Religion-Based Science Modul on Human Circulatory System

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Abstract

The separation of religious values from the substance of science learning is the main problem experienced by Islamic Based Schools with Integrated Curriculum. This causes disharmony relations between the subjects diniyah and general. So students are not able to get a rational understanding of Natural Sciences supported by the Qur'anic and Sunnah propositions. Planting religious values through the application of the Learning Module is expected to be able to contribute maximally to the learning outcomes of students. The purpose of this study was to determine the effectiveness of the learning module to improve student learning outcomes. This study uses a research and development approach (R&D). The fund is through three stages namely; introduction, development and validation, by testing the experimental and control class using modules as the difference variables. The results of the study prove that the module is suitable for use in learning based on expert validation of 95%, teacher responses by 85.2%, student responses 84%, the average difference test of two classes is 0.0011 with alpha 0.05 which means that the differences in learning outcomes between the two classes significant. This proves that the use of natural science modules in the Human Blood Circulatory System material can improve student learning outcomes in class VIII SMPIT ITTIHADUL MUWAHIDIN Pati

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INTRODUCTION

Islam views the importance of education which is the main pillar of the progress of a nation. With integrated education, that is, there is no separation between religious knowledge and world science can be a way out (Ainiyah, 2013). Evidenced by countries that manage religion-based education well, such as Malaysia, Brunei and Saudi Arabia. These countries have good economic stability and an education system with a clear character and purpose without changing policies frequently. Muhaimin (2009) argues that Indonesia has once triumphed in pesantren-based religious education that places great importance on integrated education. So that gave birth to many scholars and scholars as well as competent statesmen, such as Prof. Moh. Natsir, Prof. Buya Hamka, to Abdurahman Wahid. The pesantren-based school system is now widely adopted by other educational institutions. Science education is able to answer these challenges through a mental revolution to shape the personality of Rusilowati et al. (2015).

Integrated Islamic Schools that should be a reference for the application of a curriculum based on religious values (Taufiq et.al., 2014). This was not shown by SMPIT ITTIHADUL MUWAHIDIN Pati. Where learning does not yet have the characteristics of integration of religious values. The implication that occurs is that there is an imbalance between the relationship of the diniyah lessons and the general lessons they get during their education at SMPIT. This is shown from the results of interviews with natural science subject teachers, when learning has not integrated religious values.

Alam (2015) explains that the integration of Islamic values in science learning (IPA) will give strength to the affective, psychomotor and cognitive domains. Strictly speaking, when this is implemented in science learning in schools, it will provide holistic student learning outcomes in all areas of learning. This will give a different color from what has been happening so far where the cognitive realm is so dominant or even the only one that is developed in science learning in schools.

The lack of understanding of teachers about learning Islamic Integrated Science in Islamic-based Schools should not be possible. Science learning conducted by teachers is still the same as learning in public schools in general. The separation between Science and Islam is still seen during the Teaching and Learning Activities of Natural Sciences. As a result, the objectives of the specific instructional learning of science were not achieved, namely the introduction and proof of God's existence in natural phenomena and interactions that occur in nature, this was conveyed by (UIN Sunan Kalijaga Yogyakarta, 2014). Whereas in Islamic schools, Science is both an approach and a bridge that teachers must use in order to internalize the value of Tawheed (Oneness of God). This we can understand through the mindset in the Koran that is, God shows his power through Natural Phenomena; can be through symptoms, phenomena, or events that exist in nature. So we can believe the truth about the existence of God. Because in Islam aqidah (faith in Allah SWT in total) is a world-view for every Muslim in life. Considering the importance of the aqidah position, the research (Sulistyorini, 2012) said that the most essential goal of Islamic education is to instill faith in the students themselves. As the consequence we have to pray to Allah.

Islamic Integrated Science Learning that is carried out in Schools has major obstacles. Lack of understanding of teachers' concepts about Islamic religion, and how to make relevance between Islamic science and the concept of science. as a result the teacher is still doing a dichotomy on science and Islam where learning is still focused on the implementation of the concept of science alone without any clear relationship with the concept of Islam which is about God. According to Mulyono et al. (2012) in the 2013 Curriculum The concept of the Godhead must be actualized by the teacher in learning, that is, passing the KI Operations 1, continued by Yuliawati et al.

(2013) although teachers are not fully required to do exclusively, but there is still a intersection between the material with the recognition of the existence of God in the hope of growing the students' faith. KI 1 although in practice it has not been well implemented and integrated holistically in all aspects of learning because according to KI instructions 1 may be accessed by teachers as minimal as possible in KI 3 and 4.

The researcher's assumptions are explained in the form of religious-charged science learning modules with various characteristics in them in the form of; concepts and theories, relevance to the Qur'anic and Sunnah texts, the history of scientists who contribute to the development of science, assignments, new discoveries, practice questions, learning activities. With the hope the module is able to provide significant differences to learning outcomes.

