

Developing Learning Based on Learning Management System in Administration and Education Supervision Courses

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Abstract:

This study aims to describe and test the product of learning development based on a Learning Management System (LMS). LMS is a solution to dealing with technological advances while still considering the rules contained in the learning process. LMS also can minimize the effects of time and distance that always appear in knowledge acquisition. This study uses the type of Research and Development (R&D) with the Borg and Gall model. In this study, the administrative and educational supervision courses were used as one of the first trials in implementing the LMS. Administration and academic supervision courses have been applied to all universities in Indonesia, one of which is UNISDA Lamongan. The results showed that there was a difference in better management when compared to before using the LMS. This research has implications for the importance of educators in designing their learning to achieve the goals that have been set.

Keywords: *Learning Development, Learning Management System, Borg & Gall Model*

Abstrak:

Penelitian ini bertujuan untuk mendeskripsikan dan menguji produk dari pengembangan pembelajaran berbasis Learning Management System (LMS). LMS menjadi salah satu solusi dalam menghadapi kemajuan teknologi dengan tetap mempertimbangkan kaidah-kaidah yang terdapat dalam proses pembelajaran. LMS juga memiliki kelebihan untuk meminimalkan efek dari waktu dan jarak yang selalu muncul dalam perolehan pengetahuan. Penelitian ini menggunakan jenis Penelitian dan Pengembangan (R&D) dengan model Borg dan Gall. Pada penelitian ini matakuliah administrasi dan supervise pendidikan dijadikan salah satu uji coba pertama dalam implementasi LMS. Matakuliah Administrasi dan supervisi pendidikan telah diterapkan pada seluruh universitas di Indonesia salah satunya adalah UNISDA Lamongan. Hasil penelitian menunjukkan adanya perbedaan manajemen yang lebih baik bila dibandingkan dengan sebelum menggunakan LMS. Penelitian ini memberikan implikasi tentang pentingnya pendidik dalam mendesain pembelajarannya untuk mencapai tujuan yang telah ditetapkan.

Kata Kunci: *Pengembangan Pembelajaran, Learning Management System, Model Borg & Gall*

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INTRODUCTION

Currently, teaching and learning methods from elementary to tertiary levels are a little bored if only using conventional methods, namely lectures and questions and answers. So it is necessary to have a new method to increase the spirit of teaching and learning, both for students and lecturers. According to Pelangi (2020), Firmadani (2020), and Apriansyah (2020), Learning media is a tool for someone to teach or how excitingly convey material. This is done to create an effective and efficient learning atmosphere.

The application of learning media must be based on a predetermined learning pattern that will be used. Along with the times, learning activities must be thoroughly planned. Learning activities without preparation will only result in useless learning activities and will have no meaningful results. One of the keys to success in learning is a change in terms of cognition (knowledge), affection (attracting attention), and student psychomotor (skills and skills) (Aulia et al., 2018; Syofyan, 2018; Mulia et al., 2022).

To achieve this success, lecturers must organize meaningful learning activities, which students can absorb for their long-term memory. One way lecturers make learning more meaningful is to use exciting learning media. To determine the appropriate media to be applied in learning is to understand in advance the types of learning media that can be used, both in and outside the classroom. The grouping of various types of media categorized in terms of technological development is divided into two broad categories, namely traditional media and cutting-edge technology media (Chumsukon, 2021; Rohmah, 2019).

In total, it is explained that the media is everything that can be used to convey messages and can stimulate the mind, arouse enthusiasm, attention, and willingness of students so that it can encourage the learning process in students. (Setiawan et al., 2020; Heinich et al., 2005). Aisyah et al. (2022) define media as anything that conveys information from a source to a receiver. From some of these definitions, it can be concluded that media is a tool used to convey messages in learning.

The world of internet has been widely applied throughout the world. In response to this, various technological innovations have been developed along with the development of information technology (IT). The presence of information technology (IT) in education is also significant; the need for a concept and mechanism for teaching and learning based on information technology (IT) is the main thing in improving learning. There is the concept of E-learning or distance learning, where students and lecturers can do online learning activities (Kulikowski et al., 2021; El-Sabagh, 2021). It can be concluded that the internet is a world where we can simplify all existing routine activities by utilizing the concept of technology.

