

Development of a Science Learning Module on Environmental Pollution Topic for Strengthening Science Literacy of Junior High School Students

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Abstract

Scientific literacy is the ability to understand, communicate and apply the ability of science to solve problems so that it can draw conclusions based on facts and data in making decisions from changes that occur due to human activities. Strengthening scientific literacy skills in addition to requiring student motivation, teachers also need to consider learning strategies that are in accordance with the current conditions of technological development and the potential of students which in the learning process can provide direct experience. The importance of scientific literacy in learning in schools, especially in the field of science requires teachers to develop learning modules that are in accordance with their goals, namely strengthening the scientific literacy of junior high school students in which there are several QR-Codes that can be scanned via an Android cellphone, because the module is a related part. directly with students and is generally used as the main guide for teachers and students in the learning process. This study aims to evaluate the validity, practicality, and effectiveness of the science learning module on environmental pollution topics to strengthen the scientific literacy of junior high school students. The research method used is the development of Tessmer which includes 1) self evaluation, 2) expert review, 3) one to one evaluation, 4) small group evaluation and 5) field test. Learning tools developed are modules. The research was conducted in class VII SMPN 1 Martapura. The research subjects consisted of 3 expert teams, 3 students of class VII B on the individual test, 6 students of class VII F on the small group test and 28 students of class VII G on the field test. The results showed that 1) the validity of learning tools based on experts was declared very valid, the level of readability of the module was stated to be very practical, 2) the practicality of the learning tools based on the implementation of the students' modules was stated to be very practical, and 3) the effectiveness of learning devices based on students' achievement in learning outcomes, Characteristic behavior, skills and students' responses were stated positively.

Keywords: Science learning module, environmental pollution, science literacy.

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INTRODUCTION

Regulation of the Minister of Education and Culture Number 65 of 2013 concerning Process Standards states that in implementing the 2013 Curriculum, one of the principles of learning that is important to pay attention to is that students are taught how to find out for themselves. Based on this principle, it means that learning is active, constructivist and uses various learning resources. One of the important principles of the constructivist paradigm is the idea that each student must discover knowledge through their own construction and that teachers facilitate the process through learning [1]. Learning is a process of changing one's own behavior thanks to experience and practice. Experience and training occur through interactions between individuals and their environment, both natural and social [2]. Learning while doing activities brings

more results for students, this is because the impressions that students get are more durable in the minds of students [3].

In line with the times, currently the world community is entering a new era, an era of accelerated changes in various aspects or fields including in the field of education. The demands of the 21st century make the education system must be in accordance with the changing times. As reported by Correia *et al.*, [4] support from various parties is needed to achieve achievements in accordance with the development era of the 21st century. Scientific literacy is very important for students to have as a provision to face the challenges of 21st century development.

This is in line with the quote by Treacy *et al.*, [5] that scientific literacy is directly correlated with building a new generation who have strong scientific thoughts and attitudes that can effectively communicate knowledge and research results to the general public. A person who has scientific literacy is a person who uses scientific concepts, has scientific process skills to assess in making daily decisions when dealing with other people, society and their environment, including social and economic development. According to Arohman [6] scientific literacy is the capacity to use scientific knowledge, identify questions and draw conclusions based on facts and data to understand the universe and make decisions from changes that occur due to human activities.

Scientific literacy in learning in Indonesia is perceived only in science learning. Science learning is mostly limited to textbooks. This is due to a narrow interpretation related to Government Regulation Number 13 of 2015 Article I paragraph 23 which explains that textbooks are the main source of learning to achieve basic competencies and core competencies. Most of them understand that textbooks are the only teaching material so that science learning has not applied a scientific and inquiry approach. If in the context of science lessons only scientific literacy has not been applied appropriately and comprehensively, its application in other learning needs to be questioned. This fact makes many Indonesians unaccustomed to seeking various sources.

Based on the results of observations made through interviews with 7th grade science teachers at SMPN 1 Martapura it can be identified that one of the problems in the learning process is still using the material contained in science textbooks that are not made by themselves and only take summaries from several publishers certain so that students are not accustomed to increasing scientific and technological literacy. Students are still passive because they are rarely trained in doing practicum and all material is only in the form of memorization so that students tend to accept what it is in accordance with the book used. In addition, students are still not used to having an opinion, observing and even concluding a problem. According to the influence on the abilities of students in grade 7, which are generally classified as middle to lower class This is evidenced by the results of the learning test on the topic of Environmental Pollution, the learning outcomes were not maximal with a score of 70 as Minimum Learning Mastery Standard (KBM) from 34 students in 7th grade students who have achieved the KBM value are only 4 students with an average score 73.75. While the scores of the other 30 students were still below the KBM with an average score of 53.43.

