

Validity of Economic Based on Mind Mapping Module Development for SMA Class X Students

Syafaatul Hidayati*, Badrus Sholeh, Nasmal Hamda, Sri Rahayu, Fanni Erda Tasia

*Universitas Pamulang
Jalan Surya Kencana No. 1, Tangerang Selatan (15417) Indonesia
dosen00861@unpam.ac.id*

ABSTRACT. The module is one of the learning media that can make students master and achieve learning goals. The broad learning material in the module will be more difficult for students to understand. Therefore, it is imperative that the material be constructed into an idea in the form of mind mapping. Economic subject matter needs to be constructed into an idea in the form of mind mapping. Thus the researcher interested in developing a mind mapping-based module specifically for economics subjects for class X high school students in odd semesters. Before being tested on students, this module must go through the validation stage by validator. The validators used by researchers in developing this module are the validation of material experts, media experts and linguists. The research and development objectives in detail are to determine: (1) the development of a mind mapping based module in economics for class X high school students; (2) the validity of the mind mapping-based module in the economic subjects of class X high school students. The research method used by researchers in this study is the research and development (R & D) method or development research with a 4-D development model that is in line the four major stages, namely: the define stage, the planning stage, the develop stage and the disseminate stage. Based on testing by expert validators, it was found that the module was valid both in terms of material, language and presentation. It can be concluded that the mind mapping-based economic module for grade X high school is valid and feasible to be tested on students.

Keywords: *Module, Mind Mapping, economics subjects, Senior High School.*

1. INTRODUCTION

The learning module is one of the learning media that can enable students to master and achieve goals in learning. The broad learning material in the learning module will be more difficult for students to understand. Therefore, it is imperative that the material be constructed into an idea in the form of mind mapping. In addition, mind mapping helps students learn, organize, and store as much information as they want, and classify this information fairly so that it allows instant access (perfect memory) to everything they want.

Students can understand the concept of learning initially from concept knowledge. If students have not maximally reached initial knowledge, in this case concept knowledge, then understanding of the concept will never be achieved by students.

Based on observations, information is obtained that the learning resources used by teachers are still not innovative. In learning activities, the only learning resources used are text books. With learning resources that are owned by students, the teacher hopes that before the teaching and learning process is carried out, students can read first to be

able to know and understand the topics to be studied. Students are also expected to be able to review it at home so that when the teacher reviews the material they can explain it again properly. However, in reality very few of them read and recorded the core parts of the material. Some students who took notes were still in conventional form (full text). Thus the researchers analyzed that the problem in class X economics subjects was the low ability to understand the concept of economic material, which was mostly in the form of theory.

Economic subject matter needs to be constructed into an idea in the form of mind mapping. This refers to the opinion of Huda (2013: 307) which states that mind mapping can also make learning activities effective. This is because mind mapping can be used to shape, visualize, design, take notes, solve problems, make decisions, revise, and clarify topics.

As for relevant similar studies such as Naim (2009), it shows that mind mapping can improve students' ability to think because it combines and develops the work potential of the brain, so that attention is focused on the subject and is able to

develop detailed ways of organizing thoughts. With this mind mapping, students can do multiple tasks at the same time. Based on the description above, it is necessary to develop a learning module that can facilitate students in the learning process.

According to Gagne (in Purwanto 2010: 84) learning occurs when a stimulus situation along with the contents of memory affects students in such a way that their actions (performance) change from the time before they experienced the situation to the time after they experienced the situation.

Sukiman (2011: 131) states that the module is part of a planned learning unit designed to help individual students achieve their learning goals. Students who have high speed in learning will master the material faster. Meanwhile, students who have a low learning speed can learn again by

$$P = \frac{X_i}{X_j} \times 100\%$$

repeating parts that have not been understood until understood.

Mind Mapping is one way that can make the learning atmosphere more interesting and make students have a comprehensive view of the subject matter. Mind mapping is also able to improve memory of the material and can focus students' attention (Pamungkas, 2016).

Based on the description above, it is necessary to develop a learning module that can facilitate students in the learning process. In order for this module to be appropriate for the needs of students and suitable for use, expert validation is necessary to obtain valid recommendations. If it is valid, the developed module can be tested on students with the hope that it can make learning effective. So that came an idea to do research and development research with the title "Validity of Economic Based on Mind Mapping Module Development for Sma Class X Students".

