Analysis of Obstacles and Difficulties in the Process of Implementing Learning for Students Based on the Learning Management System (LMS)

Mesta Limbong*
Universitas Kristen Indonesia, Jakarta, Indonesia
mesta.limbong@uki.ac.id

Article Info	ABSTRACT
	Indonesia is among the world's largest archipelagic regions, with thousands of tiny islands. So many people may not obtain a decent education, such as attending advanced learning. To conquer this circumstance, particularly in light of the unreleased impact of COVID-19 and the global scale crisis, which undoubtedly impacts education in general. Each method for adjusting to shifts in higher education employs a Learning Management System (LMS). This descriptive study uses secondary data and a phenomenological approach to analyze how lecturers prepare lecture material using LMS. This study approach indicates that not all lecturers have scheduled material that students can download at any time via LMS. Because it is necessary to prepare lecturers and support structures that can be easily accessed per applicable regulations to organize the LMS, efforts that can be made to overcome obstacles to the LMS implementation include requiring each lecturer to prepare lecture materials in a structured and timely manner, as well as monitoring. Students can then repeat material that they might have already missed. This is one ideal solution for shutting the achievement gap.

1. INTRODUCTION

In the conditions of the world and also in Indonesia facing the Corona Virus 19 outbreak, the world of education must shift to keep up with the changes because the learning system used so far has been face-to-face in class to online (Matete, Kimario, & Behera, 2023). The system uses Internet technology as a set of elements that interact with each other to achieve specific goals. The several components are related to forming an integrated network to accomplish that goal (Gawer, 2021). Therefore, in the current era of globalization, the development of information and communication technology is increasing rapidly and has penetrated various aspects of human life (Adebayo et al., 2022), including the world of education in multiple countries, including higher education in Indonesia (Suyadi, Nuryana, Sutrisno, & Baidi, 2022). There is great emphasis on using information and communication technology, such as a Learning Management System (LMS) (Al-Mamary, 2022). Technological developments provide excellent opportunities for developing educational management and learning processes in tertiary institutions (Ghani et al., 2022).

The Learning Management System (LMS) is a multimedia-based educational system (a technology that includes text, images, audio, and video) that can make the presentation of a topic interesting, not just monotonous, but easier to understand (Kumar et al., 2021).

This critical and strategic role as a center of education, the center of culture, and the center of civilization requires educational institutions to develop explicit and broad-reaching educational activities. However, remember that the Learning Management System (LMS) is only a tool in the learning process. According to Wu, Zhu, Liu, & Wu (2022), five benefits can be achieved through the application of information and communication technology in the education system, namely: 1) facilitating and expanding access to education, 2) increasing equity in education, 3) improving the quality of learning, 4) increasing teacher professionalism and 5) improve the effectiveness and efficiency of education management, governance, and management. Knowing and realizing the enormous benefits of the Learning Management System (LMS) in education, UNESCO experts recommend to all countries; especially developing countries (Mncube & Mthethwa, 2022); Increasing the various resources needed for the development of information and communication technology in different educational policies, strategies, and activities. Currently, some universities focus on learning and implementing the Learning Management System (LMS), especially in universities in Indonesia, as the core of their education system (Ramalingam, Yunus, & Hashim, 2022). In Indonesia, based on the Development Plan for the 2020-2024 National Medium Term Term (RPJM), it is emphasized that the fourth priority of the Ministry of Education and Culture is technology development (Sambodo et al., 2022). According to Olan et al. (2022), the focus of this technology is to help all humans in the system carry out their duties better. The Ministry of Education and Culture in Indonesia has the same goal as universities, namely, to be able to provide excellent service; one of the things that must be done is the development of information and communication technology through a Learning Management System (LMS) which is implemented through the use of information and communication technology in the field of education which includes the role of information and communication technology as educational materials, teaching aids, educational facilities, efficiency standards, supporting education management, academic unit management tools, and educational infrastructure. In connection with the above, the phenomenon of using information and communication technology in learning in educational institutions is getting better; even in the curriculum, information and communication technology play a significant role in implementing learning through the Learning Management System (LMS). The curriculum shows that learning applies the principle that anyone, namely lecturers, students, and anywhere implements. Therefore, a Learning Management System (LMS) is crucial for effectiveness and efficiency.

The Learning Management System (LMS) can play two roles in learning: (1) as an educational presentation medium, for example, in the form of PowerPoint slides and

animation with flash programs. (ii) As an independent teaching method or e-learning, students are tasked with reading or searching for online resources, submitting assignment answers, and even trying and working on learning material. Through e-learning, learning is no longer limited by space and time. Learning can be done anytime and anywhere. This encourages students to analyze and synthesize knowledge, explore, process, and use it to produce their writing, information, and understanding. To help students develop and gather their knowledge without direct guidance from the teacher, the learning situations presented must be constructive (Assen & Otting, 2022). The role of the Learning Management System (LMS) can be maximized by activating it through learning design, learning theory, and message design to produce a good learning experience for students.