Increasing the scientific literacy of students at SMPN 1 Martapura needs to be done, for that researchers make teaching materials in the form of learning modules that have been developed. This development includes improving the process of scientific and technological literacy by improving teaching materials that are in accordance with the demands of 21st century life skills which improve the quality of human resources and increase the standard of living so that they become determinants of the progress of a nation. Strategies for increasing science skills need to be carried out in a sustainable manner and involve all school members, families, and all components of society. This strategy needs to be jointly formulated and adapted to the context of the needs and socio-cultural conditions of the various communities in the 2013 curriculum taking into account the needs of students, namely developing class VII modules to train students' literacy in science learning.

Various development studies have been reported, including by Prabowo [7], namely the virtual laboratory-based inquiry learning module that was developed that fulfills the feasibility of teaching materials which include validation, practicality and effectiveness. Similar results were obtained by Hidriya [8] that the results of this module development research have shown the feasibility of being used in learning in a very good category.

Not much research has been carried out to improve virtual-based modules at the junior high school level. Even though development research is an innovation in the learning process, it needs to be carried out considering its many benefits in scientific literacy of students. Based on this consideration, a research on the development of a science learning module on the topic of environmental pollution was conducted to strengthen the scientific literacy of junior high school students.

Learning Module

The Ministry of National Education in its book Learning Techniques with Modules, defines a module as a unit of learning material presented in the form of self-instruction, meaning that learning materials arranged in modules can be studied by students independently with limited assistance from teachers or other people. The above is in line with what was stated by B. Suryosubroto in Daryanto & Dwicahyono [9], that the module is a type of learning activity unit designed to help students complete certain goals. However, there is a common opinion that the module is a curriculum package provided for self-study, because the module is an independent unit and consists of a series of learning activities designed to help students achieve a number of specifically and clearly formulated goals. The use of modules can be adjusted to the individual differences of students, namely regarding learning activities and learning materials.

According to Daryanto, *et al.* [9], modules are programmed learning materials that are arranged in such a way and are presented in an integrated, systematic and detailed manner. Students are directed to search for a concept through certain learning steps, because the module is a program package for learning purposes. A module program package, consisting of components containing learning objectives, learning materials, learning methods, tools and learning resources for the evaluation system.

Based on several opinions about modules, it can be conveyed that the module is a learning medium that is systematically arranged in language that is easily understood by students which contains a unit of concept or material that is in accordance with the learning objectives so that students can learn independently with their abilities and experiences.

Related to the above, the writing of the module has the following objectives, namely according to Daryanto, *et al.* [9]; (1) clarifying and making it easier to present the message so that it is not too verbal; (2) overcoming the limitations of time, space, and sensory power, both students and teachers; (3) can be used appropriately and varied, such as to increase motivation and passion for learning, develop the ability to interact directly with the environment and other learning resources that allow students to learn independently according to their abilities and interests; (4) Allows students to measure or evaluate their own learning outcomes.

Learning using modules is useful for the following matters according to Daryanto, *et al.* [9]; (1) increasing the effectiveness of learning without having to go through face to face regularly due to geographical, socio-economic and community situations; (2) Determine and determine the learning time that is more in accordance with the needs and learning development of students; (3) explicitly knows the gradual achievement of students' competencies through the criteria set out in the module; (4) knowing the weaknesses or competencies that have not been achieved by students based on the criteria set out in the module so that the teacher can decide and help students to improve their learning and make remedials.

Prastowo [10] suggests that module arrangement has an important meaning for learning activities. This importance is described more broadly including function, purpose and use. The functions of the preparation of a module are (1) as an independent teaching material, the use of modules in the learning process serves to increase the ability of students to learn independently without depending on the presence of the teacher; (2) as a substitute for the teacher's function, the module as teaching material must be able to explain learning material well and be easily understood by students; (3) as an evaluation tool with a module,

students are required to be able to measure and assess their own level of mastery of the material that has been studied; (4) as a reference material for students, because the module contains various materials that must be studied by students.

According to Daryanto, *et al.* [9]; a module used in school, compiled or written by going through the following steps; (1) contains clear learning objectives, and can describe the achievement of competency standards and basic competencies; (2) contains learning materials that are packaged in small or specific activity units, making it easier to study them thoroughly; (3) there are examples and illustrations that support the clarity of the presentation of the learning material; (4) there are practice questions, assignments and the like that make it possible to measure students' mastery; (5) contextual, namely the material presented in relation to the atmosphere, task or context of activities and the environment of students; (6) use simple and communicative language; (7) there is a summary of the learning material; (8) there is an assessment instrument, which allows students to carry out independent assessments; (9) there is feedback on students' assessments, so that students know the level of mastery of the material; and (10) there is information about references or enrichments or supporting references.

