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Analysis of the Needs for Moocs Assisted Digital Modules in Solar System Materials to Improve Learning Motivation in Class VII Students of SMPN 01 Bengkulu City

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Abstract

This study aims to determine students' needs for the development of MOOCs-assisted digital modules in class VII solar system material at SMPN 01 Bengkulu City. This research is motivated by the lack of motivation of students to learn in science lessons. This research method uses the RnD method using a type of quantitative approach with research data collection techniques using a questionnaire in the form of Google from which data analysis techniques can be accessed online which was carried out on January 23-24 2023. The results of the needs analysis that has been carried out, obtained 54, 2% of students who find it difficult to understand science lessons, 67.5% of students are interested in using web-based electronic media, the average percentage obtained is 75, 9% which means that digital modules are needed by students. The conclusion in this study is that the development of MOOCs-assisted digital modules is quite needed in its developers to support student learning.

Keywords**:** *Development, Digital Modules, Moocs, Learning Motivation, Solar System*

A. Introduction

The development of information technology which has been very developed and has had a huge impact on human lifestyles has become completely digital [1]. Minister of Education and Culture No. 22 of 2016 concerning learning in primary and secondary education states that learning implementation plans are prepared taking into account the application of information and communication technology (ICT) in an integrated, systematic and effective manner according to circumstances. So to maximize the learning process in the classroom, learning media that apply ICT are needed [2].

Technology is results from development knowledge knowledge Which going on in world education. By Because That, Already properly technology Also used in education That Alone For carry out learning. Technology digital now used in institution education as tool support learning, Good as tool information (that is tool For obtain information) nor as tool Study (that is support activity And task Study) [3].

To provide interesting learning and motivate students by keeping abreast of information technology developments, one of them is the development of MOOCs-assisted digital modules on solar system material.In the development of digital modules assisted by MOOCs, several stages of the procedure are required, which are also known as the instructional design stage. Preparation of instructional design is a mandatory stage in the development stage and preparation of a substantive educational program [4]. In preparing instructional design models that can be used for the development of instructional media, there are many of them, namely conducting a needs analysis.

Needs analysis is an information gathering activity to identify the needs of a group of students [5]. By carrying out a needs analysis in the development of instructional media the designer better understands the needs, gaps, and problems that will exist in the desired end result. So that the development of learning media made will be more in line with what is needed and developed based on the problems identified through needs analysis.

PeThe use of technology in learning is one of the learning principles in the Independent Learning Curriculum to increase independence, creativity, motivation and interest in the learning process. so deepthe development of learning media is inseparable from the role of learning technology, namely theory and

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practice in the area of design, development, utilization, management and evaluation of learning processes and resources [6].

Learning media is a very important component in the learning process [7]. In the development of digital-based learning media there are already very many, but learning media that are often used and accessed easily are usually designed in the form of a web, this is because the web is very easy for students to access. The web itself is known as E-learning, E-learning itself means learning that uses electronic devices as an aid to convey learning to students[8]. To provide learning that can be accessed by anyone and anywhere, one of which can be done by developing MOOCs-assisted learning media.

MOOCs (massrue open online course) are learning in the form of online courses that are open in general which can be accessed by as many students as they like and at any time. In using or accessing it yourself it is very easy where MOOCs users can adjust the needs needed, for example students can choose the material of interest. The material presented in the form of videos and quizzes can be downloaded or downloaded at any time and can be played continuously [9].

The concept of the material used is solar system material for class VII even semester in the independent learning curriculum. The choice of this material is because this solar system material is one of the natural science subject matter which requires additional media to convey this material.tabout the type of solar system, texture and layers that are inside the planet[10].

This research is also based on several previous studies which developed MOOCs-assisted learning media or teaching materials. Research by[11]what is being done is the development of MOOCs-assisted online learning to increase learning motivation in the material of temperature and heat, the results of this study obtained very good results with a percentage value of 84.03%.

Based on the description above, the researcher will conduct a study entitled "analysis of the needs of the development of moocs-assisted digital modules on solar system material to increase learning motivation in class VII students of SMPN 01 Bengkulu City. The hope is that by carrying out a needs analysis in the development of instructional media the designer will better understand the needs, gaps, and problems that will exist in the desired end result. So that the development of learning media made will be more in line with what is needed and developed based on the problems identified through needs analysis.

B. Research Methods

Type research used is study And development or study And Development (R&D) [12]. method study And development is method study Which produce product certain And test effectiveness product the. In study This, model development 4d (Four *D Models*) used as model study And development limited on stage development. Model This consists from four stage development that is define, design, Development And Diffusion. Only There is 3 phase in process study This, that is Definition, design And development [13].

