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"OPTIMIZING OF MULTIPLE INTELLIGENCES TO EXAGGERATE HUMAN POTENTIAL TOWARDS VIRTUOUS CHARACTER"

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"OPTIMIZING OF MULTIPLE INTELLIGENCES TO EXAGGERATE HUMAN POTENTIAL TOWARDS VIRTUOUS CHARACTER"

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DAFTAR ISI

KATA PENGANTAR

Bismillahirrohmanirrohiim, Assalamu'alaikum warahmatullaahi wabara-kaatuh. Alhamdulillahirabbil'alamin. Wabihi nasta'in 'ala umuridunnya waddin. Wash-sholawatu wassalamu'ala asrofil anbiya'I walmursalin. Wa'ala alihi wa ashabihi ajmain. Amma ba'du. Robbisrohli shodri wayassirli amri, wahlul 'uqdatan millisani, yafqohu qauli. Segala puji bagi Allah SWT, shalawat serta salam semoga senantiasa tercurah kepada Nabi Muhammad SAW, beserta para sahabat dan umatnya yang senantiasa mengikuti sunahnya.

Kegiatan ini terselenggara atas dasar perlunya perubahan demi perubahan, inovasi-inovasi pembelajaran senantiasa menjadi perhatian kalian akademik dan praktisi pendidikan.

Dalam hal ini prodi PGMI akan berusaha semaksimal mungkin untuk senantiasa mengembangkan kegiatan yang mendukung peningkatan mutu tersebut, baik untuk dosen, mahasiswa, bahkan bagi alumni dari PGMI itu sendiri, serta masyarakat luas pada umumnya sebagai pengguna dari alumni PGMI Fakultas Ilmu Tarbiyah dan Keguruan UIN Sunan Kalijaga. Peningkatan mutu tersebut di antaranya dilakukan dalam bentuk pelaksanaan 'seminar internasional'. Seminar internasional akan menetapkan tema *"Summit Meeting on Education The End of The Year 2013"* dan Penandatanganan MOU dengan University Kebangsaan Malaysia (UKM).

Adapun kegiatan yang diselenggarakan meliputi kegiatan Seminar Internasional dengan tema Optimalisasi kecerdasan majemuk untuk melejitkan potensi menuju manusia berbudi pekerti. Dilanjutkan Fashion show Tarbiyah *Fashion Week* 2015 yang bertajuk "Islami, Trendy and Syar'i". Kegiatan berikutnya adalah Seminar Nasional dengan tema Kurikulum 2013 "Realisasi dan Refleksi Kurikulum 2013". Berikutnya Seminar Peringatan hari Ibu dengan "Peran keluarga dalam pendidikan anak (Kolaborasi catur pusat pendidikan)". Dilanjutkan dengan acara Bedah buku yang bertema "Merajut pendidikan di kota Yogyakarta" karya: Bp. Zainal Abidin, M.Pd. Selanjutnya Seminar Edupreneurship dengan tema "Membangun kreatifitas melalui edupreneurship"

Adapun narasumber dari kegiatan ini dari berbagai negara, yaitu: dari negara Malaysia, Australia, Brunei Darussalam, dan Indonesia. Adapun nama-nama narasumber sebagai berikut: Prof. Dr. Lilia Halim (University Kebangsaan Malaysia), Bapak Setiyo Iswoyo, Drs. HD. Iriyanto, M.M., Dr. Slamet Suyanto (Dosen Pendidikan Biologi, UNY), Hj. Dyah Suminar (SE istri mantan walikota Yogyakarta), Prof. Dr. Taufik Ahmad Dardiri, SU (Dosen Fakultas Adab dan Ilmu Budaya, UIN Sunan kalijaga)., M Arief Budiman, S.Sn., Managing Director PT. Petakumpet Yogyakarta. Adapun peserta dari kegiatan ini dari berbagai negara yaitu Turki, Rusia, Thailand, Malaysia.

