

Effectiveness of using online learning system (spada) teacher certification program in positions of computer engineering and information engineering of UNM

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Abstract

This study aims to determine the level of effectiveness of using the LMS Online Learning System (SPADA) for the Teacher Certification Program In Position (PPG Daljab) Program for Computer and Informatics Engineering (TKI) of Universitas Negeri Makassar (UNM) in 2020, as a learning medium for PPG Daljab students based on respondents' responses. This is descriptive research with a survey approach. The population in this study were 49 students of PPG Daljab in the Field of Study for TKI UNM Batch 1 of 2020. The sampling technique is a saturated sampling technique. Analysis of the data used is descriptive statistical analysis of percentages. The results show that the supporting aspects of the level of effectiveness with the highest percentage of effectiveness achievement are aspects of learning motivation (87.79%), followed by aspects of learning activities for lecturers and students (87.27%), aspects of material presentation/exercise (83.08%), and the accessibility aspects of SPADA LMS features (81.87%) which are categorized as very effective. Meanwhile, the aspect of the carrying capacity of online facilities (74.34%) and the aspect of time efficiency (72.42%) are categorized as quite effective. So that the average percentage achievement of the effectiveness of using SPADA LMS is 81.13% with a range of effectiveness values in the range of 3.2 so the results are declared very effective. As for the recap of the value of students' understanding of the material presented in the SPADA LMS, the value of pedagogic material is 91.232 and the value of the field of study material is 93.013. The results of the achievement of the effectiveness of the SPADA LMS can be used as an evaluation material regarding the accessibility of using SPADA LMS features on PPG Daljab in the coming year.

Keywords: Effectiveness, Online Learning System, Teacher Certification Program.

Introduction

One of the important components in the world of education is the teacher. This is because the teacher is the central point in the world of education that is directly related to students so that it is used as an example in terms of attitudes and behavior for students. The benchmark for the success of education is largely determined by the readiness of teachers in preparing students through the learning process. In carrying out their duties as a teacher, not just anyone can do it. Related to this, teachers must try to improve the competence and quality of services for

students to achieve educational goals and improve the quality of education.

The Government of Indonesia through the Ministry of Research, Technology, and Higher Education (2017) prepared the PPG Program for Teachers in Position or called PPG Daljab. The program is organized by universities established by the Ministry of Research, Technology and Higher Education. The PPG Daljab program is expected to be able to answer problems related to the competence of superior and characterized teachers.

In 2017, the Directorate General of Learning and Student Affairs (Ditjen Belmawa) designed a number of programs related to the development of the PPG Daljab learning system known as the Hybrid Learning System. The implementation of the Hybrid Learning System began to be used at PPG Daljab in 2018 which is expected to produce graduates who are superior, have character and have national values and are relevant to the development of the industrial era 4.0 to produce better quality students.

Along with changes in the nomenclature of the Ministry in charge of Higher and Professional education, the implementation of PPG daljab in 2020 underwent changes, both from the learning system used and the learning process during PPG daljab. In 2020, the authority in implementing PPG daljab is fully handled by the Directorate of Professional Education and Coaching of Teachers and Education Personnel of the Ministry of Education and Culture of the Republic of Indonesia. One of the fundamental changes is the Online Learning System (SPADA) that is used no longer uses Brightspace but uses a Moodle-based Learning Management System (LMS) which is integrated into the <https://ppg.kemdikbud.go.id/>

Based on the Letter of the Directorate General of Teachers and Education Personnel Number 1845/B.B2/GT/2020 dated June 15, 2020 regarding the Implementation of PPG Daljab in 2020, it is stated that PPG Daljab is carried out fully online for 86 effective days (3 months) which includes 5 (five) The stages are material deepening, development of learning tools, review and reflection, Field Experience Practice (PPL) and Teacher Certification Program Student Competency Test (UKMPPG). Where specifically this year, there were only 4 (four) batches that took part in this PPG Daljab, different from previous years which included 5 (five) batches.

According to the results of an interview with one of the PPG Daljab LPTK UNM lecturers who is also one of the PPG Daljab Module Writing Teams in the field of Computer and Information Engineering (TKI) studies, it was found that in 2020 there were several changes in the teaching materials displayed, especially by using the LMS. SPADA from the Ministry of Education and Culture (Kemdikbud). This was done as a result of an evaluation of the use of Brightspace SPADA in the previous year, where there were

still deficiencies found in the publication of teaching and evaluation materials, such as teaching materials in modules that were too broad, the existence of modules that were not tested because they were not listed in the UKMPPG grid, the existence of items that do not match the content of the module, as well as learning videos that cannot be downloaded. Based on these problems, for the implementation of PPG Daljab in 2020, a model by design and module improvement was developed that was tailored to the needs using the SPADA LMS from the Ministry of Education and Culture which was integrated with the PKB SIM account of each PPG Daljab teacher participant. So for this year, the PPG Daljab Program uses the PKB SIM account as a username to log into the LMS SPADA Kemdikbud.

