

The Validity of the Development of Integrated Islam and Science Learning Module completed with a Concept Map for Integrated Islamic Junior High School

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Abstract – Based on the analysis of data collected through observation and interviews with science teachers and some students in the integrated Islamic junior high school. The main problem found is the absence of a module that is integrated with Islam and Science, so far the teacher does not have special teaching materials for learning that is integrated with Islam and Science, the teacher only uses science learning books that are still dry with Islamic values. These problems make it difficult for teachers to carry out an integrated learning process of Islam and Science. Students have difficulty understanding the learning material, causing low science learning outcomes of students.

This study aims to develop a valid integrated science learning module of Islam and Science equipped with a concept map for class VII at Integrated Islamic Junior High School. This type of research is a research development (*Research and development*) using the Plomp model. The Plomp development model consists of three stages including the *preliminary research phase*, the *development or prototyping phase* and the *assessment phase*. The data collection instrument is a module validation sheet. Based on the results of the study, it shows that the Integrated Science Islamic and Science learning module is equipped with a concept map with the results of 90% didactic aspect scores, 91 constructional aspects, 85% technical aspects and an average score of 88.85%, this shows that the module developed is very high valid. Then the module can be continued to the practicality and effectiveness test phase.

Keywords – Developing, Learning Module, Science, Islamic Integration - Science.

I. INTRODUCTION

Aim of National education in principle is to develop quality Indonesian human potential as stipulated in Law No. RI. 20 of 2003 concerning the National Education System, article 3 reads:

"National Education functions to develop capabilities and shape the nation's character and civilization in order to educate the nation's life, aiming at developing the potential of students so that they become people who believe and have faith in God Almighty, with character. noble, healthy, knowledgeable, capable, creative, independent and a democratic and responsible citizen. "

Based on the formulation of Republic of Indonesia Law No. 20, at least the objectives of National education can be divided into two, namely education aimed at developing mental / spiritual aspects and education which is physical / external in nature. Spiritual education refers to the qualities of personality, character, character and character, all of which are an important part of education.

Second, development focuses on physical aspects, such as agility, health, competence, and creativity. Development is carried out both in school institutions and outside schools such as within the family and community.

According to (Toyyar, 2008) efforts that can be made to create quality humans so that their physical and spiritual aspects can develop properly requires an effort, one of which is through the idea of scientific integration. The word integration has the meaning of unification to become a complete or unified whole (Zain, 2017). In order for scientific integration to run well, an educational institution in the form of a school is needed.

Schools with an Islamic background are formal Islamic educational institutions that are appropriate in implementing an integrated learning process. The integrated learning process can create a complete understanding by students in learning a lesson both from a scientific perspective and also from a scientific perspective on Islam (Zain, 2017).

SMPIT Qurrota A'yun is one of the schools that implements scientific integration that combines general education and religious education in one curriculum in its implementation. Based on the results of interviews with science teachers and distributing questionnaires to students, it was found that the school did not yet have special science teaching materials that were integrated with Islam and science. problems early The make teachers difficulties in implementing an integrated learning Islam and Science. Then another problem found was that students had difficulty understanding the concept of integrated Islamic and Science learning. So that it causes low learning outcomes for students.

Based on the above, an effort is needed to overcome the problems faced in the science learning process. Efforts that can be made are the use of modules in learning. The purpose of preparing the module is to provide teaching materials in accordance with the demands curriculum by considering the needs of students, namely teaching materials that are in accordance with the characteristics of the subject matter and the characteristics of students, as well as the *setting* or background of the social environment (Hamdani, 2011).

The advantages obtained from learning by implementing modules are as follows. 1) Determine your own pace. Learners can complete the material at their own pace, by being tested and developing at regular intervals. 2) Total packaging. The biggest advantage is that a module is an integrated teaching package there is no necessity to attempt to unify all material to meet learning objectives thus saves valuable teaching time and is often cheaper than individual materials 3) Validated. The modules are tested and validated prior to deployment; With such a large number of clients, vendors can invest in curriculum research and development (Smaldino, 2011).