METHODS

The development of the research model used in this study is the ADDIE (Analysis-Design-Develop-Implement-Evaluate) Research Model which is integrated according to the development research recommended by Borg and Gall with the research and development (R&D) steps: research and collection data, product development planning, initial product development, product trials that have been refined, product improvement, product testing, final products, product implementation-institutionalization (Sugiyono, 2009). Data collected can be in the form of expert validation, results of interviews with teachers, student responses and student learning outcomes. To obtain the desired data researchers used the help of observers. The method of collecting data in this study using the method of observation, interviews, documentation and tests.

The validity of the data conducted by researchers uses N-Gain statistical calculations to determine the increase in the experimental and control classes, and the T test to find out how much different the experimental and control classes are. Previously the stationary data was performed using the Normality and Homogeneity test in the experimental and control classes, so that the data was Normal and Homogeneous. The test instrument also tested its validity, reliability, level of difficulty and distinguishing features. The technique used by the author in analyzing data obtained through observation, interviews, and documentation was a research and development (R&D) analysis technique. Analyzing R & D data includes three stages (study) activities, namely the preliminary stage, the development stage, and the validation stage.

RESULTS AND DISCUSSION

The results of the research on the development of the religion-based science module include the results of the module feasibility test, including assessments by experts, teacher and student response questionnaires. The module's effectiveness includes the learning outcomes of experimental and control class students. The results of the study are as follows.

Module due diligence, this assessment includes,

Table 1. Results of the assessment of material experts, language experts, natural sciences experts and evidence and media experts on science module loaded with religion circulatory system material.

No	component	Score(%)
1	Component Feasibility Content	81
2	Linguistic Components	78
3	Presentation Components	79
∑ SCORE		238
TOTAL		248
Average Feasibility		95

The assessment conducted by experts places the religiously charged Science Module which has been compiled has a 95% eligibility percentage which is in a very feasible criteria position, in accordance with the contents of Table 1 Broadly speaking, the module assessment covers the appropriateness of content, presentation techniques, linguistic components and the scope of religious content in the circulatory system module. The percentage of eligibility for contents of the Circulatory System Module obtained from validation is 81% which means the Module has met the eligibility requirements according to the BSNP with good criteria. The feasibility of the contents includes 9 elements namely KI and KD explicitly listed, the suitability of the contents with KI and KD, material coverage, material accuracy, up-to-date, stimulating curiosity, containing religious values and containing contextual insight. The material presented by the religiously charged IPA module is an elaboration of the material substance contained in KI and KD which includes the introduction of circulatory organs, composition and blood type, circulatory mechanism, disorders and disorders of the circulatory system (Robinson, 2018). based on the results of the assessment of experts the scope of material in the circulatory system module included in the eligibility criteria, which is 79%. This is in line with the responses from the teacher stating that the material presented in the circulatory system module emphasizes the achievement of competencies in knowledge, skills and attitudes, which are in accordance with KI and KD. The material presented in the Circulatory System Module is in accordance with the truth of facts, concepts, theories that are strengthened by the dogma of the verses of the Holy Qur'an and Hadith of the Shohih and the thoughts of the scholars, in accordance with the opinion of Hidayat (2015).

Teacher's Questionnaire Results

The assessment conducted by the teacher through the teacher's response questionnaire places the religiously charged Science Module which has been prepared has a percentage of 85.25% which is in a very good criterion position.

Questionnaire Results Student Responses

Assessments conducted by students through student questionnaire responses placed the Module Religion-Based Science that has been prepared has a percentage of 79.76% which is in the position of good criteria. The IBR module is able to provide a different atmosphere when learning, students are more motivated in learning so that many cause positive arguments (Putri et al., 2013) against the IBR Module. This makes students more enthusiastic in using modules in the framework of independent learning. (Miftahur, 2016).

Module Effectiveness Test

To test the effectiveness of the IBR Module, an experimental design is used by involving 1 experimental class and 1 control class. Data on Student Learning Outcomes, including cognitive, affective and psychomotor values. Specifically cognitive value is taken from the overall value of LKS and Postes. While the pre-test and post-test scores were analyzed with N Gain to find whether there was an increase in learning in all classes.

Students Cognitive Learning Outcomes Data Tables

Table 2. result of final exam control and experiment class

	Control	Experiment
Max	93	97
Min	42	75
Average	73.77	86,86
∑ complete students	17	20
∑ uncomplete students	5	1
Clasical success	77 %	95 %

Based on the table 2 above it can be concluded that the achievement of learning completeness of the experimental class is higher

than that of the control class, this is because there are differences in treatment by providing modules. Strengthened research conducted by Doherty (2014) The religiously charged module is able to accommodate students in learning and provide understanding of concepts more easily. So students are more skilled in doing assignments and practice questions. In line with Samuel (2019) Student cognitive learning outcomes are directly proportional to the frequent work and reading of the IBR module.

