

## DEVELOPMENT OF BLENDED LEARNING MEDIA USING CHARACTER-BASED FLIPBOOK SMARTPHONE

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**Abstrac**, This study aims to determine the design stages of developing blended learning smartphone media learning products and to determine the feasibility of integral learning media using the developed flipbook. This study uses a small-scale trial on FHIP UHAMKA while for large-scale trials conducted by Malaysian UTP with 29 respondents including Physics Education FKIP UHAMKA, Mathematics Education FKIP UHAMKA and also Malaysian UTP. The method used is Research and Development (R&D) using the Brog and Gall development procedure. The results of the media interface test obtained a percentage of 77.18%. This shows that the products developed included in the category are very feasible to use while for the effectiveness of students as teaching material in the learning process, the average of the effectiveness of students is 83.26%, the value obtained can be said to be very well seen from the Likert scale index used, then from the assessment of the effectiveness of media students it is feasible to be used in integral learning. Blended learning media with character given to one class in FKIP UHAMKA, obtained an average post-test score of 48.04. The data obtained, the character development of the character questionnaire was 75.04.

**Keywords:** Learning Media, Blended Learning, Character

### Preliminary

Efforts to improve the quality of education are always carried out in the context of facing the globalization process and facing the increasingly complex developments in science and technology that greatly affect the joints of life. The rapid development of information and communication

technology can be used by teachers / lecturers to support the learning process. In other words, learning is no longer only delivered by expository methods where students only become passive learners, but teachers / lecturers must facilitate students to learn independently. This is in accordance with the opinion of Chuang (2014) which states that the use of technology in learning will increase motivation and student learning outcomes. [1] In addition, the use of technology can be used as a learning media that can be accessed anytime and anywhere using portable media such as smartphones (Herrington, 2008) [2].

Android-based M-Learning combines and connects technology and educational content. M-learning can be used as a solution to solve problems in traditional learning systems so that M-learning can be used to improve the overall learning system. Until now, Android is one of the operating systems that is still the main choice of the community. The rapid development of Android indicates the attractiveness of features and ease of use. The number of android users in Indonesia in the period of July 2017 reached 84.09%, an increase compared to 2016 which amounted to 73.80% (Stat Counter, 2017). Android is the most popular operating system used by the public, especially among students [3]. Hamidjojo in Cecep and Bambang's book limits the media as all forms of intermediaries used by humans to convey or spread ideas, ideas, or opinions so that the ideas, ideas or opinions expressed are up to the intended recipient [4]. Gerlach and Ely (Sanjaya, 2012) view learning media not only as tools and materials, but also things that students might gain from knowledge. Furthermore Gerlach and Ely stated "A medium, conceived is any person, material or even that establish conditions which enable the learner to acquire knowledge, skills and attitude" [5].

### II. Literatur Review

### A. Blended Learning

Yi Jin (2009) a new kind of distance education mode, Mobile learning can provide learners with the maximizing autonomous learning, and also can provide the instructors and education administrators with more flexible teaching and managing methods [6]. Thorne (2003: 16) explains that blended learning is the most logical evolution in learning. Blended learning provides solutions to the challenges of tailoring learning and development to individual needs [7]. Blended learning is an opportunity to integrate the innovative advancements and technologies offered by online learning with the best interaction and participation from traditional learning [8].

### B. Character

Character education is very necessary in the scope of education to create the next generation of the nation with noble character. Education in Indonesia is based on the nine basic character pillars. Basic character is the goal of character education. These nine basic character pillars include: (1) love for God and the universe and its contents; (2) responsibility, discipline, and independence; (3) honest; (4) respect and courtesy; (5) love, care and cooperation; (6) confident, creative, hard work, and never give up; (7) justice and leadership; (8) kind and humble, and (9) tolerance, peace, and unity. [9]. Basically, education is not only obliged to improve academic achievement, but also the formation of student character. Fakry Gaffar in Dharma Kesuma, et al., Put forward character education as a process of transforming the values of life to be developed and developed in one's personality so that they become one in that person's life. [10]

### C. Flipbook

Flipbook is the perfect flashbook flash software for converting PDF, JPG, JPEG, PNG, MP3 and Video files into realistic 3D digital magazines [11]. With 3D Flipbook Pro, you can create realistic and interactive 3D magazines, such as, e-catalogs, e-brochures, e-books by flipping through newspaper pages or anything anywhere without any knowledge or Flash / HTML programming skills in a short amount of time. . But today many flipbook 3D developers are trying to make the OPF format readable using standard Internet browsers such as Mozilla Firefox, or Microsoft Internet Explorer without the need for equipment such as additional software or plugins. 3D flipbook has now become an innovation developed by several electronic media companies because it looks better than e-books in general.

## III. Methodology

This research uses development research methods because researchers want to produce an effective product for use in universities. According to Akker et al., Development research has other terms that have the same goals and characteristics, namely: design research, design studies, design experiments, formative research, formative evaluation, and engineering research [12]. development research methods because researchers want to produce an effective product for use in learning on campus / university.

The research method of development uses the Research and Development method whereby the research methods are used to produce certain products and test the effectiveness of the products [13]. While this study uses the Brog and Gall development model.