Based on the above, modules that are in accordance with the demands of the school curriculum are modules that are integrated with Islam and Science. The provision of modules based on the integration of Islam-science is considered important to support classroom activities. The integration of science with Islam in the context of modern science can be said to be professionalism or competence in one worldly science in a particular field accompanied or built on the foundation of divine consciousness. This divine awareness will arise in the presence of basic knowledge of Islamic sciences. Therefore, Islamic sciences and personality are two aspects that are interrelated with each other and simultaneously become a basis for the development of science and technology. It can be concluded, the integration of knowledge means the mastery of science and technology combined with Islamic sciences and Islamic personality (Mamah kh,2011).

The development of the Integrated Module of Islam and Science has previously been carried out, among others, by Latifah (2015) on the material of water as a source of life. The module being developed is considered very interesting because of the content of Al-Quran verses in learning. Furthermore, Susilowati's (2017) research results show that the use of a science module that is integrated with Islam and Science can improve student learning outcomes. Then Yunita's research (2019) shows the use of an integrated science module of Islam and Science can improve students' Islamic values.

This study seeks to develop a science learning module that is integrated with Islam on environmental pollution and global warming. The first aspect of determining the quality of the development of a learning product is its validity or validity (Haviz, 2013). Validity determines the quality of the module being developed. A product is declared valid if the product developed is adequate and all product components are consistently related to each other (Rochmad, 2011).

Messick (1989) defines validity as an integrated evaluative assessment of what extends the empirical evidence and theoretical reasons that support the suitability of conclusions and actions based on test scores or means of assessment. According to Lufri

(2014), validity refers to *appropriateness, meaningfulness* and *usefulness* of a conclusion made by the researcher. Before the product is used, of course, first look at its validity based on certain criteria. Sesuai with Darmodjo and Kaligis (1992) that in developing a product needs validation in terms of three aspects, namely didactic aspects of the construct and technical aspects.

Optimizing the use of the integrated science learning module of Islam and Science, and making it easier for students to understand the relationship between the concepts of integrating Islam and Science, the researchers are interested in completing the module with the addition of a concept map.

Many experts have suggested concept maps. Vanides (2005) suggests that a concept map is a representation of the relationship between one conceptual concept and another. Asan (2007) suggests that a concept map is a representation of several concepts as well as various relationships between knowledge structures possessed by a person. Furthermore, Dahar (1998) concept maps are a tool used to express meaningful relationships between concepts in the form of propositions. From these definitions, it can be concluded that a concept map is a concrete graphic illustration that can show how a concept is related or related to other concepts belonging to the same category.

Some of the results of research on the use of concept maps include research conducted by Azlina, Zulkifli and prevalent (2004) and Rizki (2016) showing that learning using concept maps can improve student learning outcomes in science. Then research conducted by Suwarno (2009) concept maps can improve the quality of learning so that student achievement can increase.

Based on the background that has been stated, it is important to develop a module designed in accordance with the demands of the school curriculum and the needs of students, namely the Integrated Islamic Science and Science learning module that completes the concept map for class VII at SMPIT.

II. RESEARCH METHODS

This type of research is a research development (*Research and development*) using the Plomp model. The plomp development model consists of three stages including the *preliminary research phase, development or prototyping phase* and the *assessment phase* (Plomp, 2013).

Validation is carried out at the development or prototype stage (the development stage or prototyping) .Stage validation uses the Plomp model as follows.

2.1 Design Prototype I

Designed based on the results of the preparation stage. Furthermore, the manufacture of products in accordance with science learning materials that are integrated with Islam and Science, equipped with a concept map, is made with using *microsoft office publisher*. After I finished the prototype was designed, then performed the formative evaluation by the method of evaluation (*self-evaluation*) using the checklist. Evaluation (*self-evaluation*) is done to check the errors are clearly visible (*obvious errors*), which may still be found on the prototype I. The results of the revised first prototype is called the prototype II.

2.2 Design Prototype II

evaluated through the stage *expert review*. At this stage, consultations and discussions with experts are carried out to see the validity of the Integrated Science Islamic and Science learning module based on expert / expert judgment from didactic, construct, and technical

III. RESULTS AND DISCUSSION

3.1 Results

The results obtained at the investigation stage of the *preliminary Research phase* are used as a guide in developing an integrated science learning module of Islam and Science. The results of the development at this stage are as follows.