However, the Learning Management System (LMS) application in higher education is still in its early stages and has yet to be utilized optimally and evenly. Obstacles to the uneven distribution of use and design that support the implementation of the Learning Management System (LMS) in the education sector and the need for more human resources to use the Learning Management System (LMS) in the online learning process in tertiary institutions. The new thing that will be found in this article is knowing the obstacles, where the difficulties in using the Learning Management System (LMS) as a tool in implementing learning materials will not be stuck anymore because this research informs about the location of the obstacles and difficulties when using the Learning Management System (LMS).

2.   METHODS

This descriptive research uses secondary data and a phenomenological approach to analyze how lecturers arrange lecture material using the Learning Management System (LMS) (Nurse-Clarke & Joseph, 2022). The location of this research was conducted at a university. The subjects of this research are lecturers, and the research objects are universities. The number of lecturers and students surveyed was 129 from all study programs spread across various faculties and study programs using the Learning Management System (LMS). The data collection technique is a survey by distributing instruments prepared based on indicators using the Learning Management System (LMS). Tools are compiled on Google, and links are made to make it easier for sources to provide input or opinions. The survey results did not stand alone but were followed up by conducting interviews with ten informants to align the results. These two data, namely surveys, and interviews, become one unit in conclusion. The data analysis technique is collecting data by distributing instruments, reducing data, aligning survey findings with interview data, and drawing conclusions. The surveyed instruments are based on the following indicators:

Table 1. Instruments for Using the Learning Management System (LMS)

No	Indicator
1	Preparation of course implementation plans
2	Prepare lecture materials (modules or teaching materials)
3	Prepare learning aids and adjust them to lecture time.
4	Preparation of assessment indicators and assessment rubrics
5	Preparation of evaluation forms
6	Implementation of Timely Learning
7	Implementation of the material through the Learning Management System (LMS)
8	Problem analysis and learning evaluation and assessment process

Instruments in Table 1 are arranged to start from indicators of preparation and implementation of the lecture process through information and communication technology based on the Learning Management System (LMS). Each instrument was prepared according to indicators and sources of rating starting from a scale of 1, which strongly disagrees, two disagree, three entirely agree, four agree, and five strongly agree. The results of the instrument are tabulated, and a bar graph is created. Then the research continued with interviews with question instruments based on Table 1 indicators. The results of the interviews were coded and aligned with survey data and became the conclusion.

3.   RESULTS AND DISCUSSION

3.1.   Results

The survey results obtained found and described the Learning Management System (LMS) learning process that had been carried out, but several obstacles had to be corrected immediately and developed management and preparation for the learning process through the Learning Management System (LMS). The following are survey results from respondents' responses to the process of using the Learning Management System (LMS):
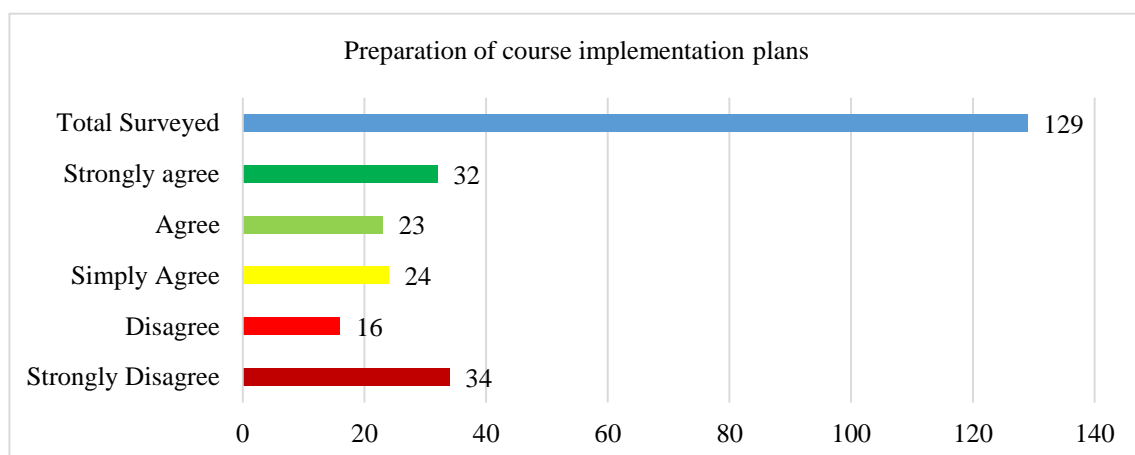

Figure 1. Planning Preparation and Readiness

Figure 1 shows that of the 129 answered responses, 34 answered strongly disagree, and 16 answered disagree. In this case, 50 respondents thought the learning implementation plan needed to be prepared correctly and adequately with the help of the Learning

