Research Article

Implementation of The Scientific Approach in Islamic Religious Education

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Abstract

The government has been forced to implement significant learning reforms as a result of the issue with learning quality and student competency accomplishment. The 2013 curriculum was released by the government through the Ministry of Education and Culture to enhance the previous curriculum. This study aims to find out how the implementation of the Scientific Approach in Islamic Religious Education Learning in Junior High Schools. The research method uses descriptive analysis research. Data collection through observation, interviews, and questionnaires have been carried out. Based on the results of the study, it was shown that the implementation of the scientific approach carried out by the teacher in Islamic Education (PAI) learning had been carried out but was not maximal at the stage of collecting information. Based on the results of the questionnaire, the students obtained 75.56%, in the reasoning activity they obtained 79.92%. The obstacle faced by teachers in the scientific approach is the short learning time, so the application of the scientific approach in PAI learning has not been maximized. Whereas in the implementation of the scientific approach it takes a long time to apply the 5 stages. For further research, a scientific approach model is needed that is collaborated with technological media to maximize the scientific approach with a short duration of time.

Keywords: Scientific Approach, Learning, Islamic Religious Education.

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INTRODUCTION

The government has been forced to implement significant learning reforms as a result of the issue with learning quality and student competency accomplishment. The 2013 curriculum was released by the government through the Ministry of Education and Culture to replace the 2004 KBK (Competency Based Curriculum) and the 2006 KTSP (Educational Unit Level Curriculum). With the 2013 curriculum (Jailani, Widodo, & Fatimah, 2021), learning was shifted from being teacher-centered to being student-centered. Students can be guided by the 2013 curriculum to acquire the knowledge and abilities required in the millennium era. Teachers also need to be more creative and imaginative in the classroom because they must be able to give students the tools they need to build independent, emotional, psychomotor, and cognitive learning abilities.

The 2013 curriculum strives to produce the next generation of the country with high character, innovation, and talent. It is an improvement over the previous curriculum. Therefore, in this learning process, it is important to focus on three factors: attitudes, knowledge, and abilities. A scientifically based learning process can directly engage students while also assisting them in connecting their academic learning to the situations they encounter daily in real life. It is hoped that by connecting lessons to real-world situations, students will become more inventive, creative, and able to come up with solutions to problems they encounter. They will also hopefully be better able to choose the information that best suits their needs, support their classmates' effective group work, and establish some connections with one another. Consequently, it is impossible to separate the application of the K–13 curriculum from the application of the scientific approach (Sulastri, Supriadi, & Rahmat, 2015).

Islamic religious education (PAI) also serves as a process of value transfer, rather than just transferring culture or knowledge. Conceptual standpoint, it is possible to state that the goal of Islamic Religious Education is to create pious people who, by applying the Islamic principles they have been taught in their daily lives, would succeed in this world and the next (Ghozali, 2017).

Learning with a scientific mindset is a learning activity designed to allow students to go through the stages of observation, problem-solving, unanswered questions, information gathering, data analysis, conclusion drawing, and communication (Asmaranti, Sasmita, & Wisniarti, 2018). The goal of this scientific approach is to help pupils comprehend varied learning materials. Without having to rely on the teacher's unidirectional information transmission, information can come from anywhere and at any moment when employing a scientific approach.). As a result, it is anticipated that the learning process would motivate students to research from a variety of sources using their observations. The use of the scientific method in education entails the development of process skills such as observing, inquiring, attempting, reasoning, associating, and communicating (Rohmawati, Sihkabuden, & Susilaningsih, 2018). Thus, instructor help is required in the scientific approach process. Nevertheless, as pupils' maturity levels or class levels rise, the teacher's support must also decline. This indicates that a person's ability to learn anything depends greatly on their ability to comprehend it in light of their prior basic knowledge. The scientific method facilitates learning in the following ways (Dewi, Juniarta, & Mahendrayana, 2021); A) Student centered. B) Involving science process skills in constructing concepts, laws or principles. C) Involving
cognitive processes that have the potential to stimulate intellectual development, especially students' higher-order thinking skills. D) Can develop students' character (Liana, 2020).

