



Internalization of Students' Scientific Attitudes through Islamic Education in *Madrasah Aliyah*

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Abstract: Islamic Education becomes an important subject in maintaining moral and character. This study aims to see the extent to which internalization of the students' scientific attitude in *Madrasah Aliyah* (Islamic Senior High School) through Islamic Education. The qualitative approach is used in this research. The data was collected through interview, observation, and documentation. The data was then analyzed to see how the process of the internalization of the scientific attitude works. Based on the result of the study, it is found that the process of scientific attitude internalization carried out through scientific approach, especially in the Qur'an Hadith subject, has formed a critical and democratic attitude. The Fiqh subject forms discipline and responsibility. The Islamic cultural history subject forms an open-minded and critical attitude. Meanwhile, learning *Aqidah Akhlak* forms honesty, discipline, and democratic attitudes. The implication of this research lies in the strengthening the Islamic education teachers' understanding in shaping the students' scientific attitude, so that the students can face contemporary religious problems critically, democratically, and responsibly and become part of the solution for modern Muslim societies.

INTRODUCTION

The scientific attitude is a psychological (predisposing) condition that encourages positive and negative responses and positive actions such as activities of seeking knowledge. The importance of scientific attitudes in science learning is based on the claim that scientist behavior is essentially motivated by scientific attitudes or someone who has desires or even often follows scientific procedures said to be motivated by scientific attitudes (Dewi, 2016; Ulva, Ibrohim, & Sutopo, 2017). The scientific attitude as in the curriculum is included as a scope of several attitudes that are prioritized in character education such as; curiosity and critical thinking

(Whitesides, 2018). This attitude of curiosity encourages learners to think creatively to develop knowledge (Luce & Hsi, 2015).

An inquisitive mind always makes a human being able to penetrate the limits of normally accepted reasoning and will uncover every detail that drives a process. Through curiosity, someone will try to solve every question in his mind. This is what will make individuals more productive. Therefore, scientific attitudes need to be fostered in the younger generation on an ongoing basis in a variety of learning experiences.

The students' scientific attitude plays an important role in the success of learning. Referring to the results of

research from several education practitioners, the learning process in all subjects has a role in shaping the students' scientific attitude (Setiyawati, 2011). But not all teachers provide learning experiences that can improve the students' scientific attitude. Based on the research results, the development of scientific attitudes is mostly carried out by teachers who teach sciences such as physics, chemistry, and biology (Hermawan & Arief, 2014; Khoiri, Agussuryani, & Hartini, 2017; Setiyawati, 2011; Solihin; Widayani, 2016; Sudarmini, Kosim, & Hadiwijaya, 2015; Sumaedi, Dantes, & Suma, 2015; Susilo, Sunarno, & Suparmi, 2016; Ulva et al., 2017).

Islamic Education in the 2013 Curriculum which focuses on character education is one of the most noteworthy lessons. Islamic Education is one of the lessons that become the control of the character (Hidayat, 2016; Nasrullah, 2015). Scientific attitude which is one of the main components in character education is an urgent matter that must be considered by teachers in teaching Islamic Religious Education (PAI) (Anwar & Salim, 2018).

The lack of research that examines the problem of forming the students' scientific attitude in Islamic subjects moves researchers to research the *Madrasah Aliyah*. There are several reasons encourage the researchers, first, still little research that examines the scientific attitudes of students in Islamic Education. Second, research on *Madrasah Aliyah* is a unique experience of how to make scientific attitudes in students in learning PAI. This research was conducted to analyze the internalization of the students' scientific attitude through Islamic education in *Madrasah Aliyah*. Internalization is an effort to instill good attitudes, behaviors, and values. Through this research, researchers analyzed the role of teachers in shaping the students' scientific attitude. The findings of this

study will be useful for Islamic education teachers in applying and shaping the students' scientific attitude.

