

DEVELOPMENT OF WORDPRESS AND LEARN PRESS- BASED LEARNING MANAGEMENT SYSTEM (E-LEARNING)

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Nursanita Nasution

STEI Rawamangun Jakarta
nursanita3@gmail.com

Tatang Raharjo

As-Syafi'iyah Islamic University Jakarta Indonesia
tatank.ads@gmail.com

Abstract: *Development of a Learning Management System (e-Learning) based on WordPress and Learnpress. This research was conducted to generate and determine the feasibility of web-based e-learning using CMS (Content et al.) WordPress and LearnPress at PT Indo Karya Solusi. This research is development research with the ADDIE method (Analyze, Design, Develop, Implementation, Evaluation). The steps in this research are the analysis stage, design stage, development stage, implementation stage, and evaluation stage. Validation of media experts, material experts, one-to-one trials, small group trials, and field trials using questionnaires. The data analysis technique for feasibility uses quantitative descriptive analysis. According to the assessment of media experts, this e-learning is feasible to use, with a score of 88.8%. This is an outstanding category. According to the material expert's assessment, this e-learning is feasible to use, with a score of 93.3%. This is an outstanding category. According to the one-to-one trial, this e-learning is feasible to use, with a score of 90.6%. This is an outstanding category. According to the small group trial, this e-learning is feasible to use, with a score of 96.13%. This is an outstanding category, and according to field trials with a more significant number of respondents (50 e-learning training participants), it is feasible to use it with a score of 92,76%. This is an outstanding category. From these tests, it can be concluded that web-based e-learning using CMS (Content et al.) WordPress and LearnPress at PT Indo Karya Solusi are feasible to use.*

Keywords: *Development, E-learning, Content Management System, WordPress, LearnPress*

INTRODUCTION

The development of information technology at the global level is very significant in touching various fields and various joints of life. One of the uses of information technology that we can observe is what is happening in the world of education, changes in learning methods from conventional learning methods to electronic learning methods. Face-to-face learning from off-class to online learning has become the demands and demand of the world of education and learning in the era of the Covid 19 pandemic as it is today. The learning process becomes more interesting when using suitable media to motivate students to love the knowledge they are studying. (Dwi Herlina, 2020).

Since the government enacted a policy on Large-Scale Social Restrictions (PSBB) with the issuance of Government Regulation (PP)



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number 21 of 2020, practical activities related to the public have become limited, including in the work environment, for example, government services, BUMN companies and the private sector implementing work from home (WFH), this is done to prevent the risk of transmission of Covid-19 which can result in a large number of patients resulting in a large number of deaths. When the Enforcement of Large-Scale Social Restrictions (PSBB) or PPKM, or other terms, is imposed, advances in information technology provide an alternative that allows the learning process to continue. The results of this study show that: 1) The average level of student concentration on online learning is in the low category. 2) The average level of student motivation toward online learning is in the moderate category (Winata, 2021).

The dramatic changes caused by the evolution of Information Technology in all aspects of life, especially considering its involvement, education is essential to discuss during the COVID-19 pandemic. Technology has always helped improve the progress of the traditional learning process. (Zwain, 2019) said that the technology under the umbrella of e-learning has made it possible to continue the learning process during the lockdown. Javeria Salam Syed A. Raza, Wasim Qazi, Koma Akram Khan, "*Social Isolation and Acceptance of the Learning Management System (LMS) in the Time of COVID-19 Pandemic: An Expansion of the UTAUT Model,*" *Journal of Educational Computing Research* (2020).

There could be concerns over e-learning. E-learning can improve student learning outcomes. Kristiyani and Budiningsih showed that overall there were significant differences in accounting learning outcomes between students who were taught using e-learning learning strategies and students who were taught using expository strategies. Accounting learning outcomes taught using e-learning learning strategies are higher than students taught using expository strategies (Kristiyani & Iffah Budiningsih, 2019).

