



DEVELOPMENT TEACHING MATERIAL SCIENCE AND RELIGION INTEGRATION BASED ON MULTIMEDIA AT MIN MALANG 2

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Abstract; Teaching material is a tool to contain material used on learning evaluation with systematical design and interest. The development of teaching material with science and religion integration based on multimedia. Fact, teaching material is not available yet with science and religion integration especially for the learner in an Islamic educational institution. On the other hand, the availability of infrastructure is an advantage maximal yet. In this scientific study, the researcher used field research. The purpose of the study is to know effectivities and interest teaching material used learning process. The method used in this research is the Research and Development method. The model used on the teaching material method is the ADDIE model. The steps on teaching material development divide into five steps are. (1) analysis, (2) design, (3) development, (4) implementation, (5) evaluation. The research takes place at Madrasah Ibtidaiyah (MI) Negeri Malang 2. This development has produced a product like teaching material with science and religion integration based on multimedia. This product has trial through many steps with series are, (1) professional validation of content material, professional media or teaching material design, and professional natural science (IPA) learning at

elementary school, (2) The trial small group, and field trial.

Keywords: Development, Teaching Material, IPA (Natural Science), Science and Religion Integration, Multimedia

Introduction

Education is a conscious effort and planned to realize the learning situation and learning process in other that the learner can active in developing their potential. Every learning activity has a purpose achieved to realize this purpose, the teacher made a curriculum. The curriculum is a component; it cannot separate from education related to teaching material in school.

One of the subject matters of education must learn by the student is natural science (IPA). Natural science seldom called education science. Education science is the main subject matter on the Indonesia education curriculum, include basic level or elementary. Natural sciences (IPA) are a subject matter demand and strengthen scientific ability. Natural science is science have empiric characteristic and explain of fact



and natural phenomenon. The fact and natural phenomenon become natural science learning, not only verbal but also factual.⁶³ Natural science has a large component related to humans and has a role in the education process and technology development.

Natural science learning is an active process, where the learning process emphasizes on effectivity goal, in other that the student is learning themselves and natural around and emphasize on daily life. Natural science learning early or science elementary school is very important because student equipment with knowledge, skill, and ability need to continuous of education, it will produce adult generation understand science and facing challenging of life in the competitive world.

The purpose of leaning natural science in elementary school is curiosity development, positive ability, and awareness of mutualism relationship between natural science with the environment, technology, and society.⁶⁴ Based on the purpose of natural science learning above must use relevant teaching material to be equipped by infrastructure, so the student can learn more effective and can achieve the learning goal setting. Natural science learning or science must cover with the written teaching material to facilities the teacher on material explanation and facilities the student to learn

natural science. Written teaching material can use as documentation for a long time.

Teaching material is all material used to help the teacher or instructor to implementation teaching and learning activities in class. Teaching material means like written or unwritten teaching material.⁶⁵ Teaching material is very important because of the position as an early model which will use or process to achieve the learning goal. Remember the importance of learning material, the teacher must be able to develop teaching material in other than student interest, so increasing learning spirit and achieve learning goals expected..

To produce relevant learning material and able to a student active, we need learning development. With there is teaching material development expected of the material explanation can grow curiosity and student learning motivation and student understanding of material science and religion integration.

Drafting teaching material must attend many aspects like student characteristics, material characteristics, students around environment, etc. Every student has a different learning characteristic. An example is the differences in the student psychology aspect. The psychology student aspect can see by the teacher such as behavior, craft, intelligence, motivation, talent, and passion.

⁶³ Fokus, Pedoman Guru; Ilmu Pengetahuan Alam untuk SD/MI Kelas IV Semester 1, (Sukoharjo: CV. Sindunata), hlm. 5

⁶⁴ Permendiknas no 22tahun 2006

⁶⁵ SofanAmri&IifKhoiruAhmadi, Konstruksi Pengembangan Pembelajaran, (Jakarta: PT. PrestasiPustakarya, 2010), hlm.159



Suitable with statement Piaget on citation B. R. Hergenhahndan Matthew H. Olson, explains that: “child 6-12-year-olds has a logic mindset based on physical manipulate concrete object”. The period of the child needs to manipulate assistance with concrete objects or experiences that happen. In learning, the teacher will use teaching material connected in child daily life and enjoy, the student can more active and motivated and easy to understanding concepts are given.”⁶⁶

The development of teaching material is done by education developers. Supporting by the technology information, communication and computer are developing very fast education. As a part of teaching-learning format, Primary teaching material base on multimedia has developed beginning from simple until complicated.

One of the teaching materials can use on learning in elementary school is teaching material based on multimedia. Multimedia is a user computer to present and include combine with text, sound, pictures, animation, audio, and video. Using teaching material based on multimedia can imagine the real natural phenomenon. Teaching material is suitable for the student in elementary school; according to Piaget's theory the elementary school student is still an operational concrete step.

