

# Development of E-Magazine Based on Flipbook Maker on the Pattern Drafting Home Clothing in the Faculty of Engineering Medan State University

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## ABSTRACT

In online learning, lecturers need to modify/develop learning media so that students don't experience difficulties in understanding the learning material. The purpose of this study are: (1) To know how is media development flipbook maker based e-magazine on the pattern drafting of home clothing (2) To know the effectiveness flipbook maker based e-magazine media on the pattern drafting of home clothing. The development model used in this research is the ADDIE. the development procedure (1) Analysis, namely identifying products that are in accordance with the goals of students. (2) Design are, includes designing the initial product and the pattern drafting home clothing. (3) Development, e-magazine media based on Flip book maker will be developed by research hers according to a predetermined design. (4) Implementation (5) Evaluation is carried cut in the form of evaluation formative.

**Keywords:** Media development, E-magazine, Flipbook maker, Pattern drafting, Home clothing.

## 1. INTRODUCTION

The COVID-19 pandemic has brought about tremendous changes in the world of education. The Covid-19 pandemic has affected all education systems from pre-school, primary, secondary to tertiary institutions. Based on the ABC News report on March 7, 2020, school and college closures have occurred in more than a dozen countries due to the Covid-19 pandemic [1].

The Indonesian government through the ministry of education and culture issued circular letter number 3 of 2020 regarding the prevention of covid-19 in education units in anticipation of the spread of the corona virus in schools and universities.[2] Following up on the circular, universities have eliminated face-to-face learning and conduct online learning. Therefore, universities as higher education institutions must be able to follow developments that occur and be able to produce graduates who are skilled, professional, independent, and able to compete in various fields of life. In online learning, lecturers need to modify/develop teaching materials so that students do not experience difficulty in understanding the learning material.

The Fashion Design Education study program is one of the study programs that is in great demand by various high school or vocational high school graduates.

Graduates of this study program are expected to have competence in the field of education, be professional in the field of clothing, mature personality qualities and be able to adapt to the times in line with the demands of advances in science and technology as well as arts and culture that are future-minded. In order to be able to prepare prospective educators who are professional in the field of fashion.

The basic women's clothing course is a productive course that students must pass as a prerequisite to be able to take the next course. This course contains theoretical concepts and skills in making women's clothing. This course is given to second semester students of the UNIMED Fashion Education study program. The learning achievement in this course is that students are able to make home clothes

Based on observations, in the basic women's clothing course, many students experience difficulties on the pattern drafting of home clothing in which are one of the learning outcomes of the course, especially most students are from high school and must do online learning. This can be seen from the results of changing the pattern of home clothing, which still have many errors. In addition, there is no learning media that makes it easier for students to make home clothing patterns independently at home

Through the results of observations, the difficulties experienced by lecturers in providing online learning are developing instructional media that are in accordance with the courses, especially practical courses. In practical courses, students are not only required to understand theory but also must have skills in certain fields. So far, the learning media used by lecturers is dominantly monotonous and makes students feel bored or bored. The dominant learning is not yet interactive, and the learning tends to be an online task so that the absorption of the subject matter is very minimal.

Based on this, the researcher wants to develop an online learning media, namely an e-magazine based on a flipbook maker on house drees patterns drafting that can be accessed anywhere and anytime and is able to increase enthusiasm for learning even though they are independent at home and will also make it easier for students to understand on the pattern drafting of home clothing.

Electronic magazine (electronic magazine), or abbreviated as e-magazine is an electronic version of the magazine because it is based on electricity. Electronic magazines no longer use paper raw materials to write articles like magazines in general, but in the form of digital files that can be accessed through electronic media such as computers, laptops, mobile phones, Android, iPhone, iPad and other technologies [3]. Meanwhile, flipbook maker technology allows students to enjoy magazine learning media not only in written form, but also in the form of images, sound, and video.

The use of an e-magazine based on a flipbook maker will greatly assist the effectiveness and activeness of students in the learning process as well as in delivering information online. The presence of media in learning can also help increase student understanding, presenting data or information more attractively.

**2. METHOD**

Development of E-magazine Based on Flipbook Maker on the Pattern drafting of Home Clothing is a type of research and development (Research and Development or R & D).

Research on the Development of Flipbook Maker-Based E-Magazine Media on the Pattern drafting of Home Clothing was carried out at the Fashion Design Study Program, Family Welfare Education Department, Faculty of Engineering, State University of Medan for Semester II / Even Students of the Fashion Design Study Program for the 2020/2021 academic year in April – June 2021.