Management System (LMS). The unpreparedness of the Learning Management System (LMS) impacts the management and management of the learning process to make it smoother. Another impact is that students need help to achieve WHAT is expected from the material being taught; this creates new problems and results in non-optimal achievement and learning outcomes. Sources argued in interviews that the time needed to prepare lesson plans was minimal, and teachers had limitations in using information and communication technology in the learning process. This is a different obstacle in the learning process using the Learning Management System (LMS). This is in line with the theory of Raković et al. (2022) that weak planning impacts the success of the learning process.
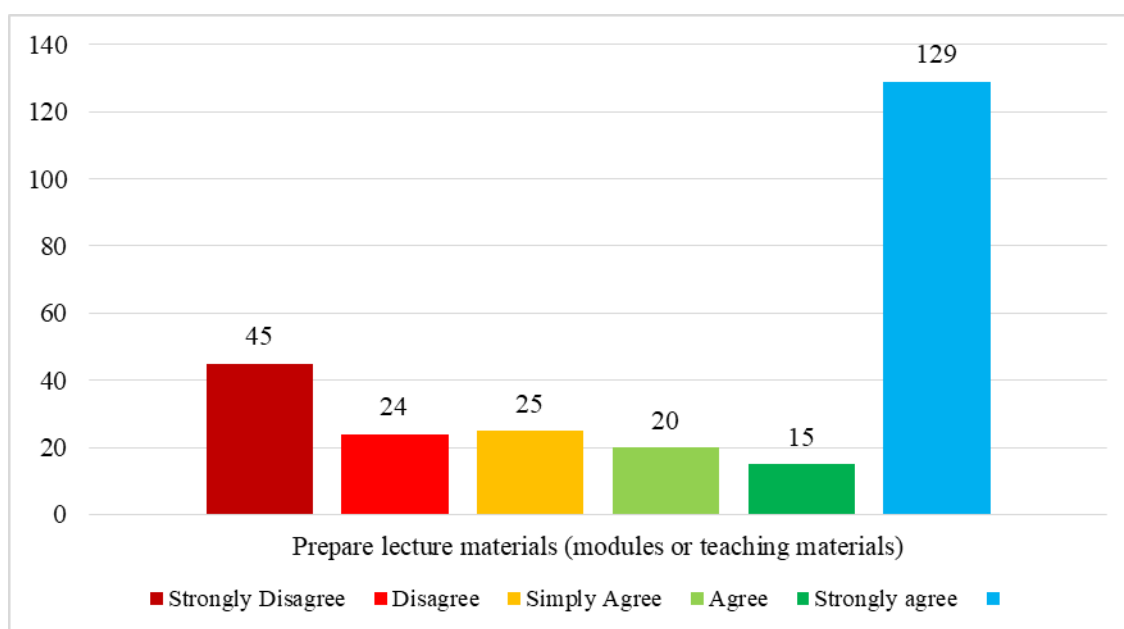

Figure 2. Assessor of the preparation of teaching materials

Figure 2 shows that not all materials have been prepared according to the needs and expectations of the Learning Management System (LMS). Learning Management System (LMS) tools. Requires teachers to prepare materials, modules, or teaching materials to support the learning process in the media. However, the findings from the survey results in this study were that 45 people strongly disagreed, and 24 people did not agree. This became a controversy because the number of participants who did not agree was more than the respondents who agreed with the preparation of the material carried out by the teaching staff. When the source was confirmed by conducting interviews, the respondents acknowledged that when teaching, they did not perceive the material as a whole; all the material was included in the Learning Management System (LMS). This is one of the reasons the course learning process does not run smoothly and hurts achievement and classroom management. Inadequate material preparation creates new problems for students' understanding of courses (Tao & Gao, 2022).
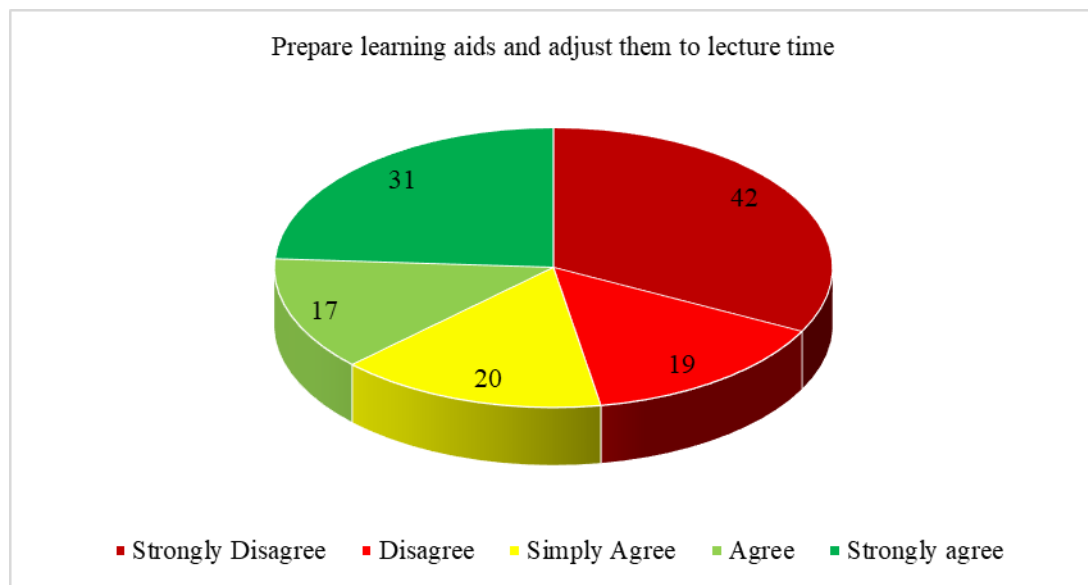
Figure 3. Learning tools and timeliness