The technology under the umbrella of e-learning is a learning management system (LMS). LMS is defined by Alias and Zainuddin (2005) as a web-based technology developed to enhance the learning process through proper planning, implementation, and evaluation in educational institutions. Using LMS in the learning process helps facilitate e-learning because it provides educational materials without time or place constraints (Ain et al., 2016), allows students and teachers to interact via the Internet, and facilitates sharing of course-related information and resources (Al-Busaidi & Al-Shihi, 2010; Lonn et al., 2011). (Syed A. Raza, Wasim Qazi, Koma Akram Khan, 2020).

This shows that using this technology during the COVID-19 pandemic is necessary to keep the learning process going. Some examples of LMS used in educational institutions include Moodle, WebCT, Blackboard, and Desire2Learn (Iqbal, 2011; Waheed et al., 2016). Many college and university administrators have implemented learning

management systems (LMS), such as Blackboard LearnRV, as campus-wide LMSs (Chaw & Tang, 2018; Gomez, 2015; Tumbleson & Burke, 2014; Walker et al., 2016). (Lee Yen Chaw and Chun Meng Tang, 2018) Musa and Hasanah examined the use of one of the LMS applications, namely Moodle, with overall learning outcomes of craft and entrepreneurship groups of students taught using Moodle-based e-learning media higher than learning outcomes taught using print media. (Musa and Khasanah, 2019).

The LMS has various pedagogical technologies and functions, such as course administration and content management. As a platform for teaching and learning in entirely online, hybrid, and face-to-face courses, LMS leverages the web to offer features for communication, instruction, assessment, and collaboration. (Lee Yen Chaw and Chun Meng Tang, 2018). The main reason for using an LMS in a fully online course environment is to provide a location for teaching and learning outside of a physical location, anytime and anywhere (Hodges & Grant, 2015; Pina, 2013). LMS has the potential to extend and enhance the traditional face-to-face learning experience in traditional face-to-face courses. (Lee Yen Chaw and Chun Meng Tang, 2018).

PT Indo Karya Solusi is a company engaged in human resource consulting. One of its services is training employees, teachers, and students. The training run by PT Indo Karya Solusi so far is offline, where instructors and participants are present and meet in person in one place. The types of training carried out by PT Indo Karya Solusi are teaching methodology, automotive technical, and automotive competency test technical guidance. The average number of training participants before the Covid-19 pandemic occurred was 600 per year from various types of training run by PT Indo Karya Solusi from 15 instructors with diverse expertise. Meanwhile, after entering the Covid-19 pandemic, there was a decrease in the number of training and participants, namely only 200 trainees.

One of the reasons is that since the enactment of the national PSBB, PT Indo Karya Solusi has had limitations in conducting offline training because the training field is not included in the fields that may be carried out at the time of the said limitation. PT Indo Karya Solusi needed more time to be ready to face changes in environmental conditions that demanded a change in training methods from offline to online-based training. Training infrastructure that still needs to be ready, including training modules, still uses live presentations, which is unsuitable for online models. Also, trainers or speakers are not used to running training using E-Learning. In addition, PT Indo Karya Solusi still needs to get E-Learning as a medium used to run an online-based learning system. The high cost of developing an E-Learning system is one of the causes of PT. Indo Karya Solusi does not yet have an online-based learning system. This research utilizes one LMS technology, Learnpress, which differs from Musa and Hasanah's research which utilizes Moodle. Learnpress is an



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application that is part of WordPress development. In addition, as one of the umbrellas for e-learning, the LMS in this research is applied to course participants, which differs from those applied to school students, as done by Kristiyani and Budiningsih. From the problems above, the authors limit this research to the problem that PT Indo Karya Solusi still needs an E-Learning system as a platform for managing all the training offered to clients.

The benefits of the results of this research are to contribute to the improvement and improvement of the quality of training held at PT Indo Karya Solusi and to encourage optimization of the use of technology in the field as an alternative to online learning models and media and training participants can take part in flexible learning with E-learning provide flexibility in participants determining the time of study and place in accessing learning. E-learning also allows trainees to independently determine the intensity of learning so that they can completely control learning success.

The type of research used in this study is research and development (research and development). The purpose of this research is development in training, not testing and formulating a theory. So, with this research, an effective and efficient product will be produced that will be used both in training institutions and training centers (Emzir, 2015).

