

THE DEVELOPMENT OF E-MODULE USING IT-BASED DISCOVERY LEARNING APPROACH

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Abstract

This study aims to develop an entrepreneurship e-Module based on IT-based discovery learning model approach and assess its impact on student engagement and learning outcomes. The research followed a research and development approach using the ADDIE model. Data was collected through observations, questionnaires, pretest and posttest assessments. The study comprised three stages: (1) Analysis of student learning needs, resulting in a draft e-Module; (2) Design and creation of a prototype e-entrepreneurship module using the Canva application; and (3) Thorough validation of the prototype by expert e-Module media validators and entrepreneurship subject matter experts. The developed entrepreneurship e-Module, structured around the IT-based discovery learning model, demonstrated high validity (4.34) during expert validation. In field tests, the module engaged 100 students and a small group of 8 students, leading to increased motivation and interest. In a class of 25 sixth-semester accounting education students, learning outcomes improved by 40% compared to the pre-e-Module phase. Student activity also notably increased, as indicated by observations and questionnaires. The integration of the entrepreneurship e-Module within the IT-based discovery learning model framework proved not only feasible but also highly effective in enhancing student engagement and learning outcomes.

Keywords: Development Research, E-Module, Work-Based Learning

1. INTRODUCTION

The development of the times requires humans to continue to develop by maximizing their potential both in the informal and non-formal sectors. Accelerating the development of the quality of human resources, especially in Indonesia, has become the main discourse by the government, by providing assistance in the form of working capital assistance and training assistance to improve the quality of work. The growth of MSMEs and business units has now developed a lot which indicates the growth of the economy in Indonesia, especially the independent entrepreneurial sector. In order to maximize this, there should be synergy between the government, stakeholders, community members, and educational institutions. The teaching of entrepreneurship in formal education is currently made a compulsory subject based on the decision of the Indonesian minister of education. The specificity of this entrepreneurship subject aims to create creative entrepreneurs in the future who are able to compete with businesses and entrepreneurs from other countries.

Entrepreneurship education and teaching at the university level for students has a specialty in teaching, namely creating young entrepreneurs who can contribute directly

to the business world. The learning system should also have a teaching pattern that is a direct application of what is learned, not just theoretical/text book. In the current digital era, IT-based learning allows students to study anywhere and anytime without being limited by space and time. So the solution to this is to make electronic modules or what are called e-Modules with a discovery learning approach that students can later use to improve their competence and expertise wherever they are. The discovery learning approach is used to provide direct meaning to each learning activity and maximize the e-modules that will be used by students, so the developer will include learning media components in each material as material for direct study of the material being studied.

The learning media that will be embedded in the e-module are in the form of visual media related to entrepreneurship and audio-visual in the form of videos in the form of direct learning related to product marketing, product promotion, and seller services to consumers. The developer will also include several media in the form of YouTube links as additional learning references. The developer hopes that the e-module with an IT-based discovery learning approach will be able to provide teaching to students as a whole, both theoretically and practically. So that after learning entrepreneurship students have good competence in the field of entrepreneurship which they can later implement directly.

2. RESEARCH METHOD

The model developed in the development of this learning e-module is the ADDIE model. ADDIE model. One of the learning framework configuration models that shows a basic and simple phase to understand the learning framework configuration is the ADDIE model. One of the learning framework configuration models that demonstrates an important phase of direct and simple to master learning framework configuration is the ADDIE model. This model has five fundamental phases or stages, more specifically: (A) analysis, (D) Design, (D) Development, (I) Implement, (E) Evaluation.

According to (Hamdan Husein Batubara, 2020) one of the popular and practical research and development concepts used as a guide for research and development of learning media is the concept of the ADDIE model put forward by Robert Maribe Branch in the book *Instructional Design: The ADDIE approach*. In accordance with the Analyze, Design, Development, Implement, and Evaluate stages.

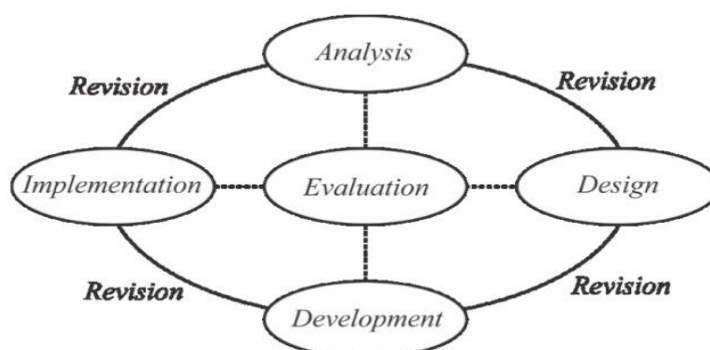


Figure 1. ADDIE Design

3. RESULTS AND DISCUSSION

3.1. Research Result

3.1.1. Analysis Stage

The analysis phase is the first stage that underlies the stages of the ADDIE model. At this stage the researcher collects information related to the problems faced in the learning process of students and the most appropriate type of learning media to support the learning process. Information regarding these problems and needs can be obtained from the following: Other information gathering techniques such as preliminary observations with the teacher of the subject concerned have been adapted to the needs of the media designer.

