System (SPADA) Based on Scientific. *Journal for the Education of Gifted Young Scientists*, 7(3), 481–498.

Yasar, O., & Adiguzel, T. (2010). A working successor of learning management systems: SLOODLE. *Procedia - Social and Behavioral Sciences*, 2(2), 5682–5685. <https://doi.org/10.1016/j.sbspro.2010.03.928>

Wiragunawan, I. G. N. (2022). PEMANFAATAN LEARNING MANAGEMENT SYSTEM (LMS) DALAM PENGELOLAAN PEMBELAJARAN DARING PADA SATUAN PENDIDIKAN. *EDUTECH: Jurnal Inovasi Pendidikan Berbantuan Teknologi*, 2(1), 83–90. <https://doi.org/10.51878/edutech.v2i1.981>

Wisada, P. D., Sudarma, I. K., & S, A. I. W. I. Y. (2019). PENGEMBANGAN MEDIA VIDEO PEMBELAJARAN BERORIENTASI PENDIDIKAN KARAKTER. *Journal of Education Technology*, 3(3), 140–146. <https://doi.org/10.23887/JET.V3I3.21735>