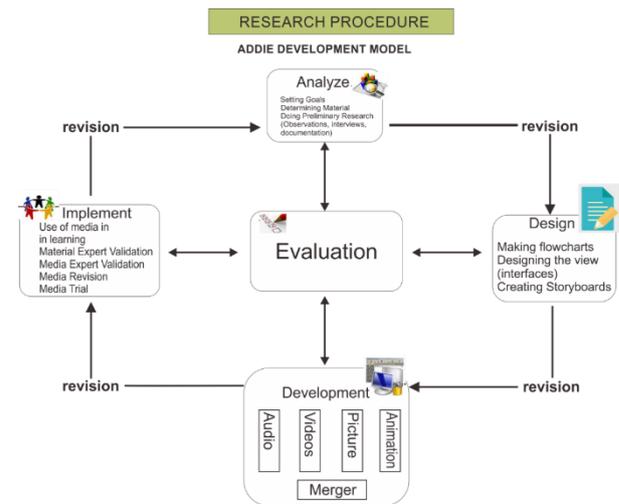
The development model used in this study is the ADDIE development framework. The development procedure in this study consists of five stages, namely Analysis (analysis), Design (planning), Development

(development), Implementation (implementation) and Evaluation (evaluation).

The trial implementation of media products is carried out after the initial draft product design is validated by media experts and material experts consisting of practitioners and lecturers of fashion. A small group trial was conducted on 9 students of Fashion Design Education at the State University of Medan aimed at knowing the limitations of the flipbook maker-based E-magazine media in terms of understanding the material and concepts presented in the media so that later it can be used as a learning medium in the learning process.

A group trial is being conducted with 18 students of Fashion Design Education at the State University of Medan to assess the flipbook maker-based E-magazine media after being revised from the previous small group trial.

The last stage is a large group trial conducted on 33 students of Fashion Design Education at the State University of Medan to test whether the product is attractive, effective and suitable to be used as a learning medium for Pattern drafting of Home Clothing.



**Figure 1** Research procedures using the ADDIE development model (Branch, 2009).

**3. RESULT AND DISCUSSION**

**3.1. Needs Analysis**

The first process that is carried out is to conduct observations, interviews and documentation by analyzing the needs of fashion students at the Medan State University. Analysis of student needs was carried out by distributing questionnaires to even semester students as many as 33 students and analyzing the needs of lecturers to 2 lecturers who had taught in women's basic clothing courses, especially on the Pattern drafting of Home Clothing.



Figure 2 Percentage Diagram of Student and lecturer Needs Analysis Questionnaire Results.

Based on the results of the needs analysis of the questionnaires that have been distributed to students and lecturers, it can be concluded that the analysis of student needs (84.27%) and the analysis of the needs of lecturers (88.75%), from these percentages, it can be concluded that the Flipbook Maker-based e-magazine media is very much needed. to improve learning more efficiently and effectively and to help students and lecturers in independent learning.

3.2. Early Product Development

The initial product development of the Flipbook Maker-based e-magazine media is to create a storyboard containing a cover, table of contents, introduction, instructions for using media, basic competencies, learning objectives, materials, exercises, and bibliography.

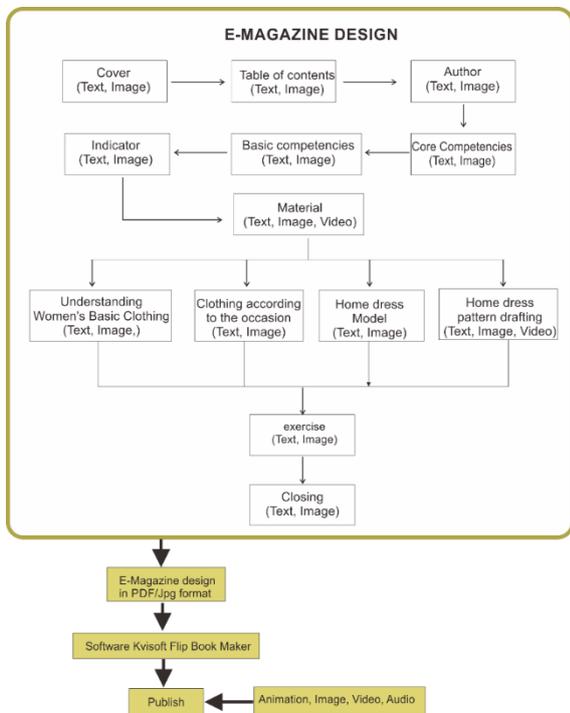


Figure 3 Design of E-magazine media development based on flipbook maker.