The implementation of the internet in education is known as E-learning, or it can be interpreted as learning electronically. E-learning is also known as distance learning; it is said so because the concept of E-learning has been widely applied to students. Implementing the internet in education also makes school activities more accessible, and a student can see the value online. View school

schedules, send assignments, assign assignments, download course materials, etc. According to Encarnacion et al. (2021), E-learning can also be done informatively with more direct interactions by just sitting in front of a computer, laptop, or smartphone, even if you are at home or in an internet cafe. Thus, E-Learning is a learning method that can be used flexibly and can be done at any time.

Various E-learning systems are commonly used, including Edmodo, Moodle, and Google Classroom. Various kinds of E-learning systems make students more independent and creative. In this study, the E-learning that is used is Google Classroom. Moonma (2021), and Susanto et al. (2021) argue that Google Classroom is an internet-based service provided by Google as an E-learning system. This service is designed to help lecturers create and distribute paperless assignments to students.

Users of this service must have an account with Google. In addition, Google Classroom can only be used by schools with Google Apps for Education. Currently, learning methods are required for innovation in improving learning so that students do not experience boredom. Therefore, E-learning-based learning is implemented, one of the learning models supported by information technology (IT). As for lecturers, it makes them feel more efficient and easier to update materials or teaching models according to the demands of the times. It also makes them easier to control student assignments.

E-learning, of course, has several advantages, including; 1) The setting process is fast and convenient; 2) it Saves time which means students no longer have to download assignments given by the lecturers; and 3) Lecturers can send notifications to students to start online discussions or notify students about certain online learning activities; 4) all data is in one centralized location, students can see all their assignments in a specific folder, grades can also be seen in the application; 5) and documents will not be lost, because they are all stored in the free LMS.

The formulation of the problem in this research is how to manage learning resources in LMS using Google Classroom in administrative and educational supervision courses. Specifically, the problem formulation is detailed; 1) How attractive is E-Learning Media Using Google Classroom in educational administration and supervision courses?; 2) How effective is E-Learning Media using Google Classroom in educational administration and supervision courses?; 3) How is the efficiency of E-Learning Media Using Google Classroom in education administration and supervision courses?

Gagné (2013) and Nelson (2000) say that the media are various components in the student environment that can stimulate learning. Heinich et al. (1989) define media as a channel for communication that comes from Latin, which means "between," to transmit information between the sender and the receiver. Miarso (2004) said that "the medium is a technology for presenting, recording, sharing, and distributing symbols through certain sensory stimuli, accompanied by structuring information." The Association for Educational Communication and Technology (AECT 1979) suggests that the media are all forms and channels for the process of delivering information. Yunjo (2021) and

Liang et al. (2020), explain that learning is a term used to indicate an educational effort that is carried out intentionally. With goals set before the process is carried out and whose implementation is controlled. Learning is a process of communication and interaction as a form of educational effort by conditioning the occurrence of the learning process in students.

In line with that, learning media is a tool that serves to explain some of the entire learning programs that are difficult to explain verbally (Kurniawan et al., 2019). In other words, a learning media can be used as the primary media used for the entire learning process or as a complement or supplement only (Gagne, 1976; Gagné, 1992). Thus, it can be concluded that learning media are all forms and means of delivering information that is made or used by learning theory, can be used for learning purposes in channeling messages, stimulating students' thoughts, feelings, attention, and willingness to encourage a deliberate learning process. Purposeful and controlled (Veres et al., 2021; Stevi et al., 2020).

E-learning is learning by utilizing technology. Learning activities using computer or internet media. The media used include telephone, audio, and so on. Many learning models are used, one of which is an internet-based e-learning model. Gilbert & Jones (2001) explain that e-learning is all forms of learning activities that utilize electronic media for learning. This definition emphasizes using all forms of electronic devices to help humans learn. This is by the abbreviation "E" in the term "E-learning," which means electronic. More specifically, the definition of e-learning is the use of internet technology to distribute learning materials so that students can access the materials from anywhere between various terms related to e-learning and learning. So e-learning is learning by using electronic assistance services that make it easier for lecturers and students to teach and learn (Suyanto, 2005).