Looking at Figure 3, many respondents disagree with the aids and teaching aids used in the Learning Management System (LMS) media. Forty-two people vehemently disagreed, and 19 people disagreed about the aid provided. Based on the interviews with the informants, they hope there will be assistive tools in the Learning Management System (LMS), such as videos that students and other colleagues can access. Inappropriate props can hinder the material's implementation (Ariono, Wasesa, & Dhewanto, 2022).
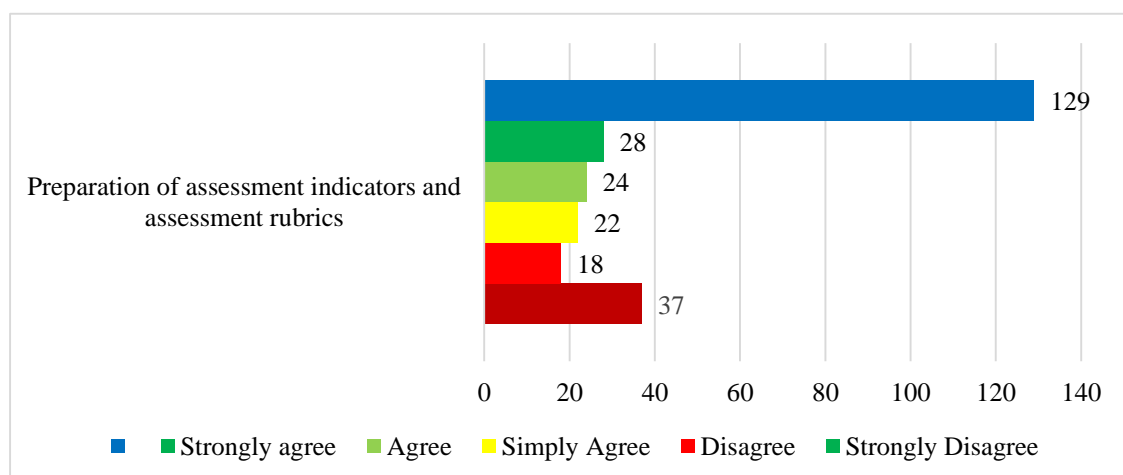

Figure 4. Completeness of Assessment Instruments and rubrics

From Figure 4, it can be seen that not all of the teachers have prepared indicators, rubrics, and assessment instruments in the Learning Management System (LMS). This can be seen from the respondents' responses; 37 vehemently disagreed, and 18 did not agree. If a total of 55 respondents expected that the instrument, the assessment rubric existed and could be accessed in the Learning Management System (LMS). During interviews with sources, many believed they had difficulty measuring their abilities because the measuring instruments used in the material presented by the lecturers were not in the Learning