Scientific Literacy

Scientific literacy can be defined as knowledge and scientific skills to be able to identify questions, acquire new knowledge, explain scientific phenomena, and draw conclusions based on facts, understand the characteristics of science, awareness of how science and technology shape the natural, intellectual and cultural environment, and the ability to engage. And care for science-related issues [11]. In line with that Holbrook [12] states that scientific literacy means respect for science by increasing learning components in oneself so that they can contribute to the social environment.

The same opinion is stated by PISA [13] that scientific literacy is the ability to use scientific knowledge, identify questions and describe evidence based on conclusions to be able to understand and help make inferences about nature and changes to nature due to human activities. Science literacy is a goal that must be achieved by science-centered subjects, one of which is biology. Meanwhile, according to Rahmawati [14] Science literacy is a major learning outcome in education for children aged 15 years, because at that age it is natural to make career choices and play a role in the advancement of science and technology.

Based on some of the definitions of literacy above, it can be concluded that scientific literacy is a person's ability to use scientific knowledge in solving various daily problems based on the evidence and facts

that have been obtained. Scientific literacy requires not only knowledge of scientific concepts and theories but also knowledge of general procedures and practices related to scientific inquiry and how this enables the advancement of science [11]. In other words, to achieve scientific literacy one must have knowledge of most of the conceptions and ideas that form the basic scientific and technological ideas, how this knowledge is described, and at what level this knowledge is justified by scientific evidence or explanation. Scientific literacy is considered a key learning outcome in education and is an important thing for students to master [15].

The National Research Council [16] states that the set of scientific competencies required in scientific literacy reflects the view that science is from social practice and in all sciences, which frames all competencies as action. Based on the explanation above it can be explained that the most important thing in the development of students 'scientific literacy includes knowledge about science, the process of science, the development of scientific attitudes, and students' understanding of science so that students not only know the concept of science but can also apply scientific skills in solve various problems and can make decisions based on scientific considerations.

Toharudin, *et al.* [15] a person has scientific and technological literacy characterized by having the ability to solve problems by using scientific concepts obtained in education according to his level, recognizing technology products around him and their impacts, being able to use technological products and maintain them, being creative in making simplified technological results so that students are able to make decisions based on the values and culture of society.

In line with Yuliati's [17] opinion, through scientific literacy, students will be able to learn further

and live in a modern society which is currently heavily influenced by developments in science and technology. In addition, with scientific literacy, students are expected to have sensitivity in solving global problems such as environmental, health and economic problems because the understanding of science offers solutions related to these problems. Talking about the environment which is one of the central issues in this global era, the current reality is very far from being concerned about the environment. This is shown by various bad habits that are often carried out by the community, such as littering, illegal cutting of trees, mining exploration that is not environmentally friendly, land conversion and so on. By having scientific literacy skills, students are expected to be able to overcome various problems caused by these various activities.

Based on this statement, in other words, it can be concluded that with scientific literacy students are expected to be able to meet the various demands of the times, namely to be competitive, innovative, creative, collaborative, and have character. This is because mastery of scientific literacy skills can support the development and use of 21st century competencies.

METHODS

The method in this study uses the Tessmer [18] learning design model which consists of 5 steps, namely: 1) Self-evaluation by analyzing important characteristics related to learning; 2) Expert review consisting of three expert experts; 3) One to one evaluation conducted to evaluate the tools to be developed; 4) Small groups conducted to determine the practicality or responsiveness of the learning tools developed; and 5) Field tests are conducted to observe the trial process in real situations with groups of students.

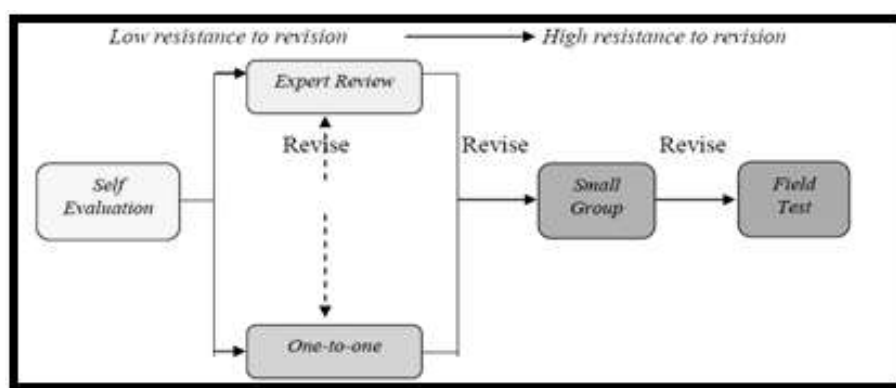


Fig-1: Stages of Tessmer's Learning Design (1993)

