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Development of Blended Learning Media Using Epocket Book Based on Character Values

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ABSTRACT

This research was conducted to address the problem of learning activities of students who are less active and lack understanding of learning materials. The purpose of this research is to develop the medium of physics learning in the form of applications on mathematics physics courses for many function materials. This research is a development research by adopting ADDIE development model. At the analysis stage, researchers conduct library studies and field studies, namely by conducting needs analysis. At the design stage researchers conduct product design, and instrument manufacturing. At the development stage researchers asked experts to test the validation of products already made. Then the implementation stages of the product are tested to the respondent, to see if the product is viable or not implemented in the learning process in the classroom. The final stage is evaluation, the product is evaluated so that the product can be used at a wider range. At the field trial stage, the media was tested on a small scale with 25 respondents. Data obtained through observation methods is descriptively qualitatively analyzed. Meanwhile, validation data is analyzed descriptively qualitatively and quantitatively. Average material expert score 78.34% (good), media expert 80.00% (good), small scale test 81.69% (good), large-scale test 81.73% (good), character score result 79.21% (often). So it can be concluded that this application is worth using as a physics learning medium

Keywords: Media Learning, blended Learning, epocket book

INTRODUCTION

Education becomes a provision in the future, which is indeed needed by every human being. Education can be referred to as a provision, because in fact education is an establishment and development of self-potential that will be useful for life in the long term. This is in line with the national educational objectives described in (Law No. 20 of 2003) that stated, "Education is a conscious and planned effort to realize the learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble morality, as well as the skills necessary for themselves, society, nation and State" [1].

[5] argue that, "science and technology or science technology are developing to encourage various reform efforts in the utilization of technological outcomes in the learning process" [2]. The benefits of technology itself are huge in the world of education, especially in learning systems, because information and communication technology provides a wide range, fast, effective, and efficient to the dissemination of information to various corners of the world. One of the fast-growing technologies is the arrival of gadgets called smartphones. [5] in his research stated that, "according to the results of the market share in December 2013 as cited by [5] shows that the gadget market presentation is controlled by Android by 81.3%" [3].

The utilization of information and communication technology for higher education learning activities in Indonesia is increasing and conducive to the publication of the Decree of the Minister of The Ministry of National Education (SK Mendiknas) in 2001 that encourages conventional universities to conduct distance education. With the publication of the Mendiknas Decree, a blended learning process is implemented in a learning.

According to [4] argue that, "blended learning is a combination of face-to-face learning system and online learning" [4]. Blended learning is also known as hybrid learning and mixed learning. Blended learning learning is supported by an effective combination of delivery methods, teaching methods and different learning styles. According to Driscoll in [5], "blended learning can also be the integration of materials in

different formats" [5]. For example, a blended learning program starts with the delivery of prerequisite material asynchronously, then the delivery of the next material is done through a virtual class. Efforts to improve learning are designing a learning medium in an effort to facilitate the learning process.

Online learning media is one of the solutions for learning in this era of industry 4.0, where indeed learning in the classroom must benefit from a technological advancement. Interesting and not boring learning media that students desperately need. Learning media that will generate interest in learning especially in physics learning. One way is with an epocket book.

Pocket book is a book containing learning materials compiled succinctly. The advantage of e-pocket book is that it contains a summary of the material, easy to carry anywhere, and efficient. Pocket book to be presented in the form of an application. The content of this e-pocket book is, among others: theory, images, videos explaining the concept of materials, quis, which are used for discussion, task creation or assignment delivery, and online whiteboards that will be used as supporting the blended learning model.

Based on the results of preliminary studies that have been conducted by filling out online questionnaires on Students at two universities located in Jakarta 56% stated that there needs to be an online learning. Respondents also chose mobile phones as a medium that supports learning with a percentage of 62.02%. This is because mobile phones can be used more practically to study at any time, and carried anywhere. A total of 52.08% said they needed an epocket book. Students choose online learning by using epocket book because it can support in understanding a material, more effective and efficient, can be carried anywhere and opened at any time because the mobile phone seems to never be left to carry. Based on the above description stipulated as a problem, it can be concluded that researchers aim to develop learning media using epocket book based on character value.