The development or development of a product has four levels of difficulty, namely (1) conducting research without testing (no product produced and no testing), (2) conducting testing but not conducting research (testing the validity of the product produced). Already exists), (3) conduct research and testing to develop a product, and (4) conduct research and also conduct testing so that new products are created (Sugiyono, 2017). This research enters the fourth level of difficulty, namely research that aims to create new products that can solve the problems being faced, and the products produced have passed empirical product tests and met the requirements of field testing in various fields. The product researched and developed in this study is a learning management system (E-Learning).

In research and development research, a plan covers development studies with quantitative and qualitative methods. In the research and development method, research answers research questions and problems and makes products or models (Sugiyono, 2017). In the 21st century, when students are Generation Z, teachers are expected to have various models or products, either the result of their development or quoting from different research results. Thus, it is hoped that there will be an increase in results and that a more concrete and meaningful learning experience can be given to students.

METHOD

The ADDIE model (Analyze, Design, Develop, Implementation, Evaluation) is a model used by researchers in research for the product development process, with the following steps: Researchers take An

analysis stage to determine the needs required by the company where this research is carried out. A need can be defined as a gap between the current situation and what it should or is expected to be. So, the gap is a problem. A problem demands its solution and fulfillment. Thus, the researcher will analyze the gap that occurs between the current condition and the expected one. This gap analysis is the initial action that needs to be taken to explore needs. In this study, two groups, namely instructors and trainees, will be used as sources of information in identifying.

From this needs analysis, identifying problems in training will result from these two groups so that the resulting product is solutive. Next, the researcher will collect data using a questionnaire distributed to the training participants. Also, the researcher will conduct interviews with the instructors. The researcher will determine the development goals from the results of identifying these problems.

Design or designing is the next stage of this research. At this stage, the researcher determines the goals for developing E-Learning media and selects and determines what modules are needed. The final results of this stage will produce an initial product design, and in the next stage, it will be developed. The resulting product is a distance learning website or e-learning. This website will be used in virtual classes, so that learning is also known as virtual learning. The virtual class is equipped with various things related to learning, such as learning materials in the form of text, images, videos, discussions, tests, and so on, and test tools or evaluation tools.

Develop or development is a stage that contains activities to evaluate the product from the initial design prepared at the design stage. The goal of developing is to form a good and practical product. The flow of the development process is as follows: first, validation from several experts; second, conducting initial trials. Moreover, third, carry out further trials. The image below presents the flow of the development stages.

Field trials will be carried out after being revised based on input on further trials. In this field trial, a sample of 15-30 people will participate. The samples participating in the field trial will be given a response questionnaire so that information on deficiencies of the product being developed will be obtained. So, in this implementation phase, the questionnaire will be used to test modules or features in e-learning. Evaluation, the model development stage will end with an evaluation stage to assess whether the resulting product is feasible. At this stage, the researcher will analyze the questionnaire and draw final conclusions.

The research location was at PT Indo Karya Solusi, located at Jl. Central Epicentrum No.03, RT.2/RW.5, Karet Kuningan, Setiabudi District, South Jakarta City, Special Capital Region of Jakarta 12940. The planned research time to carry out this research is 3 (three) months, starting from the analysis phase, planning to product evaluation.

Respondents from this research are media experts who will assess the product in terms of the effectiveness of learning media, material experts



who will assess the product in terms of the effectiveness of learning materials, and product users who will assess the product in terms of product effectiveness. The data collection technique in this study is a questionnaire. The questionnaire is a way of obtaining and collecting data which can be done by giving several questions and or written statements to the respondent, and the respondent is asked to answer them.

The questionnaire instrument uses a Likert scale with the alternative answers of the respondents being Strongly Agree, Agree, Disagree, Disagree, and Strongly Disagree. The questionnaire is for media experts, material experts, and users. Each questionnaire has its specifics depending on what data will be expected from each respondent. Data analysis techniques aim to process data collected from interviews and questionnaires. Data analysis is divided into a validity test, a practicality test, and a product effectiveness test. Test the validity of the questionnaire for users of 30 items, and it was obtained that all items were declared valid. The reliability test for the questionnaire for users is 0.980 and is categorized as a very strong

RESULTS

Making E-Learning based on WordPress and LearnPress consists of several stages, namely the process of making an LMS (Learning et al.) and the results of product development and product trials. Here are some of the stages. Creating an LMS begins with installing WordPress on the hosting and domain prepared beforehand. WordPress is a prevalent open-source application used as a web engine. WordPress is built from the PHP programming language, with a MySQL database and all open-source applications. This process requires a name and a brief description of the LMS to be created.