The trial subjects at the expert review stage consisted of 3 expert teams, namely Validator 1: Drs. H. M. Kusasi, M.Pd, Validator 2: Riya Irianti, S.Pd, M.Pd and Validator 3: Huriyah, S.Pd, M.Pd. The one-to-one stage consists of 3 class VII B students at SMPN 1 Martapura who have different levels of knowledge,

namely NAA, H and ANI. The small group stage consists of a small group of 6 students from class VII F of SMPN 1 Martapura who have different levels of knowledge, namely MM, F, SJ, ARH, MRM and NS. While the field test stage consists of 1 complete class, 28 students of class VII G of SMPN 1 Martapura,

namely the initials AZ, ARR, DAR, EZS, EAP, F, FA, FJP, GA, HHS, IA, MAJ, MAD, MDS, MFH, MH, MNB, MNK, MR, MYP, MN, N, NS, NA, RA, SAPA, ZA and ZH.

RESULT AND DISCUSSION

The results of each stage carried out are described as follows.

Self Evaluation

- a. At this stage, the second semester of 7th grade science material is collected from various sources which is then used as a module. In one module there is one main subject, namely the impact of pollution on life.
- b. Develop modules that are obtained and adapted to the topics in 7th grade in the 2013 curriculum that will be developed.
- c. Evaluating the modules obtained based on the constructs and the recognized language in the module components determined by the 2008 Permendikbud.

Expert Review

- a. At this stage the expert review provides the results of developing a prototype, namely the science learning module to three experts separately to obtain comments and suggestions with the help of a validation instrument as material for improving the module that has been developed taking into account all comments and suggestions from experts.
- b. If the results of validation by experts show that the minimum results are valid for each scoring system, it will be continued at a later stage. However, if the results show that they are valid – invalid, it will be corrected and without repetition of the validation test.

One to one evaluation

- a. At this stage, in the one-to-one stage, students from the school under study were given a module of development results that had been validated by experts and had been corrected by researchers to determine the assessment of legibility, clarity of sentences and material as material for improving the tools that had been developed. This one-to-one stage consists of three students in class VII B of SMPN 1 Martapura who have different levels of knowledge.
- b. Students provide assessments, comments and suggestions for improvement of the development module from the point of view of students on student assessment sheets.
- c. Researchers make improvements to the development module in accordance with the comments and suggestions of students.

Small group

At this stage the small group conducted an early stage trial of the validated and revised learning module. In accordance with the module that has been developed, trials are carried out by conducting learning activities in small groups consisting of six students from class VII F of SMPN 1 Martapura who have different levels of knowledge. The procedure performed in the small group test is as follows:

- a. Researchers observed students who did practicum on worksheets in modules that had been developed three times.
- b. Researchers conducted researchers based on observations obtained from small group tests and conducted cognitive assessments, character behavioral assessments, social skills and student responses. The analysis at this stage is carried out to determine the practicality of the modules that have been developed, so that evaluation can be carried out to obtain improvements and apply to field tests.

Field test

At this stage the field test is the final stage of the trial which is carried out in the real learning process in one whole class to apply the developed module. At this stage, it aims to assess the effectiveness of the module developed in groups. At this stage the students being tested must not be the same as the students in the one-to-one and small group stages. Students in one class will be divided into several groups to carry out experiments according to the worksheet in the module that has been developed to determine the effectiveness of the learning process. Products that are tested in the field test are products that have met the standards of validity, practicality and effectiveness in the small group. The procedures carried out in the field test are as follows:

- a. There were 28 students who were divided into six groups.
- b. Each group studies modules and conducts practicum according to the worksheet in the modules that have been developed on each subject.
- c. Researchers observed each group to get an assessment of cognitive outcomes, character behavior, social skills and student responses.

The results of the study in the form of an assessment of strengthening scientific literacy can be seen in the presentation of Figures 2 - 12.

Module Validity

The results of module validation by experts are used to determine the validity of the module. Based on the results of the validity of these experts, the researcher then applied the validated module for data collection. The validity of the development of a science learning module with the topic of Environmental

Pollution for strengthening scientific literacy of students in junior high schools can be seen in Appendix

1, with a recapitulation of the results of the module validation test presented in Figure 2.