Figure 4 Flipbook maker-based e-magazine cover display.



Figure 5 Sample of Display material of the pattern drafting of home clothing.

3.3. Product Eligibility (Product Trial)

On the product media e-Magazine based Flipbook Maker on the pattern drafting of home clothing are 4 stages of testing and revision, 4 stages of trials that have been carried out, namely: (1) validation by media experts and subject matter experts, (2) Trial small groups, (3) Medium group trial, (4) Large group trial. In the first stage, the validation of media experts and material experts was carried out by fashion lecturers at the Faculty

of Engineering, Medan State University and practitioners in the field of fashion.

Phase I trials are trials conducted by material experts and media experts. Material experts consist of lecturers who take basic women's clothing courses, especially those who have expertise in pattern drafting of home clothing and practitioners in the field of fashion. Media trials were carried out by media experts as many as 3 validators consisting of 2 expert fashion lecturers in the field of instructional design and 1 expert in IT

Assessment of all aspects of the material carried out by material experts, namely the aspect of the feasibility of the content of the material with a percentage of 90% and presentation of the material with a percentage of 94.3%. The total average value of all aspects of 92.15% is in the very good category and is feasible to use.

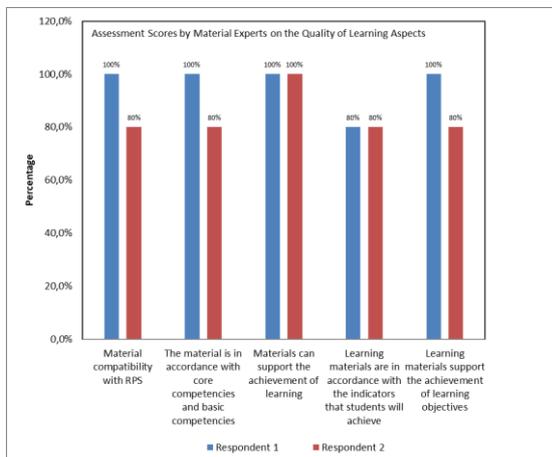


Figure 6 Assessment by Material Experts on the quality of the Learning Aspect.

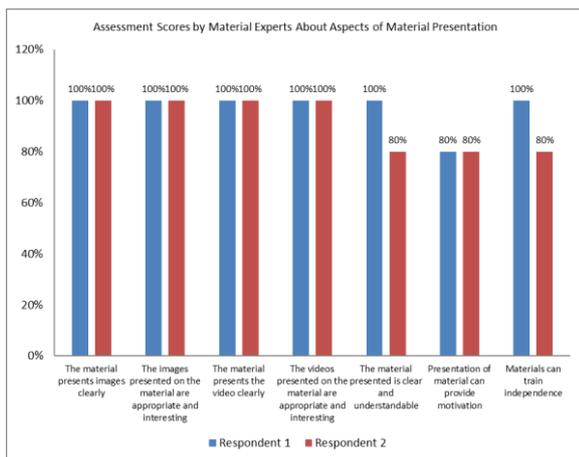


Figure 7 Assessment Score by Material Experts About Aspects of Material Presentation.

The results of media expert validation were carried out to determine the feasibility of flipbook maker-based e-magazine media on pattern drafting of home clothing. The media feasibility test was validated by media experts

on the media content feasibility aspect with a percentage of 91%, the visual presentation aspect with a percentage of 90.94%, the benefit aspect with a percentage of 91.14%. The total average value of the 91% aspects is in the very good category and is already feasible to use.

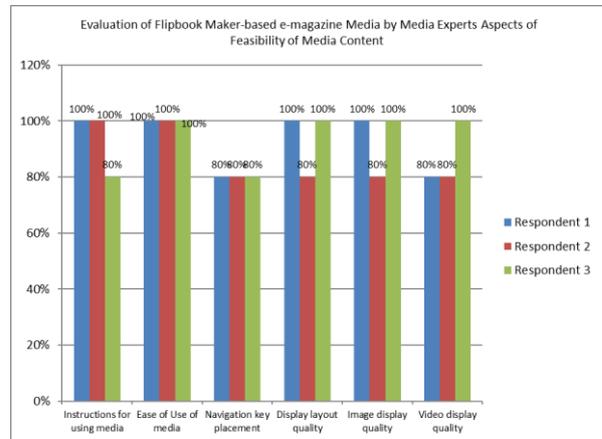


Figure 8 Evaluation of Flipbook Maker-based e-magazine Media by Media Experts Aspects of Feasibility of Media Content.