The benefits of e-learning are learning through e-learning, including the following benefits; 1) anytime, anywhere; 2) increasing learning interactions (lecturer-student-instructor); 3) reaching students broadly and accessing materials globally; 4) facilitating systematic improvement of learning materials. The use of e-learning cannot be separated from internet services. Because the learning techniques available on the internet are so complete, this will affect the task of the lecturer in the learning process. In the past, the learning process was dominated by the role of the lecturer because it was called the era of the teacher.

Google Classroom is a free online service for schools, institutions, non-profits, and anyone with a Google account. Google Classroom makes it easy for students and lecturers to stay connected both inside and outside the classroom; Google Classroom is a mixed learning platform developed by Google for schools or other educational institutions that simplify the creation, distribution, and assignment of assignments in a paperless way. Classroom works with Google Docs, Google Drive, and G-Mall so that educators can assign assignments to students. Educators can attach materials, documents, links, and pictures to assignments. All activities are online using a mobile device. Learners enter class, view upcoming assignments, and entirely online. When students submit assignments, educators immediately see in the class stream that assignments are submitted. Google Classroom is an application that allows the

creation of classrooms in cyberspace. In addition, Google Classroom can be a means of distributing assignments, submitting assignments, and even assessing submitted assignments (Salamah, 2020; Melisa, 2019). Thus, this application can help lecturers and students carry out the learning process more deeply. This is because both students and lecturers can collect assignments, distribute assignments, and assess assignments at home or anywhere without being bound by time limits or class hours.

Google Classroom is designed to facilitate the interaction of lecturers and students in cyberspace. This application allows lecturers to explore their scientific ideas with students. Lecturers have the flexibility of time to share scientific studies and give independent assignments to students. In addition, lecturers can also open discussion rooms for students online. However, there is an absolute requirement in applying to Google Classroom, which is that it requires qualified internet access.

The previous definition of educational supervision administration was a series of planned coaching activities for each person in the process of cooperation in the field of education and improving human resources to improve the teaching situation, which will continue to develop over time to achieve educational goals more effectively and efficiently.

Understanding the concept of educational administration described has implications for related aspects in an educational institution environment, both macro, meso, and micro, to achieve goals. Therefore, an effort is needed by administrative functions in terms of systems, subsystems, components, dimensions, elements, and criteria. Administration as a tool in the organization, organizational behavior is primarily determined by the behavior of the personnel involved in it. The behavior of personnel in an organization is determined through rules, a set of tasks, and a mechanism. In simple terms, these behaviors lead to aspects of planning, implementation, and supervision.

One indicator of a professional supervisor is always oriented to professional values, attitudes, and actions. This means that his actions are based on an adequate systematic theory and code of ethics for his position. Therefore, supervisors should understand administrative concepts and always try to lay the theoretical foundations for professional practice by what they aspire to.

RESEARCH METHODS

Regarding the type of research to be carried out, this research is included in research and development (Research and Development). According to (Sugiyono, 2013), research and development (R&D) methods are research methods used to produce new products, test the effectiveness of existing products, and develop and create new products. Research and development are used to validate and develop products. Validating the product means that the product already exists, and research only tests the effectiveness or validity. Developing products in a broad sense can be in the form of updating existing products to become more attractive, effective, and efficient in education or creating new products that previously existed.

In connection with this development research, the Borg & Gall procedural model is used because it is considered suitable for the development objectives to be achieved, namely to produce a product in the form of learning media and to test the feasibility of the product produced to achieve this goal must go through specific steps that must be followed to produce a product. Certain. This development research will produce a learning media product in e-learning media using google classroom on Administration and Education Supervision courses on Administration and Education Supervision materials in Semester II class of MPI Study Program Unisda Lamongan.

