Development Of Learning Kit Based Learning Management System (LMS) To Improve The Creativity Of Community Educaton Students

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Abstract. This study aims to: (1)produce appropriate learning tools in the Educational Innovation Course and (2)determine the effectiveness of using learning management system (LMS)-based learning tools to improve the creative thinking of Community Education Students. Products developed in the form of RPS, Teaching Materials and Assessment Instruments. The development procedure in this study uses the Borg and Gall model which includes (1) preliminary studies, (2) planning, (3) development of initial product forms, (4) product validation and first revision, (5) limited trials, (6)second revision,(7)extensive trial, (8) revision of final product, and (9) dissemination. Product validation was carried out by two expert lecturers on community education and two linguist lecturers. The limited trial was carried out in the Community education class. The expanded trial was carried out in thel class as the experimental class and the Community education class as the control class. Collecting data in research through observation, questionnaires, and written tests. Data analysis in this study used quantitative descriptive. The results of this development research are in the form of: (1) suitable learning tools for use in the Educational Innovation Course; and (2)the use of learning management system (LMS)-based learning tools that are effective in enhancing the creative thinking of Community Education Students.

Keywords: Learning kit , Learning management system, Creativity

1 Introduction

Higher Education is the highest education with a humanistic responsibility to prepare Indonesian people to have superior potential and noble personality supported by mastery of science and technology. Sociologically, all of this potential is directed towards the dedication of creating social welfare and educating the nation. Along with the development of today's cutting-edge technology, it is increasingly important to achieve the noble goals of higher education through complex challenges. Not only students, but also applies to all campus academics who have now entered the industrial revolution 4.0 arena [1].

In the industrial era 4.0, the education sector was one of the fields that was tested the most during the Covid 19 pandemic. Not only in Indonesia but throughout the world. One of the exams is through learning in the class being tested internet-connected online learning. This condition then becomes a challenge for educators, lecturers in tertiary institutions to be able to adjust learning with the right method. This challenge is of course directly proportional to the

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learning tools developed. Community education is education that is designed to teach learning citizens to have the type of skills and/or knowledge and experience carried out outside the formal education path (schooling). Education outside of school is a form of development in the implementation of education in a broad way, that education is not only organized activities in schools but also education outside, because in essence education is actually life and school is only a small part which is limited by age level and discipline. Efforts made by community education lecturers against current educational challenges are to develop learning tools which include lesson plans, teaching materials, and assessment instruments whose implementation can enhance student creativity. Implementation of learning tools that will be implemented based on learning management system (LMS).

The Minister of Education and Culture stated that the difficulty of assessing creativity is a challenge for the education system, not something to be avoided. He added, based on The Global Creativity Index issued by the Martin Prosperity Institute in 2011, it is very important to increase the creativity of students in Indonesia. Indonesia's position turns out to be ranked 81 out of 82 countries, which means that Indonesia's condition in terms of creativity is still lagging behind.

The ability to think creatively is seen as very important in order to develop cognitive processes in students. because by thinking creatively students collaborate between theories with in-depth perspectives to produce new ideas in terms of finding something different. Creative thinking also enables students to study problems systematically, face challenges in an organized way, formulate innovative questions, and design original solutions [2], [3]. The challenge of an educator or lecturer in class is to create conducive, fun classroom conditions and motivate students to attend every given meeting [4], [5]. Students who are motivated by interesting learning will be able to explore their knowledge so that they are able to think creatively. The current pandemic condition has hampered the pleasant atmosphere of face-to-face learning. It becomes a necessity for a lecturer to be able to create adequate learning conditions, by innovating in online learning.

Learning management system (LMS) or is a software that is packaged as a media or tool for various administrative needs, documentation, reports on an activity, teaching and learning activities and activities online (connected to the internet), E learning and all training materials , teaching and activities online learning management system (LMS) is developed or used in a learning media at universities, because it is an appropriate learning media to increase student learning motivation, increase the effectiveness and efficiency of conveying information, and has the advantage of being easy to use so that it can easily digest material delivered through learning management system (LMS) [6]. Based on this, researchers developed a learning tool that is packaged in learning media, namely the learning management system (LMS), which is considered capable of being a solution to increase students' creativity/creative thinking even though they are doing online learning. Thus the researchers conducted research with the title Development of Learning Management System (LMS) Based Learning Devices to Increase the Creativity of Community Education Students.