2. METHODS

The research method used by researchers in this research is the Research and Development (R & D) method or development research. Sugiono (2015) states that the R&D method is one of the research methods used to produce certain instructional media products and test the effectiveness of these instructional media products.

This study will use a 4-D development model adapted to the 4-P suggested by Thiagarajan. Trianto (2007: 66) outlines the four stages, namely:

the Define Stage, the Planning Stage (Design), the Development Stage (Develop), and the Deployment Stage (Dessseminate). In the research, the steps used include 3 steps, namely: Define, Planning Stage (Design), Development Stage (Develop).

Define aims to collect information about the needs of learning module development. Design includes writing a blue print of the material and all learning module designs. Develop, namely validating the learning module by experts about the content and appearance of the module design being developed and also the language. Thus the validation of this learning module involves material experts, media experts and linguists.

The instruments used in this study were validation questionnaires and documentation tools. The expert validation scores are given on a Likert scale of 1-5 where 1 = irrelevant / not good, 2 = less relevant / not good, 3 = quite relevant / good enough, 4 = relevant / good and 5 = very relevant / very good. Furthermore, the expert validation score was analyzed by the following formula.

Information:

- P : Percentage
- X_i : The total score of the expert's assessment answers
- X_j : Maximum number of scores Source: Arikunto (2009: 35)

Based on the above calculations, the following assessment criteria are obtained.

TABLE 1. Study Module Validity Criteria

No	Interval	criteria
1	85% - 100%	Very orthy
2	69% - 84%	Worthy
3	53% - 68%	Decent Enough
4	37% - 52%	Not Worth it
5	20% - 36%	Not Feasible

Source: Sugiyono (2014: 303)

If the results of the validation by the three experts are in the minimum category "feasible", then the learning module developed can be used and valid both in terms of material, design and language.

3. RESULT AND DISCUSSION

In general, the results of this study include three of them the results of needs analysis, writing a blue print of the material and all learning module designs and validation of learning modules by experts.

3.1 Needs Analysis

3.1.1 Initial and Final Analysis

Based on field observations, researchers can identify problems that occur in teaching and learning activities, so it is necessary to develop a mind mapping-based learning module. Based on observations and interviews conducted, there were several problems found among them, students lacking motivation to learn and a lack of students' critical thinking skills, thus affecting the scores where many did not reach the KKM. Of course this is due to the monotonous learning process, and there is no variation in the use of learning modules used by teachers.

The teacher only uses teaching materials in the form of textbooks and student worksheets (LKS) by instructing students to read each teaching material. This is of course very boring for students. Therefore, a mind mapping based learning module was developed to increase students' enthusiasm for learning, improve students' critical thinking skills and eliminate boredom as a result of less attractive learning and to help teachers in delivering material.

3.1.2 Student Analysis

After analyzing and finding problems in the teaching and learning process in class, an analysis activity was carried out on students regarding the reasons why the test scores were low and inactive in class, from these observations found various reasons, especially boring. The monotonous learning process has no variation in the learning modules used. This statement is true when researchers are in the field.

3.1.3 Material analysis

The learning module being developed is only devoted to the odd semester X grade SMA economics subject.

3.1.4 Task Analysis

The task analysis is adjusted to the curriculum starting from core competencies, basic competencies, discussion, sub-discussions and all

main content of the discussion. The curriculum used is the 2013 curriculum, the same as the previous analysts, namely the initial and final analysis, student analysis, so that later students can learn with the developed media.

3.1.5 Learning Objectives Specifications

The specification of learning objectives, in the form of learning objectives formulation which is then modified or replaced between the results of material analysis and task analysis, so that it becomes the formulation of learning objectives based on basic competencies and indicators in the curriculum regarding a concept.

3.2 Writing (Blue Print And Material Design)

Based on the results of the needs analysis that has been carried out, the researchers noted important points as the basis for designing the blueprint for the module design for teaching materials to be developed. As for what can be formulated in the systematic writing of this module are as follows.