METHOD

This study uses a qualitative approach that explains the conditions naturally where the researchers are the key instruments for data collection. The objects of this study are the students and teachers of the State *Madrasah Aliyah* (State Islamic Senior High School) 3 Sleman Yogyakarta, focusing on the learning activities managed by Islamic education teachers. The data source involved several elements, including 5 students, 3 teachers, and 2 school's librarians.

The data was collected through interviews, observation, and documentation. Interviews were conducted in an unstructured manner namely open questions and opinions in responding to problems. The answers can be developed according to the evolving context (House, Dorfman, Javidan, Hanges, & de Luque, 2017). The main focus of the interview was the application of learning strategies in the Islamic education subject. The indicators are observing, reasoning, communicating, and confirming. Interviews with teachers and students were conducted to collect the data about the learning process related to the formation of scientific attitudes. The scientific attitudes are honest, disciplined, ethical, independent, democratic, and responsible. The observation was done by observing the learning process. Documentation was carried out to document the completeness of learning documents such as the lesson plan (RPP). The documentation was conducted to strengthen the interview data.

The collected data was then analyzed qualitatively with grounded theory. The analysis process took place throughout the time of data collection. Before researching the field, the researchers analyzed the literature review

of the theories concerned with scientific attitudes from various sources.

The data is presented in descriptive form, inductive methods to find the order, patterns, explanations, paths of cause and effect, and propositions. Information or data obtained can be made into a direct

interpretation. Furthermore, the data or information are arranged, analyzed deductively, interpreted, and inductively analyzed to draw research conclusions (Davidavičienė, 2018). More clearly, the research framework can be seen in Figure 1.

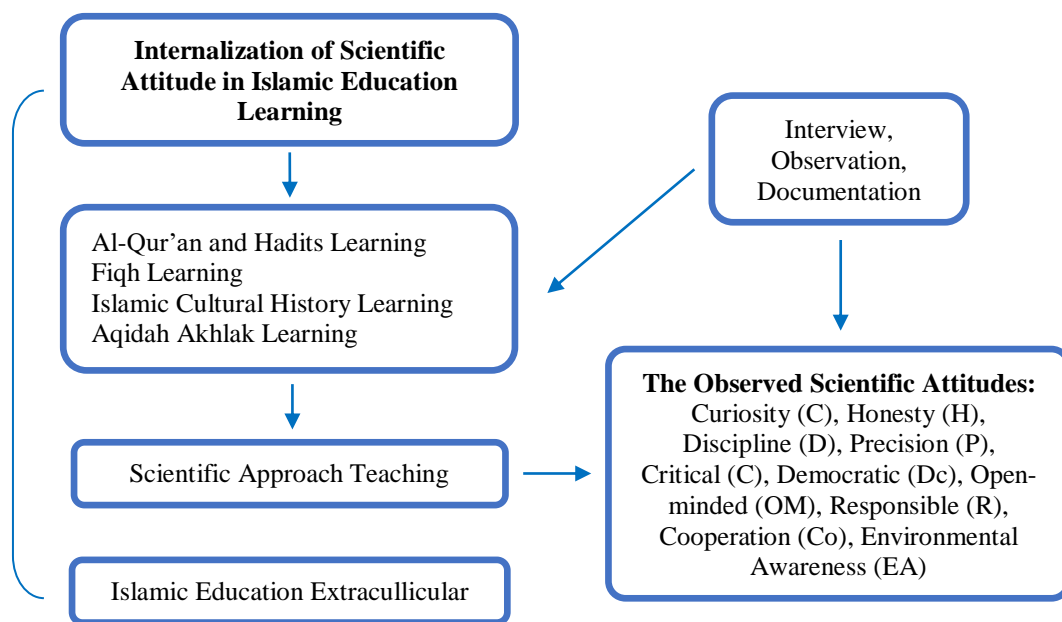


Figure 1. Research Framework

RESULT AND DISCUSSION

Based on the results of interviews, observation, and analysis of research data,

the application of scientific attitudes to the four subjects of Islamic Education can be seen in Table 1.