2 Research Method

This type of research is research & development (Research and Development) to produce a product. The product developed is a Learning Management System (LMS) based learning tool to increase the creativity of Community Education Students. The research was conducted

at Medan State University (UNIMED) with the research subjects being fifth semester students taking the Education Innovation course. This research was carried out for two months, starting from preparation, licensing, until the researchers collected data. The development procedure in this study uses the Borg Gall model [7] The development procedure in this study uses the Borg Gall model which includes (1) preliminary study, (2) planning, (3) initial product form development, (4) product validation and first revision, (5) limited trial, (6) revision second, (7) extensive testing, (8) final product revision, and (9) dissemination. The collection of research data was carried out using a test technique.

Test techniques are used to obtain data on students' creative thinking. Data collection instruments in this study include; (a) The Validation Sheet is used to obtain data related to product feasibility assessments from the validators for the learning tools being developed, (b) Student Creative Thinking Measurement Instrument; Measurement of students' creative thinking in the Educational Innovation course was carried out using a test instrument in the form of a description with 10 item questions, and (c) Learning Implementation Observation Sheet that used to obtain data related to the level of implementation of learning using a draft learning management system (learning management system (LMS)-based learning tool.

Data analysis in this study includes: (a) analysis of the results of the validation of data processing devices is carried out in a quantitative descriptive analysis. Calculates the average total of each component assessed by the validator; (b) the analysis of the validator's common perception of the validation instrument aims to determine the magnitude of the agreement of the validators' learning devices; (c) analysis of the implementation of learning (RPS); the analysis was carried out by adding up the scores of each component of the observation sheet from the 2 observers; and (d) analysis of students' creative thinking improvement.

3 Result and Discussion

The results in this study include; (a) Internal Reviews, The feasibility assessment by expert lecturers was carried out on prototypes of learning device drafts; (b) External Review, This external review stage is the feasibility testing stage of draft II by two community education expert lecturers.

Table 1. The results of the feasibility assessment of learning devices from experts

Device	Expert I	Expert II	Max Value	Category
Syllabus	28	28	32	A
RPS	67	70	88	A
Teaching materials	84	93	112	A
Assessment Instrument	75	75	80	A

After the draft validation process, it will be followed by testing the expert lecturer's perception of the equation of the validation instrument, which has the aim of knowing the extent of the agreement of the experts in assessing learning devices using the validation sheet that has been made by the researcher. The results of the calculation of the equality of opinion of the two expert lecturers can be seen in table 2.

Table 2. Calculation results of the opinion of two expert lecturers

Learning Kit	%
Syllabus	100
RPS	92
Teaching materials	91
Assessment Instrument	99

Based on the results of the calculation of the equation of the 2 experts, the result is that the percentage value of the intermediate agreement index exceeds 75%. means that the two lecturers have the same perception based on the instrument used so that it is feasible to use.

3.1 Instrument Quality

3.1.1 Instrument Validiy

The instrument used to collect pretest and posttest data in the experimental class and control class was in the form of a creative thinking ability test consisting of 10 questions in the form of a description test, which was packaged in an Learning Management System (Learning Management System (LMS).

3.1.2 Intrument Reliability

Instrument Reliability Based on the z value, the estimated value of the Kappa coefficient is 1.80. The estimated value of the Kappa coefficient is 0.05.

$$Z = \frac{C - 75\%\ dari\ jumlah\ soal - M}{S}$$

3.1.3 Measurement Results

Measurement of the increase in students' creative thinking after participating in learning with learning tools that have been developed.

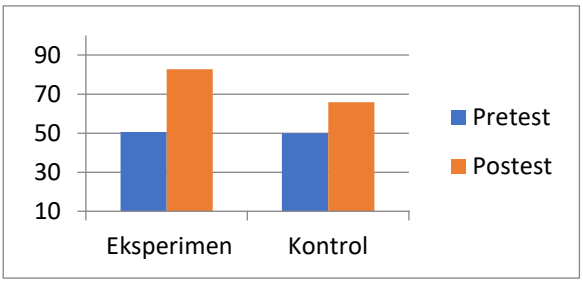

Fig. 1. The average value of creative thinking measurements for the experimental class and the control class.