The procedural steps of the Borg & Gall model can be described in Figure 1 as follows;

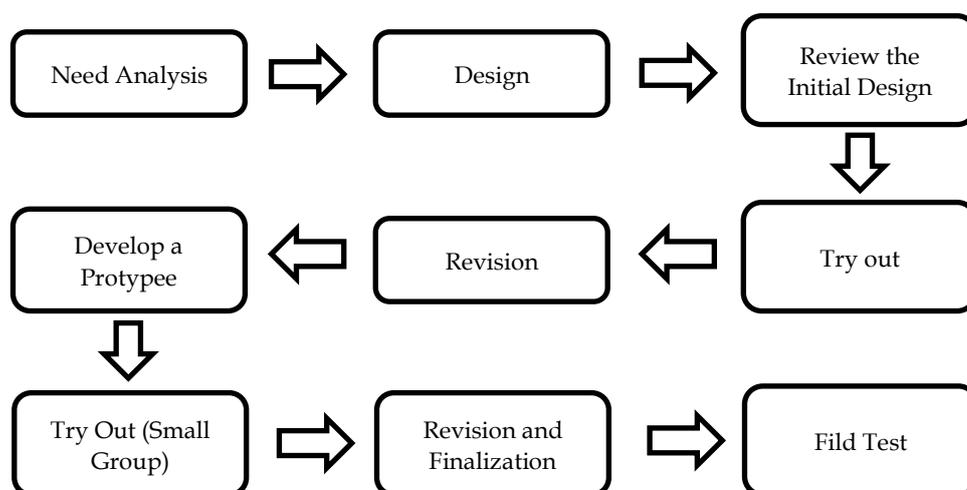


Figure 1. Borg & Gall Development Model

Based on the picture above, the first step is to conduct a needs analysis that is then used to design learning media. The next step is to review the design of instructional media before testing. If necessary, revisions are made regarding the appearance design, material design, and overall design. This process is carried out until the media developed is suitable for use.

The data obtained in the research on the development of learning media based on E-learning using google classroom is from data with a qualitative descriptive approach. Qualitative descriptive data in the form of criticism and suggestions from experts (media and materials) is obtained through consultation, discussion, and expert validation test assessments. This data is used to review, revise and improve learning media development products. This data was obtained from various sources, namely material experts, media experts, and students as media users. Media experts and material experts are tasked with validating the media and materials used for students to test attractiveness, effectiveness, and efficiency. The instruments used in this study are as Table 1.

Table 1. Learning Media Development Questionnaire Instrument

No	Rated Aspects	Indicator
1.	Learning Design	1) clarity of general learning objectives 2) conformity to student learning needs 3) conformity to student conditions 4) the impact of media on student knowledge 5) the impact of media on student interest in learning 6) conformity with student characteristics 7) the scope of learning objectives on the material 8) the adequacy of the questions in measuring the student's ability to study 9) the suitability of the approach to the characteristics of students 10) the suitability of feedback in the use of media
2.	Material	1) clarity of Basic Competence 2) clarity of learning objectives 3) the suitability of the material with students 4) material clarity 5) the effectiveness of the sentences used 6) ease of understanding the content of the material 7) the accuracy of the order in which the content of the material is presented 8) the adequacy of the exercise provided 9) feedback effectiveness
3.	Media appearance and appeal	1) text legibility 2) clarity of instructions for using media 3) image display quality 4) clarity of the material displayed 5) the color composition used 6) conformity of media content 7) media can increase learning motivation 8) media is easy to learn by users 9) provide learning opportunities according to ability

While quantitative data is in the form of student assessments of the products presented, the quantitative data is then expressed in scores using a Likert scale with five scoring points (Sugiyono, 2009), as outlined in the following Table 2;

Table 2. Assessment criteria (score) on the questionnaire

Criteria	Score
Very positive/very good	5
Often/good	4
Neutral/good enough	3
Less/not good	2
never/very bad	1

The scores from the questionnaires are then added up, the results of the summations are grouped into assessment criteria with the following intervals:

The total score for those who answered very well	= Total VW x 5 =
Total score for those who answered well	= Total W x 4 =
Total score for those who answered quite well	= Total QW x 3 =
Total score for those who answered not well	= Total NW x 2 =
Total score for those who answered very poorly	= Total VP x 1 =
	<hr/>
	Total Score =

Then to find out the percentage of assessment achieved, the following formula can be used:

$$P = \frac{NS}{N} \times 100$$

Note:

P = Percentage

NS = Number of the students (who gets score)

N = Total Number of the students

RESULTS AND DISCUSSION

Developing learning media can be seen from the teaching and learning process using the media; the researchers carried out several stages so that the learning media was by research expectations. The first stage is to consult with the supervisor to develop learning media; then, revisions are made to correct the media's shortcomings and materials used. Furthermore, validation is carried out, namely by media experts and material experts. After the validation stage has been carried out, then the attractiveness test, effectiveness test, and efficiency test are carried out to determine the attractiveness, effectiveness, and efficiency of the learning media used in the teaching and learning process, as well as to determine students' responses after doing e-learning media using google classroom.

