

Development of Essential Material Economics Modules for Students of the Economics Study Program, State University of Medan T.P. 2022/2023

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ABSTRACT: *Online learning has so far had the effect of limited access to information, including having cost-effective teaching materials, especially essential materials. Speakers as facilitators are required to be creative in improving the quality of learning. For this reason, it is necessary to compile a decent module to support learning, especially in economics courses that are relevant to the concept of KKN assignments. In general, this research aims to produce quality modules that are suitable for use in learning. This research uses research and development (R&D) methods with the concept of Borg and Gall. This research was carried out in the Economic Science study program of FE Unimed with a population of all classes of students of microeconomics courses in the academic year 2022/2023. Samples are determined by intentional random sampling and sample classes are used for application and testing of limited small samples. To determine the feasibility of further elaboration of this didactic material will be validated by expert validators, as well as to test the practicality and effectiveness of the didactic material tested with the students. This research is conducted to produce a decent module, and has an ISBN.*

KEYWORDS : development, module, essential

INTRODUCTION

Background to the problem

The main focus of this study is to discuss among students essential materials in economics disciplines. Essential material is the subject and the most basic in each discipline in the educational unit depending on the needs of each region or school and adapted to the current conditions, where the material is a subject that requires a mature intelligence and tenacity, which requires calculation, analysis and interpretation of the resulting numbers in economics (mining economy). For this reason, teachers as facilitators of expository classes are required to be more creative and innovative in the search for solutions to problems experienced by

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students, in order to create a better and more comfortable learning carried out both among students and among teachers. One of the complaints that arise in students is often the misinterpretation of certain materials in economics, the difficulty of obtaining teaching materials (modules) due to limited access during the COVID-19 pandemic that has not ended. One of the problems is in economics courses, both macro and micro. In this sense, the breakthrough made is to compile modules through a series of research and development (R&D) modules to produce modules that are viable and effectively used in student learning.

Problem statement.

Based on this background, it is much needed to develop cost-effective modules in essential materials as an effort to improve student learning outcomes. The main objective to be achieved in this research is the production of a module in the form of a module that is relevant to the concept of KKNi tasks. The modules developed are designed so that students can connect the knowledge acquired with real cases faced in life to then provide accurate solutions and communicate them properly, while training the student's learning independence, anywhere and anytime.

From a series of research and development (R&D) processes to a module being produced, this module is expected to be relevant to equipping students' competencies, improving learning outcomes and increasing students' learning independence. To operationalize this research agenda as a whole, this study will focus on the development of modules in the form of essential materials economy modules. The agenda is elaborated in detail in the following problem statement: "Is the economics module on the essential material developed suitable for use in student learning?"

Research Objectives.

Based on the problem statement, the aim of this study is to find out if the developed essential material economics module is suitable for use in student learning?

RESEARCH METHODS

This research uses research and development methods. The objective of research development, according to Borg and Gall (1983), is to develop and validate research products. The steps of this process are usually called the research and development cycle, which consists of studying the research results relating to the product to be developed, developing a product based on the findings of the study, the testing field in the environment in which that product will be used later, and reviewing it to correct deficiencies found in the proposed test step. In more complex R&D programs, this cycle repeats until the test data field shows that the product meets predefined behavioral goals.

Data analysis

The development of didactic materials for Economics courses has good quality if it meets the following aspects of validity, practicality and effectiveness:

Legal Audit. The design of the developed product is evaluated by validators using validation sheets. The results of the evaluation of all aspects are measured with the Likert Scale. Likert scale is a number of positive affirmations about an object. In this study, the responses to the items of the instrument were classified into five options. Each measured indicator is assigned a scale score from 1 to 5, namely:

Table 1. Indicators of the Feasibility Scale

Scale	Diskription
5	excellent/very appropriate/very decent/very clear
4	good/Appropriate/Feasible/Clear
3	less good/less appropriate/less feasible/less clear
2	not good/inadequate/unworthy/unclear
1	very impolite/ very inappropriate/ very unworthy/ very unclear

The next step is to evaluate the feasibility of a didactic material to be implemented in the learning of economy of essential materials. After obtaining the data, then to see the weight of the response of each validator, calculating the average score with the following formula (Ernawati and Sukardiyono, 2017):

$$\text{Average total score} = \frac{\text{Total score}}{\text{Number Of rators}}$$

Then for the formula the percentage of results can be calculated by the following formula.

$$\text{Result} = \frac{\text{Average Total Score}}{\text{Max score}} \times 100\%$$

