Development of Science Teaching Materials Integrated Al-Qur'an Using Problem Based Learning Models

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ABSTRACT

This development research aims to determine the feasibility of the steps for developing integrated science teaching materials with verses from the Qur'an using a problem based learning model. This research was conducted with expert validation, as well as teachers and students at several schools in Banda Aceh. Data collection techniques were obtained from the validation results of experts, teachers and student responses, which were obtained from a questionnaire instrument in the form of a Likert scale. Based on the results obtained, expert validation obtained an average value for the material indicator of 3.49 in the very good category, for the readability indicator an average value of 3.61 was obtained in the very good category and for the presentation indicator an average value of 3.79 was obtained. also in the very good category. Meanwhile, for teacher validation, the material indicator obtained an average value of 3.89, this means it can be categorised as very good, while for the readability indicator, an average value of 3.85 was obtained in the very good category, and for the presentation indicator, an average value of 3 was obtained. 92 is also in the very good category, and the student response value is 89.6, meaning that students have a very positive response regarding this teaching material. So this shows that the use of integrated teaching materials with Al-Qur'an verses with models is very good for use in science learning.

Key words: Development, Teaching Materials, Problem Based Learning.

INTRODUCTION

Education is one thing that is very important for the sustainability of human resources in the future. Education has a major role in fostering student behaviour to become better. According to the National Education System (2012) and based on Education Law No. 22 of 2003, education must be able to develop abilities and grow the character of students so that they become honest, capable, intelligent, moral, skilled, devout to God and capable of becoming democratic human beings. Apart from that, based on the 2013 curriculum, education focuses on achieving scientific, social, spiritual and various skills that can make students more creative and have a positive impact on the formation of students' character.

The importance of positive character can not only be seen from education in learning religious knowledge, but can also be achieved by implementing education that can form continuity between science and religious knowledge for students to be able to understand more broadly the knowledge they gain by instilling religious norms through integration. with verses from the Al-qur'an. Integration carried out in learning can bring students to discover cognitive experiences, effective and real appreciation. Based on Islamic education, knowledge is not only to obtain intellectual and material or worldly satisfaction, but can also form individuals who are intelligent and recognize the Oneness of God as the creator of humans and the universe. So teachers can make learning more meaningful by integrating several fields of knowledge.

Meaningful learning can occur when students are careful in deciding to integrate new knowledge with existing knowledge, so that students are involved intellectually, emotionally, creatively, and participate in creating the right situation in learning which causes learning to become more meaningful, where learning is meaningful. is a learning unit that provides

students with the opportunity to learn and understand the concepts they learn directly through real experience and connect the concepts through integration into the main learning material.

Integration can be carried out in all fields of science in learning, one of which is in science learning. Science learning is a science that can be linked to the Ukhrawi dimension (Azmi et al, 2023). Science learning not only helps students know about science, but can understand the order of the universe which cannot be separated from the power of God, so that it can increase and grow belief in God and form students' Islamic-minded character. Teachers can integrate the power of Allah SWT through the science teaching materials they use. One of the science teaching materials used by teachers is LKPD which can be integrated with verses from the Al-qur'an.

Integrating Islamic norms and values in science learning is very necessary for selecting approaches, methods or strategies and models that are effectively used in the learning process through teaching materials. Apart from that, integrating Al-Qur'an verses in teaching materials can foster students' religious attitudes. Integration in teaching materials can be done using one of the models in the learning process such as Problem Based Learning (PBL). The PBL model is a 21st century learning model that is able to enable students to solve problems, improve their ability to think critically, motivate and increase students' awareness at work. PBL is a type of learning model that is student-centred by providing problems that exist in real life at the beginning of learning. So that it can encourage students to know how to learn and work together in groups in finding solutions to real life problems.