Install the LearnPress Plugin. Learnpress is a Learning Management System application in the form of an additional plugin on WordPress, which is a plugin that can be used to easily create and sell online training. Each training curriculum can be created with subjects and questions that can be managed with an easy-to-use design interface. (ThimPress, 2021a). The LearnPress plugin can be installed manually, meaning it can be downloaded directly from the web developer, namely <https://thympress.com/>, then uploaded to WordPress that has been installed or can be installed via the Plugin menu in WordPress, type the name LearnPress and click Install and Activate.

Install and Set the Theme, and this process is necessary so that the standard LearnPress has an attractive appearance and matches the appearance we like. To install a theme, you can also do it in two ways, namely downloading it manually from the theme provider's website, then uploading it to WordPress that has been installed or via the theme menu in WordPress and selecting the theme to be installed, then click Install and activate it. Before installing the theme, you need to read the theme manual so that whatever needs to be set, we can do it according to the manual or

the documentation because each theme has different settings depending on the developer. For this, the author chose the Eduma theme, which is very familiar and easy to use.

Customizing the appearance of the LMS can be done by following the manual from the theme maker. For the Eduma theme, including the flexible one, we can set it up by going to the Appearance menu and clicking Customize. Then the settings are according to our wishes.

All LearnPress Add-Ons, Add-Ons are additional features provided by the plugin creator. LearnPress provides various Add-Ons that can be installed to complement the LMS features we use as needed. Some of the add-ons that the author installs are as follows; a) LearnPress – Assignments. This add-on allows training to be more flexible so instructors can create homework and essay assignments and set deadlines for students to submit their work. Instructors can check student work and rate their performance. There will be an email notification to students when their work has been graded. b) LearnPress – Certificates, this add-on can provide certificates for students who pass as evidence for completing this course. You can design your own certification or use available templates or examples. C) LearnPress Co-Instructor, this add-on allows you and any instructor to add another person as their course's Co-instructor. The co-instructor will be listed on the course instructor list. The co-instructor can then manage the course. To ensure stability, everyone can only edit content they create themselves. The LearnPress LMS also has the option to let us choose whether lessons and instructor courses can be published immediately or will be reviewed before publishing.

The next step is d) LearnPress – Content Drip. This add-on can publish courses sequentially, but you can also set the opening times for your courses following a predetermined schedule. e) LearnPress – Course Review, this add-on brings review feature to our training. i.e., trainees can rate and provide reviews for the courses they take on the LearnPress website. f) LearnPress – WishList, this add-on brings wish list feature to LearnPress. This allows you to add your favorite courses to a list to retrieve later. G) LearnPress – GradeBook, this add-on Helps trainees and instructors follow student progress in a subject, including lesson/quiz pass threshold, and lesson/course learning status. Gradebook also allows to export of grades to CSV format and save them for management, and statistics.

The next step is h) LearnPress – H5P Content, this add-on is for creating e-learning content containing quizzes, interactive videos, or simulations. You can use a plugin called H5P, which is quite responsive, supports HTML5, and can be used for free. i) LearnPress – Offline Payment, this add-on helps you manually make orders for offline payments instead of paying through any payment gateway to sell courses. J) LearnPress – Students List, this Add On displays the student list on a new tab showing the number of students taking courses and the progress



of their courses. Product development results. The Learning Management System can be accessed at the link lms.indokaryasolusi.com

