

Analysis of Student Needs for PBL-Based Mobile Learning Media



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ABSTRACT: The purpose of this research is to analyze the needs of students for learning media android based on high school economics subjects. The offered mobile learning media is a learning application that is integrated with a problem-based learning model, which aims to improve critical thinking skills. The research subjects were 30 grade 11 high school students in Wonogiri district. This study uses a qualitative descriptive method. The research instrument used is interview guidelines and questionnaires about student needs. The results of this study are in the form of data obtained from observations, interviews with one of the economics teachers, and also a questionnaire filled out by the student as research subject. The data analysis technique used refers to the Miles and Huberman model, namely (1) data reduction (data collection), (2) data presentation, and (3) concluding. From the results, this research concluded that it takes an innovative mobile-based learning media that can be accessed on smartphones.

KEYWORDS: Learning media, android, economics, mobile learning, problem-based learning

I. INTRODUCTION

Economics is one of the important lessons in the social science specialization program at the senior high school level. As the main lesson, of course, the implementation of learning requires innovative and attractive strategies and models for students so that learning targets can be achieved. In addition, the implementation of learning in schools must also support government programs and demands for global competence. One good learning strategy is the use of appropriate learning media. Unfortunately, currently, there is still much conventional learning found so learning targets are not achieved optimally.

Advances in communication technology are opportunities for media development. This allows learning that is no longer limited by space and time. Online applications and gadgets can be used massively to support the continuity of the learning process. The implementation of online media such as multimedia has been shown to provide great support for the success of distance learning¹.

In the learning environment of the twenty-first century, the capacity for critical thought is a highly crucial skill to possess. The Ministry of Education and Culture has identified 6 (six) types of Pancasila Students that students must develop via educational activities to meet the demands of the global period. The six characteristics are belief in the existence of God Almighty, universal diversity, interpersonal harmony, creativity, critical thinking, and independence². Critical thinking and problem-solving skills are among the 21st-century learning skills that students need to possess to succeed in the "New World of Work," according to Fadel³.

Almost everyone uses a smartphone today, making smartphones a part of everyday life⁴. Smartphones, for instance, can be used for almost all human activities, including entertainment, long-distance communication, shopping for daily requirements, and other activities. Smartphones can be used for education purposes as well.

Based on direct observations by researchers, the facts show that smartphone ownership among students is very high, namely 100%. Students are allowed to bring and use cell phones at school. However, the use of these cell phones is only for communication, playing games, and social media.

For learning needs, smartphones have not been utilized optimally as learning media. So far, learning via mobile phones is the distribution of information and school assignments via email or the WhatsApp chat group.

¹ Harefa, N., & Suyanti, R. D. (2019, December). Science generic skills of 'chemistry'? prospective teachers: A study on collaborative learning using Exe-media. In *Journal of Physics: Conference Series* (Vol. 1397, No. 1, p. 012032). IOP Publishing.

² Ministry of Education and Culture of the Republic of Indonesia. (2020). *Permendikbud Nomor 22 Tahun 2020 Regarding the Strategic Plan of the Ministry of Education and Culture for 2020-2024*. Jakarta: Kemdikbud.

³ Fadel, T. (2009). *21st Century Skills: Learning for Life in Our Times*. San Fransisco: CA. Jasley Bass.

⁴ Komariah, S., & Suhendri, H. (2018). *Development of Mathematics Learning Media*. 4, 43–52

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Based on the explanation above, the researcher tries to offer mobile learning media that is integrated with the PBL model. For this reason, it is necessary to carry out preliminary research related to the analysis of students' needs for mobile learning media, which will then be discussed in this paper.

II. RESEARCH METHODS

This study is an initial investigation into RND research, specifically the creation of mobile learning media to enhance critical thinking abilities. This study used a qualitative descriptive strategy for its initial research. The goal of descriptive qualitative research is to thoroughly characterize a phenomenon that studies participants have encountered⁵. In one of Indonesia's high schools, this study was carried out. Direct survey methods, interviews, and questionnaires are used to collect data. The information produced by this study is a narrative description of the general structure of the data that was collected. This study's main objective is to describe how students use Android-based learning resources for economics classes.

Researchers employed the Miles model Huberman and data analysis methods in this investigation. According to Miles and Huberman⁶, qualitative data analysis should be participatory and ongoing till finished. The data are comprehensive. Data collection, data presentation, and conclusion were the three data analysis approaches used in this study, which were based on the Miles and Huberman model.

This study aims to find the need for learning media in the format of mobile learning applications that are really needed by students and in accordance with the characteristics of the material in economics learning. Therefore, several parties who will be involved in the research include economics teachers and students of class XI IPS in high schools.