Students' Psychomotor Learning Outcomes

From the table 2 of psychomotor learning outcomes of control class students obtained an average of 79.14. Where this average is included in the criteria either. The activity of students with the most prominent value is the use of the internet, this is a common sight that students get the highest score because most students have known the internet since childhood, and have been fully facilitated when they are at home. However, most students have not been able to work systematically. this is evidenced by the number 70%. the experimental group learning hasl data 89.28%. The use of modules is one of the causes of the high differences in grades of psychomotor grades 7 and 8.

Students' Affective Learning Outcomes

The affective learning outcomes of students are taken during the four learning activities taking place. Data was taken using attitude observation sheets. The assessment of the affective learning outcomes of control class students has achieved very good criteria except in the aspect of caring for others. The scoring of students' activities when comparing the IBR module with other literatures was only 67% with the lowest category. Some students did not bring other literature during the KBM. This also happens when submitting opinions of students still need motivation. Overall results of the affective value of the control class already meet the criteria well. The assessment of students' affective learning outcomes in the experimental class has reached the complete

criteria except in the aspect of caring for others. The scoring of students' activities when comparing the IBR module with other literatures was only 73% with the lowest category. Some students do not try to read other literature when KBM is taking place. Overall the results of affective values are already good, that is equal to 87.2%.

Different test results and improvement in student learning outcomes

T test was used as a comparison of the results of the control and experimental class posttest to find out the differences in the treatment of the module and not the module.

Table 3. Student Final Exam with T Test

Class	mean	varians	P value	significant	conclusion
Experiment	86.86	38,69	0,00011	0,05	If P value less than 0,05 there significant different
Control	73.77	192.94			

After testing the difference in the average of two classes, namely the experimental class using the IBR module compared to the control class using the textbook, the value of 0.00011 is smaller than the significance level of 0.05. This means that there are significant differences between the Experiment and Control classes.

Mastery learning outcomes of students have reached high mastery, but there is still one student who has not reached mastery. Completeness of cognitive learning outcomes is confirmed by the provision of the predetermined KKM value that is obtaining a value of ≥ 75 on environmental pollution and damage material. In the assessment of learning activities using modules in LKS 1, 2 and 3

students have received high scores. However, one student who has yet to finish gets the lowest score on the evaluation of learning outcomes. The calculation of the final grade is calculated by the Arikunto formula (2009).

Score =scoreLKS1+score LKS2 + score LKS3 + 2evaluation score

The applicability of teaching materials is also determined by the ability of the module to be applied in learning. The percentage of mastery learning students in the experimental class was higher at 95% compared to the percentage of mastery learning in the control class, which was 77.3%. This proves that the Religion-Based Science module is able to improve student learning outcomes. Based on the test differences in the average post-test scores of experimental and control class students, obtained a significant difference in the post-test scores of the control and experimental class students. Thus it can be concluded that learning with the help of the Science Module containing Religion on the material of the human blood circulation system in SMPIT has an effect on improving learning outcomes.

This module contains religiosity. The learning approach has an important role in optimizing student learning outcomes. This is consistent with the results of research Saidah et al. (2011) that Integrative Interconnection can improve student learning outcomes. The Interconnected Integrative Approach can also optimize student learning outcomes as research Wijayanti et. al. (2016) that the results of the learning completeness test are t arithmetic (7.34)> t table (2.03). The average worksheets in the work module> 70, this shows that students can work on the worksheets well. Most students assume that they do not find it difficult to work on the Science Module with Religion Religion, instead it makes students interested in getting to know and do it. The interest of students to work on these worksheets makes learning activities and activities of students increase.

Based on an analysis of students 'learning activities classically, the category of students' activities is very active. Student activities are taken from two meetings with the percentage of classical activity at the first meeting 89.84% and the second meeting 91.97%. The average activity of large-scale pilot students during the four classical meetings was 90.67% and an increase of 2.13%. The percentage of classical activity is above 85%, so that the student activity category is very active. At the first and second meeting there were three students who were included in the quite active category. This is because students pay less attention when the teacher is explaining the material in front of the class. But classically, student activities are still categorized in the very active category.

Classical student activity results are drawn from two meetings with the percentage of classical activity at the first meeting 88.89% and the second meeting 90.34%. The average activity of large-scale trial students during the two meetings classically was 89.62% and increased by 1.45%. The percentage of classical student activities is above 85%, so that the student activity category is very active At the first and second meetings there are three students who are included in the quite active category. This is because students lack ideas in making products and the answers contained in the worksheet are almost equal to the answers of their friends. This is the same as found by Rosana, et. al., (2013), that the participation of students in learning will reduce the level of understanding that should be easier Astuti, et. al., (2013). But classically, student activities are still categorized in the very active category.

CONCLUSION

Based on the research that has been done it can be concluded that (1) IBR Module is able to improve student learning outcomes. (2) The use of the IBR module is effective against student learning outcomes in the circulatory system material.

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