Islamic religious education as one of the subjects in public schools has a very important and significant role in moral formation. Appendix IV of the Regulation of the Minister of Education and Culture Number 81A of 2013 concerning the Implementation of the General Guidelines for Learning Curriculum (Marsudi, 2013), states that learning strategies are indispensable in supporting the realization of all competencies contained in the 2013 Curriculum. The curriculum contains what should be taught to students, while learning is a way how what is taught can be mastered by students. The implementation of learning is preceded by the preparation of lesson plans developed by teachers both individually and in groups that refer to the syllabus (Asmaranti et al., 2018).

The application of a scientific approach to learning Islamic Education (PAI) at an integrated Islamic elementary school (SDIT) based on a qualitative approach and the phenomenological method has been studied, despite the fact that a scientific approach to Islamic Religious Education Learning at Integrated Islamic Elementary Schools has been carried out. The findings indicated that numerous accomplishments were accomplished in putting together Islamic Education (learning lesson plans at integrated Islamic primary school), particularly in the area of fulfilling learning objectives and obtaining the intended character in Islamic Education learning. Then, when compiling sentences in the learning steps in line with the requirements of the scientific approach, it has been outlined, but the achievement indicators have not been clearly seen, even though there are some things that are not in line with the concept of education and require more serious attention (Ritonga, 2017).

The efficiency of scientific learning has generally been shown to be positive. This is evident from the teacher's actions during the program's planning, execution, and evaluation phases, which follow the steps of the scientific method. The challenges include the absence of an integrated evaluation system, teachers' limited familiarity with different models and learning media, and students' lack of active participation. Consequently, it requires bravery on the part of Islamic Education teachers to create lesson plans employing multiple models and powerful teaching tools (Sulastri et al., 2015).

Numerous studies have been conducted on the application of the scientific method in junior high school courses, although these studies often focus on science education (Joharia, Nawaj, & Iswahyudi, 2021). In contrast, this study explores how to apply a scientific methodology, particularly in the study of Islamic religious education at a private junior high school in East Jakarta.

METHOD

This study uses descriptive qualitative research analysis. Data collection techniques used descriptive data in the form of observations, interviews, documentation, and questionnaires. The research subjects used were Islamic Religious Education teachers and class VIII students consists 33 people consisting of 16 boys and 17 girls. This research took place for 3 months, starting from May – July 2022. This research was conducted at a private junior high school in East Jakarta. The table below outlines the steps that were done during the research.
Table 1. Steps of Scientific Approach in learning

<table>
<thead>
<tr>
<th>Activities</th>
<th>Learning Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Observing)</td>
<td>Seeing, Observing, Reading, Listening, Listening.</td>
</tr>
<tr>
<td>(Question)</td>
<td>Asking questions that begin with teacher guidance to become autonomous learning (becomes a habit).</td>
</tr>
<tr>
<td>(Exploring)</td>
<td>Determine the data required from the questions asked, determine the source of the data, and collect the data.</td>
</tr>
<tr>
<td>(Associating)</td>
<td>Analyze internal data by dividing it into several categories and connecting it into data sources and summing it up.</td>
</tr>
<tr>
<td>(Communicating)</td>
<td>Delivering the results of the conceptualization in oral form, diagrams, pictures or other media.</td>
</tr>
</tbody>
</table>

Source: Adopted by Nugroho (2017)

Based on the table above it can be seen some stages in scientific approach there are; observing, question, exploring, associating and communicating. In this stage of the teaching and learning process, students become accustomed to autonomous learning. They are permitted to take a scientific method while they present in front of their friends. As for the data collection techniques, it is illustrated as below;