## IV. Results and Discussion

In this learning media development research, a feasibility test was carried out on the media by involving validation and product use tests. The validation test was conducted by the Physics Education Study Program of the Teaching and Education Faculty of Muhammadiyah University and Petronas University Technology Malaysia as media experts, and the validation test of the material on the application was carried out by two Physics Education Study Programs of the Teaching and Education Faculty of Muhammadiyah University Prof. Dr. Hamka and Petronas University of Technology Malaysia. The stages of application design, first, plan application features that support the learning process with a blended learning model. Application features designed include: a book with swipe navigation (flipbook), then an explanation of audio and video learning from lecturers, and there is also an evaluation test (quiz). After planning, build the application with the Thinkable application. The following are some screenshots of the screen design application.

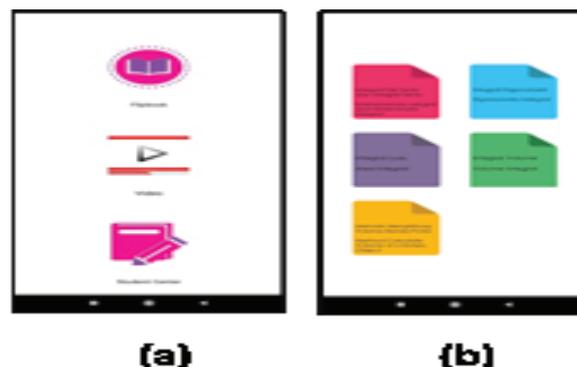


Fig 1. (a) Main menu screen; (b) Flipbook screen menu

In testing the effectiveness of the media used for learning, students are first given a pretest to measure the level of initial ability of students, then after learning takes place using the media of learning blended learning using a flipbook then a post-test is conducted. Post-tests are given to determine the level of student ability after using the media.

Table 1 Student Trial Value

| No.                | Test Percentage | Average Value | Persentase |
|--------------------|-----------------|---------------|------------|
| 1                  | Smale Scala     | 4,46          | 86,25%     |
| 2                  | Large Scala     | 4,01          | 80,2%      |
| Average Value      |                 |               | 4,23       |
| Average Persentase |                 |               | 83,23 %    |

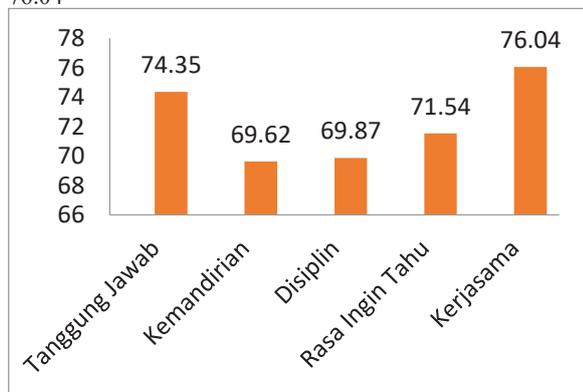
Trials to these students were conducted twice, namely small scale trials and large scale trials. In this trial the aspect which is assessed is the use of learning media. Based on small-scale trials conducted with a total of 26 student respondents obtained scores an average of 4.46 and a percentage of 86.25% with a very good category, then a large-scale trial with a total of 26 students obtained an average score of 4.01 and a percentage of 80.2% with a good category. The percentage of trials amounted to 83.23%.

Pre-test and Post-Test are given to one class in FKIP UHAMKA with a total of 26 students. Obtained an average pre-test value of 39 with a percentage of 39% and an average post - test value of 48 with a percentage of 48%.

Table 2 Pre-test and Post-Test Results

| No                   | Jenis Test | Average Value | Precentage |
|----------------------|------------|---------------|------------|
| 1                    | Pre-test   | 39            | 39 %       |
| 2                    | Post Test  | 48            | 48 %       |
| <b>Average Value</b> |            |               | 87%        |
| <b>Average</b>       |            |               | 87 %       |
| <b>Precentage</b>    |            |               |            |

In testing this result implies that the value of character analysis in the learning methods of blended learning in lectures has received positive feedback from students and the overall results are given in graph 4.5. The average character value for the learning media process of blended learning is responsibility = 74.35; independence = 69.62; discipline = 69.87; curiosity = 71.54; cooperation = 76.04



Graph 1 character of the learning media process of blended learning

Based on the post-test with learning media blended learning with characters given to one class in FKIP UHAMKA with a total of 26 students. Obtained an average post-test score of 48.04. The data obtained, the character development of the character questionnaire was 75.04. The difference in questionnaire and observation values occurs because the characters present in students cannot be observed optimally.

## V. Conclusions

The first principle, the overall application of the content presented is relevant to competencies for students. The contents of the application are also designed in the form of points so that students can easily find important information. Then, the second principle, the application installation process is easy to do and the process can be used on all versions of Android with all screen resolutions. But, this application has a large size memory. The third principle is navigation. The button display works well but suggestions for revision are given additional buttons on the screen to move to another page or to move to another part with just one or two key presses.

Character shows that the average score of character values in blended learning has been effectively integrated in an independent section for students, doing individual assignments, doing assignments by not following others, reading material first before class online, making summaries after reading, making learning plans only when asked, plan and make their own decisions in terms of standards, perform tasks that are assisted by others.

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