Dalam hal ini dosen atau pendidik pada umumnya adalah perintis pembangunan di segala bidang kehidupan dalam masyarakat. Seorang dosen atau pendidik yang benar-benar sadar akan tugas dan tanggung jawabnya, tentulah akan selalu mawas diri, mengadakan introspeksi, berusaha selalu ingin berkembang maju, agar bisa menunaikan tugasnya lebih baik, dengan selalu menambah pengetahuan, memperkaya pengalaman, menambah kualitas dirinya melalui membaca buku-buku perpustakaan, mengikuti seminar loka-karya, kursus-kursus penataran, dan sebagainya agar selalu bisa mengikuti gejolak perubahan sosiokultural dalam masyarakat serta kemajuan ilmu dan teknologi modern dewasa ini. Melaui kegiatan *international Summi Meetng* ini diharapkan dosen, guru, dan mahasiswa menjadi lebih profesional, khususnya terkait dengan kompetensi profesional.

Pekerjaan mengajar memang tidak selalu harus diartikan sebagai kegiatan menyajikan materi pelajaran. Meskipun penyajian materi pelajaran memang merupakan bagian dari kegiatan pembelajaran, tetapi bukanlah satu-satunya. Masih banyak cara lain yang dapat dilakukan guru untuk membuat siswa belajar. Peran yang seharusnya dilakukan guru adalah mengusahakan agar setiap siswa dapat berinteraksi secara aktif dengan berbagai sumber balajar yang ada. Guru pun sangat erat kaitannya dengan pendidikan karakter.

Pendidikan karakter yang semakin hangat sering menimbulkan kekhawatiran para guru. Namun sebenarnya hal itu tidak perlu khawatir, masih banyak tugas guru yang lain seperti: memberikan perhatian dan bimbingan secara individual kepada siswa yang selama ini kurang mendapat perhatian. Kondisi ini akan terus terjadi selama guru menganggap dirinya merupakan sumber belajar satu-satunya bagi siswa. Jika guru memanfaatkan berbagai setrategi pembelajaran secara baik, guru dapat berbagi peran dengan setrategi. Peran guru akan lebih mengarah sebagai manajer pembelajaran dan bertanggung jawab menciptakan kondisi sedemikian rupa agar siswa dapat belajar. Untuk itu guru lebih berfungsi sebagai penasehat, pembimbing, motivator dan fasilitator dalam Kegiatan Belajar Mengajar.

Upaya Pemerintah terhadap tenaga guru sebenarnya telah dilakukan oleh Pemerintah Republik Indonesia, melalui berbagai bentuk kebijakan. Ditetapkannya Undang Undang nomor 14 tahun 2005 tentang guru dan dosen merupakan dasar kebijakan untuk memperkuat eksistensi tenaga kependidikan sebagai tenaga profesional, seperti profesi-profesi yang lainnya. Kualitas profesi tenaga guru selalu diupayakan, baik melalui ketentuan kualifikasi pendidikannya maupun kegiatan in-service training, dengan berbagai bentuknya, seperti: pendidikan dan latihan (diklat), penataran dan pelibatan dalam berbagai seminar untuk memperbarui wawasannya dalam kompetensi pedagogi dan akademik.

Pemerintah mulai menyadari betapa strategisnya peran tenaga guru dalam mengantarkan generasi muda untuk menjadi sumber daya manusia (SDM) yang berkualitas dan kompetitif sehingga mampu mewujudkan suatu kesejahteraan bersama. Sejarah peradaban dan kemajuan bangsa-bangsa di dunia membelajarkan pada kita bahwa bukan sumber daya alam (SDA) melimpah yang dominan mengantarkan bangsa tersebut menuju pada kemakmuran, tetapi ketangguhan daya saing dan keunggulan ilmu pengetahuan dan penguasaan teknologi (ipteks) bangsa tersebutlah yang berperanan untuk meraup kesejahteraan. Bahkan SDM yang menguasai ipteks cenderung memanfaatkan teknologinya untuk menguasai SDA bangsa lain. Dalam hal ini pemerintah ingin mengejar ketertinggalan dengan menyempurnakan kurikulum KTSP menjadi Kurikulum 2013.