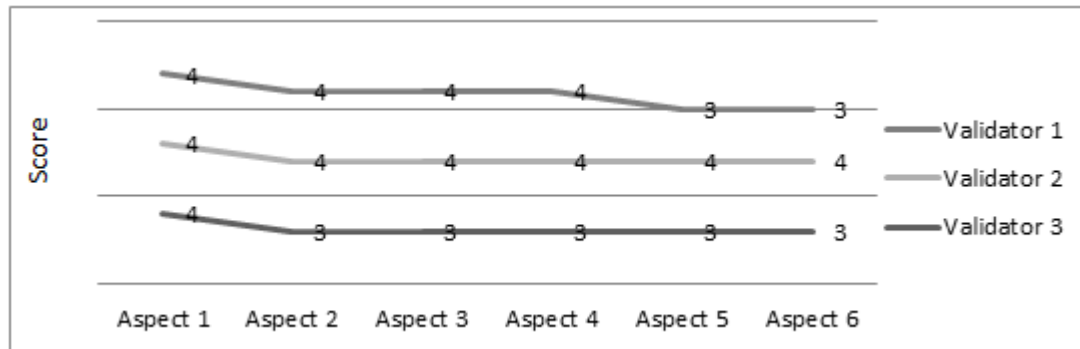


Fig-2: Recapitulation of Module Validation Test Results

Description: Aspect 1: Module design
Aspect 2: Format
Aspect 3: Material
Aspect 4: Language
Aspect 5: Presentation
Aspect 6: Supporting innovation and improving the quality of teaching and learning activities

Based on the data in Figure 2, the Recapitulation of Module Validation Test Results shows that the science learning module on the topic of Environmental Pollution for strengthening scientific literacy of students in junior high schools is declared very valid, including module design, format, material,

language, presentation, support for innovation and quality improvement of teaching and learning activities. Minor revisions have been made according to the validator's suggestion. A very valid module is then ready to be used in individual tests to find the practicality of the module.

A. Practicality Module Individual Test

The individual test results on students determine the practicality of the expectations of the Science learning module on the topic of Environmental Pollution for strengthening scientific literacy of junior high school students can be seen in Appendix 2, with the summary results presented in Figure 3.

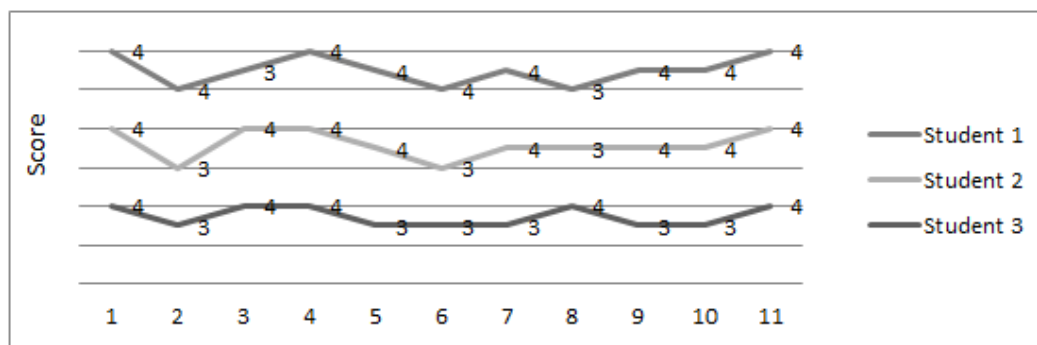


Fig-3: Student Individual Test Results

Category:
4 = Very practical
3- <4 = Practical
2- <3 = Quite practical
1- <2 = Not practical
(adapted from Nur, 2013)

Based on the data in Figure 3, the Individual Student Test Results show that the science learning module on the topic of Environmental Pollution for strengthening scientific literacy of students in junior high schools is stated to be very practical, although

there are two aspects, namely accurate and current and the quality of writing modules which are in good categories but improvements have been made. According to the suggestions of students.

Small Group Test

The results of the small module group test were obtained from the implementation of the module in the small group. The implementation of the module in small groups is shown in Appendix 3 which is presented in Figure 4.

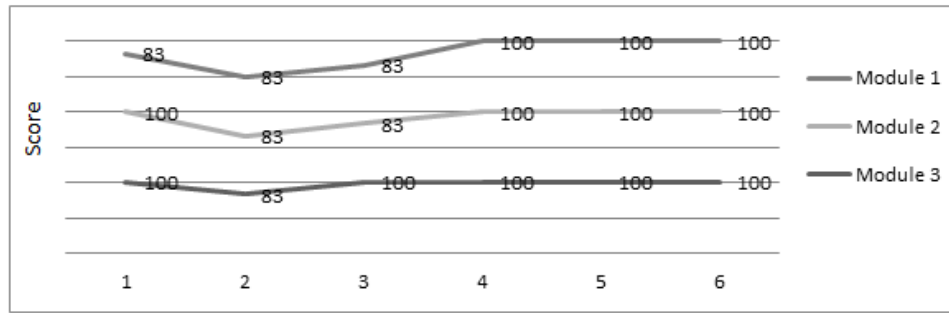


Fig-4: Results of Module Implementation in the Small Group Test

Category:

- 85-<100 = Very practical
 - 70-<85 = Practical
 - 50-<70 = Quite practical
 - 10-<50 = Not practical
- (Adapted from Nur, 2013)

Based on the data in Figure 4, the Module Implementation Results in the Small Group Test shows that the percentage score of all science learning modules on the topic of Environmental Pollution for strengthening scientific literacy of students in SMP is stated to be very practical in the learning process at SMPN 1 Martapura so that the development of this module can be continued to the test. Effectiveness.

