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**THE IMPLICATIONS OF APPLYING SCIENTIFIC APPROACH IN ISLAMIC EDUCATION
 LEARNING**

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Abstract: The Characteristics of Islamic Education (PAI) learning according the material given can not be explained scientifically. There are some learning materials that need only to be believed in as that the learning of the existence of God. This is contradictory with the approach used in PAI learning in the curriculum of 2013 that has been established that is scientific approach. Scientific approach requires scientific thinking, whereas some PAI materials cannot be explained scientifically. This research is a literary Research in which the researchers conduct Depp analysis of various written sources either from the results of research or books. The results showed that the characteristics of PAI learning is learning through the meaning of something that exists in the environment. Because the quality of life of students depends on how students interpret every life event happening to them. In interpreting a thing, it should be done in 3 ways, those are how students see, with what students see, and under the conditions of how students see. The scientific approach is an approach used in learning by emphasizing the use of scientific methods in teaching and learning activities. The implication of the implementation of a scientific approach in the learning process of PAI is using learning materials based on facts or phenomena that can be explained by certain logic or reasoning, rather than rely on assumption or speculation. The learning process should encourage and inspire students to think critically, analytically and appropriately in identifying, understanding, solving problems, and applying learning materials.

Keywords: The Scientific Approach; Learning; Islamic Education

A. INTRODUCTION

Scientific approach can be defined as a starting point or a point of view towards learning process. The problems that should be solved in Islamic education learning need to be approached using various approaches that correspond to the problems. The choosing of appropriate approach will however affect the effectiveness and efficiency of an education. On the other hands, when the choice goes wrong, the education will not be that meaningful.

Curriculum 2013 is arranged by developing and improving a balanced attitude, knowledge, and skills, that is hoped to develop spiritual and social attitude according to Islamic education learning and character building that is expected to escalate religious culture at school (Machali: 2014). In the effort of improving religious culture, the government has assigned a scientific approach in the Curriculum 2013. The approach is chosen due to a reason that students are expected to explore knowledge based on their own experiences.

Scientific approach adopts scientific method in improving knowledge, which is emphasizing dimension of observation, rationalization, discovery, validation, and explanation on a fact. Therefore, values, principles, and scientific characteristics should be applied in the performance of a learning process. One of the scientific characteristics is that learning material

should be based on facts or phenomena that can be explained by logic or certain reasoning—not based only on speculation, imagination, legend, or tale. This characteristic is rather different from the characteristics of Islamic education where it has two components: material that can be rationalized and one that can only be believed by faith.

Hence, the implementation of scientific approach in Islamic education learning will affect both the process and results. This is because some materials within the Islamic education, unlike the common scientific characteristics, cannot be logically explained. Therefore, this study explains how scientific approach is applied into Islamic education learning.

B. METHODS

This study applies qualitative-descriptive approach that aims to critically describe the implication of applying scientific approach in Islamic education learning. The data in this study is gathered from library research, in which the researcher analyzes and compares several sources to obtain theoretical data. The data is then analyzed by Miles and Huberman's theory focusing on the data reduction, presentation, and conclusion or verification.

C. THEORITICAL FRAMEWORK

1. Definition of Scientific Approach

Scientific approach is a learning process that is arranged in such a way so that the students can actively construct a concept, law, or principle, through several stages including observing (identifying or finding a problem), framing the problems, arranging hypothesis, collecting the data (using many techniques), analyzing the data, and concluding or elaborating the concept, law, or principle that are found within the process (Daryanto: 2014). Scientific approach focuses on three learning domains in which affective, cognitive, and psycho-motor. The learning process is performed by following scientific ways in hopes that students can solve a problem systematically.

2. Purposes of Scientific Approach

Scientific approach aims to give understanding to the students in recognizing and comprehending materials using scientific ways where information can be gained everywhere, anywhere, anytime; not only from their teachers (Kusnadi: 2016). Scientific approach emphasizes that students should explore knowledge independently. A teacher, in this kind of approach, no longer becomes the main source of knowledge but more functions as a facilitator who assists the students in understanding the material.

Scientific approach has several purposes, in which:

- a. To improve intellectual skills; especially in high-level reasoning,
- b. To build students' skills in resolving problem systematically,
- c. To create learning situation where students see learning as a need,
- d. To achieve higher outcomes,
- e. To train the students in communicating ideas; especially writing scientific journals,
- f. To develop students' character (Hosnan: 2014, p. 36-37).