Kurikulum 2013 yang telah diimplementasikan pada tahun ajaran 2013/2014 menimbulkan pro dan kontra atas kurikulum tersebut masih terus terdengar. Banyak pihak yang mempertanyakan kesiapan implementasinya, pengembangan bahan ajarnya, evaluasinya, dan proses pembelajarannya di kelas. Perwakilan guru di Kota Kupang menilai implementasi kurikulum pendidikan 2013 akan menjadikan guru-guru seperti robot. Alasannya, semua Rencana Pelaksanaan Pembelajaran (RPP) dan Silabus disusun oleh pemerintah pusat. Sedangkan guru hanya siap untuk mengajar dengan RPP yang ada. Pada tahun ajaran 2013/2014, kurikulum baru akan diberlakukan untuk siswa kelas 1 dan 4, sedang siswa kelas 2,3,5, dan 6 masih menggunakan kurikulum lama. Beberapa pendapat pro dan kontra masih terus berlanjut, tapi mau tak mau kurikulum baru akan segera diimplementasikan secara bertahap. Seminar ini memperbincangkan masalah tersebut dari sisi pembuat kebijakan, ahli kurikulum, dan praktisi pendidikan/pengajaran.

Demikian yang dapat kami sampaikan terkait dengan esensi dari penyelenggaraan kegiatan *"Summit Meeting on Education The End of The Year 2013"*. Kami mengucapkan terima kasih banyak atas partisipasi dan dukungan dari berbagai pihak yang tidak dapat kami sebutkan satu per satu. Tanpa bantuan dan partisipasi rekan-rekan semua kegiatan ini tidak dapat terlaksana dengan baik. Semoga kegiatan ini dapat menambah kontribusi pada khasanah keilmuan khususnya pada Pendidikan Dasar dan memberi manfaat kepada para peserta dan pembaca. Amiin

Yogyakarta, 19 Desember 2013

Ketua Panitia

Dr. Aninditya Sri Nugraheni, M.Pd.

BUILDING ISLAMIC-SCIENTIFIC INTEGRATION BASED LEARNING TOOLS FOR MI 5TH GRADER ON KEY SUBJECT "OW LIVING THINGS ADAPT" ORIENTED TO GUIDED DISCOVERY APPROACH

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ABSTRACT

Objectives of this research are (1) To know the characteristics of Islamic-Scientific integration based learning tool for MI 5th grader on key subject "How Living Things Adapt" oriented to guided discovery approach; (2) to know if the learning tool that is built is suitable for teacher as a reference in teaching science.

This is an R&D research with 4-D model (four D model). It consists of 4 stages of developments: *Define*, *Design*, *Develop*, and *Disseminate*. One stage, Disseminate, is left undone since the results of this research are not spread to other schools (but the school in which the research took place), thus there were only three stages, having the *develop* at the final stage. The research used several instruments, namely observation form and questionaire. Descriptive analysis was employed to analyze the data. Kinds of data that were analyzed including appropriateness analysis, students response, learning outcomes and teaching performance.

Output of this research shows that (1) Science learning tool for MI 5th grader on key subject "How Living Things Adapt" is created with characteristics implying Islamic-Scientific integration values which can be designed on syllabus, lesson plans, lesson materials, exercise and assessment forms, and using the approach of guided discovery; (2) Product of science learning tool for MI 5th grader on key subject "How Living Things Adapt" is avowed as suitable for application in science teaching with 'Good' quality based on reviewer assessment and got positive responses from the students.