Management System (LMS). The theory of Shipman, Roa, Hooten, & Wang (2012) says that rubrics and assessment instruments must be prepared before the implementation of learning begins.
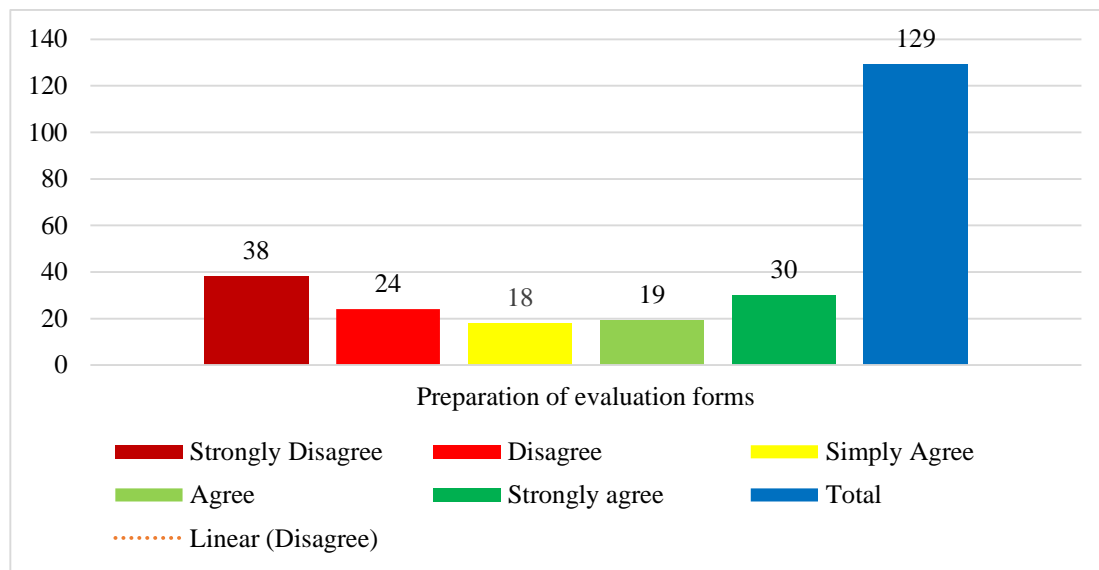

Figure 5. Completeness of Evaluation Forms

Figure 5 shows the expectations and desires of the respondents for each material taught; there is an evaluation form used by the instructor in the Learning Management System (LMS) course. From Figure 5, it can be seen that 38 people strongly disagree and 24 disagree in the form of evaluations carried out by lecturers during the learning process and the final assessment process of learning. The results of the intersecting interviews with the results obtained in Figure 5, the respondents hoped that the teaching staff would make an evaluation form and an analysis process for the abilities of students who did not understand the material provided in the Learning Management System (LMS). This aims to support and develop the learning improvement process to make it even better and more accessible for students to understand the subjects studied. Evaluation is a way to find out the obstacles and difficulties in understanding the material being studied (Akeed et al., 2022).
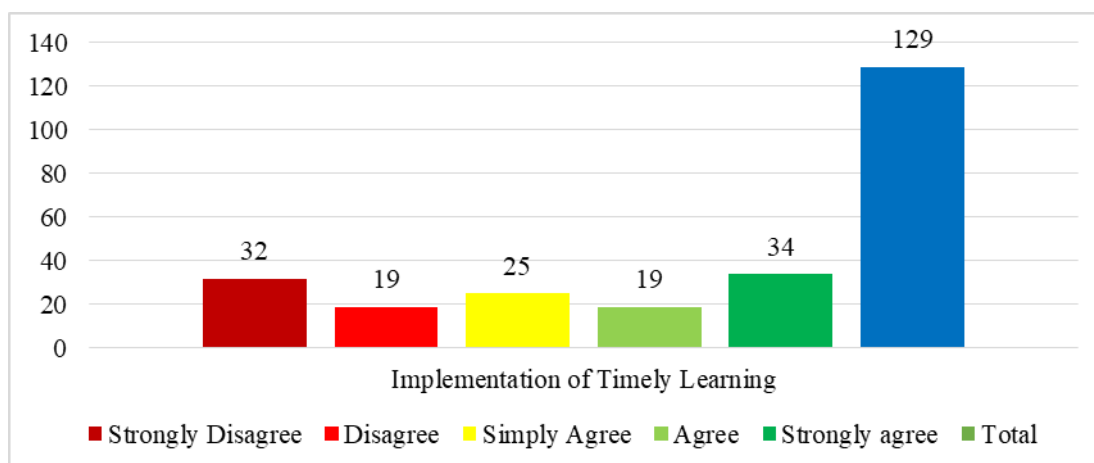

Figure 6. Timeliness in Learning Management System (LMS)