Through the observation of the initial data obtained by the researcher, namely determining the development of ICT-based entrepreneurship e-module teaching materials because this type of teaching material has not been used and the researcher has obtained a draft of the material to be compiled in the e-Module to be developed.

3.1.2. Design Stage

At the design stage is the stage of writing ideas into formulations that describe learning media in detail. This stage is carried out to design the expected learning media and appropriate testing methods. At this stage the researcher has prepared a module draft in the following figure:



Figure 2. e-Modul Draft
Source: data processed by the author, 2023

3.1.3. Development Stage

At the Development stage, the researcher conducted a validity test to find out the weaknesses and strengths of the storyboard prototype that had been made previously from the e-module which involved media experts by Mr. Asnurul Isroqmi, S.T., M.Kom. and materials expert Mr. M. Toyib, M.Pd in order to produce optimal products. The results of

the media expert test were 90.3% in the Very Valid category, the results of material experts were 94.21% in the Very Valid category.

a. Implementation Phase

In the implementation stage, the researcher carried out 2 stages of the implementation stage, namely the one to one stage for 3 students and a small group for a group of 10 students which was carried out at the PGRI Palembang University. At this stage the researcher shows the e-module that has been developed in order to obtain responses to improve things that he considers to be not optimal/still lacking.

Based on the results of the one-to-one questionnaire and comments from 3 students, it can be concluded that e-modules with an average of 98% are stated to be very valid. Meanwhile, the results of the questionnaire in the small group category were very valid with an average percentage of 97.05% indicating that the small group stage was tested to be very valid and practical.



Figure 3. Expert Test Results
Source: data processed by the author, 2023

b. Evaluation stage

At the evaluation stage, researchers conducted an evaluation at the field trial stage, namely the field trial test stage by conducting a pre-test and post-

test stage to see student learning outcomes. The results of the Field Trial Test stage, the pre-test results showed that 86% of the learning outcomes were very good, 84.6% were in the good category, and 70% were quite good. It can be concluded that the pre-test results of students with an average result of 84% are in the good criteria. At the post-test trial stage, it was found that 93.3% of post-test learning outcomes were in the excellent criteria, 80% were in the good category. It can be concluded that the post-test results of students with an average result of 93.3% are in very good criteria.

Based on the results of processed observation data on the implementation of lectures using e-Modules with 2 lecture meetings, it can be seen that the results of observations with a total of 25 students who are very active when participating in the learning process can be seen in table 1.

Table 1. Recapitulation of Observation part 1 and 2

Score interval	Total Student		Percentage (%)	Category
	P 1	P 2		
42 – 50	17	20	82,5	Very Active
34 – 41	8	5	17,5	Active
26 – 33	-	-	-	Quite active
18 – 25	-	-	-	Less Active
10 – 17	-	-	-	Bad
Total	25	25	100	

Based on a series of developments on IT-based entrepreneurship e-modules with a discovery learning approach, e-module products are feasible and can be used on the basis that they have been tested validly, practically, and for their effectiveness when used in learning.

3.2. Discussion

This development research aims to create products in the form of materials in the form of e-modules, creative products and entrepreneurship based on information technology, dynamic learning methods, discoric learning. This e-module was developed with the help of the Canva application so that the display and use of audio-visual media can be more effective. Development refers to three stages of development, namely the analysis stage, the design stage and the development stage.

The results of the implementation of development research were known at the analysis stage the researcher had determined the e-module with creative and entrepreneurial product material to be used in semester 6 students of the PGRI Palembang University accounting education study program and the researcher had drafted the e-module to be developed. In the design phase, the researcher has designed a story board for the series/stages of the e-module, complete with the media to be used, and the researcher has conducted an initial analysis of the design, namely selv evaluation to re-check the feasibility of the e-module to be developed. In the development stage, the researchers carried out the development of the e-module, which was originally in the form

of a story board, into an electronic form with the help of the Canva application. Furthermore, the feasibility test of the e-module was carried out by asking for comments/input from 2 experts, namely media experts and material experts here, the results were 90.3% and 94.21%. Declared very valid by 2 experts. In the final stage, namely field tests on a number of students, there was an increase in student learning outcomes and increased learning activity. So it can be concluded that e-module creative entrepreneurial products are feasible to use.

4. CONCLUSION

The effectiveness of the IT-Based Discovery Learning Model approach in developing the Entrepreneurship e-Module was confirmed through research, with an average observation score of 82.5% in the "very active" criteria. The e-Module was also deemed efficient based on the combined results of the media expert validator and material validator, with an average score of 92.25% indicating high validity and feasibility for use.

In terms of practicality, the e-Module underwent one-to-one trials with three students, achieving an average score of 89.52% and meeting the criteria for high validity. Additionally, during the small group trial with ten students, the e-Module obtained an average score of 96.05% with very valid criteria. Furthermore, the learning outcomes were evaluated through field trials with 25 students. The pre-test resulted in an average score of 84% with good criteria, while the post-test yielded an average score of 93.3% with very good criteria. This indicates a 9.35% improvement in student learning outcomes among sixth-semester Accounting Education students at PGRI Palembang University.

Based on these findings, it can be concluded that the Development of the Entrepreneurship e-Module, utilizing the IT-Based Discovery Learning Model approach, is effective for enhancing student learning outcomes, as demonstrated in this study.

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