Table 2. Data Collection

<table>
<thead>
<tr>
<th>No</th>
<th>Data collection technique</th>
<th>Data source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Structured Observation</td>
<td>PAI (Islamic Education Department) learning process in class VIII</td>
</tr>
<tr>
<td>2</td>
<td>Structured Interview</td>
<td>Teacher of PAI (Islamic Education Department)</td>
</tr>
<tr>
<td>3</td>
<td>Documentation</td>
<td>Student work sheets, and photos of activities during the learning process.</td>
</tr>
<tr>
<td>4</td>
<td>Questionnaire/Questionnaire</td>
<td>Student VIII</td>
</tr>
</tbody>
</table>

RESULTS AND DISCUSSION

Implementing the Scientific Approach in Islamic Religious Education Learning is a process that is designed so that students can engage actively in a number of stages, including observing, inquiring, trying, arguing, and communicating. Observation, interviews, and questionnaires are used to collect data on how the scientific approach to Islamic education is being taught.
Table 3. Implementation of Scientific Approach

<table>
<thead>
<tr>
<th>No</th>
<th>Time and Place</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Wednesday, May 18 2022 07.45</td>
<td>Socialization about the research in the learning process</td>
</tr>
<tr>
<td>2</td>
<td>Monday, May 23 2022 08.45</td>
<td>Fills out the learning materials</td>
</tr>
</tbody>
</table>

Observations were carried out on Wednesday, 18 May 2022 at 07.45 WIB/GMT +7 and Monday 23 May 2022 at 08.45 in class VIII of Junior High School in Jakarta. Islamic Education teacher fills out learning materials and conducts socialization about the research that will be carried out in the class. It was also explained that there are 5 stages in the scientific approach that the researcher will observe when observations in the classroom are taking place including observing, asking questions, gathering information, reasoning, and communicating.

Wednesday, May 18, 2022 at 07.45 WIB, the learning process for Islamic Religious Education takes place. Class conditions when the teacher has not started learning is quite conducive because all students are already in the classroom. The teacher opens the lesson by greeting and asking how the students are doing. The teacher conveys today's learning objectives while informing the students that their class has been selected as the research subject. The teacher also socializes the material to be discussed today, namely the History of the Growth of Islamic Religious Science and continues the previous material according to the textbook and worksheet.

Specifically, the following will describe the results of observations on the implementation of the scientific approach in Islamic Religious Education learning that has been carried out by Islamic Education teachers when the learning process in the classroom is taking place.

Figure 1. Students observe the teacher when explaining the material

The Observation started on Wednesday, March 18, 2022 at 07.45 WIB. Islamic Education teacher enters the class with conducive class conditions. The lesson was opened by greeting, then the teacher asked the class leader to lead the prayer and also check the attendance of the students. The teacher also emphasized the cleanliness and tidiness of the classroom by asking students to straighten the chairs and tables in their class. The teacher tells about today's lesson, which is to discuss the history of the growth of Islamic science. Before entering the
material, the teacher reviews the previous material, then explains the important points that will be studied today.

![Figure 2. The teacher gives questions to students](image)

The Observation started on Wednesday, March 18, 2022 at 07.45 WIB. The second stage after observing the scientific approach in Islamic religious learning carried out in class VIII is to ask questions. Asking is an activity to gain knowledge about material that has not been understood by asking questions that can be answered by the teacher or discuss with other students. When the teacher delivers material about the early history of the development of
Islamic science, when explaining, students observe and listen carefully. This stage the teacher has implemented a questioning process and provides opportunities for students to ask questions about material that has not been understood. Asking is one of the entrances to acquire knowledge.

Figure 5. Students gathering information

The implementation of the Observation begins on Monday, May 23, 2022 at 08.45 WIB. The third stage in the scientific approach in Islamic Education learning in class VIII is collecting information. The teacher provides opportunities for students to find out and collect more data and details about the history of the growth of Islamic knowledge that has not been explained by the Islamic Education teacher last week by taking other references from textbooks, worksheets, the internet, and libraries by adjusting the themes that have been discussed. shared in groups. The pupils conducted a source search in this stage using their smartphones. After online learning was implemented in the past, all students had to adjust to it. (Marlina & Cahyono, 2022), Making kids comfortable with and open to technology has the effect of ensuring that they enjoyed the step (Izzuddin, 2021).