Based on Figure 6, it can be seen that respondents considered timeliness to be needed in the Learning Management System (LMS). Respondents assessed that currently, 32 people strongly disagree and 19 people disagree with the management of time management in the Learning Management System (LMS). Respondents hoped there would be a time-sharing system and timeliness in the Learning Management System (LMS) system and that it would be accessible to students. The time set in the system will impact the learning discipline (McComb & Jablokow, 2022). From the results of interviews with the informants, they argue that the current system is different from what is expected. Lecturers are not yet perfect in using and preparing the Learning Management System (LMS) for the learning process.
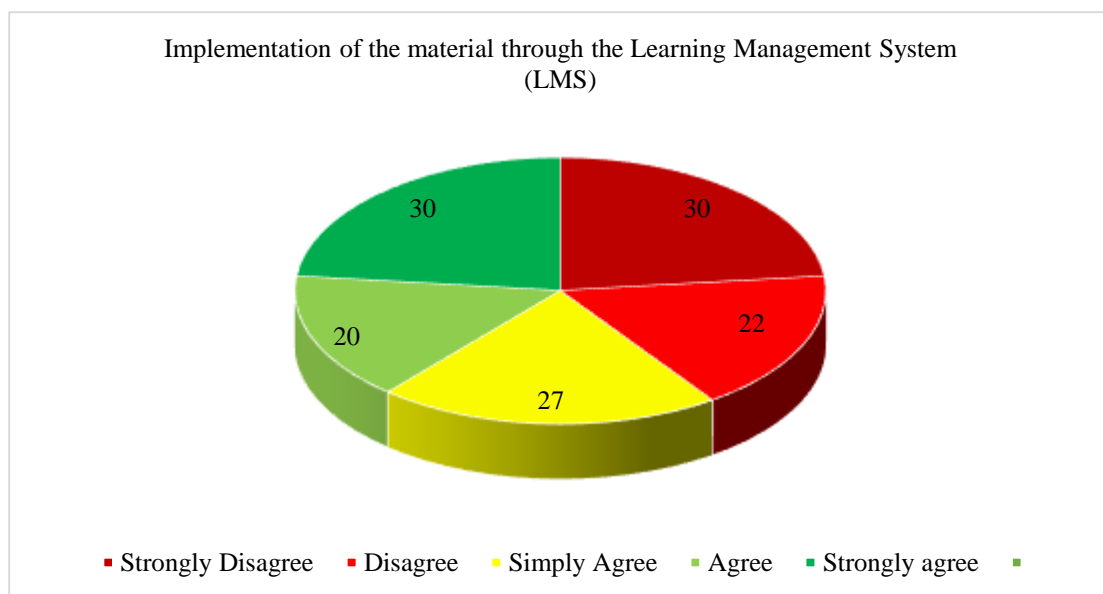

Figure 7. Results of Learning Management System (LMS) Implementation

Figure 7 shows that the respondents assessed that the learning implementation process using the Learning Management System (LMS) could have been more optimal. Respondents rated 30 as strongly disagreeing, and 22 said they disagreed with the implementation process. Implementation obstacles arise because the preparation process needs to be carried out carefully and contains all the learning tools used in the Learning Management System (LMS). Teachers still need modules, teaching materials, or materials outlined in the Learning Management System (LMS). This is considered necessary for the smooth implementation of learning through the media. The learning model is also imperfect and has yet to attract students' interest to learn more actively. The materials studied by students are still in the difficult category to understand and consequently have an impact on the smooth learning process, which is ineffective. This is in line with the opinion of Lumbantoruan (2022) that the media used must continue to be developed.
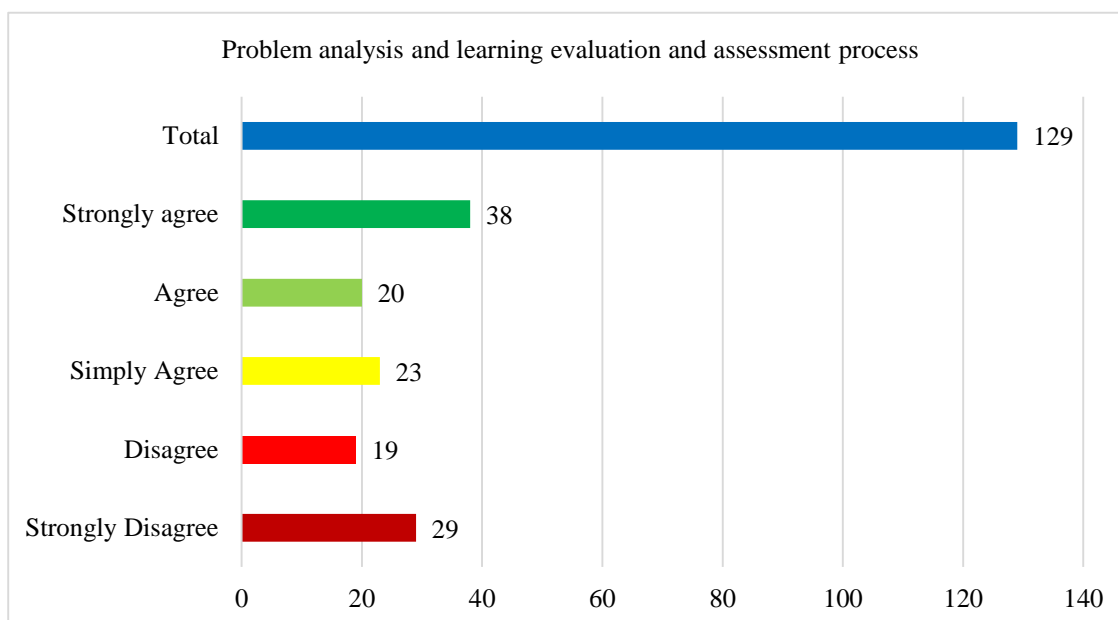
Problem analysis and learning evaluation and assessment process

Figure 8. Results of Forms of Analysis and Evaluation

The form of analysis and evaluation in the learning process must be revised. This is because the form of analysis and assessment must be visible in the Learning Management System (LMS) system. Based on Figure 8, 29 people and 19 strongly disagree with the form of analysis and evaluation carried out by the lecturer through the Learning Management System (LMS). The interviewees during the interview hoped that there would be a process of analyzing the system and developing the use of the system to make it better. Respondents also hoped that lecturers would be able to put evaluation forms into the Learning Management System (LMS) with the aim that students could measure and prepare themselves for what they did not know or had not mastered. This aligns with Harpe (2015) that every lesson must be evaluated and analyzed for its constraints and difficulties by preparing to measure instruments.