Through the development of teaching material based on multimedia is expected used to develop learning on science and religion integration in other that the child cannot secular behavior. For examples on the main explanation of organism and life process, when the teacher explains the organ of the human body and the function, the teacher can integrate with Al-Quran and Hadis that explanation Islamic values and this material since a long time ago.

Science and religion integration learning is very important done since elementary school. Science without integration with religion is only equipped students to mastery science and technology without the power of faith and piety which tend a negative effect on the universe. Since and religion integration in learning activities will training the student to avoid science dichotomy since early stage and will equip the student to mastery science and technology strengthened by faith and piety, in other that student as a human being future not only understand science but also religion.

Discussion

A. Product Specification

The product produced like teaching material based on multimedia used by the teacher and student with specification includes:

1. Teaching material is showed as teaching material supporting for the thematic book in class IV

⁶⁶ B. R. Hergenhahndan Matthew H. Olson, Theories Of Learning (Jakarta: Kencana, 2010), hlm. 325

2. Teaching material is emphasized on understanding and applying in daily life and study Al-Quran related to natural science.
3. Teaching material developed suitable with curriculum on the main explanation of organism and life process with science and religion integration based on multimedia. The material explained is the organism and life process class IV in elementary school
4. The material explained on teaching material equip by audio and interest animation that can interest the student's attention and made a braid between topics has learned and material learning yet.
5. The physical form of teaching material in this research is like CD contains audio-visual media made with using layout variant, selecting colors, letter variant suitable with student need, so the student interest to learn. Text picture layout and motive made diverse more preferred on pictures with original photos activities. It is done to give pressure at an interesting point. The language is used dialogist characteristic in other that an active interaction between textbook and learner.

B. Teaching materials

Teaching materials are material of learning has physic characteristic (can observe, is not ideas or concept) is used to learning process easily.⁶⁷ The teaching material is composition according to Pannen, which includes three core components are the main component, complement component, learning result evaluation component. The main component contains information or the main topic wants to explain.⁶⁸

Teaching material is information, tool, and text needed by the teacher or instructor to planning, analysis in learning implementation. From the meaning paradigm of teaching, the material is all the material (information, tool, or text) arranged with systematically, the present intact figure from the competency which will mastery by the learner and used on the learning process with planning goal and analysis learning implementation, for example learning books, module, handout, LKS, model, audio teaching material, interactive teaching material, etc.

Teaching material is grouped according to the type of material like material printed, handout, module, books, student paper (LKS), brochure, photos or pictures, and model. Audio teacher

⁶⁷ Punaji Setyosari, *Metode Penelitian Pendidikan dan Pengembangan*, (Jakarta:Kencana, 2010), hlm.112

⁶⁸ Ika Lestari, *Pengembangan Bahan Ajar Berbasis Kompetensi*, (Padang: Akademika Permata, 2013), hlm. 36

materials are cassette, radio, black cassette, and compact disk audio. Audiovisual teaching materials are video compact disk and film. Interactive teaching material is an interactive compact disk.⁶⁹

Previewed by teaching material outline definition of instructional materials is knowledge, skill, and ability must be learned by the learner to achieve competency standard and basic competency determined, teaching material contains three kinds are knowledge (fact, concept, principle, and procedure), skill and ability (values).⁷⁰

Multimedia teaching material is a learning media based on technology multimedia. Learning is used multimedia in the world is not only in higher education but also in school. The teaching material based on multimedia simplicity and a lot of use is presentation material used PowerPoint. Besides this, interactive media has much development.⁷¹

The implication of learning increased learning quality itself, if we saw the student side, multimedia will be able to give more materials, more concise and more interest.

C. Effectivity and Interesting of teaching material

Effectivity came from the basic word is effective, in the Indonesia dictionary the word of effective means the effect bring result or effective. Effectivity is an effort in selecting goals or suitable tools to achieve goal determination.⁷² Interesting is learning media must be able to interest student attention through performance, selecting colors, and contain, etc. the description of the content on teaching material is easy to understand by the student, not confusing, so the students are interest and motivation to use this material.

D. Science and religion integration

The integration expected between Islamic education religion with science and technology (IPTEK), not only understanding with give education material Islamic religion with science and technology material but also means there is real integration when we explain Islamic education religion subject can support real science and technology. In the modern era, the learner does not want to receive the only doctrine in every material but they want to ask the material of Islamic religious education

⁶⁹ Sunendar, Dadang dan Iskandar Wassid, *Strategi Pembelajaran Bahasa*, (Bandung: PT Remaja Rosdakarya, 2008), hlm. 172-173

⁷⁰ Tian Belawati, *Materi Pokok Pengembangan Bahan Ajar edisi ke Satu*, (Jakarta: Universitas Terbuka, 2003), hlm. 5-6

⁷¹ Rayandra Asyhar, "*Kreatif Mengembangkan Media Pembelajaran*", (Jakarta: Referensi Jakarta, 2012), hlm.12

⁷² Badan dan Pengembangan Pembinaan Bahasa, (<http://kbbi.web.id>), diakses pada tanggal 12 Januari 2016 Pukul 16.15 WIB

subject (PAI) suitable for their daily life critically.⁷³

Islamic and science integration is a combination of Islamic science with science. Learning Islamic and science integration is an integration process of learning material teach to the student through science and technology.