3. Principles of Scientific Approach

Learning process is the most important thing in the curriculum implementation, including comprehending the principles of learning process itself. The effectiveness and efficiency of an education can be measured from how the learning activity goes. Therefore, a teacher, in a learning process, should make sure that the learning activity properly runs to reach the goals.

The success of the implementation of scientific approach can be measured from how far the principles of science are applied. The principles of scientific approach are:

- a. Learning should be centered at students,
- b. Learning should form students' self-concept,
- c. Learning should avoid verbalism,

- d. Learning should give students a chance to assimilate and accommodate the concept of laws and principles,
- e. Learning should encourage the improvement in reasoning skill,
- f. Learning should motivate both students and teachers,
- g. Giving students a chance to improve their communication skills,
- h. Learning should have validation of concept, law, and principle that are constructed in cognitive structures. (Hosnan: 2014, p. 37).

4. Characteristics of Islamic Education

Islamic education is an attempt to improve individual behaviors in their private, social, and environmental life through learning process where the changes of behaviors are based on Islamic values (Arifin: 1994, p. 13). In other description, it is stated that Islamic education is an education that is comprehended and developed from Islamic fundamental values that is taken from the Qur'an and Sunnah (Muhaimin, Suti'ah & Ali, p. 29). The Prophet Muhammad PBUH, in a hadith, said that he was sent to Earth to improve human's morals. From this hadith, it can be implied that Islamic education is mainly emphasized on behavioral aspects. However, it does not put aside the other aspects, like faith and observance. In reaching a good moral, a strong faith (*aqidah*), accompanied by observance, is needed.

As its characteristics, Islamic education is special since it has a particular conduct that is different from other similar educations, in which its emphasis. This specificity and privilege of Islamic education can however be clearly seen (Rokim: 2014). Its specific characteristics also show that the educational process should be achieved in particular ways, both in the choice of methods and approaches which should vary according to the contents.

Characteristics of Islamic education can be explained in several conceptions in many sectors, like faith (*aqidah*), morals (*akhlak*), observance (*'ibadah*), and finance (*muamalah*). In Islamic education, seen from faith sector, faith is pure, both its content and process (Nata: 2014). It shows that both content and process of faith education should be taught correctly since it will affect other sectors. A good faith grown in the students' mind and soul will become a reference to guide them how to behave in worshipping or financing (*muamalah*).

As for observance sector, the characteristic of Islamic education is that there must be no 'creativity'. If a new model is made, then it can be categorized as *misguided* (Nata: 2014). In this sector, logic is not needed. Humans should position themselves to wholeheartedly obey and perform the obligations from Allah as devotion. It shows that, in Islamic education, various approaches are needed. It is almost impossible to pick one particular approach to reach the goals of Islamic education.

5. Principles of Islamic Education

Islamic philosophical perspectives on the universe, individuals, society, and morals, are clearly depicted in the principles of Islamic education, in which:

- a. Islamic education is an implication of students' characters
- b. There are four human's characteristics that make them different from other creatures, they are: disposition (*fitrah*), unity of body and soul, and free will. Thus, it does not only need empirical science or scientific approach to comprehend the concept of human's natural tendency and characters since they cannot reach the real essence of human nature. Therefore, another approach is needed, namely Qur'anic approach. However, scientific approach functions as a way to understand the absolute revelation (Ramayulis: 2015). Hence, the education should include those four aspects in order to actualize the Mature Human (*Insan Kamil*) by using scientific and Qur'anic approaches.
- c. Islamic education is an integrated education
- d. There is no dichotomy in Islamic education. All sciences, both science and religion, are related. Students should understand the concept of Islam as a total way of life where it can be used to manage all aspects in human life.
- e. Islamic Education is a balanced education

- f. A complete Islamic perspective on all aspects in life has shown a balance. The principles of balance in Islamic education are that there should be a balance between earthly and unearthly things, between body and soul, and between individuals and society (Ramayulis: 2015). Its implication is to form a balanced personality where it is actually one of the main goals of Islamic education.
- g. Islamic education is universal
- h. Islamic education is expected to include all personal aspects of human and sees human thoroughly, starting from soul, body, and mind, so that the education can be directed to physical, spiritual, and logical education (al-Syaibani: 1979). The implication in education is that all aspects in life should be involved. It cannot particularly give attention to one aspect only while ignoring the others.
- i. Islamic education is dynamic
- j. Islamic education should follow the principle of dynamic in arranging purposes, curriculum, methods, and always improves itself following the current development. It is expected to be able to respond to current needs and social changes.
- k. Islamic education is open
- l. The openness of Islamic education shows that it responds to the current demands and always accepts positive thoughts and ideas as long as they are not contradictory to the Qur'an and Hadith. This openness will make Islamic education actual all the time.