3.2. Discussion

Using the Learning Management System (LMS) by combining several learning models has not been effective and efficient because not all lecturers and students have used the Learning Management System (LMS) as a tool in implementing the learning process. Although in the findings, the material that the lecturers have prepared can be accessed easily by students. However, teachers must validate the learning tools in the Learning Management System (LMS) by preparing a structured learning process plan that is easy for students to understand. Students still need to assess this fully. The lecturers also assessed that students had not prepared lecture material and submitted it in the Learning Management System (LMS) in the form of teaching modules; students also considered that the arrangement of lecture time and being consistent with the implementation of the time specified in the Learning Management System (LMS) was mandatory., both students and

lecturers, lecturers have not prepared assessment indicators and assessment rubrics in the Learning Management System (LMS), lecturers have not designed evaluation forms, Implementation of Exact Learning has not been carried out with Time, has already curved the Implementation of material through the Learning Management System (LMS) and Problem analysis and the process of evaluation and assessment of learning have not been carried out correctly.

4.   CONCLUSION

In conclusion, the obstacles and difficulties in implementing the Learning Management System (LMS) are the need for more readiness for learning tools. Preparation of learning tools must be prepared as well as possible, starting from learning implementation plans, teaching aids, assessment instruments and rubrics, materials in the form of modules or teaching materials, and evaluation forms. All of them are contained in the Learning Management System. LMS). Lecturers must also make learning projects and videos related to the taught subjects. The lecturer must also complete an evaluation form to measure the learning process using the Learning Management System (LMS) for each material being taught. This study suggests that each lecturer can prepare measuring instruments to analyze students' comprehension abilities and difficulties during the learning process using the Learning Management System (LMS). This is necessary if further research is conducted by developing a Learning Management System (LMS) tool for all subjects' learning processes.

5.   ACKNOWLEDGEMENTS

6.   REFERENCES

Adebayo, T. S., Agyekum, E. B., Altuntaş, M., Khudoyqulov, S., Zawbaa, H. M., & Kamel, S. (2022). Does information and communication technology impede environmental degradation? Fresh insights from non-parametric approaches. *Heliyon*, *8*(3), 1-13. https://doi.org/10.1016/j.heliyon.2022.e09108

Akeed, M. H., Qaidi, S., Ahmed, H. U., Faraj, R. H., Mohammed, A. S., Emad, W., … Azevedo, A. R. G. (2022). Ultra-high-performance fiber-reinforced concrete. Part IV: Durability properties, cost assessment, applications, and challenges. *Case Studies in Construction Materials*, *17*(May), e01271.1-20. https://doi.org/10.1016/j.cscm.2022.e01271

Al-Mamary, Y. H. S. (2022). Understanding the use of learning management systems by undergraduate university students using the UTAUT model: Credible evidence from

Saudi Arabia. *International Journal of Information Management Data Insights*, *2*(2), 1-11. https://doi.org/10.1016/j.jjimei.2022.100092

Ariono, B., Wasesa, M., & Dhewanto, W. (2022). The Drivers, Barriers, and Enablers of Building Information Modeling (BIM) Innovation in Developing Countries: Insights from Systematic Literature Review and Comparative Analysis. *Buildings*, *12*(11), 1-22. https://doi.org/10.3390/buildings12111912

Assen, J. H. E., & Otting, H. (2022). Teachers' collective learning: To what extent do facilitators stimulate the use of social context, theory, and practice as sources for learning? *Teaching and Teacher Education*, *114*(6), 103702.1-11. https://doi.org/10.1016/j.tate.2022.103702

Behera, R. K., Bala, P. K., Rana, N. P., & Kayal, G. (2022). Self-promotion and online shaming during COVID-19: A toxic combination. *International Journal of Information Management Data Insights*, *2*(2), 100117.1-15. https://doi.org/10.1016/j.jjimei.2022.100117

Gawer, A. (2021). Digital platforms' boundaries: The interplay of firm scope, platform sides, and digital interfaces. *Long Range Planning*, *54*(5), 1–16. https://doi.org/10.1016/j.lrp.2020.102045