Eligibility categories are based on the following criteria:

Table 2. Eligibility Criteria for Teaching Materials

No	score in the %	eligibility category
1	< 21 %	Very unsuitable
2	21 – 40 %	Not worth it
3	41 – 60 %	decent enough up
4	61 – 80 %	feasible
5	81 – 100 %	Very decent

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Practicality Test. To test the practicality, students will subsequently evaluate the assessment of the readability of the modules in a limited sample of didactic materials that were made using Likert scales. This practicality test examines the readability of learning materials in terms of Learnability, Efficiency, and Effectiveness of Time. Subsequently, the range of total values of the resulting Likert scale will be converted to the value criterion determined by the level of practicality of the use of these didactic materials.

The analysis of the level of practicality of the products in the questionnaires can be calculated by the following formula (Akbar, 2011):

$$V_p = \frac{TSE_p}{s-max} \times 100\%$$

Keterangan :

- V_p = Validity of Practicality
 TSE_p = Total Empirical Score of Practicality
 S-max = Maximum expected score

After knowing the value of practicality, to describe the results of practicality can be seen from the following criteria:

Table 3. Practicality Criteria

Percentge	Category	Discription
75,01% - 100%	Very Practical	Can be used without revision
50,01% - 75,00%	Practical	Can be used with minor revisions
25,01% - 50,00%	Less practical	It is recommended not to use
00,00% - 25,00%	impractical	Unusable

RESEARCH AND PRODUCT DEVELOPMENT RESULTS

The process of elaboration and development of economic modules on this essential material is carried out sequentially according to the context of problems faced by students related to toipik or essential economic material in economic learning, which has been found to date, based on experience during the teaching period both in high school and in universities, as well as professors who teach in economics. And based on sharing with fellow professors who both teach economics and input material for me in compiling this module, especially what obstacles they face during lectures, especially to explore important issues related to essential economic material, both conceptually and theoretically.

Based on the results of the observations I made with the professors who teach in the economics courses, it was obtained the information that the expository classes had occurred according to

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the predetermined program and guided what was outlined by the study program, but the results achieved were not yet in accordance with the expected, this can be seen by the learning results of the students not yet as expected, The lack of motivation to learn for students, this is inseparable from the limited literature possessed by students, especially most lectures are conducted through e-learning. During the expository classes carried out by e-learning, the results achieved are not great, in addition to the lack of interest in learning from the students, it is also difficult to follow and observe their activities during the classes.

Develop evaluation tools

The Assessment Instruments are instruments for collecting data or information. Evaluation is an activity to gather information about the work of something that then the information is used to determine the right alternatives in making decisions. From the understanding of these instruments and evaluations, the evaluation instruments can be called evaluation instruments or evaluation instruments used to collect data or information.

Product Design Module

The initial discussion of the design of this module is the compatibility between learning objectives, learning subject, methods used, assessment tools and so on, in general the discussion process is more focused on determining what material will be dumped into modules that are adjusted to the syllabus. It then displays the project structure of the module to be developed. Each item in this project is based on the provisions in creating a standard module. Although the initial design of the product is a draft that must be validated by experts, the researchers try their best to develop modules suitable for use by teachers and students.

Validation data from materials experts

The validation of materials experts on the material used in the developed module material was carried out by an economist, Dr. Eko Wayunugrahi, M.Si. He is a professor in the graduate school of Medan State University, the validation of materials experts is carried out to obtain inputs that are used to improve the quality of the material in essential modules. The results of the validation, in the form of evaluation scores of the quality components of the module material contained in the module development products, can be seen in the following table

Table 4. Assessment Score of Economics Teaching Module by Material Experts

No	Aspect	Indicator	Score	Category
1	Suitability of Learning Objectives	Clarity of basic competencies	4	feasible
2		Clarity of learning objectives	5	very decent
3	Material quality	Accuracy of the content of the material	5	very decent
4		The correctness of the content of the material	4	feasible
5		Clarity of the content of the material	5	very decent
6		Systematics of material content	4	feasible
7		Compatibility of the material with basic competencies	5	very decent
8		Completeness of the content of the material	4	feasible
9	Presentation of material content	Language clarity	4	feasible
10		The usefulness of images to support the material	4	feasible
11		The usefulness of the video to support the material	4	feasible
12		Ease of understanding the content of the material	5	very decent
13	Presentation of Self-Evaluation	Clarity of practice questions	5	very decent
14		Suitability of practice questions to the material	5	very decent
15		Practice Problem feedback	4	feasible
Total			67	
Avarage			4,47	
Percentage			89,33%	very decent

(Source: processed by the researchers based on the results of the validators' evaluations)

From the evaluation obtained with the team of experts in Table 4, it is observed that of all 15 indicators obtained an average response value of 4.47 or 89.33% with a very viable category, when visualized of each indicator there are seven indicators of very viable response, while the remaining eight indicators obtain a decent response. From the results of the tabulation, it can be concluded that, in general, the developed module is feasible to be used as a module in the course of economics of essential materials in the program of studies of sciences, Faculty of Economics of Medan State University.