D. RESULT AND DISCUSSION

The implementation of scientific approach in all subjects, including Islamic education, is based on the fact that the process of Islamic education learning is still unable to optimally improve the students' affective and psycho-motor skills. Cognitive skills still become the main target, both in the materials and process. Islamic education is just seen from its ritual dimension and is still far away from spiritual, ethical, and moral comprehension. The students, in the end, have verbally understood and are quite skillful in performing the lesson, yet are lack of deep comprehension. As a result, religious practice is often distorted into just a part of religious ceremony. In the process, however, the education is still sticking to conventional style which focuses on monologue and doctrinaire lectures. Those practices make the learning process useless. It does not educate the students and does not motivate them to be more active, creative and innovative, like what has been expected. On the other hands, students' activeness is less noticed and, in further stage, there is more teaching rather than learning.

This situation does not happen without cause. It is in fact affected by some reasons, like techniques, characteristics, and principles in Islamic education. The technique applied in Islamic education is indoctrination, done in several stages; brainwashing, fanaticism-planting, and doctrine-planting. Those stages apply only emotional approach—not rational or scientific. However, another problem appears. The Islamic education tends to be less scientific and does not give students enough spaces to build their own learning concept leading to a lack of reasoning skills (Majid: 2012).

Meanwhile, a change is needed to create an active, critical, and innovative student. The choosing of right teaching methods will highly affect the effectiveness of learning outcome. That is why scientific approach is applied in the Curriculum 2013 that is expected to motivate the students as well as to make education more meaningful (Chintiyatmi, Nurlela & Mahfud: 2015).

The application of scientific approach in education involves processing skills, such as observing, clarifying, measuring, speculating, explaining, and concluding. A teacher's assistance is still needed to make all processes properly run. However, the assistance should be reduced along with the students' maturity and level (Hosnan: 2014). The application of scientific approach also encourages the students' curiosity to explore more new information. The teachers do not clearly-directly elaborate a concept but only guide the students. The process, in fact, is still executed by the students themselves. The students are expected to actively participate in the learning activity where they are not glued to textbooks or passively

listen to teacher's lectures. This approach is considered more stimulating so that the students can be more active in the process (Sulastrri, Supriadi & Rahmat 2015).

The faith (*aqidah*) and moral (*akhlaq*) education, by implementing scientific approach, tend to be easier to rationally understand, using five stages of scientific approach which includes observing, asking, collecting information or trying, rationalizing or associating, and communicating. The teacher of faith (*aqidah*) and moral (*akhlaq*) is the one who should know whether materials are easier to be rationally understood or not (Mundir, 2017). The process of learning is focused on skills improvement in processing knowledge, finding and developing necessary facts, concepts, and values (Salim, 2014).

The students are seen as subjects who should be actively involved in the process whereas the teachers are just facilitator who guide and coordinate the process. This model encourages the students to explore knowledge relating to the subject materials through various scientific activities just like what have been done by scientist in doing scientific research. In accordance to that, the learning process should be led by scientific principles since this approach is emphasized on the observation, rationalization, discovery, validation, and explanation of a fact. The learning process should avoid the non-scientific values that are based only on intuition, common sense, prejudice, careless research, and in-consequent thought.

The implementation of scientific approach in Islamic education should be based on the principle of scientific methods. Just as stated above, it should be based on facts, critical thoughts, hypothetical thoughts, and objectivity. However, it should be remembered that it is not always suitable to be procedurally applied in certain subjects, materials, and situations, including Islamic education. Yet, the learning process should apply scientific values and characteristics and avoids non-scientific ones. It should be realized that, in Islamic education, there are some aspects that cannot be rationalized. Some aspects are better not to be critically thought while the other aspects sometimes cannot be comprehended empirically. Those aspects are related to *tauhid* (theology) or faith. In scientific approach, intuitive-thinking is categorized as non-scientific and thus is rejected.

According to the explanation above, there are things to understand, especially for Islamic education teachers. First, scientific approach is a systematic step to find objective answers of a theme or material learned by the students. This approach does not aim to reduce the source of truth, taken from dogmatic revelation, and perspective into scientific-logic truths. This understanding will give impact on the ongoing process. Teachers are expected to be able to categorize the theme which truths are included in dogmatic field and those which are scientific. For example, in *aqidah* lesson on faith in Allah, Angels, the Qur'an, the Prophet, and heaven and hell, the source of truth is laid in dogmatic revelations where the observed objects are from the Qur'an and Hadith relating to those matters. The steps taken in observing and communicating the theme are a set of effort to seek truth on the texts they observe. The proofs of the scientific truths lie in the texts itself.