Expert Validation Stage

Expert validation is an activation process to assess whether the media products used in this case are more effective than conventional learning. Product validation is carried out by experts or experts in their fields who have experience in assessing the product. Expert validation consists of media expert validation and material expert validation.

The first stage, namely potential & problems, and the second stage, collecting data/information, has been completed, then the next step is product design. After the product is designed, the thing to do is an assessment by experts. The assessment of these experts is carried out so that the products are developed to achieve the desired goals (Zakiy et al., 2018). Six expert validators tested design validation on this learning media was tested by six expert validators, namely three material experts, two media experts, and one linguist. The material expert validation assessment analyzed three aspects, namely aspects of content feasibility, graphic feasibility, and language feasibility. The validation test results by material experts are presented in the following Figure 2.

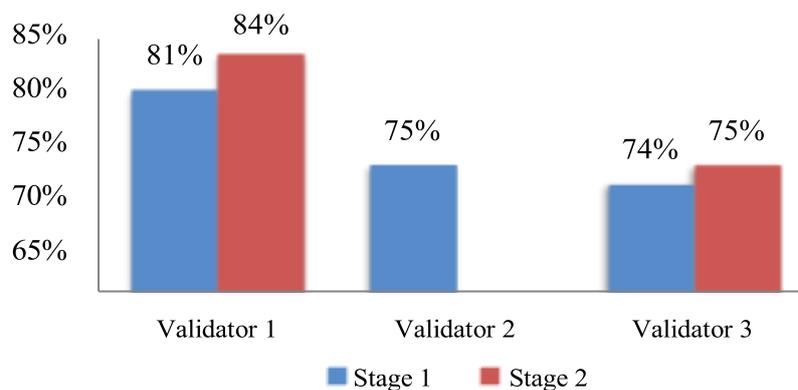


Figure 2. Validation test results by material experts

Based on Figure 2, the results obtained from the validation of material experts obtained an average of 78% with the criteria "Fair." Only one stage was carried out in the validation of the material expert by the second validator. In the first stage, according to the validator, the developed module had met the criteria, so the validation stage of the material expert continued to the next validator. The study of Zakiy et al. (2018) states that the results of the expert validation of the module material he developed got an average score of 3.67 with valid criteria. This is in line with previous research, which stated that the product developed was valid or feasible (Utami et al., 2018; Khalimah et al., 2017). The results of the validation by media experts are available in Figure 3;

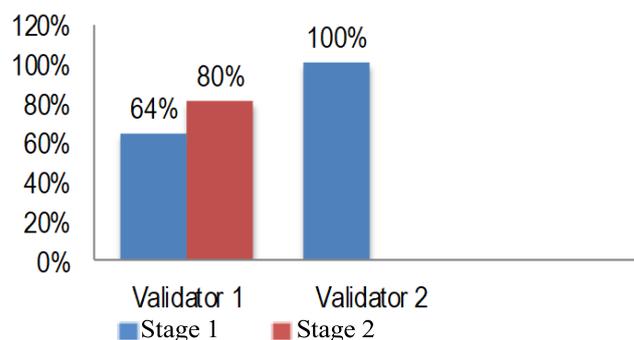


Figure 3. Validation test results by media experts

Based on Figure 3, the validation results by media experts get a percentage of 65% in stage 1 and 80% in stage 2. The validation results by media experts by validator 2 get a percentage of 100%. So that the results of the media expert validation obtained an average percentage of 86% with the "Very Eligible" criteria. This is reinforced by previous research that obtained appropriate criteria for the media expert validation tests (Nelawati et al., 2018; Pratami et al., 2018; Pradipta & Hernawati, 2015). The results of the validation by linguists are presented in Figure 4;