Keywords: *Islamic-Science integration-based learning tools, guided discovery approach, research of development*

INTRODUCTION

Basically, the quality of science education refers to the quality of output of the educational process, that is the learners. Learners' quality is undeniably connected to mastery level aside of skill mastery and attitude. However, learners' quality has not achieve the level as expected. The lack of comprehension on subject materials can be caused by various complex factors. One of the reason is the way teacher deliver the materials. Teachers are commonly still using traditional

teaching method where they act as information providers (teacher-centered) while the students are not used to convey their ideas/opinions or develop their curiousities.

Through the guided discovery learning approach, students are allowed to have meaningful experiences as well as to find and to understand concepts entirely, based on their experiences which later will directly or indirectly improve their scientific characters. However, this approach is rarely or even never been implemented by the science teachers since the tools are not available.

Based on those premises, teachers should think of alternative solutions to improve students' learning outcomes. One of those solutions is by choosing a learning approach in a way that appropriate to the lesson material to be delivered. Among some developed learning approaches, the guided discovery approach is one of the options. The guided discovery approach helps the students to study and acquire the knowledge, also to build their own concepts uniquely since they found it by themselves. By the guided discovery, students gradually learn how to organize and manage investigations independently. There is a bigger chance of students to memorize when they found something independently while preaches of concepts will soon be forgotten.[1]

A. Formulation of the Problems

Based on those explanations, detailed questions are formulated below:

1. How is the characteristics of Islamic-Scientific integration based learning tools for MI 5th grader on key subject "How Living Things Adapt" oriented to the guided discovery approach?
2. Is Islamic-Scientific integration based learning tool for MI 5th grader on key subject "How Living Things Adapt" oriented to guided discovery approach suitable for teachers as reference in teaching science?

B. Objectives of Development

The objectives of this development study to be achieved are:

1. To know the characteristics of Islamic-Scientific integration based learning tool for MI 5th grader on key subject "How Living Things Adapt" oriented to guided discovery approach.
2. To know if the Islamic-Scientific integration based learning tool for MI 5th grader on key subject "How Living Things Adapt" oriented to guided discovery approach is suitable for teachers as reference in teaching science.

C. Advantages of the Development

This study offers some advantages including

1. Example of Islamic-Scientifis integration based-oriented to the guided discovery approach learning tool is available for teachers to manage learning-teaching activity of science at the MI, especially for the key subject "How Living Things Adapt". Hopefully, that will optimize the quality of learning outcomes in MI.
1. Being a guidance for teachers in planning and delivering learning activities with guided discovery approach.

DISCUSSIONS

A. The Learning of Science in *Madrasah Ibtidaiyah*

Before attending the primary school (SD/*Madrasah Ibtidaiyah*) and being formally taught of science, it is common that children have held basic ideas of science based on natural phenomenon

they seen in their daily life. Children have known what would happen when an object was pulled, hit or dropped. Moreover, children have the basic knowledge of the world and its suroundings, such as water, light, fire and shadows.

Taken from Paiget's growth theory, intelectual growth of primary school student is at concrete operational level, while their social development is at the phase of playing games. There are two basic strategies that are important in learning-teaching process of science: interaction with concrete objects and discussions with the guide. By those two basic strategies, student's learning cognitive will grow fast. When a learner attain the concept by themselves, the concept will last long since it was their own discovery.[1]

B. Learning Science with the Guided Discovery Approach

The idea of discovery learning arose from a will to give a pleasures to students in finding something by themselves, like what scientists do. Abruscato said, "In science we have a name for learning that occurs when chidren, with our guidance, increase their cognitive, psychomotor, and affective development through direct experience. We call it discovery learning".[2] In science learning, when a learner is guided by teacher to improve the development of cognitive, affective and psychomotoric aspects through direct experience, it is called discovery learning.