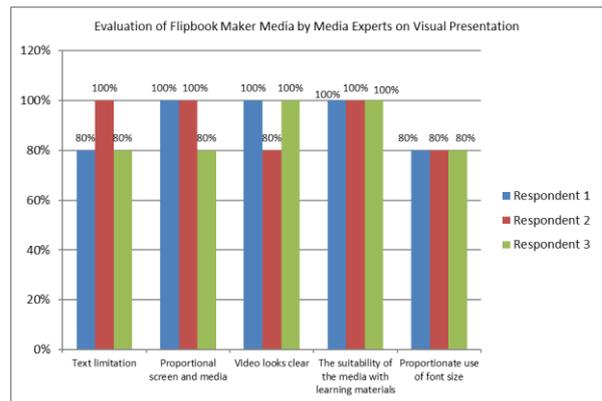


Figure 9 Media Flipbook Maker Assessment By Media Experts on Visual Presentation.

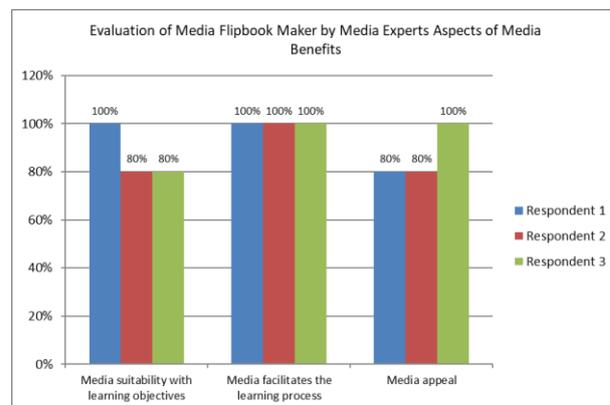
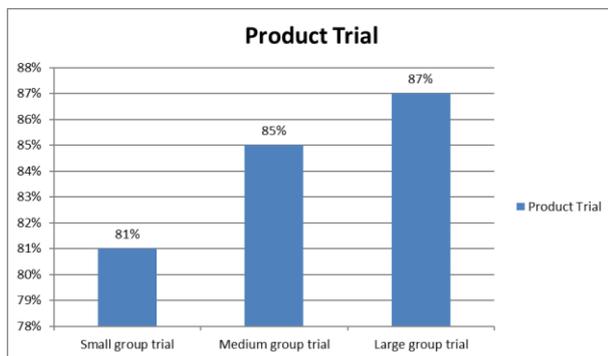


Figure 10 Media Flipbook Maker Rating By Media Experts Aspects of Media Benefits.

Phase II trial, which is a small group trial, was carried out on 9 students of fashion at the State University of Medan to determine the attractiveness and identify shortcomings of flipbook maker-based e-magazine media products on the pattern drafting of home clothing. The results of the small group trial are in the form of an assessment score on the product development of e-magazine media based on Flipbook Maker on the pattern drafting of home clothing with an average result of 81% with the criteria of "good".

Phase III, group testing is being carried out on 18 students of Medan State University Fashion Design with the aim of seeing some of the shortcomings of the flipbook maker-based e-magazine media on the pattern drafting of home clothing. The results of the group trial were in the form of an assessment score on the product development of e-magazine media based on Flipbook Maker on the pattern drafting of home clothing with an average result of 85% with the criteria of "good".

Phase IV, a large group trial was conducted on 33 students of fashion at the Medan State University to find out some of the shortcomings and feasibility of flipbook maker-based e-magazine media. The results of the large group trial are in the form of an assessment score on the product development of e-magazine media based on Flipbook Maker on the pattern drafting of home clothing with an average result of 87% with the criteria "good".



**Figure 11** Percentage diagram of small group, medium group, and large group trials.

After the validity of the material and media experts, small group trials, medium group trials and large group trials, an effectiveness test was conducted. This effectiveness test was conducted to see the effectiveness of the Flipbook Maker-based e-magazine media on the pattern drafting of home clothing in learning. The effectiveness test was carried out on 35 Semester II students of the Fashion Design Study Program for the 2020/2021 academic year and 2 lecturers who had taught basic women's clothing courses, especially the pattern drafting for home clothing.

The results of the effectiveness test conducted on 33 students showed that the flipbook maker-based e-magazine media was effectively used in learning to break home clothing patterns with 92% results indicating very

good criteria. Effectiveness test is also performed on 2 lecturers overflow course basic fashion women in particular to pattern drafting of home clothing indicates 88% appraisal results with the criteria of "good".