RESEARCH METHOD

In a study, the research method is interpreted as a scientific way of obtaining data with specific purposes and uses [12]. This research includes development research using research and development (R&D) methods. This research uses procedural model development methods developed by ADDIE. The data analysis techniques used are qualitative and quantitative descriptive analysis. The data obtained came from a validator consisting of material experts, language experts, and media experts, and two reviews and respondents. Steps to produce learning media as follows: needs analysis, media creation design, design data collection, media design loading, media creation, validation, trial, and revision

RESULTS AND DISCUSSION

Text Preliminary study results include library study results and field study results. The results of the library study were obtained from various reading sources related to this study. The results of the field study were obtained using interview sheets and questionnaires distributed to a number of respondents who sampled in this study and used literary studies. Research instruments used are interview sheets, questionnaires and literature related to the learning media Blended Learning Epocket Book.

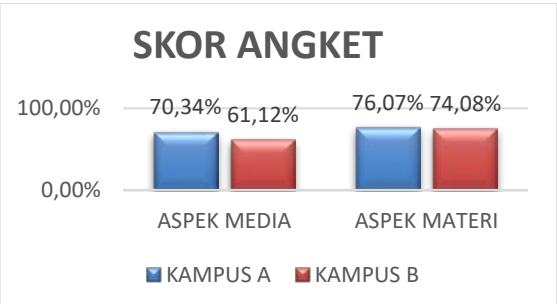


Fig 1. Score for each Aspect Questionnaire

Based on the results of the questionnaire given to students who are studying the Physics Education Study Program, most students need an epocket book in order to understand the concept of materials

well. Based on preliminary studies conducted on campus A, the average results were 70.34% on media aspects and 76.07% on material aspects. Meanwhile, preliminary studies on campus B obtained an average of 61.12% on media aspects and 74.08% on material aspects.

For the development stage, the product is validated by two experts, namely for material experts and media experts. The results of the media expert validation test are as follows:

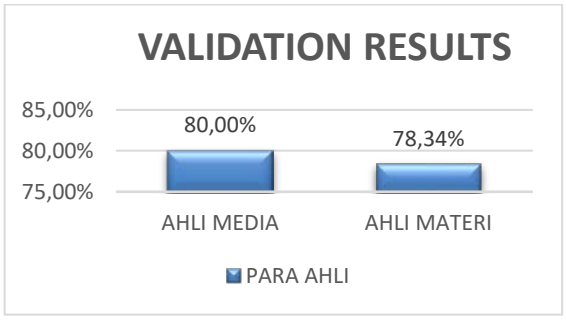
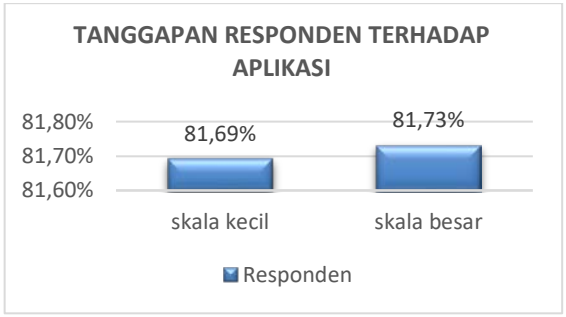


Fig 2. Expert Validation Results

Based on the chart above, the results of validation tests by media experts with four indicators get 80.00% percentage with good category, while the results from material experts with two indicators get a percentage of 78.34% with good category.

Then at the implementation stage, the application is tested to the respondent. This is done to know whether or not the application is feasible if it is implemented as a learning medium into the learning process in the classroom. This can be seen in graph 3



F 3. Results of Respondents' Responses to Applications

In this study, product testing was conducted on a small and large scale. For small scale there are 25 Respondents, while large scale 58 Respondents. The result of respondents' response on a small scale was to get a percentage of 81.69% with good category. Then for responses of respondents on a large scale that is 81.73% with good category. It can be concluded that the products developed in this study deserve to be implemented into the learning process in the classroom.

CONCLUSION

The end result of this development is a blended learning medium implemented into the application of epocket book with discussion on mathematical physics material. Where there are several features, among others: materials in pdf form, videos explaining material concepts, examples of questions and exercises, notif assignments for assignments or assignment delivery, and online whiteboards that will be used as supporting blended learning models.

The developed media has also passed the due diligence phase by material experts and media experts. Assessments by material experts earned a percentage of 78.34% in the good category. Assessments by media experts get a percentage of 80.00% in good categories. Based on expert assessment of materials and media then the developed media is worth using.

In addition to being assessed by material experts and media experts, the media developed by researchers was also tested on students. Small-scale trials were conducted for 25 students. In small-scale trials, it gained a percentage value of 81.69% with good predicate.

Then there was also a large-scale trial of 58 students. The results of large-scale trials gained a percentage of 81.73% with good predicate. This means that the media developed by researchers can be said to be worth using.

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