In addition, information obtained from one of the PPG Daljab lecturers regarding changes to the online system which previously used Brightspace to become LMS SPADA Kemdikbud. For this year, all learning processes are centralized in the Ministry of Education and Culture and are integrated with the SIM PKB account of each PPG Daljab teacher so that they can directly connect to the Basic Education Data (Dapodik) of each teacher, no longer using third party services that provide Brightspace media.

The purpose of this study was to determine the level of effectiveness of using LMS SPADA for PPG Daljab program in the field of Computer and Informatics Engineering (TKI) UNM as a learning medium for PPG Daljab students based on respondents' responses.

In the Big Indonesian Dictionary (KBBI, 2016) effectiveness is defined as something that has an influence or effect, is effective, brings results and is the success of a business or action, in this case effectiveness can be seen from the achievement of the specific instructional objectives that have been proclaimed. . Learning methods can be said to be effective if they are able to achieve more targeted specific instructional goals.

The level of effectiveness can be measured by comparing the plans that have been determined with the real results that have been realized. However, if the effort or the results of the work and actions taken are not appropriate, so that the goals are not achieved or the expected goals,

then it is said to be ineffective. Effectiveness is measured using a standard measure and the value of the range of effectiveness in accordance

with the R&D reference of the Ministry of Home Affairs (1991) in Yuniastari (2015), as shown in Table 1 and Table 2 below:

Table 1. Effectiveness Range Value

Value Range	Information
0 - 2	Ineffective
2.1 - 3	Quite Effective
3.1 - 4	Very Effective

Table 2. Standards of Effectiveness Value Ratio

Effectiveness Ratio (%)	Achievement Level
Under 40	Very Ineffective
40 – 59.99	Ineffective
60 – 79.99	Quite Effective
Above 80	Very Effective

Source : Depdagri (1991), Yuniastari (2015)

Implementation of PPG Daljab in 2020, the Directorate General of Teachers and Education Personnel has decided to use full online so that the curriculum structure of the PPG Daljab program has also changed. The curriculum structure consists of 3 groups of subjects, namely (1) deepening of pedagogic material and fields of study; (2) development of learning tools and new peer teaching models; and (3) field experience practice. Based on teacher education standards, the learning load for the PPG program is 36 - 40 credits. For PPG daljab, the learning load that must be taken is 12 credits, while the learning load of 24 credits is met through recognition of past experiences. The learning load is 12 credits that must be taken. All credits in the PPG daljab program study load are presented through the SPADA Learning Management System (LMS) from the Ministry of Education and Culture.

SPADA's Learning Management System (LMS) is a Moodle-based e-learning platform used by the Ministry of Education and Culture in the PPG Daljab 2020 online learning process which can be used by teachers to study and do assignments online. The use of the LMS SPADA Kemdikbud is expected to be able to

improve the competence of graduate teachers participating in PPG daljab where all learning is carried out centrally. The features that have been prepared in the LMS SPADA Kemdikbud such as Simulation and Exercise features, Learning Together, Discussion Forums, Chat, Video Tutorials, Web Meetings, E-Modules, Quiz, Formative/ Summative Question Exercises, Final Projects, and Learning Reflections that can be accessed via <https://ppg.kemdikbud.go.id/>

The focal point of this research is to measure the level of ease of users in accessing the SPADA LMS as a learning media platform from the Ministry of Education and Culture to assist the learning process in PPG daljab in the field of Computer Engineering and Informatics UNM 2020 specifically for batch 1 which has taken place. Thus, the researcher determines the aspects of effectiveness that will be measured from the research such as, (1) learning activities between lecturers and students, (2) accessibility of SPADA LMS features, (3) presentation of material/training, (4) carrying capacity online facilities and infrastructure, (5) time efficiency, and (6) learning motivation.

Method

The research method in this study is quantitative, with descriptive and verification research with a survey approach, which aims to describe and explain the existing conditions in the object of research based on factors and data collected, then compiled systematically. The research was conducted at the LPTK of Makassar State University as the organizer of the PPG Daljab in the field of study for TKI UNM. The research was carried out from September to November 2020.

The population in this study were students of PPG Daljab Year 2020 batch 1 for the field of study for TKI UNM with as many as 49 online class students. The sample in this study used a saturated (total) sampling technique so that the total population that became the research sample was 49 respondents.

The data collection technique in this study used a questionnaire instrument (questionnaire). The type of questionnaire used is a closed questionnaire, namely a questionnaire whose answers have been provided. Respondents just choose one of the alternative answers that have been provided. Researchers hope that the questionnaire can find out personal data, experience, knowledge and especially regarding the effectiveness of using LMS SPADA PPG Daljab in the field of study for TKI UNM in 2020.

The research instrument related to the effectiveness of using LMS SPADA for PPG students in the field of study for TKI UNM consists of 60 statement items which are divided into six variable aspects, which include; (1) learning activities of lecturers and students, (2) accessibility of SPADA LMS features, (3) presentation of material/training, (4) supporting capacity of online facilities and infrastructure, (5) time efficiency, and (6) motivation to learn.