Flip Book Maker is an application for creating e-books, e-papers, and e-magazines. Flipbook means a book that flips over. Flipbooks have characteristics that can be opened and turned over like a magazine or book in general. Flipbook maker has design templates and features such as backgrounds, control buttons, navigation bars, hyperlinks and backgrounds [4]. This electronic magazine was created using Flip PDF corporation, previously the magazine was designed using Corel Draw X5, so the file format is in the form of pdf. This e-magazine contains material about pattern drafting of home clothing.

This development research starts from the needs analysis given to students and lecturers. The analysis was carried out by distributing a needs questionnaire, with the results of collecting data on the needs of lecturers (88.75%) and student needs (84.27%) indicating that the media is needed to support the teaching and learning process. Needs analysis in the development of Flipbook Maker-based e-magazine media on the pattern drafting of home clothing is carried out in several stages, namely: reviewing the curriculum and identifying the materials needed for the development of Flipbook Maker-based e-magazine media on the pattern drafting of home clothing.

The next stage of developing an e-magazine media based on Flipbook Maker on the pattern drafting of home clothing is a feasibility test or validation by media experts and material experts. Material expert validation aims to provide input and evaluate the material on the pattern drafting of home clothing. The assessment of all aspects carried out by material experts is the aspect of the feasibility of the content of the material with a percentage of 90% and the presentation of the material with a percentage of 94.3%. The total average value of all aspects is 92.15%. Validation by media experts aims to provide input and evaluate the Flipbook Maker-based e-magazine media on the pattern drafting home clothing. The results of the media feasibility test can be concluded by media experts on the feasibility aspect of media content with a percentage of 91%, visual presentation aspects with a percentage of 90.94%, benefits aspects with a percentage of 91.14%. The total average value of all aspects is 91%. These data indicate that the flipbook-based e-magazine media on the pattern drafting of home clothing is in the very good category and is feasible to use.

The next stage of development is a small group trial which aims to identify the shortcomings of the Flipbook Maker-based e-magazine media product. Small group trials were conducted on 9 students to see the quality of Flipbook Maker media on the pattern drafting of home clothing with the results of the assessment (81%) being

in the "good" criteria. Next is the medium group trial which was conducted on 18 students with the results of the assessment being (85%) with the criteria of "good". In the next stage, a large group trial was conducted on 33 students (87%) with "good" criteria. After testing a group of small, medium and large, it can be concluded that the e-magazine media flipbook maker based on the pattern drafting of home clothing fit for use and can proceed to the next stage.

The next stage is to test the effectiveness of the Flipbook Maker-based e-magazine media on the pattern drafting of home clothing, carried out by 35 students and 2 lecturers. Based on the results of student responses to the effectiveness test, the average percentage was (92%) with the "very good" criteria, while the results of the effectiveness assessment for 2 lecturers were (88%) with the "good" criteria. Description of the results of assessing the effectiveness of students and lecturers of the e-magazine media declared Flipbook Maker based on the pattern drafting of home clothing effective for use in the course of a woman's basic fashion. This is reinforced by Setiyo (2018). The use of flipbooks can also increase understanding and increase the achievement of learning outcomes.

#### 4. CONCLUSION

The results of this study are in the form of an e-magazine media based on Flipbook Maker on the pattern drafting of home clothing for students of Medan State University. Validation by material experts stated that (92.15%) "very good" material was used because it had met the content eligibility standards (90%) "very good" and presentation of material (94.3%) was "very good". Validation by media experts stated that overall (91%) media was "very good" with media content feasibility aspects with a percentage of 91%, visual presentation aspects with a percentage of 90.94%, benefits aspects with a percentage of 91.14%. The trial is a small group (81%) are currently on the criteria of "good". Next is the moderate group trial, the results of the assessment are (85%) with "good" criteria. The next stage is a large group trial (87%) with "good" criteria.

The effectiveness of the Flipbook Maker-based e-magazine media product on the pattern drafting of home clothing is concluded that the developed media is effectively used as a medium for learning women's basic clothing, especially on the pattern drafting of home clothing. The results of the student effectiveness assessment were (92%) with the "very good" criteria, while the results of the lecturer effectiveness assessments were (88%) with the "good" criteria. From the results of the assessment of the effectiveness of students and lecturers, it is stated that the Flipbook Maker-based e-magazine media is effective for use in learning basic women's clothing with pattern drafting of home clothing.

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