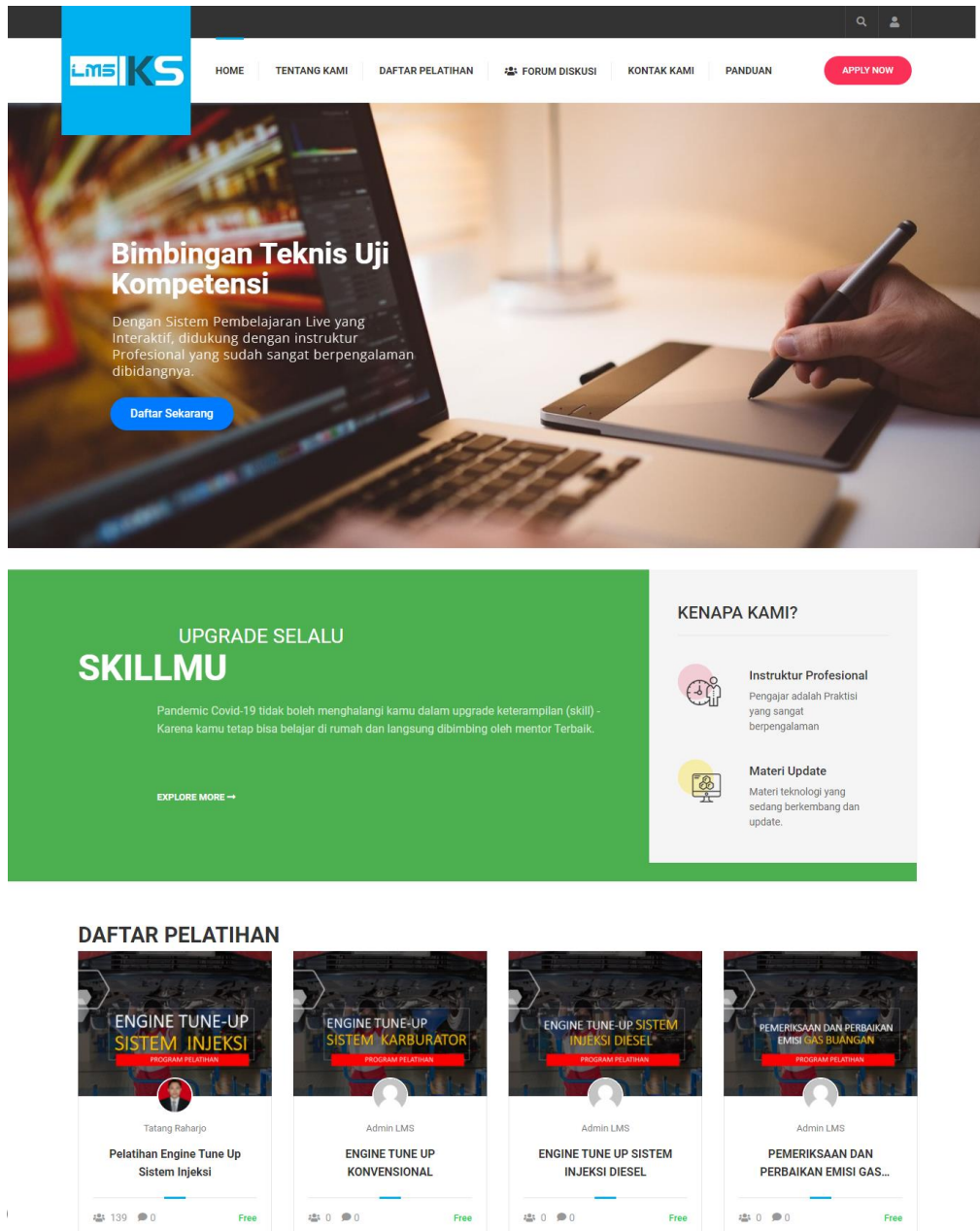


Figure 1. Learning management system

LMS and can be accessed at the following link :
<https://lms.indokaryasolusi.com/docs/>