Data analysis technique is a method or method used to process information, so that the data is easy to understand and also to find solutions to problems. The collected data needs to be analyzed properly before drawing a conclusion on the problems studied with the help of SPSS and Microsoft Excel software. The analysis technique in this study uses descriptive percentage analysis. The measurement scale that the author uses is a Likert scale based on respondents' responses from the questionnaire instrument that has been filled in.

Results and discussion

The results showed that the overall results of the analysis of respondents' responses regarding aspects of effectiveness in this study showed that the use of LMS SPADA in the PPG daljab program of study for TKI UNM was very effective in helping the teaching and learning process for PPG daljab students.

Descriptive statistical analysis of each aspect shows that the supporting aspects in the results of this analysis are obtained sequentially from the level of effectiveness with the highest percentage of effectiveness achievement, namely the aspect of learning motivation (87.79%), followed by aspects of the learning activities of lecturers and students. (87.27%), aspects of material presentation/exercise (83.08%), and aspects of the accessibility of SPADA LMS features (81.87%) which are categorized as very effective. Meanwhile, the aspect of the carrying capacity of online facilities (74.34%) and the aspect of time efficiency (72.42%) are categorized as quite effective.

The results of the indicator test are mapped based on the range of effectiveness values and the percentage of effectiveness achievement. The results of mapping the level of effectiveness can be seen in Table 3.

Table 3. Results of Mapping the Level of Effectiveness

Indicators	Achievement Percentage(%)	Effectiveness Value Range	Information
1	87,27	3,5	Very Effective
2	81,87	3,3	Very Effective

3	83,08	3,3	Very Effective
4	74,34	3,0	Quite Effective
5	72,42	2,9	Quite Effective
6	87,79	3,5	Very Effective
Total Average	81,13	3,2	Very Effective

Based on Table 3, the overall percentage of effective use of SPADA LMS is 81.13% with a range of effectiveness values in the range of 3.2 so the results are declared very effective. While

the recapitulation of the value of pedagogic online learning and the field of study for PPG Daljab students can be seen in Table 4.

Table 4. Recap of Pedagogic Score and Fields of Study

Students (49 people)	Final Score			
	Pedagogic Material		Fields of Study Material	
	Score	Predicate	Score	Predicate
Average Score	91,23	A	93,01	A

Based on Table 4, the results of the recapitulation of online learning scores for pedagogical materials and field of study materials showed that the average value achieved by PPG Daljab students batch 1 of 2020, which amounted to 49 people, namely for pedagogic scores received a score of 91.232 or with an A predicate, while for field grades The study obtained a score of 93,013 or with an A predicate. The recap of the score shows that the level of student understanding of the material is very high with the use of this LMS SPADA Kemdikbud.

For respondents as PPG Daljab 2020 students who directly use various features and services in the SPADA LMS, they state that their learning motivation is increasing because they use SPADA LMS as an online learning medium, although based on these results, time efficiency is still a concern because of the schedule that is scheduled. The density and the number of modules that must be completed in a limited time in the SPADA LMS is a problem in itself. It was also found that some of the features presented in the SPADA LMS are very useful in helping students while participating in PPG online learning such as the Simulation and

Exercise features, Learning Together, Discussion Forums, Chat, Video Tutorials, Web Meetings, E-Modules, Quiz, Formative Question Exercises. / Summative, Final Project, and Learning Reflection. These features function well although some respondents stated that sometimes buffering occurs when accessing these features simultaneously.

The results of this study are in line with research conducted by Dharma & Rohendi (2018), where the results of the research simultaneously have a significant and effective influence on the implementation of Blended Learning learning in the PPG Daljab program in 2018. The application of the blended learning model as a learning model obtained effective results and positive impact on the teaching and learning process by increasing students' knowledge.

Research conducted by Yuhana, et al. This (2019) is about PPG Daljab 2019. The results of research related to student learning motivation using Brightspace PPG Daljab 2019 showed results that were not much different regarding the effectiveness of increasing student motivation using LMS SPADA Kemdikbud 2020.

Thus, this finding also further confirms that the use of the SPADA LMS platform in the PPG Daljab program in the field of study for TKI UNM is very effective as a PPG Daljab learning medium in increasing the learning motivation of PPG Daljab students with a very high percentage of overall effectiveness achievement and a very high value of understanding the material.

The results of this study can be used as material for evaluation and reflection regarding the implementation of PPG Daljab in 2020 fully online using the LMS SPADA Kemdikbud. The features that are presented in general have high accessibility and are effective in helping students in the learning process during PPG Daljab with a full online system and the variable perception of students about the accessibility of using SPADA LMS has a significant influence on the level of effectiveness and learning motivation of PPG Daljab students in the field of TKI study of UNM 2020.

Conclusion

The conclusion of this study indicates that the use of LMS SPADA Kemdikbud is very effective as a learning media for PPG Daljab in increasing student learning motivation with a very high percentage level of overall effectiveness achievement and a very high value of understanding the material.

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