Based on the results of the due diligence conducted by media experts when viewed from the six components, namely the display design component, convenience, consistency, format, usability, and graphics. The results of the module review of the display design components obtained a percentage of 85.94% belonging to the very feasible category. In the convenience component, the percentage of 87.5% is in the very feasible group. In the consistency component, a percentage of 88.75% is classified as very feasible. For the format component, a percentage of 90.63% is classified as very feasible. Meanwhile, for the benefit component, a percentage of 90% is classified as very feasible. Then, in the graphic component, a percentage of 93.75% is obtained so that it is classified as very feasible. Based on the above results it is known that overall the percentage of the total due diligence that has been carried out by media experts was obtained at 89.32% belonging to the very feasible category.

Based on the due diligence conducted by the respondents, the results of the due diligence were obtained, when viewed from the four components, namely the presentation of modules, language, graphics, and benefits. If the module is tested for the feasibility of the material presentation component, a percentage of 90.17% is obtained with the very feasible category. Then, in the linguistic group after being tested for feasibility, a percentage of 91.09% was classified as very feasible. Furthermore, in the graphic component, after the feasibility test, a percentage of 85.62% was obtained so that it was classified as very feasible. Meanwhile, for the module benefits component, 90.50% is classified as very feasible. So, it can be seen that the resulting module meets the requirements as a course module, so it can be interpreted that this module is suitable for students majoring in public education, Faculty of Education, Universitas Negeri Medan

3.2 Discussion

After carrying out various tests/tests and seeing the description and analysis of data from previous studies, the discussion of research results can be presented as follows:

3.2.1 The feasibility of learning kit in the Educational Innovation Course

The learning tools that have been developed are said to be feasible because they have gone through various validation processes and reliability tests by various experts, namely content, media and learning management system (LMS) experts. So, it can be said that this educational innovation course is suitable for use in lectures in community education study programs. These learning devices are considered very good and appropriate by experts, especially in the components of lesson plans, syllabus, teaching materials and learning evaluation instruments, as the results of previous research show that learning devices are said to be suitable for use if they have been tested by experts and get high ratings on the four main components learning tools, namely lesson plans, syllabus, learning content and learning evaluation tools[8], [9].

Then, the development of multimedia-based teaching materials became one of the choices of the majority of educators to improve learning outcomes, as well as research results from various schools [10], universities and other educational institutions [10], [11]. In addition, there are many experts who argue that multimedia teaching materials can make it easier for students to understand the lesson, one of these experts is Edgar Dale who argues that

the student's memory level is 10% by "reading", 20% by "listening", and 30% by "viewing video/film" (Dale, E, 1969). So, the availability of this LMS-based learning kit can also improve the memory of students because it contains components of reading, listening, and viewing videos.

On the other hand, a learning kit really needs to be constantly developed by lecturers, especially in an era of disruption. because current material content must always be adapted to future content[4], therefore developing a learning tool is a must especially in courses with the theme of educational innovation. As the results of research that has been done[8] that the level of urgency or necessity of a teaching material and its planning tools in innovation-themed courses has a very high level, this is because the content of the theme is always changing, always different at any time and era.

3.2.2 The effectiveness of using Learning Management (LMS)-based learning tools in increasing the creative thinking of Community Education Students.

Providing learning between using learning tools based online learning management system (LMS) and learning devices with a conventional approach for a period of two weeks has not had a significant effect on increasing student creative thinking. The use of a learning management system to convey learning objectives can actually increase student creativity. As research has been done[10], [12], a person's level of creativity is greatly influenced by several things, namely new things that a person sees, a combination of technology and the internet and systematic explanations of instructions[4], [12], [13].

The Learning Management System (LMS) is software that is packaged as a medium or tool for various administrative needs, documentation, reports, teaching and learning activities and online teaching activities that are connected to the internet, E-learning and all training material subjects. Online learning management system (LMS) teaching and learning activities are developed or used in learning media in tertiary institutions, because it is an appropriate learning media to increase student learning motivation, increase the effectiveness and efficiency of conveying information, and has the advantage of being easy to use so that it can easily digest material delivered through learning management system (LMS) [6]

So, when viewed from the results of the development research that has been carried out, this research product can be accepted scientifically and can increase student creativity. this is evidenced by the presence of three components according to the results of previous research that this Learning Management System (LMS)-based learning tool is something new for community education students, then this learning management system (LMS) is a combination of technology and the internet and in this learning management system learning management system (LMS) a systematic explanation is used which makes it easier for students to understand and follow instructions learning process, accessing learning materials, collecting assignments easily and even seeing corrections to assignments that have been given by lecturers.