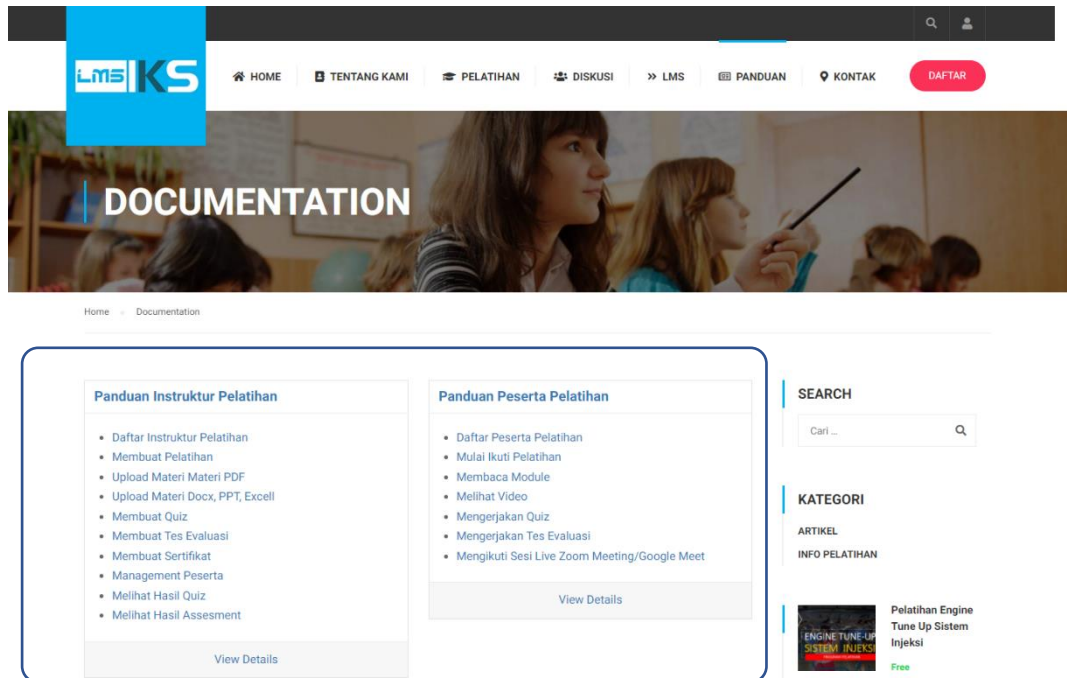


Figure 2. Display of the Online User's Guide

The video guide can be accessed via the following link:
<https://youtu.be/c50oWmpK8mo>.

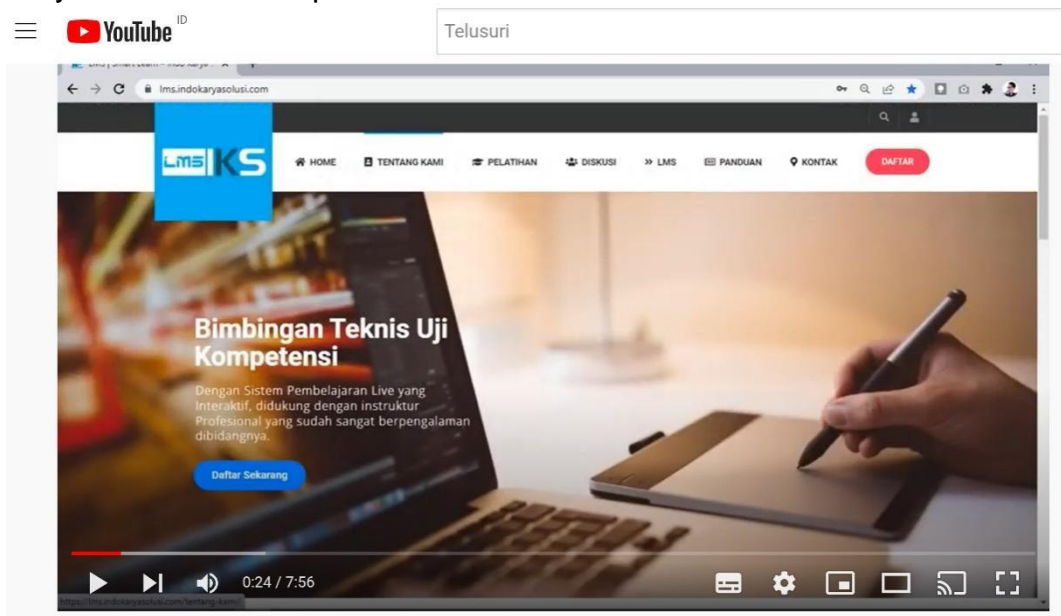


Figure 3. Display of the Video User Guide



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The picture above shows the Video LMS Usage Guide. In addition to the user guide in the form of text or images, the author also provides a guide in the form of a video to make it easier for users to use the LMS.