Table 1. Implementation of Scientific Attitudes on Islamic Study

Subject	Treatment	Indicators of Scientific Attitudes									
		C	H	D	P	C	Dc	OM	R	Co	EA
Al-Qur'an Hadith	Teacher gives group assignments to be presented in front of the class.			√		√	√	√	√	√	√
	The teacher teaches students to understand the meaning of verses and relate them to everyday phenomena.	√				√	√	√			√
	The teacher assigns students to understand the verse by reading the interpretation and looking for additional information through articles on the internet.	√	√	√	√	√	√		√		

Subject	Treatment	Indicators of Scientific Attitudes									
		C	H	D	P	C	Dc	OM	R	Co	EA
Fiqh Learning	Teacher gives videos related to the material; students observe the video and record it. Analyze the information contained in the video and then present it.	√		√	√	√				√	
	The teacher assigns group field assignments on the material.		√	√			√	√	√	√	√
Islamic Cultural History	Teacher gives the problem to be solved in groups within 30 minutes.		√	√	√	√	√	√	√	√	
	The teacher provides opportunities to students in small groups to review and discuss the suitability of propaganda and jihad of the companions of the Prophet in today's context.	√	√		√	√	√	√		√	√
Aqidah Akhlak	Teacher gives video related to the material; students observe in groups and record it. Analyze the information contained in the video and then present it.	√	√	√	√	√	√	√			
	The teacher applies group learning that emphasizes how to get along, honest, caring, and so on.		√	√		√	√	√	√	√	√

Al-Qur'an and Hadits Learning

On Al-Quran and Hadiths subject, the teacher, in one semester, at least gives assignments five times in the form of group assignment reports. Before being collected, the report is presented in front of the class and is responded to by another group. From this collaborative learning model, the students gain experience in the discipline, critical thinking, democracy, cooperation, and having a sense of responsibility and being able to think openly to the opinions of others. In the learning process, the teacher, besides teaching the Qur'an from the aspects of

recitation and norms (*tajwid*), also teaches the effort to understand its meaning. In the aspect of the meaning of the verse, often the teacher gives the task to study contextually through the reflection in everyday life. With such a model, curiosity, criticality, and a sense of care for the environment will increase. According to Kuhn a person is accustomed to directing the brain to think critically, because students (people) learn through a systematic process that is the appropriate question, gather relevant information, sort information efficiently

and creatively, reason logically to the reliable conclusion (Kuhn, 2007).

In terms of interpreting the verses of the Qur'an and Al-Hadith, the teacher taught through the process of observation as students read several commentaries available in the library. The researcher compared the lesson plans (RPP) in the core section, it turns out that the teacher asked the students to search for information from the *Al-Misbah* commentary and the interpretation of *Al-Maraqhi*. Besides, to enrich the perspective, students were asked to search for articles that match the themes discussed through internet access.

From the way of learning, it had been shown that the teacher directed the students to learn independently by searching, discussing, and also conveying information. The teacher also said that this learning can increase curiosity, discipline, criticality, and responsibility for the tasks given.

These various processes created a learning environment full of new challenges, and theoretically, good learning is learning that can provide challenges so that students have maturity in attitude and thinking. Such a situation is the character of the millennial generation who prefers challenging learning with the support of all digital and technological facilities. As expressed in Vygotsky's theory, namely the zone of proximal growth theory, the point is that learning is collaborative through the cooperation with colleagues by sharing knowledge. There is no shame when they don't understand something new; instead, they like to share it in their groups (Flournoy, Turner, & Combs, 2000).

The results of observations during the two meetings also supported the results of interviews with the students. The Al-Qur'an and Hadith learning process took place dynamically. The students were equipped with good media. The teacher in presenting the material was

assisted with neatly packed PowerPoint slides. After explaining, the students formed groups of 5. Each group was given different questions. Each question was answered by the group. Then the group offered questions to other groups to answer. After completing the answer, the teacher asked the group to submit the answer. The answers were compared to determine which group answer correctly with complete information. This is a contextual learning typology by exploring the various students' potential as a source of information (Satriani, Emilia, & Gunawan, 2015).