Carin & Sund shared their opinion: kids need more information and guidance in learning, but as they grow up, the need of existence of the teacher will be less and less, and teachers will be needed as facilitator, source of information, supporter and guide.[3] When this is done properly, then science learning at the primary school will be able to facilitate the development of attitude, thinking, acting and scientist basic skills potencies of children.

Implementation of guided discovery approach in learning is divided into 3 cycles (Figure 2), known as exploration phase, conception invention, and discovery phase. At the phase of exploration, students have had the chance to do investigations.[4]

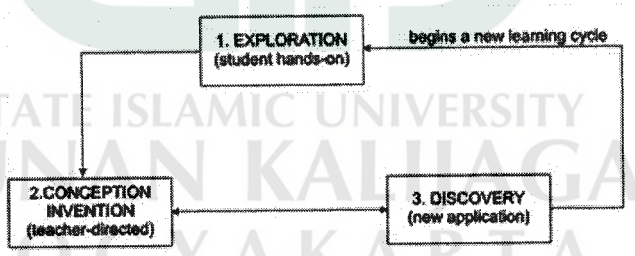

Figure 1. Learning plot by guided discovery

Carin stated, "Guided discovery teaching provides opportunities for greater involvement, giving students more chances to gain insights and better develop their self-concepts".[5] Learning with guided discovery provides more involvements, let the students to have more opportunities to gain insights and better develop their own conceptions.

Zuhdan Kun Prasetyo, et.al noted that there are two kinds of discovery learning, free discovery

1 Supriyadi, *Kurikulum sains dalam proses pembelajaran sains,* (Yogyakarta: Pustaka Tempelsari, 2007), p. 24.
2 Abruscato, Joseph, *Teaching children science: a discovery approach. Fourth edition*, (USA: Allyn and Bacon, 1996), p. 38.
3 Carin, A.A & Robert B. Sund, *Teaching science through,* p. 30.
4 Carin, A. A, *Teaching Science*, p. 117.
5 Ibid., p. 96.

and guided discovery. Indeed, guided discovery is seen more because students are more organized when guided by the teachers in trying to achieve their goals. Hands-on and minds-on are involved when making plans and preparing guided discovery activities.[6]

C. Learning Tool of Science for MI

The learning tool comes as a package consists of Syllabus, lesson plans (RPP), lesson materials (books), student's exercise form (*Lembar Kegiatan Siswa/LKS*), teaching media and assessment tools (cognitive, affective and psychomotoric). The developed learning tool is studied with study form which is adapted from BSNP format, by writing whether there is the discipline expected from each tools.

Syllabus is the teaching plan on a and/or some groups of particular teaching subjects/themes which cover the standard of competency, basic competency, key material/learning, learning activities, competency achievement indicator for assessment, the assessment, time allocation and resources for learning.[7]

Lesson plans (*Rencana Pelaksanaan Pembelajaran/RPP*) is some plan that describes the procedures and organization of learning to achieve one basic competency appointed in Contents Standard and has been explained in the syllabus. Lesson plans consists of these components: identity of lesson material, standard of competency, basic competency, competency achievement indicator, learning activity (introduction, point of discussion, closing), learning outcome assessment, and learning resources.

Lesson materials include science materials that hold values as resource of learning for the students. Exercise form (LKS) is the assignment form students have to work on, it is used as a tool to optimize students' outcomes and to improve students involvements in the learning process. Assessment tools including cognitive assessment in the form of assigments, affective assessment in the form of observation form of student behavior, and psychomotoric assessment by practicum observation form.

D. METHODS

The procedure or research plan used in this study is adapted from tool development 4-D model (four-D model). This model has for stages of development. First stage is to define, followed by stage of design, develop and a stage that has not been done, disseminate. Since the result of this study is not spread over other schools (but the school where this research took place), there are only three stages employed, with develop as the final stage.