B. Module Effectiveness

Effectiveness of Expectations

The effectiveness of expectations is obtained based on a) cognitive learning outcomes, b) character behavior, c) social skills and d) students' responses to small group tests. The following are the results of the expected effectiveness of the small group test.

a) Cognitive Learning Outcomes in Small Groups

Cognitive learning outcomes in small group tests can be seen in Appendix 4 which is presented in Figure 5.

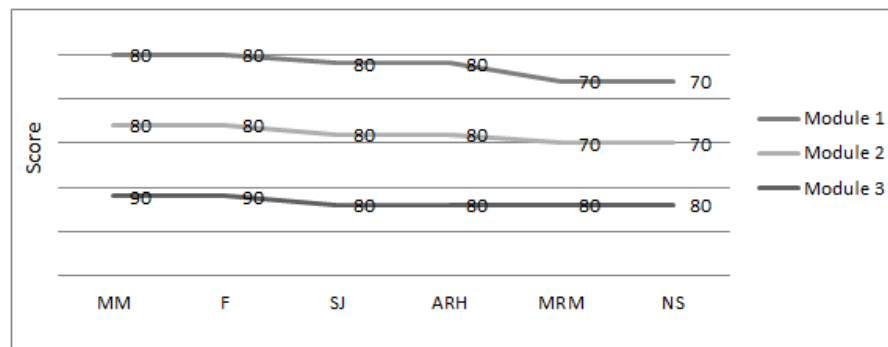


Fig-5: Cognitive Learning Outcomes in Small Group Test

KKM = 70, 100% classical mastery

Based on Figure 5, the Cognitive Learning Outcomes in the Small Group Test of students have been 100% complete, but there are some students whose scores are only in the KKM. Meanwhile, classical completeness has also exceeded 80%.

b) Behavior of Character (Responsibility and Discipline)

The results of observing character behavior in the small group test can be seen in Appendix 5 which is presented in Figure 6.

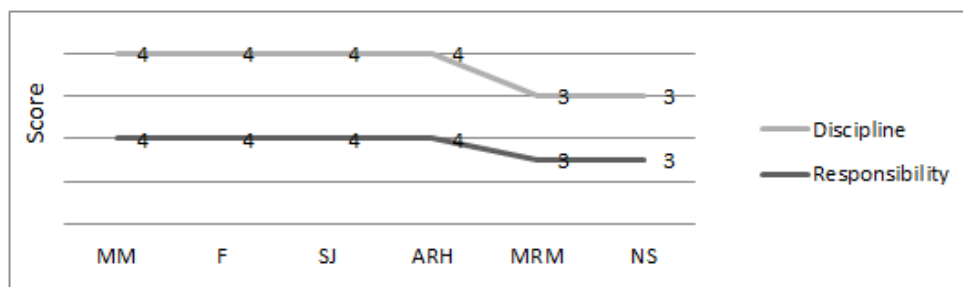


Fig-6: Result of Characteristic Behavior Assessment in Small Group Test

Category:

- 4 = Very Good
 - 3- <4 = OK
 - 2- <3 = Good Enough
 - 1- <2 = Not Good
- (adapted from Nur, 2013)

Based on Figure 6, the results of the Characteristic Behavior Assessment in the Small Group

Test, most students are very good at responsible and disciplined behavior.

c) Students' Social Skills (Collaboration and Oral Communication)

The results of observing social skills in the small group test can be seen in Appendix 6 which is presented in Figure 7.

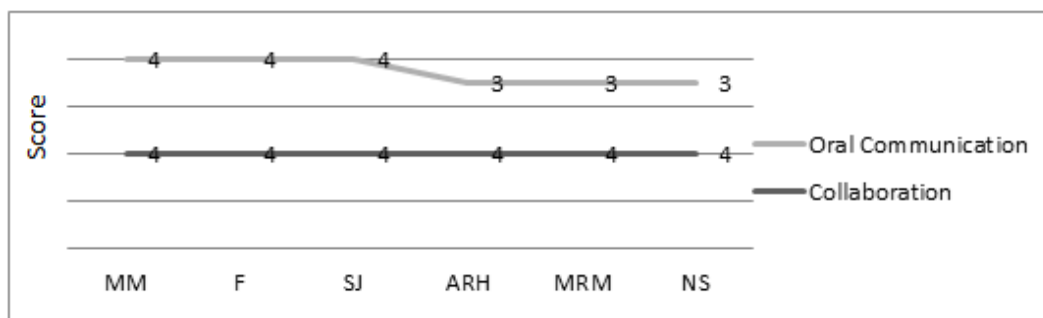


Fig-7: Results of the Social Skills Assessment in the Small Group Test

Category:

- 4 = Very Good
 - 3- <4 = OK
 - 2- <3 = Good Enough
 - 1- <2 = Not Good
- (adapted from Nur, 2013)

Based on Figure 7, the results of the Social Skills Assessment in the Small Group Test, most of the

students were very good at collaborating and communicating verbally during group discussions.

d) Student Response

The results of students' responses to the small group test can be seen in Appendix 7 which is presented in Figure 7.