Based on the results of initial observations that have been carried out at several schools in Banda Aceh, it can be seen from the learning aspect that students in several schools still use learning methods using lectures, questions and answers, and experiments. Students generally only listen to the presentation given by the teacher and answer questions. Teachers in learning have applied several models, but have not linked these models to the teaching materials used. Furthermore, from the aspect of teaching materials, teachers more often use teaching materials in the form of LKPD published by publishers and make ordinary LKPD which contain exercises for students to do, and there is no science learning LKPD that integrates Al-Qur'an verses. Apart from that, regarding the availability of teaching materials in schools, teaching materials for science learning are completely available in libraries in the form of textbooks and LKPD published by publishers, but none of them are integrated with verses from the Al-qur'an.

This is also in line with several studies which say that many educational staff in learning do not use a variety of teaching materials except textbooks, which causes out of 14 students, 6 people do not fully understand what they are learning, and 8 people do not know the concept of learning. outside the learning package book used . Many teaching staff have not developed teaching materials according to needs based on aspects of actual teaching material needs. Learning that is out of the real world context or does not yet integrate Islamic values is less able to develop holistic thinking skills, so that students experience difficulty in connecting the concepts they acquire with their real life as Muslims and cannot feel the meaning and benefits of each lesson they learn for life. in fact.

The books or learning modules that have been developed are more focused on enriching knowledge that lacks values, especially from a religious perspective. The book or module only contains scientific concepts, understanding and mathematical formulas without linking scientific concepts to religious values or their relationship to the Al-Qur'an. The next fact is that the problem that often occurs is that there are still learning models that are less flexible when used today, such as conventional methods with lecture, teacher centered and text book oriented methods which cause students' thinking abilities to be relatively low. So, in solving

problems, students only focus on books or existing answers.

Based on the explanation above, it is necessary to have teaching materials that are integrated with Al-Qur'an verses using a learning model, one of which is problem based learning (PBL) to be able to help students to achieve learning goals by prioritising religious values, especially in science learning. which is very closely related to the verses of the Qur'an, because the Qur'an transparently explains the concept of science long before humans discovered this concept. So researchers in this study are interested in raising problems related to the development of integrated science teaching materials with verses from the Koran using a problem based learning model.

METHODOLOGY

This research uses the research and development (R&D) method, which is a method used to produce a certain product and test the effectiveness of the product. The development model used in this research is the Borg and Gall (1989) research and development model with the following product development steps, (1) research and information collecting (2) planning, (3) develop preliminary form of the product, (4) preliminary field testing, (5) main product revision, (6) main field testing, (7) operational product revision, (8) operational field testing (Borg & Gall, 1989). The product that will be produced in this research is science teaching materials in the form of LKPD which integrates Al-Qur'an verses using the PBL model. Furthermore, this research uses a one-group pretest-posttest design to see the effect of product use on science learning.

This research population is based on needs analysis carried out by researchers in several schools by looking at aspects of the learning process, integrated teaching materials, availability of teaching materials in the library, and science learning materials. The research sample consisted of teachers and students. Students as research samples were selected using a purposive sampling technique determined based on their abilities, and will be carried out in eight junior high schools (SMP) in Banda Aceh. Limited product trials were carried out in two schools, and wider product use trials were carried out in six other schools. Then teachers were determined as samples using a stratified random sampling technique, namely several teachers in the science field of study at the school.

The data collection technique was carried out using a questionnaire to process research data, using a Likert scale using qualitative data analysis. Qualitative data was obtained from expert and teacher validation sheets with an attitude scale of 1 to 4, where good is worth 4, good is worth 3, quite good is worth 2 and not so good is worth 1. Meanwhile, for students' responses to learning using integrated teaching materials al- Quraan with a scale of 4 is very positive, scale 3 is positive, scale 2 is quite positive and 1 is not very positive.

RESULTS AND DISCUSSION

Based on the development of research that has been carried out by researchers, there are several things that can be obtained based on Research and information collecting, basically the problem that the researcher is trying to study, which at this stage is known as research and data collection related to existing problems. In this problem, researchers see that for science learning in general, several schools in Aceh still use teaching materials that only contain a range of learning materials. However, in essence, as we know, Aceh is the city of Makkah's verandah where all forms of life are religious or spiritual. To introduce this, it needs to be done in various aspects, especially in learning concepts related to science that studies the universe, one of which is science. So that students are able to understand the power of God from various scientific disciplines and learning study materials used. Apart from that, with integrated teaching materials, Al-quran is very different from existing teaching materials so

that it can make students' learning more interesting and religious.