3.2.1 The Beginning

At the beginning, contains core competencies, basic competencies, achievement indicators, concept maps, and instructions for using the module

3.2.2 The core

The learning materials include: Chapter I Basic Concepts of Economics, Chapter II Economic Problems in the Economic System, Chapter III Role of Economic Players in Economic Activities, Chapter IV Balance and market structure and Chapter V Central Bank, Payment Systems and Payment Instruments. Besides that, there is also a material evaluation in the form of a description in each chapter.

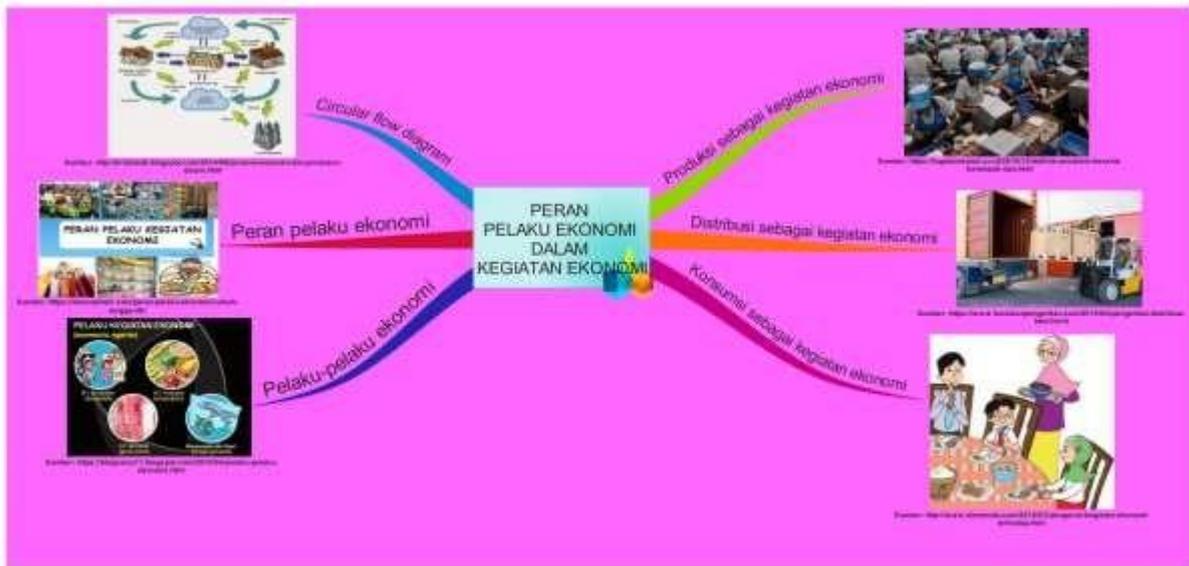


Figure 1. Learning Material The end

This section includes a bibliography and a learning module developer profile.

3.3 Validation of Learning Module

3.3.1 Material Expert Validation

The development of a mind mapping-based economic learning module involving material experts, namely Mr. Saiful Anwar, S.Pd., S.E., M.Pd. he is a lecturer in the Economic Education Study Program at Pamulang University. This validation aims to determine the responses of material experts as a principle in improving and improving the quality of the developed learning modules which are seen from several aspects of assessment, namely the feasibility of content and the feasibility of presenting 15 statements. Following are the results of the comparison of the first and second stage material expert validation in the form of the diagram below.

Based on the results of the material expert validation questionnaire, there is a comparison of the material validation in the first and second stages where the first stage is 64% while the second stage is 88%. The results of the second stage increased after revisions in the first stage were made. by 24%.

The suggestions from material experts that still need to be improved include: (1) adding pictures related to everyday life; (2) add task exercise menu for evaluation of each chapter; (3) curves need to be improved; (4) bibliography in the figure is completed; (5) provide student answer sheets on the back of the exercise assignments and (6) references to bibliography are still lacking.