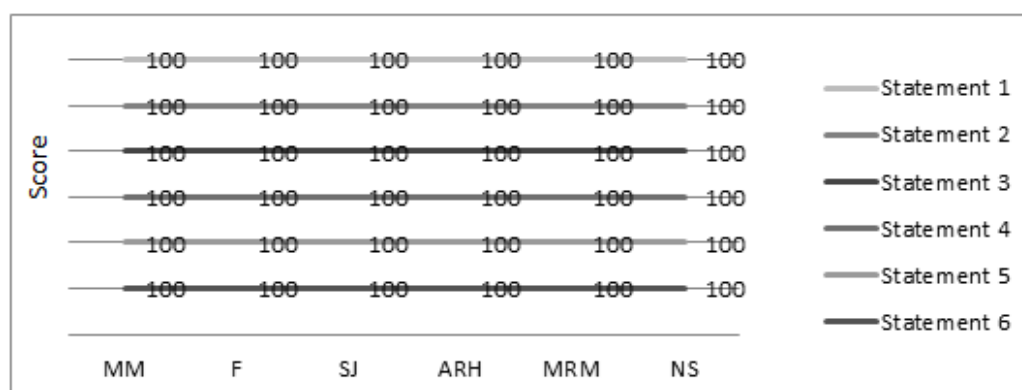


Fig-8: Results of Student Responses in Small Group Test

Category:

- 85-<100 = Very Good
 - 70-<85 = Good
 - 50-<70 = Not Good
 - 10-<50 = Bad
- (adapted from Nur, 2013)

Based on Figure 8, the Student Response Results in the Small Group Test, all students stated that the science learning module developed was very good and interesting to learn.

Actual Effectiveness

Actual effectiveness is obtained based on a) cognitive learning outcomes, b) characteristic behavior, c) social skills and d) students' responses to field tests. The following are the results of the actual effectiveness in the field test.

a) Cognitive Learning Outcomes

The cognitive learning outcomes of students on the field test that are used as an assessment of actual effectiveness are in Appendix 8 and the summary is presented in Figure 8.

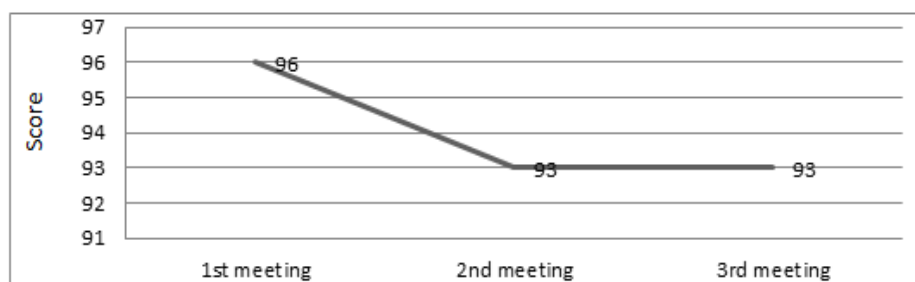


Fig-9: Cognitive Learning Outcomes in Field Tests

KKM = 70, Classical mastery 80%

Based on Figure 9 of the Cognitive Learning Outcomes data on the Field Test obtained on the subject of the 3 modules, it is stated that the students have classically completed, because they have exceeded the classical mastery of 80%, but there are some students

who have not completed because the score is below the KKM, which is equal to 70.

e) Behavior of Character (Responsibility and Discipline)

Hasil observasi perilaku berkarakter pada uji lapangan dapat dilihat pada Lampiran 9 yang disajikan pada Gambar 10.

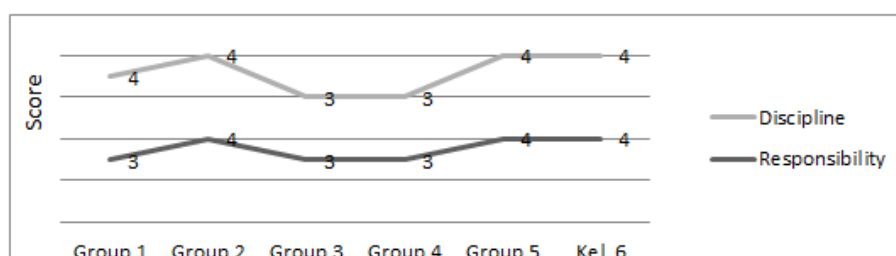


Fig-10: Results of Characteristic Behavior Assessment in Field Tests

Category:

- 4 = Very Good
 - 3- <4 = OK
 - 2- <3 = Good Enough
 - 1- <2 = Not Good
- (adapted from Nur, 2013)

Based on Figure 10, the results of the Characteristic Behavior Assessment on the Field Test,

most students are very good at responsible and disciplined behavior.

f) Students' Social Skills (Cooperation and Oral Communication)

The results of observations of social skills on the field test can be seen in Appendix 10 which is presented in Figure 11.