Figure 6. Students are in groups working on assignments given by the teacher

Observations began on Monday, May 23, 2022 at 08.45 WIB. The fourth stage in the scientific approach in PAI learning in class VIII is associating activities. In this activity, the PAI teacher helps students in the process of collecting data and information obtained from
various learning reference sources and according to the division of group themes according to the order of absences that have been distributed at the previous meeting. At this stage, the teacher's role is very necessary in presenting data collection activities so the students understand the material provided by the teacher from the beginning and the end.

The processing of the information collected is to add breadth and depth to the processing of information that is looking for solutions from various sources that have different opinions or are contradictory. This activity is carried out to find the relationship of one piece of information with other information, find patterns of the relationship of the information. The competencies that are expected are to develop an honest, thorough, disciplined attitude, obey the rules, hard work, the ability to apply procedures and the ability to think inductively and deductively in making conclusions.

Figure 7. Between groups are presenting the results of their discussion

Observations began on Monday, May 23, 2022 at 08.45 WIB. The fifth stage in the scientific approach in PAI learning in class VIII is communicating activities. At this stage the teacher is expected to provide opportunities for students to be able to communicate what they have learned and discuss in accordance with their respective groups. At this stage, students are expected to be more confident in conveying material and presenting it in front of the class, so they can practice communication skills and also a critical and creative thinking spirit in communicating what has been prepared both together in groups and individually from the conclusions they have been made. Below is a table of taking the observation schedule and interview schedule during the teaching and learning process for both students and Islamic religious education teachers.
The first implementation, observing the teacher explaining the learning material using the lecture method. The teacher explained about the peak of Islam's glory and its advantages during its heyday with government support to produce various books. In the early minutes, all students focus on observing and listening carefully to what is being explained. However, after 20 minutes of learning, the students began not to focus on listening and some were chatting with each other. Observing activities in learning as stated in Permendikbud Number 81A of 2013 concerning the implementation of the General Guidelines for Learning Curriculum states "Teachers should open widely and varied opportunities for students to make observations through activities: seeing, listening, hearing, and reading. The teacher facilitates students to make observations, trains them to pay attention (see, read, hear) the important things of an object or object.

The implementation of the scientific approach in this observing activity is that students are expected to know about the entity and orientation created, then the next consequence is faith, and life orientation to provide benefits both for their selves and for others. For example, in Islamic religious learning when students understand the orientation of their lives as creatures of God who were created to worship on this earth, then for them to carry out worship such as prayer, fasting, alms, pilgrimage, umrah and other worship. It is hoped that it is not only interpreted as a routine obligation in worship but is an attitude of self-serving when someone believes in the existence of Allah in his life. Therefore worship will no longer be coercive but becomes a necessity for them.

Then in the second stage, which is asking behind the smooth discussion and question and answer that takes place in class. In the results of the observations that the researchers did, some students did not pay attention when one of their friends came to the front of the class to explain the answers to the questions which the PAI teacher asked. They feel that it is not the teacher who conveys their opinions and answers but their own friends, so they do not pay close attention and seem to belittle them, in other words, they should respect their friends who are...
presenting their answers in front of the class. Meanwhile "Asking" activities in learning activities as stated in Permendikbud Number 81A of 2013 is to ask questions about information that is not understood from what is observed or questions to get additional information about what is observed (starting from factual questions to hypothetical questions).

