

Teacher's Perceptions of Islamic Science Learning Using a Scientific Approach Assisted by "Selawat Science"

Yuniar Fahmi Lathif*, Sarwi Sarwi, Putut Marwoto, Endang Susilaningsih

Natural Sciences Education Study Program, Graduate School Universitas Negeri Semarang, Indonesia

*Correspondence: ptyqmenawantv@gmail.com

Abstract. This study aims to describe the teacher's perception of learning science with a scientific approach assisted by "selawat science" in learning the solar system for first grade junior high school students. The research subjects consisted of 15 junior high school teachers in Kudus Regency. Quantitative survey method was used to obtain teacher perception data. The results of the study indicate that the scientific approach assisted by scientific research is in accordance with the characteristics of Islamic boarding schools students, develops students' multiple skills, increases learning motivation so that students are more active during the learning process and adds insight to teachers in integrating science and religion. Obstacles felt by teachers include inadequate science laboratory facilities and some teachers have difficulty integrating science and selawat because they do not have a pesantren education background..

Key words : teacher's perception; natural science; Scientific approach; selawat science.

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INTRODUCTION

Natural science is a science that has a very important role in various human activities in the 21st century. This makes science and technology a mandatory component that must be mastered by students in all fields. Research results Kereluik et al., (2013) creativity, collaboration, communication, and critical thinking (meta-knowledge) and digital/information and communication technology (ICT) literacy as the most important to have. The dependence of all important aspects of life with technology causes a paradigm shift in the model and learning approach used in education. The development of science and technology as well as the many skills needed in the world of work in the 21st century have influenced the educational paradigm (Srikoom et al., 2017).

The learning model is a design that can be used to design curriculum, create learning materials, and also carry out learning activities well. 21st century learning must be oriented to the development of students' scientific attitudes. Sarwi et al., (2019) Inquiry learning can effectively foster students' scientific attitudes through planning, experimenting, research, observing, analyzing, and concluding the results of data processing. In addition, learning must pay attention to the characteristics of students both from the aspect of the social environment, culture and belief (religion). The inquiry learning model with a scientific approach is one of the

recommended learning models in the 2013 curriculum as a medium to carry out the development of student attitudes, competencies and knowledge (Kemendikbud, 2013). The step of learning with a scientific approach in the 2013 curriculum is known as 5M learning, namely observing, observing, trying, analyzing, and communicating (Gunawan et al., 2017).

A systematic approach is needed to give students the opportunity to skillfully evaluate information and reach the most beneficial solutions to problems based on known research (Hurley, 2013). The scientific approach is basically a form of implementing the scientific method in the learning process (Windschitl, 2017; Schwartz et al., 2009; Keyes, 2010). The scientific approach makes students learn directly in accordance with the facts in the surrounding environment so that there is a practical process of observation and analysis (In'am & Hajar, 2017; Utanto et al., 2017). The scientific approach is very important to foster the scientific attitude of students as a strategy to develop problem solving skills. Sarwi et al., (2021) The ability that cannot be avoided from human life and greatly affects human survival is the ability to solve problems. The scientific approach is one approach that is widely used in science learning in Indonesia, especially in Kudus Regency.

Science education in Indonesia aims to make students have confidence in the orderliness of nature and the majesty of God's creation. Religion and spirituality within accepted scientific

parameters can deepen our understanding of the dimensions of human experience. (Emmons, 1999). Science learning currently does not pay much attention to the environmental aspects of students (Sarwi et al., 2020). The predicate of Indonesia as a country with 80% of the population is Muslim and the majority live in a pesantren environment, making its people identical with Islamic culture and learning typical of pesantren. So, in addition to using a scientific approach, teachers need to pay attention to the spirituality of students in developing science learning. Teacher behavior that is influenced by individual, social, environmental, and policy influences on teacher decisions about the pedagogical approach to be adopted in learning. Seeing the phenomena that occur in Indonesia, learning science with a scientific approach needs to pay attention to environmental aspects, including by adding supplements to teaching materials typical of pesantren, namely incorporating verses from the Qur'an and science sermons in learning. Selawat Sains is a selawat that is already popular among Islamic boarding schools and then the concepts of science are added to the lyrics. It aims to make students interested in learning and understanding science material.