1. Data Collection Instruments

This research used several instruments, namely observation form and questionaire.

a. Observation form

This study used lesson arrangement observation form. Instruments on this form were taken from the steps on lesson plan made by the observer.

b. Questionaire

Questionaire is used to attain data of appropriateness of developed learning tool seen from material aspect and media aspect. The questionaire is reserved for material experts, teaching media experts for sicence, science teachers at primary schools, and peer reviewers. This

6 Zuhdan Kun Prasetyo, dkk, *Kapita selekta pembelajaran fisika.* Jakarta: Universitas Terbuka(2001), p. 1.7.

7 Depdiknas, *Peraturan Menteri Pendidikan Nasional RI No. 41 Tahun 2007, tentang Standar Proses,* 2007.

instrument is arranged using Likert scale.

2. **Technique of data analysis**

Descriptive analysis was employed for data analysis. The data including appropriateness analysis, student's response, and teaching performance.

E. RESULTS AND DISCUSSION

The learning tool was developed with 4D development model, eventhough it was limited to three stages, which are define, design and develop. The disseminate stage was not done in this study. Here is the stages of that development in detail.

1. Define

Based on the analysis of curriculum and features of lesson materials, standard of competency and basic competency as development goal is chosen:

Standard of competency	Basic competency
3. To identify how living things adapt with the nature.	3.1 To identify adaptation of animals to the nature in order to survive. 3.2 To identify adaptation of plants with particular nature to survive.

Design

Here is the design of learning tool development:

a. Syllabus

b. Lesson material

The lesson material that was developed contained several features, including: Concept mapping, Learning Objectives, Advanced organiser, mini Science Dictionary, I am willing to try, Let's Find Out, I Recall, Science vocabulary, Figures and illustrations.

c. Exercise Form (LKS)

LKS is the guidance of student activities during the learning activity. It is made based on the guided discovery approach.

d. Assessment form

Assessment forms that were used including cognitive assessment (questions for examination on Adaptation Animals and Plants subject) and psychomotoric assessment form (practicum activity observation form)

2. Develop

Product design of learning tool is developed/created at the develop stage. After product 1 was done, peer reviewer is asked for opinion/advice. For this study, the peer reviewer was lecturer at *Prodi PGMI, Fakultas Tarbiyah dan Keguruan,* UIN Sunan Kalijaga Yogyakarta. Input and advice on product 1 became the material for product revision to be product 2. Material expert and lesson expert then was asked for opinion on product 2, it was the lecturer on subject of science and teaching and the lecturer on subject of educational technology. Input and advices on product 2 became materials for revision to be product 3. After the product was revised based on input

from material and educational expert, product 3 was then being assessed to reviewer, consisted of 4 science teachers from MI, namely MI Ma'arif Bego, MI Sultan Agung, MIN Yogyakarta I dan MI Darul Huda. The result of assessment and input for product 3 from reviewer was used to improve product 3. Minimal rating for learning tool product was the Good (B) category, whether on syllabus, lesson plan, lesson material, exercise form or assessment form. When the score was below B, then the product had to be reform and proposed one more time to reviewer. Learning tool product that was scored B was assumed as valid based on expert judgment.

Learning tool that had been avowed as valid by reviewer should be tested for practice. The test was done in small scale. The small scale test was done at MI Sultan Agung Yogyakarta with 5th grader as objects, 33 students in total.

Data from this study of learning tool development consist of product validation data and small scale test result data.

1. Product Validation Data

Product validation data including product validation data from expert judgment, reviewer and peer reviewer. Validation data is the rating and input on each components of learning tool, such as syllabus, lesson plans, lesson materials, exercise form and assessment form. The rating came in five-scaled scores. The conversion of five-scaled scores is shown on Appendix.

Data of assessment result and input on product from peer reviewer, material expert, educational expert and science teacher is described below.