In rationalizing step, teachers are tasked to motivate the students to analyze a dogmatic theme, sourced from the Qur'an and Hadith. This step is indeed not easy to do since the texts are both in Arabic so that the students' competence in reading those texts will differ one to another and makes the comprehension not optimal. Teachers are also tasked to internalize the students' understanding on the observed theme or object into their daily attitude and behaviors that reflect the theme itself.

Second, the integration between dogmatic and scientific truths is important. The explanation about faith should be integrated with the materials about how to behave well as a good Muslim, whether as a person, society, or citizen. For example, when discussing about faith in Allah, teachers should integrate it with the discussion about Muslim's attitude in performing prayers. The integration of many subjects can build a new learning theme that will deepen the students' understanding and appreciation towards the lesson.

Third, teachers should review the basic competence that wants to be achieved in Islamic education learning. The main goal of Islamic education learning is not to encourage all

students to be a religious leader. On the other hands, the true goal of this education is closely related to the improvement of students' attitude and behavior as a reflection of what they have learned at the time being. This paradigm will guide the teachers to proportionally give materials on the competences, whether in understanding, appreciating, or behaving. Until these days, understanding still becomes the main agenda to develop in all subjects at schools. The students succeed when they understand all the subjects while the indicators are merely based on their answers in the written tests.

Fourth, teachers' creativity and innovation are needed to improve the learning process, especially in the learning scenarios. Teachers' main task, in learning scenarios or learning strategies, begins with preparing the themes, improving creativity to feed and stimulate students' critical thinking, and communicating the results of a theme. This skill is needed so that the students can achieve the assigned competence as expected. The objects of observation may vary—not only coming from the Qur'an and Hadith. This will create a pleasant and challenging learning circumstance that encourages the students to explore new information from the themes they observe. For example, in moral (*akhlaq*) lesson about respecting parents as a realization of someone's devotion, teachers can provide the texts from the Qur'an and Hadith that relates to the theme. Still, a teacher can provide more objects by explaining how to respect parents, or just watching a movie that tells about a child who disrespects his children, and many others.

In inventing new changes in teaching-learning activity, teachers need creativity in order to create a challenging atmosphere where the new information has not found yet by the students. The indicator of creativity and innovation of a teacher can be seen from the achievement of the students, whether they have finally reached certain standards or not. Teachers' creativity and innovation has become driving instrument to optimally achieve professional work. They are also needed to optimally improve the students' competence. Teachers, as the foreman of curriculum implementer, have become the main actor that determines the success of its implementation at school or class. In the end, no matter how perfect a curriculum is, its success still depends on the teachers' ability in interpreting and transforming it into a guideline of activities in developing and transferring their knowledge to the students, according to their talents and interests.

Besides scientific approach, there are other approaches that can be applied in Islamic education. First is experience approach; done by giving religious experience to the students in order to instill religious values within their soul. Second is habituation approach; done by giving the students a chance to practice their religious teachings, whether individually or in groups. Third is emotional approach; done by arousing students' emotions to believe Islamic teachings deeper so that they can differ what is right and what is wrong. Fourth is functional approach; done by giving religious materials that emphasizes the functions of religion in daily life to the students. The last is exemplary approach; done by being a good role model through a close association that is shown by the teachers. The exemplification will bring success in preparing and forming spiritual and social morals of the students as what has been expected in the Curriculum 2013.

E. CONCLUSION

According to the principles and characteristics of Islamic education, the application of scientific approach can be conducted in certain aspects that can be scientifically explained. This is because not all subjects in Islamic education can be understood using scientific methods, such as faith (*aqidah*) which can be elaborated by indoctrination. The implication of applying scientific approach in Islamic education is that the teachers are obliged to be able to categorize as well as to integrate the themes according to the source of truths, whether they belong to dogmatic fields or scientific fields. Teachers also need to review the basic competence that wants to be achieved in Islamic education learning. In developing the current learning circumstance, teachers' creativity and innovation are needed, especially in arranging learning scenarios. In Islamic education, there are other approaches that can be used besides scientific

approach, which are experience approach, habituation approach, emotional approach, functional approach, and exemplary approach.

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