The term perception is closely related to human psychology. According to Sugihartono (2007) perception is human behavior beginning with the presence of sensing or sensation. Sensing or sensation is a process of entering a stimulus into the human senses. After the stimulus enters the human senses, the brain will translate the stimulus. The ability of the brain to interpret this stimulus is called perception. According to Jonker *et al.*, (2018) and Vanassche and Kelchtermans (2014) Teacher perceptions are related to the teaching strategies used in learning. This shows that it is very important to know the teacher's perception of a learning program that has been implemented.

METHOD

The main purpose of this study was to determine the teacher's perception of the application of a scientific approach assisted by science sermons in science learning at the SMP/MTs level in Kudus Regency. This study is based on a paradigm shift in the world of education in the aspect of a competency-oriented learning approach of the XXI century according to the 2013 curriculum, namely learning Islamic science with a scientific approach combined with teaching materials for typical Islamic boarding

schools.

The research method used is a quantitative survey. Survey research asks several respondents about perceptions, opinions, characteristics, and behaviors that have occurred or are currently happening (Groves, 2010). The subjects used in this study were 15 SMP/MTs science teachers from 7 schools in Kudus Regency. The question indicators consist of 4 indicators, namely 1) teacher's perception of the basis for applying Islamic science learning with a scientific approach assisted by science selawat, 2) teacher's perception of adding supplements to science teaching materials in science learning, 3) teacher's perception of the benefits of Islamic science learning with this approach. scientific research assisted by science selawat, 4) teacher's perception of obstacles in learning Islamic science with a scientific approach assisted by science selawat. the majority of teachers gave more than one answer/reason in different sub-categories so that the total percentage of teachers' perceptions for all attributes was greater than the number of teachers in the study.

RESULT AND DISCUSSION

Summary of answers from science teachers to question indicator 1 can be seen in Table 1.

Table 1. Summary of answers to indicator questions 1

No	Opinion	Percentage
1	21st century development demands	33
2	According to the characteristics of Islamic boarding school students	73
3	Develop students' multiple skills	60
4	Learning is more interesting because it is integrated between fields of science	47

In the question indicator question number 1, respondents argue that the basis for applying science learning with a scientific approach assisted by Islamic science is according to the demands of 21st century developments where teachers are required to integrate between fields of science according to the characteristics of students. So far, science learning in schools has not been optimally integrated between fields of science, one of the obstacles is that not all teachers are able to integrate science with religion. Another thing that underlies the

application of learning development with a scientific approach assisted by scientific research is the need in the era of the industrial revolution 4.0 where students are expected to have 4C skills (Critical Thinking, Communication, Collaboration, Creativity). Education today is expected to be able to develop students' abilities in creative thinking, flexibility, problem solving, collaboration and innovative skills needed for success in work and life (Pacific Policy Research Center, 2010).

Characteristics of students who are in the pesantren environment are the main basis for implementing Islamic science learning with a scientific approach assisted by science salawat. Kudus is one of the districts in Central Java Province which is known as the city of santri because there are many Islamic boarding schools and historical relics. The Kudus community is known as a religious community, whose religious life dominates daily life (Nur & Farohi, 2019). One of the pesantren culture is to use selawat or nadhoman songs in learning activities, so that it is more interesting and students are easier to understand the material.

The teacher's response to the question indicator 2, regarding the teacher's perception of the addition of supplementary science teaching materials in learning is quite diverse and can be categorized as a positive response. Summary of answers can be seen in Table 2.

Table 2. Summary of answers to indicator questions 2

No	Opinion	Percentage
1	Increase students' interest in learning science	40
2	Provide new insights to students that learning science and religion are related to each other	80
3	Make students more concerned about the surrounding environment	53

According to respondents, the addition of science salawat in a scientific approach can increase students' interest in learning science, junior high school students in Islamic boarding schools are usually only interested in lessons related to religious science, but with supplements of science selawat teaching materials, it turns out that students get new insights that science and religion are two things that are related to each other. Even according to respondents, when connecting science with religion, students understand that what

is learned in science has the legal basis of being conveyed in the Qur'an. Another thing that teachers feel is that linking science with religion can change students' attitudes in everyday life to become more concerned with the environment because the science content in the Qur'an makes them more confident in human obligations in protecting and preserving nature. This is in line with the research of Schmidt (2000) that teaching involving aspects of spirituality can place transcendental awareness of "pure spirituality" based on the universe and the human mind, thereby increasing cognitive, affective, and moral development in students.