The results of research conducted by Paul and Elder emphasize that critical thinking can be improved through inviting students to read an article and told to find ideas or ideas related to themes that are read as an alternative to solving problems. After reading the article students are asked to provide responses and reflections according to their understanding (Kocevar-Weidinger, 2004).

The result of the study is similar to one conducted by Pramita Sylvia Dewi who states the process of forming the students' scientific attitude can be done by using the inquiry method, openly and mentally. With this model in science learning, the students can form a critical, confident, and brave attitude and be able to appreciate the opinions of others (Dewi, 2016).

Fiqh Learning

During the fiqh learning, the teacher often delivered the material with the help of videos such as videos about the marriage process. The students were guided to observe videos and record important events in the wedding activities. After that, the students were asked to convey the wedding event and identify the events based on conditions such as pillars and marriage conditions. After that, several students were asked to submit the results of the identification of the

material. The teacher reviewed the work of the students. The learning was able to attract the curiosity of students, made the students think and reasoning objects with a clear and full concentration. Besides, the students were trained to be careful in observing, receiving, absorbing, and responding to information properly. Learning strategies using video media can help students learn better (Suriadi, 2018).

In addition to using video media, teachers also often provided group assignments to conduct observations in the field. For instance, learning with the theme of Hajj and Umrah, the teacher asked the students to ask someone who had ever gone on Hajj and Umrah. The students then made a brief report about the order of the Hajj to train the ability to receive, respond, and assess information. During learning, the students were directed to read books and compare the information obtained from the interviewees. The teacher commented on the results of outside information and integrated the information with existing teaching materials. The learning process above trained the students to be independent in learning and responsible for seeking knowledge. Besides, students were also formed communicative attitude and caring for the environment because they are forced to ask questions about the surrounding environment in order to gather information about the implementation of Hajj and Umrah.

In this context, the learning done by the teacher has succeeded in practicing all the scientific attitudes of the students. The various alternatives used by the teacher succeeded in arousing curiosity, discipline, and responsibility. From the results of interviews, the fiqh learning which generally discusses the values of worship was carried out procedurally. It shaped the attitude of discipline in utilizing the space and time and responsibility as a learner.

Islamic Cultural History Learning

In this learning, the teacher often provided challenging assignments for students, for example when discussing the theme of Arabic civilization before Islam. The students learned using internet facilities. They were divided into 6 groups; each was equipped with a laptop. The teacher gave 6 questions that must be answered by each group. Within 30 minutes, the students must look for answers to these questions. Through this shared solutions learning, the students can improve their precision, critical, and responsible attitude in working on the problem because if they are not careful in doing it, it will have an impact on the score of the group. Besides, this method can also train students' honesty and increase curiosity.

Besides that, when teaching material about "Da'wah of the Messenger of Allah in Makkah and Madinah" the teacher taught the material by giving many examples of the ways of *da'wah* originating from books and also the Saheeh history so historical facts became the main information. When teaching material about the "Spirit of *Jihad* of the Messenger of Allah", the teacher delivered the material by providing facts taken from the Hadith of the prophet and *atsar*. The students received material not only from one source. The teacher provided opportunities for students in small groups to study and discuss the appropriateness of *da'wah* and *jihad* of the companions of the Prophet in the context of today's Muslims. In the learning process, the students openly obtain information from various sources verified by the teacher (Muhammad Zulqarnain, 2017).

Based on the results of in-depth interviews with students, the researcher can explain that Islamic cultural history learning in *Madrasah Aliyah* contributed to the development of critical attitude in responding, assessing information, and being open in receiving information.

Openness in receiving information is a positive attitude for someone to have many perspectives in seeing a problem so that he cannot easily claim the truth themselves without valid data.

