

Development Of Digital Teaching Materials Using Problem Based Learning Models On Business Introduction Subject

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Abstract. This aim of this study is to develop digital e-book for the Introduction to Business subject using the Project Based Learning (PBL). The ADDIE model is adapted on this research. There are 8 (eight) topics included in the digital E-book for introductory business subject. The Hybrid Learning model is used during the implementation of E-book PBL-based. The researcher invited two experts, in particular media and material experts to give their assessment for the E-book. All of these topics have been assessed very well by both media and teaching materials expert.. Based on the data analysis, the researcher concluded that PBL-based E-Book teaching materials are appropriate for use in learning in Introduction to Business subject. Based on the student response questionnaire result, the researchers conclude that student interest is very high on learning by using E-book.

Keywords: E-book, PBL, Teaching Material..

1 Introduction

Education for human life in the current global era is a crucial need for a person's future in life, which requires having more knowledge and skills and requires a person to master and understand various scientific disciplines in order to be able to keep up with developments in increasingly sophisticated times. Education, curriculum and learning are very important and cannot be separated. Education is an activity carried out consciously which has a big role in developing students' abilities to become quality, skilled, innovative and creative humans. From this understanding, it can be interpreted that 21st century learning is the preparation of students to use technology and learning media to improve students' life skills as preparation for facing life's challenges that they will face. Therefore, developing human resources through standardized learning is necessary for students [1]

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sophisticated developments. Education for human life in the current global era, it is a very determining need for a person's future in life, which requires having more knowledge and skills and requires a person to master and understand various scientific disciplines in order to be able to keep up with increasingly sophisticated developments.

One of the subjects that must be taken by undergraduate students majoring in Economic Management is the introductory business subject. Introduction to business is one of the subjects given in semester 3 where the aim of this learning is to provide students with an understanding of how a business organization tries to achieve organizational goals by analyzing and considering the organizational environment. The learning process for introductory business subjects does not yet show a process of developing student creativity. The learning process for introductory business subjects itself is still limited to just a transfer of knowledge process.

The problems that occur are the real result of a learning process that is still not running well and is also not in accordance with what is expected from the curriculum. Based on this reality, it is necessary to strive for appropriate learning, which refers to a curriculum that emphasizes a more active student learning process. The curriculum currently implemented by the government is MBKM (Free Learning Campus), where one of the prioritized learning models is Problem Based Learning [2] Problem Based Learning is characterized by real problems as a context for students to learn to think critically, solve problems and gain understanding of a concept through independent learning [3]. Learning with the Problem Based Learning model can make students directly involved in learning where the lecturer only acts as a guide to explore knowledge and interactions between students [4]. It is hoped that the Problem Based Learning model can increase student activity and creativity in the learning process which improves student learning outcomes.

Alternative learning to increase student activity and creativity is by using learning support facilities, namely in the form of teaching materials in each learning process which are created using a digitalization system. The teaching materials that are usually available are still limited to providing hardcopies (printed materials) which are felt to be inefficient and not suitable for blended learning. Teaching materials that can be used optimally in blended learning are teaching materials that are easy to access and easy to distribute [5].

Teaching materials have an important role in supporting the learning process. It forms of written or unwritten materials that teachers utilize in accordance with the curriculum to meet learning objectives are collectively referred to as teaching materials [6]. Teaching materials can be made in various forms, including teaching materials written in book form such as modules and teaching materials displayed in digital media via the internet and/or intranet. In this research, the purpose of digital teaching materials is E-Books which are very necessary considering that these teaching materials are very suitable for generation Z which is nicknamed the internet generation apart from textbooks [7].

E-Books can include dynamic sound and image elements such as videos [8]. Apart from that, e-books provide an opportunity to increase the depth of the material because students don't just read the text. Apart from that, e-books can make students active and independent in learning [7]. Problem Based Learning will change conventional learning into a more active learning pattern. This Problem Based Learning-based e-book, which is designed

in soft file form so that it can be operated using a cellphone, computer or laptop, can facilitate students to learn independently through designed questions.

The active involvement of students in the discovery of the concept of a material, so that the material can be stored for a longer period of time, should be taken into account when developing teaching materials. [9]. The purpose of this study is to improve the effectiveness of student learning. By increasing student learning activity, it is hoped that it will have a positive impact on student learning outcomes in introduction business learning. The objectives of this research are:

1. To assess the eligibility of E-book on learning of introduction business subject in Hybrid learning era.
2. To assess the eligibility of learning material digital-based using a problem-based learning model in introduction of business Subject.
3. To determine student interest in PBL-based digital E-book teaching materials in the Introduction to Business course.