E. Natural science (IPA)

Natural science (IPA) is science learning the phenomenon in nature, formulate with special way relation with material symptoms connect with on way to others, for example of natural science products is fact, concept, principles, and law and the theory of natural symptoms.

Learning natural science (IPA) on the learning process is emphasized direct experience to competency development in other that can explore and understanding natural surrounding scientifically. Scientific ability limited by natural ability on natural surroundings. There are nine abilities main scientific can development on elementary student self, curiosity attitude, getting new thing sense attitude, cooperation attitude, not hopeless attitude, not prejudiced attitude, introspective

attitude, responsibility attitude, free thought attitude, and discipline attitude.⁷⁴

F. Research model and development

The research model is done using research and development method. The research and development method is used to produce a special product and test the effectivity of the product.⁷⁵

In this research, the development model used is the ADDIE model. ADDIE model is one of the design models of the learning system attention the steps basic design of learning system simple and easy learned. This model suitable with this name include five phases are are (A)nalysis, (D)esign, (D)evelopment, (I)mplementation, dan (E)valuation.⁷⁶

Research and Development Procedure

Analysis
Analisis kebutuhan untuk menentukan masalah dan solusi yang tepat dan menentukan kompetensi siswa

Design
Menentukan kompetensi khusus, metode, bahan ajar dan strategi pembelajaran

Development
Memproduksi program dan bahan ajar yang akan digunakan dalam program pembelajaran

Implementation
Melaksanakan program pembelajaran dengan menerapkan desain atau spesifikasi program pembelajaran

Evaluation
Melakukan evaluasi program pembelajaran dan evaluasi hasil belajar

⁷⁴ Hendro Darmojo dan Jenny R.E, Pendidikan IPA II (Depdikbud, Direktorat Jenderal Pendidikan Tinggi Bagian Proyek Pengembangan Pendidikan Guru Sekolah Dasar, 1992), hlm.7

⁷⁵ Sugiyono, Metode Penelitian Kuantitatif Kualitatif dan R & D, (Bandung: Alfabeta, 2011), Hlm. 297

⁷⁶ Benny A. Pribadi, Model desain system pembelajaran (Jakarta: Dian Rakyat, 2010), hlm 125

⁷³ Ramadhanita Mustika Sari, "Ambivalensi Integrasi Ilmu Agama Dan Sains: Studi Transformasi Konflik dan Konsensus Pengaruh Ilmu Agama terhadap Perkembangan IPTEK di Zaman "Annual International Conference an Islamic Studies (AICIS XII), (2013), hlm. 2042



G. Development Result

Professional assessment of containing material got from two validators include 89% on valid qualification; the teaching material is worthy to use, the assessment from two professionals' designs got 86% on valid qualification can use without revised. The validation result of learning professional natural science (IPA) in elementary school is got 92% on the best qualification or worthy. While effectivity level and interesting teaching material can see from pre-test results with average 72.5 and post-test average 86. The average is got increasing student learning results achieve 12.5 after using teaching material development

Conclusion

The result of product development had revise based on result validation are:

1. Research development is produces teaching material of science and religion integration based on multimedia which worthy used in learning. Teaching material product is developed to fulfil component suitable with competency standard and basic competent, suitable with student condition, language used on teaching material is easy to understand, the material content is easy to understand

present the teaching material with full-color Al-Qur'an articles suitable with material presented, the illustration of picture is supported the material and an increasing student learning motivation. Teaching material of science and religious integration based on multimedia has good quality material according to two professionals, two professional learning design and professional natural science subject (IPA) in elementary school with each ideal presentation are 89%, 86%, and 92%

2. The students respond after using the teaching material of science and religion integration base on multimedia is a good result. Teaching material has effectivity level and highly interesting for the student. Based on the assessment result is the respond of student class IVA MIN Malang 2 on teaching material.
3. The result of pre-test and post-test on student class IV MIN Malang 2 is shown the average value pre-test is 72.5 and average value post-test is 85 can be seen based on mean, present that there is significant understanding 12.5 strengthened from t-test analysis is showed $T_{count} = 4.54$ greater than $T_{table} = 2.056$. The conclusion is H_0 rejected and H_a accepted, so there is a significant



difference between student learning results before and after using teaching material with science and religion integration based on. Based on data the teaching material with science and religion integration based on multimedia more interesting and effective on learning.

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