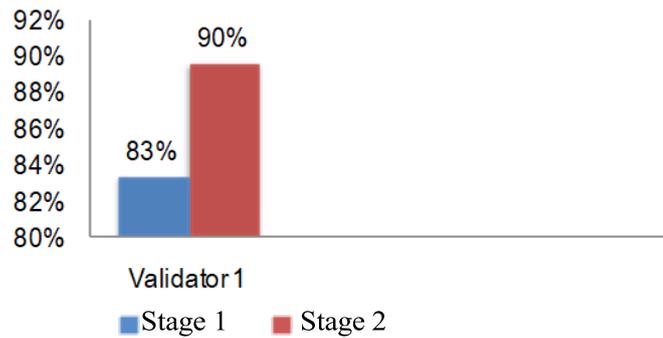


Figure 4. Validation test results by linguists

Based on Figure 4, it can be explained that the validation results by linguists show an average percentage of 87%, which can be categorized as very feasible.

Student attractiveness test

The analysis of the attractiveness data was carried out in the Semester II class of the MPI Unisda Lamongan Study Program, which amounted to 20 students, consisting of 12 female students and eight male students. Data analysis was carried out by giving questionnaires to students to assess student interest in e-learning learning media using google classroom on Administration and Education Supervision subjects, Administration and Education Supervision materials.

$$\text{Average attractiveness} = \frac{1.610}{20} = 80,5\%$$

The average attractiveness value is obtained by adding the average student results divided by the number of students (20), obtaining an average result of 80.5% with a good category. In addition, it can be described that the use of google classroom media in learning in the Semester II class of the MPI Unisda Lamongan Study Program obtains maximum results because students are very interested in learning by the existing learning objectives.

Student effectiveness test

The effectiveness data analysis was carried out at the MPI Unisda Lamongan Study Program, consisting of 20 students, 12 female students and eight male students. Data analysis was carried out by giving questionnaires to students to assess the effectiveness of students in e-learning learning media using google classroom.

$$\text{Average effectiveness score} = \frac{1.720}{20} = 86\%$$

The average effectiveness score is obtained by adding the average student results divided by the number of students (20), with an average result of 86% with an outstanding category.

In addition, it can be described that the use of google classroom media in learning in the Semester II class of the MPI Unisda Lamongan Study Program obtains maximum results because students are very effective in learning according to the existing learning objectives.

Media efficiency test

The effectiveness data analysis was carried out in the Semester II class of the MPI Unisda Lamongan Study Program, which amounted to 20 students, 12 female students, and eight male students. Data analysis was carried out by giving questionnaires to students to assess the effectiveness of students in e-learning learning media using google classroom on Indonesian subjects with biographical text material.

$$\text{Average effectiveness score} = \frac{1.720}{20} = 86\%$$

The average effectiveness score is obtained by adding the average student results divided by the number of students (20), with an average result of 86% with an outstanding category.

In addition, it can be described that the use of google classroom media in learning in the Semester II class of the MPI Unisda Lamongan Study Program obtains maximum results because students are very effective in learning according to the existing learning objectives.

CONCLUSION

About answering the formulation of the problem, the next problem is the quality of e-learning learning media products using google classroom on Administration and Education Supervision Subjects for Educational Administration and Supervision materials to get the following results. First, the e-learning learning media using google classroom in Indonesian subjects with biographical text material gets an attractiveness value from student responses of 80.5% with good categories. Second, the e-learning learning media using google classroom in Indonesian subjects with biographical text material gets a practical value in students' learning process by 86% with an outstanding category. Third, the e-learning learning media using google classroom in Indonesian subjects with biographical text material gets an efficiency value of 82.5% from students in the outstanding category.

Based on these results, it can be concluded that the e-learning learning media using google classroom in the Administration and Education Supervision course on Educational Administration and Supervision materials in the Semester II class of the MPI Study Program Unisda Lamongan can be said to be an attractive, effective, and efficient learning medium. Furthermore, the learning media can be applied in learning for students and lecturers in Educational Administration and Supervision courses.

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