Description of test results

The next step to see if this module is feasible to develop is to conduct tests for students who are taking microeconomic theory courses, who leave in the current semester. This trial was carried out in several stages as needed in this context the researcher took three steps that I will do, which include the individual trial phase, which was distributed to three students, small group trials distributed to six students, and field trials, which were distributed to thirty students, the following will be explained in more detail

Individual tests

As described above, this individual essay was conducted on three students of the economics course, dividing three categories, namely, a student who has low performance, a student who has average performance, and a student who has high performance. The aim of this individual essay is to see what are the weaknesses and what are the shortcomings of this developed module if we look at all aspects of learning, so that it can be improved as it should be.

Based on the results of the data from the questionnaires distributed to students in individual groups against economics modules on essential and difficult to understand materials can be seen in Table 5. From the table we can know that for the category of material aspects with the first question, the description of the didactic material is easy to understand with a total of 13, where 2 respondents choose 4, and 1 respondent chooses 5, with an average gain of 87% and is included in the very good criterion. The second question of the didactic material in didactic materials is presented in a clear and easy way, followed with a grade of 14, with an average of 93%, and entered very well in the criteria. The third question of the content of the module material as a whole is able to attract students to learn how to get a number of 13 with a percentage of 87% and is included in the very good criteria. The fourth question of material delivery in the module is coherent and according to the essential material obtained a total of 14 with a percentage of 93% and included in the very good criterion. The fifth question of this essential materials economics module contains an assessment that tests the extent to which my understanding of the material presented obtained a number of 14 with a percentage of 93% included as an excellent criterion. The sixth question using this module made me more enthusiastic about studying economics, getting a number of 13 with a percentage of 87% going into the very good criteria. Based on these results, it can be concluded that the material aspect obtained an average percentage of 90% with very good criteria. In the material aspect category, of the six items of the question, the respondent's average response was in the very good category. The fourth question of material delivery in the module is coherent and according to the essential material obtained a total of 14 with a percentage of 93% and included in the very good criterion. The fifth question of this essential materials economics module contains an assessment that tests the extent to which my understanding of the material presented obtained a number of 14 with a percentage of 93% included as an excellent criterion. The sixth question

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using this module made me more enthusiastic about studying economics, getting a number of 13 with a percentage of 87% going into the very good criteria. Based on these results, it can be concluded that the material aspect obtained an average percentage of 90% with very good criteria. In the material aspect category, of the six items of the question, the respondent's average response was in the very good category.

In addition, when viewed from the aspect of presentation of the whole question, it can be explained as follows, for the first question the presentation of this module made me interested in reading it, obtaining a percentage of 80% inserted in the very good criteria. The next issue is that this module is equipped with a summary of the material that covers the content of the material obtaining a percentage of 93%. The entry in the category is very good. The third issue of using modules in the learning process allowed me to learn faster and easier to understand: the learning material obtained a percentage of 87%. The entry as a category is very good. Fourth question Each learning step in this module clearly earns a percentage of 93%. The entry as a category is very good. The example of the fifth question given in this module helps to understand material that is difficult to understand getting a percentage of 87% inserted as a good criterion, from the point of view of presentation getting an average percentage of 90% with very good criteria. By the results of the tabulation, when viewed from the general questions asked, all the answers entered in the category are very good.

In addition, when we look under the linguistic aspect, from the general questions asked we can see the following, for the first question the language used in this module is in accordance with the improved spelling obtained a percentage of 93% inserted in the very good category. The statement of the two languages used in this economics module is easy to understand, obtaining a percentage of 87% enrolled in the very good category. The third phrasal structure question used in this economics module is clear and simple getting a percentage of 80% getting into the very good criteria, from the language aspect getting an average percentage of 87% with very good criteria. From the results of the tabulation, we can conclude that, from the whole question, all the answers inserted in the keriteria are very good. When viewed together, the responses of the results of this individual group study were obtained for the three categories of aspects evaluated, with average results for the material aspect of 90%, the aspect of presentation of 90% and the aspect of language of 87%. If we combine the three categories, the average is 89% and is included in the very good category.