2 Method

a. Research Design

This research is using Research and Development (R&D) method. The R&D method is methods that used to produce certain products and test the effectiveness of these products [10] This research was synthesized to develop PBL-based digital teaching material products for the Introduction to Business subject. This research leads to the development of an electronic book on Introduction to Business subject. The ADDIE model, which includes the five stages of analysis, design, development, implementation and evaluation [11]. This research approach is adapted as the process to develop an E-book based PBL on Introduction to Business subject.

b. Research Instruments

The instrument used in this research was a media and material assessment questionnaire. The questionnaire is guided by the three main criteria for learning media according to Walker and Hess [12], namely the quality of content and objectives, instructional quality, and technical quality.

c. Data Collection

In this study, data collection methods are described as follows:

- a) Observation of the learning process
- b) The learning E-book assessment sheet is assessed by material expert validators and learning media experts.
- c) Student response questionnaires are assessed by students to obtain responses and obstacles faced by students in the learning process.

d. The Data Analysis

The research data is quantitative and qualitative data. The data was obtained from a questionnaire assessing material experts, media experts and the students of the Study Program of Economic Management at the Faculty of Economics, Medan State University as a subject of this research. Qualitative data was obtained based on suggestions, criticism and input from material experts, media experts and the research subject.

3 Result

3.1 Analysis of Needs

The development of this media begins with analyzing several needs analysis which are selection of materials and determination of users. The need analysis result has been used as a reference on developing digital teaching materials for E-books of the Introduction to Business subject. In this need analysis, the students are also encouraged to give an opinion as to what relevance these topics have for them. The question that the researcher asked was about how important it is to study the topics that have been prepared to develop students' achievement on of the Introduction to Business subjects. As a result of the research interviews, it was found that there are several materials to be included in the E-book learning materials for teaching introduction business subjects are:

- 1) Business and Business Environment.
- 2) Ethics and Social Responsibility in Business.
- 3) Form of Ownership and Business Combination.
- 4) Management Aspects in Business
- 5) The Role of Marketing in Business
- 6) Product management in business.
- 7) Human Resources Management
- 8) Business Financial Management

3.2 Design

The material design that has been determined by researchers into several sub-materials, namely:

- a) Business and Business Environment.

This material consists of sub-material regarding basic business concepts, resources used to produce goods/services, stakeholders in business and the business environment.

- b) Ethics and Social Responsibility in Business

This material consists of sub-material regarding Understanding Business Ethics, Individual and Managerial Ethics and Forming Ethical Behavior.

- c) Form of Ownership and Business Combination.

This material consists of several sub-materials, namely forms of business ownership and compensation.

d) Management Aspects in Business

This material consists of several sub-materials, namely management processes in business, management levels and basic management skills.

e) The Role of Marketing in Business

This material consists of several sub-materials, namely Marketing and the scope of Marketing activities, Marketing Mix, Price Determination, Product sales promotion and Distribution of goods.

f) Product management in business.

In the material of product management in business, there are several sub-materials, namely the Production Process and its Goals, Design of Production activities, and managing and controlling the production process.

g) Human Resources Management

This material consists of several sub-materials, namely Basic Human Resource Management, Developing Employees, Compensation and Benefits, Morale and Job Satisfaction.

h) Business Financial Management

This material consists of several sub-materials, namely Accounting and its Coverage, Principles of Bookkeeping and Financial Balances, Company Financial Management, Financial Supervision.

3.3 Development

The development stage is the product realization stage from the design stage that has been carried out. Then validation of the e-book is used to determine the level of validity of the E-book that has been developed. The steps taken at this stage are:

a) Book Cover Design

The book cover contains the name of the subject and the name of the author (Figure 1)

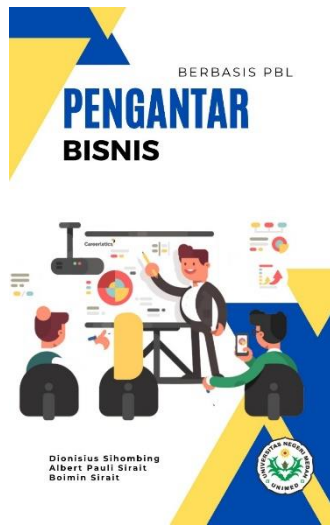


Figure 1. E-Book Cover

- b) E-Book Menu Display. On this page there is a menu or list of contents of the E-book starting from RPS, materials, practice questions/quizzes to the bibliography (Fig. 2).

MENU
RPS PENDAHULUAN
BISNIS DAN LINGKUNGAN BISNIS
ETIKA DAN TANGGUNG JAWAB SOSIAL DALAM BISNIS
BENTUK KEPEMILIKAN DAN KOMBINASI BISNIS
ASPEK MANAJEMEN DALAM BISNIS
PERAN PEMASARAN DALAM BISNIS
PENGELOLAAN PRODUK DALAM BISNIS
PENGELOLAAN SUMBERDAYA MANUSIA
PENGELOLAAN KEUANGAN BISNIS
SOAL LATIHAN
DAFTAR PUSTAKA

Figure 2. E-book Menu

- c) Material Display. This page contains study material that is in accordance with that contained in the table of contents (Fig. 3)



Figure 3. The display of Learning Material

d) Display of Practice Questions/Quiz.