3.3.2 Linguist

The linguist involved is Mr. Heri Indra Gunawan, S.Pd., M.Pd, he is an Indonesian language lecturer at Pamulang University. This validation aims to improve the quality of the module being developed which is seen from the aspects of the functionality of the module, communicative, dialogical and interactive, conformity with students, conformity to language rules and use of the term symbol or icon. When viewed from the results of the linguist's questionnaire validation, a comparison of the first and second stage linguist validation can be made where the first stage is 65% while the second stage is 90%. The results of the second stage increased after revisions in the first stage were made. by 25%. Suggestions from media experts that need to be improved include: (1) improving the use of sentences according to the EYD; (2) correct the language that is still too high which is not in accordance with the abilities of students; (3) more consistent use of terms; and (4) some sentence structures need to be improved.

3.3.3 Media Expert

The media expert involved is Mr. Putut Said Permana, S.Pd., M.Pd, he is a lecturer in Learning Media Development at Pamulang University. The validation of media experts aims to improve the quality of mind mapping-based economic learning modules so that they are feasible in terms of graphic feasibility. Some of the components that

are seen include: module size, module cover design and module content design.

Based on the results of the media expert validation, it can be seen that there is a comparison of the first and second stage media expert validation where the first stage is 63% while the second stage is 89%. The results of the second stage increased after revisions in the first stage were made. by 26%.

Some suggestions given by media experts include: (1) accuracy in determining fonts so that they are easy to read; (2) accuracy in placing the type of text on images; (3) accuracy in determining the layout of the image; (4) color selection according to screen background and (5) color mind mapping is more varied.

From the various results of the material, language and media expert validation above, it can be summarized in table 2 below.

TABLE 2. Comparison Of Phase I And Phase Ii Expert Validation

No.	Validasi Ahli	Persentase	
		Tahap I	Tahap II
1	Material Expert	64%	88%
2	Linguist	65%	90%
3	Media Expert	63%	89%

With the validation of the developed learning modules, the modules can be tested later on to students. Thus the existence of a validated module can be an independent study material designed in such a way as to be provided by educators in helping students understand the subject matter at school according to their respective speeds, so that learning objectives can be maximally achieved.

This is reinforced by the opinion of Prastowo (2012: 106) who states that modules are teaching materials that are systematically arranged in language that is easily understood by students, according to their age and level of knowledge so that they can learn independently with minimal guidance from educators.

4. CONCLUSION

Based on testing by expert validators, it is known that the module is valid both in terms of material, language and presentation. Based on the validation of material experts, the validity was 88%, language experts were 90% and media experts were 89%. Thus it can be concluded that the mind mapping-based economy module for class X SMA is valid and feasible to be tested on students.

ACKNOWLEDGMENT

This research was conducted by researchers as a thought from the Research Grant of Beginner Lecturer Research (PDP) for the 2020 fiscal year.

REFERENCES

- [1] Arikunto, Suharsimi. 2009. *Prosedur Penelitian Suatu Pendekatan Praktik*. Jakarta: Rineka Cipta.
- [2] Huda, Miftahul. 2013. *Model-Model Pengajaran dan Pembelajaran*. Yogyakarta: Pustaka Pelajar.
- [3] Naim. 2009. *Penerapan Metode Quantum Learning dengan Teknik Peta Pikiran (Mind Mapping) dalam Pembelajaran Fisika*. Jurnal Ilmiah "Kreatif" 6 (1) 82-100.
- [4] Pamungkas, Z. S. 2016. *Modul Mind Mapping Berbasis Potensi Lokal Terintegrasi Sets Pada Mata Pelajaran IPA di SMP*. Jurnal Pembelajaran Fisika. Vol 4(5): 318331.
- [5] Prastowo, A. 2012. *Panduan Kreatif Membuat Bahan Ajar Inovatif: Menciptakan Metode Pembelajaran yang Menarik dan Menyenangkan*. Yogyakarta: DIVA Press.
- [6] Sugiyono. 2014. *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta.
- [7] Sugiyono. 2015. *Metode Penelitian Kombinasi (Mix Methods)*. Bandung: Alfabeta.
- [7] Purwanto. 2010. *Evaluasi Hasil belajar*. Yogyakarta: Pustaka Pelajar.
- [8] Sukiman. 2011. *Pengembangan Media Pembelajaran*. Yogyakarta: Pustaka Insan Madani.
- [9] Trianto. 2007. *Model-model Pembelajaran iInovatif berorientasi konstruktivistik*. Prestasi Pustaka: Jakarta.