Ghani, N. A., Teo, P. C., Ho, T. C. F., Choo, L. S., Kelana, B. W. Y., Adam, S., & Ramliy, M. K. (2022). Bibliometric Analysis of Global Research Trends on Higher Education Internationalization Using Scopus Database: Towards Sustainability of Higher Education Institutions. *Sustainability (Switzerland)*, *14*(14), 1-15. https://doi.org/10.3390/su14148810

Harpe, S. E. (2015). How to analyze Likert and other rating scale data. *Currents in Pharmacy Teaching and Learning*, *7*(6), 836–850. https://doi.org/10.1016/j.cptl.2015.08.001

Kumar, A., Krishnamurthi, R., Bhatia, S., Kaushik, K., Ahuja, N. J., Nayyar, A., & Masud, M. (2021). Blended Learning Tools and Practices: A Comprehensive Analysis. *IEEE Access*, 9(4), 85151–85197. https://doi.org/10.1109/ACCESS.2021.3085844

Lumbantoruan, J. H. (2022). *PENGEMBANGAN MODUL MATEMATIKA MATERI TURUNAN Universitas Kristen Indonesia , Jakarta , Indonesia E-mail : Abstrak PENDAHULUAN Dalam penelitian Purwaningsih , (2016) terlihat adanya peningkatan aktivitas peserta didik dalam belajar yang dibantu oleh modu*. *11*(4), 2593–2609. https://doi.org/http://dx.doi.org/10.24127/ajpm.v11i4.5716

Matete, R. E., Kimario, A. E., & Behera, N. P. (2023). Review the use of eLearning in teacher education during Africa's coronavirus disease (COVID-19) pandemic. *Heliyon*, 9(2), e13308.1-13. https://doi.org/10.1016/j.heliyon.2023.e13308

McComb, C., & Jablokow, K. (2022). A conceptual framework for multidisciplinary design research with example application to agent-based modeling. *Design Studies*, *78*(1), 101074.1-13. https://doi.org/10.1016/j.destud.2021.101074

Mncube, L. S., & Mthethwa, L. C. (2022). Potential ethical problems in creating open

educational resources through virtual spaces in academia. *Heliyon*, *8*(6), e09623.1-8. https://doi.org/10.1016/j.heliyon.2022.e09623

Nurse-Clarke, N., & Joseph, M. (2022). An exploration of technology acceptance among nursing faculty teaching online for the first time at the onset of the COVID-19 pandemic. *Journal of Professional Nursing*, *41*(October 2021), pp. 8–18. https://doi.org/10.1016/j.profnurs.2022.04.002

Olan, F., Ogiemwonyi Arakpogun, E., Suklan, J., Nakpodia, F., Damij, N., & Jayawickrama, U. (2022). Artificial intelligence and knowledge sharing: Contributing factors to organizational performance. *Journal of Business Research*, *145*(February), 605–615. https://doi.org/10.1016/j.jbusres.2022.03.008

Raković, M., Bernacki, M. L., Greene, J. A., Plumley, R. D., Hogan, K. A., Gates, K. M., & Panter, A. T. (2022). Examining the critical role of evaluation and adaptation in self-regulated learning. *Contemporary Educational Psychology*, *68*(1), 1-14. https://doi.org/10.1016/j.cedpsych.2021.102027

Ramalingam, S., Yunus, M. M., & Hashim, H. (2022). Blended Learning Strategies for Sustainable English as a Second Language Education: A Systematic Review. *Sustainability (Switzerland)*, *14*(13), 1–17. https://doi.org/10.3390/su14138051

Sambodo, M. T., Yuliana, C. I., Hidayat, S., Novandra, R., Handoyo, F. W., Farandy, A. R., … Yuniarti, P. I. (2022). Breaking barriers to low-carbon development in Indonesia: deployment of renewable energy. *Heliyon*, *8*(4), e09304.1-11. https://doi.org/10.1016/j.heliyon.2022.e09304

Shipman, D., Roa, M., Hooten, J., & Wang, Z. J. (2012). Using the analytic rubric as an evaluation tool in nursing education: The positive and the negative. *Nurse Education Today*, *32*(3), 246–249. https://doi.org/10.1016/j.nedt.2011.04.007

Suyadi, Nuryana, Z., Sutrisno, & Baidi. (2022). Educational reform and sustainability of Islamic higher education Indonesia. *International Journal of Educational Development*, *89*(3), 102534.1-11. https://doi.org/10.1016/j.ijedudev.2021.102534

Tao, J., & Gao, X. (2022). Teaching and learning languages online: Challenges and responses. *The system*, *107*(May), 102819.1-9. https://doi.org/10.1016/j.system.2022.102819

Wu, W., Zhu, D., Liu, W., & Wu, C. H. (2022). Empirical research on smart city construction and public health under information and communications technology. *Socio-Economic Planning Sciences*, *80*(9), 100994.1-40. https://doi.org/10.1016/j.seps.2020.100994