The third implementation is called collecting information, students were very enthusiastic about being permitted to use learning tools in the form of being allowed to use smartphones. Permendikbud Number 81a of 2013, information-gathering activities are carried out through experiments, reading sources other than textbooks, observing objects/events/interviews with resource persons and so on. The competencies that are expected are developing a thorough, honest, polite attitude, respecting the opinions of others, the ability to communicate, collecting information through various ways studied, and developing study habits (Bintari, Sudiana, & Putrayasa, 2014).

The fourth stage is called associating students, given the opportunity by the teacher to draw conclusions from the material that has been submitted and studied with their respective groups that have been determined. The PAI teacher completes the conclusion in more detail and briefly on the learning material for the History of the Growth of Science during the heyday of Islam which was presented by the students. This last stage is what determines whether students will become knowledgeable for themselves or can implement them in life, as well as teach these students skills and train students self-confidence. The activity of “associating/processing information/reasoning” in learning activities as stated in Permendikbud Number 81A of 2013 is processing information that has been collected, both limited to the results of collecting/experimenting activities as well as the results of observing and gathering activities.

The fifth stage called communicating, the teacher provides opportunities for students to conclude the material that has been delivered and studied with their respective groups that have been determined. And the PAI teacher completes the conclusions in more detail and briefly on the learning materials. In the scientific approach, the teacher is expected to allow students to communicate what they have learned. This activity can be done through writing down or telling what was found in the activity of seeking information, associating and finding patterns. These results are presented in class and assessed by the teacher as the learning outcomes of the students or groups of students. The activity of “communicating” in learning activities as stated in Permendikbud Number 81A of 2013 is to convey the results of observations, conclusions based on the results of the analysis orally in writing or other media.

Respondents divided or gave a questionnaire to all students of class VIII. Questionnaires were given after the researchers finished carrying out observation activities during the learning process in the classroom. The questionnaire response data table from these students is presented using percentages.
Table 5. Student Response Questionnaire Data

<table>
<thead>
<tr>
<th>Stages</th>
<th>Student response percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Observing)</td>
<td>83.52</td>
</tr>
<tr>
<td>(Question)</td>
<td>82.57</td>
</tr>
<tr>
<td>(Exploring)</td>
<td>75.56</td>
</tr>
<tr>
<td>(Associating)</td>
<td>79.92</td>
</tr>
<tr>
<td>(Communicating)</td>
<td>81.06</td>
</tr>
</tbody>
</table>

Based on the table above, the researcher gave a response questionnaire to all students of class VIII, which amounted 33 students to fill out. The questionnaire contains the implementation of a scientific approach to Islamic Religious Education learning. Based on the results of the data, all student response questionnaires have been seen carrying out activities from a scientific approach during the learning process. For observing activities obtained 83.52%, questioning activities obtained 82.57%, information gathering activities obtained 75.56%, reasoning activities obtained 79.92%, and communicating activities obtained 81.06%. From the results of the data, class VIII students have been seen carrying out stage 5 activities of a scientific approach when the learning process of Islamic Religious Education takes place in the classroom. The research's conclusions have the implication that a scientific approach to learning Islamic religion is one that benefits students. The application of project-based scientific methodologies in classroom instruction can be studied in the future.

CONCLUSION

Based on the results of research on the Implementation of the Scientific Approach in Islamic Education Learning that has been carried out in Junior High Schools in East Jakarta, the researchers conclude that in the learning process teachers have used a scientific approach that consists of 5 stages there are; observing, asking, exploring, reasoning/associating and communicating. Then the teacher can facilitate students to learn inside and outside the classroom by utilizing the environment around the school as a source of learning. In the learning process, students process information and learn through their efforts to organize, to store, and then find relationships between new knowledge and existing knowledge, its called they have good communication skills. This ability develops through the stimulation provided by the teacher in the form of facilitation of learning that encourages students to have the ability on reason and tend to be dominant in activities or stages in a scientific approach. The approach used in this study is limited to Islamic religious education topics, but it is possible that it might be used in other disciplines as well.

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Prosiding Seminar Nasional Etnomatnesia, (December 2017).