DISCUSSION

Media eligibility criteria, according to Arikunto, are

Table 1. Media Feasibility According to Arikunto

Percentage Intervals	Criteria	Qualification
$85\% \leq P \leq 100\%$	Very good	Not revised
$69\% \leq P < 85\%$	Good	Not revised
$53\% \leq P < 69\%$	Pretty good	It needs to be revised
$37\% \leq P < 53\%$	Not good	Must be revised
$20\% < P < 37\%$	Not good	Must be revised

Media eligibility test results according to media experts. The results obtained were 88.8%, according to media experts, the election results of the WordPress and Learnpress Based Learning Management System (E-Learning) at PT. Indo Karya Solusi is very good and does not need to be revised to be implemented.

Feasibility results according to material experts. The results obtained were 93.3%, from the feasibility results according to this material expert Learning Management System (E-Learning) Based on WordPress and Learnpress at PT. Indo Karya Solusi is very good and does not need to be revised to be implemented.

Feasibility results according to participant experts. Feasibility results according to participants 92.76%, the eligibility results according to this user a WordPress and Learnpress Based Learning Management System (E-Learning) at PT. Indo Karya Solusi is very good and does not need to be revised to be implemented.

The findings of LMS products in this study are supported by several previous studies, namely the results of this study are as follows. (1) E-learning products are developed using an online Learning Management System (LMS) created with the Moodle application software version 3.1. (2) Moodle-based e-learning products meet the criteria. They are declared eligible as learning media based on the validation of media experts with a score of 3.70 with the criteria of "Good" and based on the validation of material experts with an average score of 4.34 with the criteria of "Very good." and based on user response with a score of 4.30 with the criteria of "Very good." (3) The learning outcomes of class X UPW 2 SMK Negeri 4 Yogyakarta have increased after using e-learning. The effectiveness of the product on learning English in listening competence is proven through an increase in learning outcomes which is known from the percentage of pretest and posttest evaluation results, which is 17.19% (Irawan & Surjono, 2018).

Irawan and Surjono's research above also examined the online LMS version of the Moodle application, and the criteria are very suitable for use in online learning.

Likewise, Musa and Khasanah's research stated that overall there were significant differences in the learning outcomes of crafts and entrepreneurship between students who were taught using Moodle-based e-learning learning media and students who were taught using print media. The learning outcomes of crafts and entrepreneurship who are taught using Moodle-based e-learning media are higher than students who are taught using printed media. (Musa and Khasanah, 2019) . Musa and Khasanah stated the importance of using appropriate instructional media in learning, thereby increasing learning outcomes. In this case, moodle media developed with learning-based media. Research limitations 1) This LMS was made by relying on the default settings of the plugins used. Changing beyond what is in the default plugin settings to match what we want requires more advanced programmer skills, while the author still needs to be advanced in LMS programming. 2) The a limited number of media experts who can provide feedback on the LMS that has been developed because usually, media experts judge the learning media, not the LMS platform.

Khasanah and Rusman's research also stated limitations and that other researchers would continue these deficiencies. The development of SAC media has been effective but has yet to be maximized. This is due to the limited hosting capacity to accommodate more complex materials. This can be seen from the effectiveness test of 58% pretest and 86% posttest learning outcomes, with an average difference of 28%. Hopefully, this can be further developed and improved for other researchers conducting research with the Smart Apps Creator (Khasanah & Rusman, 2021). Likewise, with this research, there is hope to be further research.

CONCLUSION

This research produced a learning media in the form of website-based E-Learning for training conducted by PT. Indo Karya Solusi. The development process, which is gradual and sequential, includes four stages, namely ADDIE (Analyze, Design, Develop, Implementation, and Evaluation). Media experts tested the developed product with an assessment score of 88.8% and material experts with an assessment score of 93.3%, which means that E-Learning is very good and feasible to implement. The trial use was carried out in 3 stages, namely one-to-one evaluation with 90.6% results, small group evaluation with 96.13%, then field evaluation with 92.76% which showed that the e-learning development results were very suitable for use in the training carried out by PT. Indo Karya Solusi.



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