This page contains practice questions for each chapter (Fig. 4).



Figure 4. Question Page View

3.4 Implementation

On implementation stage, researchers created a learning design using the Hybrid Learning model. The implementation of the E-book consists of four meetings, namely two meetings for face-to-face learning and two meetings for online learning. The researcher using

e-Books of the subject of Introduction to Business for each meeting. Before the implementation done, the researcher asked a media material expert to give an assessment of the E-Book product.

1) Media Expert Assessment Results.

Media experts gave a total of 57.5 with an average score of 3.83. Based on the total and average scores, the researchers concluded that E-Book PBL-based is eligibility and suitable as teaching materials on Introduction to Business subject (Table 1).

Table 1. The Media Expert Assessment Result.

No	Assessment Item	Score
1	The attractiveness of the cover design on E-book	3,50
2	Match the colour of the writing with the background	4,00
3	The attractiveness of visualization in e-book	3,50
4	Clarity of writing and font size in e-book	3,50
5	The attractiveness of the appearance of the content of the e-book	4,00
6	The layout of the E-Book is attractive	4,00
7	Use clear directions and instructions	4,00
8	Tables, pictures, related to the subject matter or concepts discussed	4,00
9	Table illustrations, images are created with layout effectively	4,00
10	Table illustrations and pictures are made to be attractive, clearly legible and easy to understand	3,00
11	The learning video link works well	4,00
12	E-Books can be run on mobile devices and computers	4,00
13	The use of font type and size is correct	4,00
14	The attractiveness of picture	4,00
15	Suitability of background and picture	4,00
Total		57.5
Averages		3,83
Criteria		Very Eligible

2) Results of Material Expert Assessment

Material experts gave very good assessments of the material that researchers have presented on the product. A total of 87 results were calculated for all items covered by a material assessment, in particular 20 evaluations, with an average value of 4.32. In conclusion, based on the total as well as average scores, it can be concluded that the PBL model is appropriate for learning Introduction to Business.

3) Implementation of E-Books in Learning Introduction to Business Subjects

The scenario set by the researcher is 2 meetings for face-to-face learning model and 2 meetings for online learning. On 1st and 2nd meeting, there material was

business concepts and resources used to produce goods/services. On the 3rd and 4th meetings the material studied was Stakeholders in business and the Business Environment. On this implementation, there were 30 students taking part in this learning.

4) Interest Questionnaire of E-book

The student response questionnaire revealed an 87.15% satisfaction factor for the aspect of being happy, 85.23% in relation to E-Books interest and 83.22% with regard to attention as well as 87.24% relating to involvement among students. The four aspects showed a very positive student response, so it is clear from the above that there is great interest for students to learn Introduction to Business by using E-book PBL-based.

3.5 Evaluation

In order to improve the quality of the PBL based digital book, an evaluation has been carried out. The suggestions and criticisms raised by the respondents have been summarized into three levels, i.e. materials, learning models and visual communication; within this research.

4 Discussion

The content referred to in this case is the learning material for the Introduction to Business subject. Several learning topics that had been prepared by researchers based on the curriculum were then shown to students, then the researchers conducted interviews. Students are asked to give an opinion on how important these topics are to them based on the needs they encounter in lectures.

In implementation, researchers created a learning scenario using the Hybrid Learning model that consists of four meetings. The researcher using e-Books of the subject of Introduction to Business for each meeting. The researcher asked a media expert and a material expert, to provide an assessment of the E-Book product. Media experts gave an excellent score for all items with a total of 57.3 with an average score of 3.83.

Media experts gave very good assessments of the material that researchers have presented on the product. A total of 87 results were calculated for all items covered by a material assessment with the average score is 4.32. Based on the total as well as average scores, it can be concluded that the PBL model is appropriate for learning Introduction to Business. The use of information technology in products is one of the factors that makes media acceptable in learning. The use of information technology can be used to process data, obtain, compile information and manipulate it in various ways to produce relevant, timely and accurate results for each individual's needs. This individual need for technology is what makes technology-based media receive a positive response [13].

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The last stage is evaluation. In this research, suggestions and criticisms from expert and the students has been used by the researcher to improve the quality of material, learning models and visual communication. In the visual communication, the researcher added several illustrative images that could increase students' interest in the digital teaching materials being developed. The visual media in the form of photos and illustrations can increase and foster student interest and provide a connection between the content of the lesson material and the real world [13].

5 Conclusion

Based on the problem formulation and research objectives, the conclusions from the results of this research are; 1) The PBL-based E-Book teaching materials are suitable for use in learning in the Introduction to Business subject. 2) the material contained in the PBL model-based E-Book is feasible and suitable for use in learning the Introduction to Business subject. 3) The student highly interest in learning the Introduction to Business subject using PBL-based digital E-Book teaching materials.

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