For more details, the average percentage of the results of the evaluation of the economic module of the individual trial can be seen in Table 5.below.

Table 5. Average percentage of economic module assessment results Individual trials

No	Category	Percentage	Criteria
1	Material aspect	90%	Excellent
2	Aspects of presentation	90%	Excellent
3	Language aspect	87%	Excellent
Average		89 %	Excellent

(Source processed by researchers based on the results of individual trials)

Small group trials

Tests in small groups were conducted on six students in the economics study program, dividing the categories into high-achieving students up to two people, middle-performing students up to two people, and low-performing students up to two people. The aim of this small group essay is to find out more deeply what are the shortcomings of this developed module when viewed under the aspect of quality of learning. From the data obtained and after tabulation, it was verified that in small groups of students consisting of six people who were tested, the results appeared in Table 5. From the table, it can be seen that for the category material aspects with the first question, the description of the didactic material was easy to understand with a total of 27, with an average percentage obtained of 90% and inserted in the very good criterion. The second question of the didactic material of the module is presented in a clear and easy to be followed way with a total of 28 with an average percentage of 93% and is included in the very good criteria. The third question of the content of the module material as a whole is able to attract students to learn how to get a total of 28 with a percentage of 93% with very good criteria. The fourth question of material delivery in the module is coherent and according to the essential material obtained a total of 27 with a percentage of 90% inserted as a very good criterion. The fifth question of this economics module contains an assessment that tests the extent to which my understanding of the material presented obtained a number of 23 with a percentage of 77% going into the good criteria. The sixth question using this module made me more excited to learn economics, getting a number of 28 with a percentage of 93% inserted as a very good criterion in the material aspect, obtaining an average percentage of 89% with very good criteria. If we look at the material aspect category, of the six items of the question that answered the respondents, five are in the very good category and one is in the good category

In addition, based on the aspect of presentation of all the questions, it can be described as follows, for the first question the presentation of this module interested me in reading it, obtained a score of 90% and entered very well in the criteria. The question of these two modules is endowed with a summary of the material that covers the content of the material obtained a percentage of 87%. The entry in the category is very good. The next issue is that the use of

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modules in the learning process allows me to learn faster and easier to understand the learning material getting a percentage of 90%. The entry in the category is very good. The next question is that each step of learning in this module clearly receives a percentage of 90%. The entry in the category is very good. The last question, the examples given in this module, help to understand the material that is difficult to understand, obtaining a percentage of 93% entering very well in the criteria. If we look at the whole question, we can conclude that in the aspect of presentation, all the answers are in the very good category.

From the category aspect language, we can see the results of the three questions asked as follows, for the first question the language used in this module is in accordance with the improved spelling obtained a percentage of 90% inserted as very good category. The statement of the two languages used in the economics module is easy to understand, obtaining a percentage of 83% registered as a good category. The third phrasal structure question used in this economics module is clear and simple, obtaining a percentage of 90% of input as an excellent criterion. If we look at all the items in the question, all the answers are in the very good category, and if we combine for the three categories, the average is 88% and is included in the very good category.

In general, the responses of the results of this study in small groups can be for the three categories of aspects evaluated, obtained average results for material aspects 89%, aspects of presentation 91% and aspects of language 88%. If we combine the three categories, the average is 89% and is included in the very good category. For more details, the average percentage of the results of the evaluations of the economic module of the trials in small groups can be seen in Table 6 below

Table 6. Average percentage of the results of the evaluation of the Economics module Essays in small groups

No	Category	Percentage	Criteria
1	Material aspect	89%	Excellent
2	Aspects of presentation	91%	Excellent
3	Language aspect	88%	Excellent
Average		89 %	Excellent

(Source processed by the researchers based on the results of small group trials)

Field Test Results

The next step is to conduct field tests, this is done first by looking at the weaknesses that exist in both individual trials and small group trials. This trial was conducted in microeconomic theory classes with a total of 30 respondents through offline and online learning.

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The results of the evaluation of the students of the field group in the module of economics on essential material can be seen that for the category of material aspects with the first question, the description of the didactic material was easy to understand with a total of 134, where 4 respondents chose 3, and 8 respondents chose 4, and 18 respondents chose 5, with an average obtained of 89% and inserted as a very good criterion.