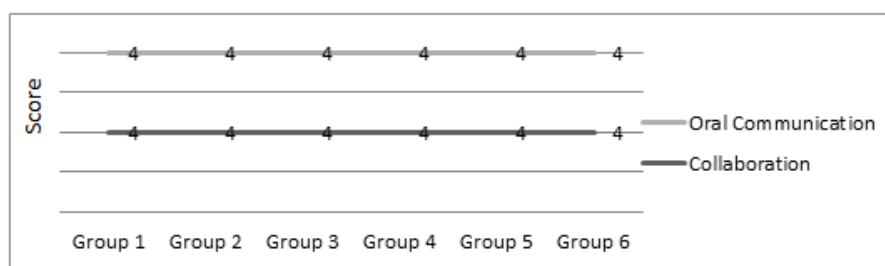


Fig-11: Results of Assessment of Social Skills on Field Testing

Category:

- 4 = Very Good
 - 3- <4 = OK
 - 2- <3 = Good Enough
 - 1- <2 = Not Good
- (Adapted from Nur, 2013)

Based on Figure 11, the results of the Social Skills Assessment on the Field Test, most of the

students were very good at collaborating and communicating verbally during group discussions.

g) Student Response

The results of students' responses to the field test can be seen in Appendix 11 which is presented in Figure 12.

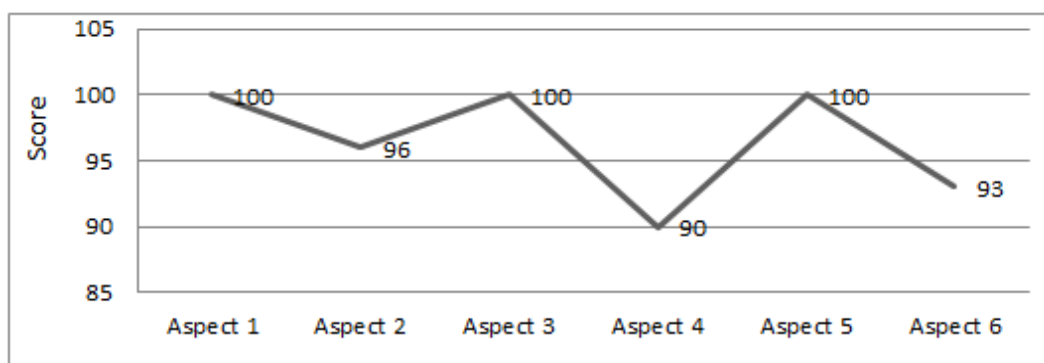


Fig-12: Results of Student Responses in Field Tests

Category:

85- <100 = Very good

70- <85 = Good

50- <70 = Not good

10- <50 = Not good

(Adapted from Nur, 2013)

Based on Figure 12, the Results of Student Responses in the Field Test to the Science learning module that were developed were acceptable to students because some students gave very good categories.

Based on the data obtained above, this research has produced a prototype of teaching materials in the form of a learning module which can be concluded as follows:

1. The module is declared valid based on expert validation on module design, format and material, material, language, presentation, support for innovation and quality improvement of teaching and learning activities.
2. The module is stated to be practical based on the implementation of the learning module.
3. The module is declared effective based on cognitive learning outcomes, character behavior, social skills and student responses.

CONCLUSION

Based on the results of research on the development of the science learning module on the topic of environmental pollution to strengthen the scientific literacy of junior high school students, the following conclusions are obtained.

1. The science learning module in the 7th grade of the second semester is classified as very valid based on the opinions of experts.
2. The science learning module in the 7th grade of the second semester is stated to be practical because it is easy to use by students.
3. The science learning module in the 7th grade of the second semester is said to be effective based on the results of the effectiveness of expectations and actual effectiveness. The effectiveness of expectations on cognitive learning outcomes in the small group test

shows that of all the subjects contained in the module are declared classically complete, because they have exceeded the classical completeness value of 80%. Modules 1 to 3 are in the 100% complete category. Meanwhile, the actual effectiveness of cognitive learning outcomes in the field test shows that of all the subjects contained in the module are declared classically complete, because they have exceeded the classical completeness value of 80%. Module 1 classical completeness is 96.42%, while for Module 2 and Module 3 classical completeness is only 92.86%.

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