Furthermore, in question 3 indicators regarding teachers' perceptions of the advantages of learning Islamic science with a scientific approach are presented in Table 3.

Table 3. Summary of answers to indicator questions 3

No	Opinion	Persentase
1	Learning becomes more interesting	67
2	Cognitive, affective and psychomotor abilities develop in a balanced way	33
3	Increase student motivation in learning science	73
4	Generating useful learning products	53
5	Students become more active in the learning process	60

Most of the respondents think that with the scientific approach assisted by science learning, learning becomes more interesting, the motivation of students to explore science material is higher and even on some subjects students can produce products that are beneficial to society. The products produced can be in the form of ideas or products in physical form. Providing students experience solving real problems with practical activities, so as to increase effectiveness, meaningful learning, and support future careers (Tseng et al., 2013). Students' enthusiasm for learning is also seen from the activeness of students to seek their own knowledge by increasing reading activities on the science material they want to know.

In addition to the advantages of applying Islamic science learning with a scientific approach assisted by scientific research, on the indicator questions 4 teachers were asked for their opinions on the obstacles experienced when applying science learning with a scientific

approach assisted by science selawat. A summary of respondents' answers is presented in Table 4.

Table 4. Summary of answers to indicator questions 4

No	Pendapat	Persentase
1	Takes a lot of time	27
2	Difficulty integrating science and religion in some materials	53
3	The teacher lacks confidence when giving examples of the science selawat tone	27
4	Limited school laboratory facilities	60

Based on table 4, respondents stated that the limitations in applying science learning with a scientific approach were the problem of limited time in learning activities, teachers needed more time than when explaining science learning with a lecture/conventional approach. In addition, to ensure students understand the concept of integrating science and religion, teachers must also give students more time. Science selawat supplements which are presented in the form of selawat tones are also a challenge for teachers who are over 50 years old because they feel less confident when giving examples of science selawat tones to students, some teachers reason about the limitations of the voice that cannot be loud or the voice is less melodious, while singing the science selawat.

Another obstacle is that some teachers find it difficult to relate all scientific material to religion, especially verses from the Qur'an. The tendency of the pattern found in the field of science teachers with a general educational background finds it difficult to relate scientific material to the verses of the Qur'an, besides that the teacher also feels that the reading of the Qur'an is not in accordance with the science of tajwid so they are worried if they get corrections by students who are partially correct. great memorization of the Qur'an. Teachers' perceptions can be influenced by the place where they study and learning styles (Srikoom et al., 2017). Learning with a scientific approach assisted by science can be viewed differently by each teacher. The teacher's perception of learning is an important component in content and pedagogic knowledge (Park & Oliver, 2008). To improve the quality of the application of learning with a scientific approach assisted by science selawat, the first step that can be taken is to identify the teacher's views on the

scientific approach and teaching materials of science selawat.

The application of a scientific approach requires the availability of adequate school facilities. For example, school laboratory facilities are expected to include 5M activities of observing, observing, trying, analyzing, and communicating. Students cannot understand scientific ideas perfectly if students do not try themselves, or are directly involved in investigative activities to develop scientific ideas to the fullest (National Research Council, 2012). Other facilities that are needed in increasing students' ability to analyze are incomplete laboratory facilities in several schools. Completeness of school facilities is very influential on the effectiveness of learning. In the 21st century students must master information literacy and critical thinking skills to succeed in education (Kong, 2014). It is also realized by science teachers that school facilities are an important factor to support the continuity of learning.

CONCLUSION

Science teachers in Kudus Regency are very interested in learning science with a scientific approach with the help of science selawat because it is in accordance with the characteristics of students who are accustomed to selawat in everyday life so that students are more enthusiastic in learning. Some of the obstacles experienced by teachers include the incomplete infrastructure in the school laboratory, and some teachers do not have an Islamic boarding school educational background, as a result they have not mastered selawat to the fullest. The data in this study can still be developed and explored more deeply. Research on teacher perceptions of learning can be used to build ideas for teacher professional development programs.

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