3.1.1. Prototype I

Results of Prototype I Development for Integrated Science and Science learning modules refers to the 2013 curriculum which is adjusted to core competencies and basic competencies and the specific curriculum of the Integrated Islamic School consists of

covers, preface, table of contents, instructions for use, indicators, objectives, concept maps, introduction, material descriptions, summaries, pictures, evaluation, keys answers and bibliography. Integrated Science Learning Module Islam and Science designed using Microsoft Office Publisher 2010.



Figure 1. Cover Module Learning Science Integrated Islam and Science

3.1.2. Prototype II

At the development stage of Prototype II, a formative evaluation was carried out to see the validity of the Islamic and Science integrated Science Learning Module equipped with a concept map by experts according to the field of study consisting of 5 validators. The tool used for module validation is the validation sheet for the integrated science learning module in Islam and Science. Validated modules include 3 aspects including Didactic, Construct and Technical aspects. The suggestions given by the validator include, regarding the writing of Al-Quran verses that are integrated with science learning, it does not have to be written in Arabic, write the translation in Indonesian, grammar, use references. The results of the validation of the development of the Integrated Science Learning module for Islam and Science can be seen in Table1.

Table.1 Data on the validation results of the Integrated Science Learning Module for Islam and Science

N o	Assessment Aspects	Value Validity (%)	Category
1	Didactic Aspects	90%	Very Valid
2	Constructive Aspects	91%	Very Valid
3	Technical Aspects	85%	Very Valid
	Average	88.85%	Very Valid

Based on Table 1. it is known that the results of the Validation of the Islamic and Science Integrated Science Learning Module which are equipped with concept maps which are assessed from the Didactic, Construct and technical aspects are very valid. an average of 88.85%. This means that the modules that have been developed are of good quality and can be used for further trials.

3.2 Discussion

Module is one of choice of instructional media which is expected to accelerate learners 'understanding so as to improve learners' learning competence (Maiasputri, 2018). Module can be used by teachers and students in the learning process which aims to help teachers and students carry out the learning process (Lufri, 2013).

The integrated science learning module of Islam and Science equipped with a concept map for class VII SMPIT is declared very valid after an assessment by the validator, the validity assessment is seen from several aspects, namely didactic, construct and technical aspects.

Judging from the didactic aspect of the results of validation by experts (*expert review*), the Islamic and Science Integrated Science Learning module got a score of 90% with a very valid category. The Integrated Science Learning Module Islam and Science is declared valid and is also supported by conformity with the curriculum used at SMPIT Qurrota A'yun Batusangkar. This is in accordance with Arikunto's (2012) expression, a product is said to be didactically valid if it has a match between the material being developed and the existing curriculum. In line with that Haviz (2013) didactic validity is said to be valid if the product developed is based on the relevant curriculum or the product is produced based on strong theoretical rationale. Learning modules that have been said to be valid indicate that the module can be used in the learning process.

The results of validation by an (*expert review*) on the construct aspect, the Integrated Science Islamic and Science learning module equipped with a concept map at SMPIT obtained a value of 91% with a very valid category. This proves that the developed module already uses language that is easily understood by students, uses language that is in accordance with the rules of Indonesian with enhanced spelling (EYD), has a clear sentence structure, and language is easy to understand. The assessment of the construct aspect is in line with the opinion of Darmodjo and Kaligis (1992) that the construct aspects relate to sentence structure, simplicity of use of words and clarity which in essence must be effective in the sense that students can understand it.

The results of validation by experts (*expert review*), on the technical aspect, the integrated science learning module of Islam and Science was obtained 85% with very valid categories. This proves that the module has writing that is easy to read, pictures that can increase student understanding and colors that attract students' learning interest.

The assessment on the technical aspects is in line with Darmojo's (1992) opinion that the technical aspects are related to the use of written pictures and appearances in the making of the Integrated Science Learning module for Islam and Science. In addition, according to Daryanto (2014) in making a visual media, the elements that need to be considered are the use of dots, lines, pictures, writings and symbols.

IV. CONCLUSION

Based on the results of the research that has been carried out, the following conclusions are obtained. The integrated science learning module of Islam and science of environmental pollution and global warming material has been developed to have validity with a very valid category based on the validator's assessment. The results of the research module validation showed a score of 88.85% which was in very valid criteria

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