Islamic cultural history learning includes an internalization model of being critical toward information and open in accepting other people's opinions. The indicator of critical learning is the process of arousing high curiosity. The indicators of the learning process of critical thinking such as the existence of clear questions, try to know information well, use sources that have high credibility, pay attention to situations and conditions as a whole, behave and think openly, look for explanations as much as possible, and think systematically and regularly in completing problem (Kuhn, 2007).

Aqidah Akhlak Learning

The *Aqidah Akhlak* subject in the *madrasah* is the main subject. All students must know the implementation of the learning. In the learning, the teacher used video and told stories so that students were interested and always want to know the continuation of the material. For example in learning *Tasamuh*, the students were shown a video about the lives of people of different religions doing each other's kindness to life together. In learning, students were allowed to provide views and judgments so that they can train the ability to receive, respond, and assess information. The students were given time to respond to the plan of kindness for others in their school or home environment. Through this process, the students became more concerned about diversity in the environment resulting in shaping their democratic attitudes. Democratic attitude is one of the foundations for the formation of tolerance for others (Arifudin, 2016; Nugroho, 2018).

Furthermore, in the material about avoiding despicable nature (*munafiq*), the

teacher told some stories of the *munafiq* people who got losses in their lives. The teacher also showed videos about the negative effects of hypocrites on their environment. From the video discussion and also the story of the prophet's friend who behaves hypocritically, the teacher asked the students to reflect on the incident in the students.

Also, students carried out a process of identifying signs of hypocrites then they made positive statements and submit them in front of the class. Based on the information obtained through the interviews with the students, the benefit of *Aqidah Akhlak* is getting new experiences in attitude. Some things were previously neglected in association with peers who are now a concern, such as honesty, being responsible toward promises, and disciplined in adhering to them. After the learning, changes in attitudes appeared as well as empathy for friends who got hurt.

The method above is an effort to provide a hands-on experience so that students can construct their own experiences with friends and the environment to become important learning resources and sources of knowledge in their lives. This is what is expected in contextual learning, namely the integration of experience from various sources and open communication through direct learning that will shape the students' scientific attitude (Baharun & Ummah, 2018; Danver, 2016; Gustini, 2016; Mucharomah, 2017; Muh. Khoirul Rifa'i, 2016).

Based on the results of the analysis, it can be seen that the internalization of scientific attitudes such as curiosity, honesty, discipline, precision, critical, democratic, open-minded, responsibility, cooperation, and caring for the environment through Islamic religious learning is very important and needs to be taken seriously because religious learning is as important as learning other general

subjects in the formation of the scientific attitude of students. Therefore, Islamic religious teachers need to improve their skills in using learning methods and approaches so that the millennial generation can easily understand the contents of the material with a challenging and pleasant atmosphere (Faqihuddin, 2017).

Through the correct way of active learning, the students will easily find self-development because they are accustomed to working seriously in discipline and high enthusiasm for new knowledge. No one can create a masterpiece without a scientific attitude. Honesty, critical toward a problem, and the courage to convey ideas based on truth are also part of the process of creating great work. Allah the Almighty describes the scientific attitude especially in terms of honesty in the Hadith narrated by Imam Bukhari *"Truly that truth brings about goodness and goodness brings to heaven. Someone will always act honestly so that he is written by Allah as an honest person. And indeed the lie brings to evil and evil brings to hell. Someone will always lie so that he is written by Allah as a liar"*. (Narrated by Bukhari and Muslim).

CONCLUSION

Islamic learning has an important role in forming students' scientific attitude. Based on the results of this study, it can be concluded that the internalization of scientific attitudes in the Islamic Senior High School has gone well through the application of learning. Students' critical and democratic attitudes are formed in the lessons of Qur'an Hadith, discipline and responsibility are formed in the subjects of fiqh, critical attitude and open-minded are formed in the subjects of Islamic Cultural History and the learning of *Aqidah Akhlak* forming honesty, discipline, and democratic attitudes. The results of this study provide recommendations for Islamic Education

teachers to be able to direct learning that trains the students' scientific attitude so that they can face contemporary religious problems critically, democratically, and responsibly and become part of the solution for modern Muslim societies.

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