The second question of the didactic material of the module is presented in a clear and easy to follow way, obtained a total of 134 with an average percentage of 89% and entered very well in the criteria. The next issue is that the content of the module material as a whole is able to attract the interest of students to learn, obtained a total of 134 with a percentage of 89% with very good criteria. The fourth question of material delivery in the module is coherent and according to the essential material a total of 132 was obtained with a percentage of 88% inserted as a very good criterion. The fifth question of this economics module contains an assessment that tests the extent to which my understanding of the material presented obtained a number of 130 with a percentage of 87% entering the very good criteria.

The last question using this module made me more excited to learn economics, getting a number of 131 with a percentage of 87% inserted as very good criterion from a material point of view, obtaining an average percentage of 88% with very good criteria. If we look at the category of material aspects, from the six items of respondent's answer the questions can be concluded to be in the very good category,

When viewed under the aspect of presentation of the whole question, it can be described as follows, because the first question of presentation of this module made me interested in reading, obtained a percentage of 87% inserted in the good criteria. The question of these two modules is endowed with a summary of the material that covers the content of the material obtained a percentage of 87%. The entry in the category is very good. The third issue of using modules in the learning process allowed me to learn faster and easier to understand: the learning material obtained a percentage of 89%. The entry in the category is very good. Fourth question Each learning step in this module clearly earns a percentage of 87%. The entry in the category is very good. The last question, an example of the example given in this module, helps to understand material that is difficult to understand, obtaining a percentage of 87% inserted in the very good criterion. If we look at the whole question, all the answers are in the very good category.

Judging by the linguistic aspect, of the three questions asked we can observe below, for the first question the language used in this module is in accordance with the improved orthography obtained a percentage of 86% inserted in the very good category. The second question, the language used in the economics module is easy to understand, obtaining a percentage of 87% enrolled in the very good category. The last question, the phrasal structure used in this module of economics, is clear and simple, obtaining a percentage of 89% of entry in the very good

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criteria. If we look at the three questions, all the answers are in the very good category, and if we combine for the three categories, the average is 87% and enters the very good category.

If we look at the essay as a whole, the responses of the results of this field group trial were obtained for the three categories of aspects evaluated, the average results were obtained for the material aspect 88%, the presentation aspect 87% and the language aspect 87%. If we combine the three categories, the average is 87% and is included in the very good category. For more details, the average percentage of the evaluation results of the economics module of the individual essay can be seen in Table 7 below

Table 7. Average percentage of the results of the evaluation of the economic module Field group trials

No	Category	Percentage	Criteria
1	Material aspect	88%	Excellent
2	Aspects of presentation	87%	Excellent
3	Language aspect	87%	Excellent
Average		87 %	Excellent

(Source processed by the researchers based on the results of the field group trials)

Based on the tabulation results of the trials performed, which include individual trials, small group trials and field group trials as a basis for determining whether the developed modules are suitable for use, where the scores obtained respectively for individuals are 89%, for small groups 89% and for field groups 87%, and the average score is 88%, with categories that are very good or suitable for use.

For clarity, the results in the acquisition of data from individual, small group and limited trials can be seen empirically in Table 8 below:

Table 8. Average percentage of media evaluation results Individual, small group and field group trials

No	Category	Percentage	Criteria
1	Individual Group	89%	Excellent
2	Small Groups	89%	Excellent
3	Field Groups	87%	Excellent
Average		88 %	Excellent

(Sources processed by researchers based on trial results for all groups)

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The table above explains that the individual group obtained an average percentage of 89%, while the small group obtained an average percentage of 89% and for limited field tests obtained a percentage of 87% and an average score of 88% in the development of essential modules of economics.

CONCLUSION

In accordance with the formulation of the problem, objectives, and results of research discussion, the modules presented can be concluded as follows:

1. The results of validation by module experts covering 4 aspects, namely aspects of suitability of learning objectives, material quality, presentation of material content, and presentation of module self-evaluation. The results of the assessment of the four aspects were declared "very valid" with an average percentage of 89.33%.
2. The results of the trial assessment of students are carried out through 3 processes, namely individual trials of 3 people, small group trials of 6 people, and field trials of 30 people. Based on the results of individual trials it was declared "very good" with an average percentage of 89%. The results of the small group trial were declared "very good" with a percentage of 89%. The results of field trials were declared "very good" with an average percentage of 87%. From these results, it can be concluded that the modules developed are suitable for use in economic learning

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