The next stage is Planning: Where this development stage consists of curriculum analysis to adjust the KD and indicators used in learning. Next, create a research instrument grid to be able to assess related teaching materials that are integrated with the Koran. Where in the next stage of this stage validation will be carried out regarding material, readability and presentation.

After planning, the next step is developing the preliminary form of the product: This stage is the initial development stage. At this stage the researcher creates a questionnaire for experts who serve as validators, teachers and students. The aim is to find out about the feasibility and enthusiasm of students towards this teaching material. Apart from that, at this stage the researcher also prepared a lesson plan for learning so that he could see how students responded to this teaching material. The lesson plan is prepared using a problem based learning model.

Preliminary field testing: where at this stage initial trials are carried out related to the development of teaching materials. The earliest trial was carried out by validating the teaching material instrument with experts regarding the material, readability and presentation, whether it was in accordance with the teaching material counter prepared or not. Based on the values obtained from the results of expert validation, it can be seen that the Al-Qur'an integrated teaching materials that have been created in terms of material indicators obtained an average value of 3.49, for the readability indicator an average value was 3.61 and for the indicator presentation obtained an average value of 3.79.

Next is the Main product revision stage: where at this stage the researcher carries out revisions related to the results of expert validation input before the teaching materials integrated with the Al-Qur'an are tested in the field on teachers and students. Main field testing: At this stage, teaching materials are tested on small groups of teachers and students to determine the relevance of teaching materials that have been revised by experts. Where the results of the teacher's validation scores, ased on the scores obtained from the results of teacher validation, it can be seen that the Al-Qur'an integrated teaching materials that have been created in terms of material indicators obtained an average score of 3.89, this means it can be categorised as very good, while for the readability indicator the average score was obtained. average 3.85, and for the presentation indicator an average value of 3.92 was obtained.

Next is the operational product revision stage: At this stage, teaching materials are revised in small groups and at this stage the teaching materials do not need to be revised completely because trials are directly carried out on those concerned regarding the use of teaching materials, namely teachers and students. Where after this stage, trials can be carried out on large groups for its use.

Finally, in this research, the development stage indicator used was Operational field testing: at this stage large group trials were carried out. Whether or not the harmony of these teaching materials is very relevant can be seen from the results of students' responses in using these teaching materials. Based on the results of the responses obtained, an average value of 89.6 was obtained, which means that the use of this teaching material on students had a very positive effect. So the use of integrated teaching materials from Al-Qur'an verses is very good for use in learning, especially in science learning.

Based on the scores obtained, it can be seen that the use of integrated teaching materials from Al-quran verses is very good for use in learning, especially science. This is because in science learning students are invited to understand the universe scientifically which must be more

focused on the power of God. Apart from that, students are invited to understand the scientific angle from the creator's perspective. Where there would be no universe without the oneness of Allah. So it is very necessary to have teaching materials that integrate verses from the Al-quran.

CONCLUSION

Based on the results and discussions obtained, it was found that the development of teaching materials integrated Al-Qur'an verses in science learning. This shows that this teaching material is highly recommended for use in learning for students. This can be seen from the validation results of experts, teachers and students on material indicators, readability and presentation, which overall received very good marks.

Based on the expert validation scores, the material indicator obtained an average value of 3.49, for the readability indicator an average value was obtained of 3.61 and for the presentation indicator an average value was obtained of 3.79. Meanwhile, for teacher validation, the material indicator obtained an average value of 3.89, this means it can be categorised as very good, while for the readability indicator the average value was obtained at 3.85, and for the presentation indicator the average value was 3.92, and for The student response value was 89.6. This value shows that the use of integrated teaching materials from Al-Qur'an verses is very good for use in science learning with the problem based learning model.

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