III. RESEARCH RESULTS AND DISCUSSION

The research results will be explained in three sections based on the method of data collection, namely the results of observations, the results of interviews with teachers, and the results of the questionnaire instrument.

A. Observation Results

Observation of the learning process aims to obtain information from the field related to the implementation of ongoing learning. So that it can make it easier to identify various things in the process of solving learning problems. The results of the summary observation sheet are shown in the following Table 1.

Table 1. Observation Results

<i>Aspect</i>	<i>Indicator</i>	<i>Well</i>	<i>Enough</i>	<i>Less</i>
Introduction	Providing motivation	√		
	Submission of learning objectives		√	
	Brainstorming		√	
Main	Use of learning methods		√	
	Use of learning media		√	
	Utilization of learning resources		√	
	Learning management		√	
	Variations in the use of media / teaching materials			√
Closing	Summary submission		√	
	Providing feedback		√	

Based on observations, economics learning in class is still carried out conventionally with book learning media and Powerpoint slides. The learning mechanism is still dominated by the teacher although in-class group discussions are also carried out. this is shown in the following figures.

⁵ Annur, M. F., & Hermansyah. (2020). Analysis of Difficulties of Mathematics Education Students in Online Learning During the Covid-19 Pandemic. Journal of Educational Studies, Research and Development, 11, 195–201.

⁶ Sugiyono. (2017). Quantitative Research Methods, Qualitative And R&D. ALFABETA.

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Figure 1. Learning Using PowerPoint Slides



Figure 2. The Teacher Explains the Material



Figure 3. Group Discussion

B. Interview Results

Interviews were conducted with an Economics teacher in a senior high school. Data from this interview will be used as one of the parameters to assess the needs of students and teachers for learning application innovations through mobile learning. In addition, other factors that can be integrated with mobile learning are also revealed in this interview.

According to the results of the interviews, it was identified that the teacher used learning media in the form of text books, PowerPoint presentation slides, and the internet. In addition, the teaching materials used by teachers are still not ICT-based, only printed teaching materials for the needs of teachers in delivering material to students.

Based on interviews with teachers, the majority of students access learning using cell phones because the level of cellphone ownership is much higher than laptop or computer ownership. The Economics teacher said that so far there has been no use of smartphone-based learning media for Economics lessons, especially for the implementation of daily tests, even though this subject is very important, especially for Social Sciences students. More than 50% of students admit that they have difficulty understanding economics subject matter, this is supported by the low economics study results on midterm exams and daily tests on economics problem material. The Economics teacher said that so far there has been no learning media that can visualize material in an attractive and easily understood by students so learning media is needed that can display material in an interesting and easy-to-understand manner while being able to improve students' critical thinking skills. Based on the report on the assessment of aspects of critical thinking skills in Economics learning, it was found that the average student's ability in reasoning, evaluating,

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arguing, and deciding on problem solutions was still low. So, with this problem, media is needed that can make it easier for students to learn while at the same time honing critical thinking skills.

C. The Results of Questionnaire Instrument

This questionnaire contains several questions that aim to plan learning resources that suit the needs of students. The number of respondents filling out the questionnaire was thirty students. There are six choice questions in this questionnaire, as well as one question asking for opinions or comments from students. As for the results of the questionnaire distributed to students are described in Table 2.

Table 2. The Results of Questionnaire Instrument

Question	Student' Response (%)	
	Yes	No
Is the implementation of Economics learning that has been going on fun?	30%	70%
Is Economics one of the subjects that you are most waiting for and enjoy?	40%	60%
In your opinion, is Economics one of the subjects whose material is difficult to understand?	60%	40%
Has the teacher used ICT-based learning media so far?	80%	20%
Regarding the previous question, do you need learning media in the form of an application that can be accessed on a smartphone?	90%	10%
Do you agree with the development and implementation of an innovative learning media in an application format?	90%	10%

Based on Table 2, it was shown that 60% of students said the economics course material was challenging to comprehend. Although the school has given students books on the topics and chapters they will be studying, this hasn't made it any simpler for them to comprehend the content. The utilization of Android-based learning media should be one of the supplementary learning resources that teachers can offer to their pupils. 90% of students reply positively when asked if they require these learning applications, similar to how they react when learning media is available in an application format that can be accessed on smartphones. Specifically speaking of the outcomes of the student's responses.

CONCLUSIONS

Based on research data analysis, it is known that an innovative mobile-based learning media is needed that can be accessed on smartphones. The results of this analysis are of course based on facts obtained from the field regarding the minimal use of digital learning media. This is expected to provide a stimulus for improving students' critical reasoning skills or abilities, bearing in mind that in the 21st century, in addition to achieving learning outcomes, other competencies are also needed such as critical reasoning abilities which will be one of the learning outcomes.

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