Table 1. Recapitulation of assessments by peer reviewer (PR), material expert (ME), educational expert (EE), and science teacher (T) on learning tool

LEARNING TOOL		SUBJECT							Mean	Category
		ME	EE	T1	T2	T3	T4			
Σ TOTAL SCORE	SYLLABUS	30	21	29	29	26	25	21	25.86	A
	LESSON PLAN	75	60	74	73	70	69	51	67.43	A
	LESSON MATERIAL	144	132	142	142	125	115	128	132.57	A
	EXERCISE FORM	46	40	48	48	49	43	42	45.14	A
	ASSESSMENT FORM	60	49	58	58	60	52	43	54.29	A
SUM OF TOTAL SCORE									325.29	A

a. Data of assessment by MI science teacher

1) Syllabus

a) Globally it was good, but the time allocation need to be refined.

b) There were 5 indicators in 1st meeting, but in lesson plan there were 4 indicators for 1st meeting.

c) Time allocation did not fit with learning activity. For example, 2 hours of assignment for

3 kinds of activities, while those consume time.

d) Syllabus format need to be added with character score expeccted from the students.

e) Some assessment forms were not included in the syllabus.

2) Lesson plans

a) Write the material even if it was in a summary

b) Lesson scenario should be added, student with achievement should be rewarded/motivated

c) 2 hours of time allocation is too short

d) The score was greater than 64 in procedure of assessment of success.

e) Observation and performance had not been included.

f) Games was better learning strategi/method to attract students, since there were students who paid attention to the lesson lazily and there were too much students in a classroom.

3) Lesson materials

a) Examples of animals and plants should be more various and diversed from the textbook.

b) Domestic animals and plants would explore student's thinking skill more.

c) Some writings were cut

d) Write the summary of the lesson

e) No bibliography

4) Exercise form

No input

5) Assessment form

a) Evaluation test was attached/written after the bibliography in the lesson plan

b) There has no application of charts

c) Figures in daily examination were not placed properly

d) The order of questions was still ambiguous

e) There was no specification table for scoring

f) Essays on number 9 and 10 were better to be in process assessment.

2. Data of Small Scale Test Result

Data of learning activity on small scale test consist of data of learning performance, data of students response and data of student outcomes.

a. Learning performance

Based on observation result, learning execution using guided discovery approach was worth for score of 25. Based on the learning performance criteria, it is in the Good category. Based on readiness and teacher's comprehension about teaching with guided discovery approach, the teacher has done these things:

1) Study the concept or the theory students had learned

Before implementing learning activity in the classroom, the teacher had studied concepts of said materials. Teachers always have discussion with researcher first about lessons to be

delivered in teaching.

2) Studied the suroundings of school and home of students, then make selection and link it to the concept that will be discussed.

The teacher used to bring about natural phenomenon around the students in teaching. For example, Sleman is a dry region where the trees fall off their leaves to decrease evaporation. The teacher link this phenomenon when talking about adaptation of plants.

3) Teaching by always motivate the students to link the subject they were learning to the knowledge/experiments they have had as well as what they had learnt from daily life.

4) Assess and cross-check the answers from students

At every end of lesson, the teacher always asked about materials that students had learnt. Each answers of the students was being compared to find answers that are more appropriate. At the end of the lesson, the teacher guide their students to achieve the comprehension of concepts by asking activity which lead to a conclusion.

b. Students response

Students response during the lesson with learning tool can be known by questionaire given by the researcher at the end of the lesson. In summary, students responded positively toward learning tool that was being built. Beside the questionaire (filled with guidance by the teacher), students response was also revealed through interviews.

CONCLUSIONS

Based on the result, it can be concluded that

1. Science learning tool for MI 5th grader on key subject "How Living Things Adapt" which characteristic including the integration of Islamic-Scientific values is created, which can be designed on syllabus, lesson plans, lesson materials, exercise form and assessment form using guided discovery approach.
2. The product of science learning tool for MI 5th grader on key subject "How Living Things Adapt" is avowed as suitable for application in scientific teaching, based on the Good quality stated by reviewer and it is positively responded by the student.

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