Learning management system (LMS) at this time is still being used as an alternative learning forum and as the main forum for learning, as opinion [14] in the results of his research revealed that in Indonesia 65% of lecturers in state universities use learning management system learning management system (LMS)as an alternative forum to replace their classes. This is because learning management system learning management system

(LMS)has features that can replace the role of lecturers automatically, such as automatic reviewing, automatic grading, manual and automatic attendance and so on [15].

The learning management system (LMS) is nothing new after the big problems in this world came into being (covid 19)[9], [16], even though learning management system (LMS) was present before covid 19 but the level of use of these learning management system learning management system (LMS) is getting higher because of covid and almost in every school [6], [12], college uses it as a form of temporary transition and even is now a place of alternative learning. Imagine, the convenience that teachers and lecturers get in loading teaching materials, delivering material, to make it easier for students to access and study material can be done using only learning management system (LMS), whether it's Moodle, Google Classroom, and so on [7]. As can be seen in figure 2, various variations of features and other components of abilities, such as (1) replacing the role of the teacher in the form of indirect interaction, (2) as a storage container for online materials or e-books in the form of audio, paper, or audio-visual such as filearning management system (LMS), short videos, and others, (3) personal learning, which can be used by a person or study group to take a course or learning.

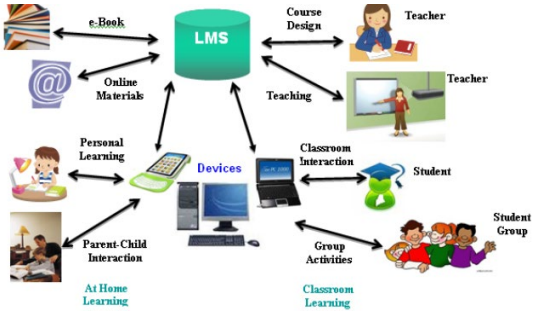

Fig. 2. Learning Management (LMS)

This kind of thing in Indonesia has been used by the Open University which has now produced many graduates through the learning management system (LMS) learning route [17]. (4) then, there is a special feature for parents if they want to supervise or monitor the development and work of their children at school or college through logging in as guests or parents through the learning management system, (5) next, the learning management system (LMS) also has a working group division feature, which allows students to work in groups without being noticed by other groups and can still be supervised by teachers or lecturers, (6) finally, the learning management system (LMS) can also be used online and offline, but for this arrangement it is necessary to take further care of the learning management system (LMS) admin of each college or the school manager who provides the learning management system (LMS). Then, Learning management system (LMS) at this time is still being used as an alternative learning forum and as the main forum for learning, as opinion [14] in the results of his research revealed that in Indonesia 65% of lecturers in state universities use learning management system (LMS) as an alternative forum to replace their classes. This is because learning management system (LMS) has features that can replace the role of lecturers automatically, such as automatic reviewing, automatic grading, manual and automatic attendance and so on [15].

Convenience because the learning management system (LMS) is certainly expected to have a positive effect on students' intellectual development, one of which is creative thinking. This turned out to be a reality because the use of internet-based, learning management system

(LMS)-based learning media can also improve students' creative thinking processes, and on the other hand it can also increase the technological literacy of teachers and students[12], [18]. So, higher Education is the highest education with a humanistic responsibility to prepare Indonesian people to have superior potential and noble personality supported by mastery of science and technology. Sociologically, all of this potential is directed towards the dedication of creating social welfare and educating the nation. Along with the development of today's cutting-edge technology, it is increasingly important to achieve the noble goals of higher education through complex challenges. All circles in education must certainly take advantage of this learning management system (LMS) in order to increase the creativity of their students, because it is proven from various research results on the use of LMS from teachers and lecturers can increase student creativity and it is very good for the progress of education in Indonesia, especially the community education study program, Universitas Negeri Medan.

4 Conclusion

The conclusions based on the study of the hypothesis in answering the formulation of the problem in this study are as follows: (1) the development of learning management system (LMS)-based learning tools in the Education Innovation course as a whole is feasible to use to improve students' creative thinking; (2) providing learning between using learning management system (LMS)-based learning devices and learning devices with a conventional approach over a period of two weeks has a significant effect on increasing students' creative thinking.

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