This research will be carried out in class VII of SMP N 01 Bengkulu City in the 2022/2023 academic year. The sample in this study were all students of SMPN 01 Bengkulu City class VII.3 totaling 24 students. Collecting data in this study using a questionnaire type of quantitative data. The collection of questionnaires was filled online in the form of Google from. The time to fill out the questionnaire itself was carried out on January 23-24 2023.

The scale used in this research is the Likert scale, where each statement in the questionnaire or questionnaire is analyzed using a Likert scale. Those who fill out the needs questionnaire are students.
then the calculation of each item statement of the interval data is analyzed by calculating the percentage of answers for each item using the following formula:

Table 1. Calculation of the Likert scale

Score	Information
1	Strongly disagree
2	Don't agree
3	Agree
4	Strongly agree

To calculate the percentage using the formula:

$$PS = \frac{S}{N} \times 100\%$$

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Furthermore, the percentage of feasibility obtained is then interpreted into the eligibility criteria based on the following table:

Table 2. Interpretation of student response scores

Score Interpretation	Category
0%-25%	Strongly disagree
26%-50%	Don't agree
51%-75%	Agree
76%-100%	Strongly agree

From the data resulting from this interpretation, the research is said to be successful and valid or very valid if the questionnaire data processing produces a score of 51% - 100% or is in the criteria of agreeing and strongly agreeing[14]. From these data it can be seen that students are less motivated to learn using current teaching materials and media, so the development of MOOCs-assisted learning media intends that students can be motivated in the ongoing learning process.

C. Results and Discussion

The research results that have been obtained are in the form of observation sheets and questionnaires in the form of google from. The data obtained in this study were processed using a Likert scale because the research used a closed questionnaire. From the results of the observation sheet that was carried out during PLP 2 at SMP N 01 Bengkulu City, it was found that SMP N O1 Bengkulu City had started implementing or using the independent curriculum, especially in class VII, then from this observation sheet it was found that in the learning process the media that was often used by the science teacher at SMP N 01, namely in the form of PowerPoint and interactive videos such as those from YouTube.

Based on the results of the needs questionnaire given to class VII students at SMPN 1 Bengkulu City, data were obtained from several aspects, namely, the first statement of students who felt they had difficulties in learning science was obtained with a percentage of 54.2%. This proves that students have difficulty digesting science lessons.

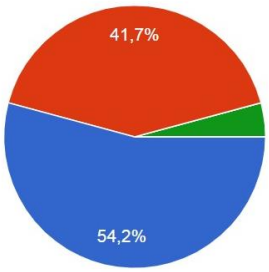

Figure 1. Needs chart 1

Second, it was found that students expected the development of teaching materials or learning media based on electronics or those that could be accessed easily anywhere and anytime, from the results of the student questionnaire, data was obtained with a percentage of 62.5%. so that from these data it is found that it is necessary to develop teaching materials that are easy to access at any time so as to make it easier for students to learn.

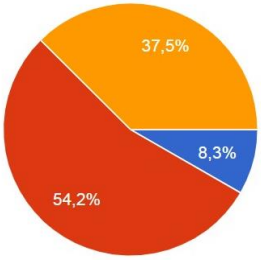

Figure 2. Needs chart 2

And the third, students stated that the science materials presented in the form of interactive videos were more interesting than the materials presented in the form of textbooks. This was obtained with a percentage of 87.5%. From this data it was found that the development of digital modules packaged in the form of a website which contains material in video form is easy to understand because it can be repeated continuously so that participants understand more about the material to be studied.

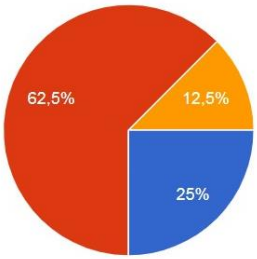

Figure 3. Needs chart 3

Then get the average percentage obtained from the results of the questionnaire that has been given, which is equal to 75.9%. From the average results it was found that the data was successful or the digital modules assisted by MOOCs were needed by students. From the results of all the data that has been obtained, the development of teaching materials in the form of digital modules assisted by MOOCs is quite needed to assist participants in independent learning activities or studying at school.

The results that have been obtained prove that the development of digital modules is quite necessary, this is due to the lack of media development that attracts students. Based on the results of previous research, this development research was a development that was quite successful or needed, this was proven in research[15]who received the MOOC Learning Media for PPL PPG tutors at Malang State University, the training on making MOOCs was declared successful and successful. The understanding and skills of the participants are expected to increase by at least 85% from before the training was carried out.

D. Conclusion

From the research results, it can be concluded that this needs analysis is useful for determining goals, identifying gaps between actual conditions and supposed conditions, and determining the necessary priorities. Based on the results of the needs analysis that has been carried out, it can be obtained from students, including students agreeing to the development of digital modules assisted by MOOCs, this is because students need to develop interesting teaching materials to support the science learning process.

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