

## The Effect of a Scientific Approach on Motivation to Learn Morals at MA Salafiyah

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**Abstract:** The number of students who do not actively participate in the teaching and learning process, such as rarely asking questions or voicing ideas, and also not reacting to the teacher's answers, one of the triggers is that the learning approach in Aqidah Akhlak subjects focuses more on teachers lecturing students and telling stories so that learning activities tend to be mainly carried out by teachers even though an educator plays a vital role in the achievement of an effective learning process. This study aims to analyze the effect of scientific methods on increasing student interest in learning aqidah subjects. By using a quantitative descriptive method through a saturated sampling technique involving 30 students with pre-test and post-test with sig value indicator 0.05 along with hypothesis testing and resulting in the conclusion that  $H_a$  is accepted and  $H_o$  is rejected based on the influence of scientific methods on learning motivation ( $t_{count} > t_{table}$ , namely  $4.760 > 2.048$ ). This shows that learning motivation is strongly influenced by scientific-based learning. Although 55.3% of the influence is caused by causes other than the desire to learn, 44.7% of the influence is of high quality. From the determination test data, it can be concluded that the scientific method influences learning motivation.

**Kata Kunci:** Scientific Approach, Learning Motivation

**Abstrak:** Banyaknya siswa yang tidak berpartisipasi aktif dalam proses belajar mengajar, seperti jarang bertanya atau menyuarakan ide, dan juga tidak bereaksi terhadap jawaban guru, salah satu pemicunya adalah pendekatan pembelajaran pada mata pelajaran Aqidah Akhlak lebih menitikberatkan pada guru penceramah siswa dan bercerita, sehingga kegiatan pembelajaran cenderung lebih banyak dilakukan oleh guru padahal seorang pendidik memegang peranan penting dalam ketercapiannya proses pembelajaran yang efektif. Penelitian ini bertujuan untuk menganalisis pengaruh metode saintifik terhadap peningkatan minat belajar siswa pada mata pelajaran aqidah. Dengan menggunakan metode deskriptif kuantitatif melalui teknik sampling jenuh yang melibatkan 30 siswa dengan uji coba pre test dan post test dengan indikator nilai sig 0,05 disertai pengujian hipotesisnya. Menghasilkan kesimpulan bahwa  $H_a$  diterima dan  $H_o$  ditolak berdasarkan pengaruh metode saintifik terhadap motivasi belajar ( $t_{hitung} > t_{tabel}$ , yaitu  $4,760 > 2,048$ ). Hal ini menunjukkan bahwa motivasi belajar sangat dipengaruhi oleh pembelajaran berbasis saintifik. Meskipun 55,3% pengaruh tersebut disebabkan oleh sebab-sebab selain keinginan untuk belajar,

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*namun 44,7% pengaruh tersebut berkualitas tinggi. Dari data hasil uji determinasi tersebut dapat disimpulkan bahwa metode saintifik memiliki pengaruh terhadap motivasi belajar.*

**Kata Kunci:** Pendekatan Ilmiah, Motivasi Belajar

## Introduction

Learning activities require strategies, procedures, models, models and techniques so that teachers have the understanding and ability to use them. These terms often have the same meaning. However, these conditions have different meanings. The term "approach" in education refers to a method of starting something, which is a more precise definition than the original English word "approach". (Setijowati, 2016).

The scientific method also called the scientific approach, is a teaching method designed to support continuous improvement of students' attitudes, knowledge and skills while adhering to scientific principles. Starting with observation, continued with question and answer, data collection, association, and communication. Knowledge obtained by students through sensory experience from various sources will be developed in factual, conceptual, procedural or metacognitive form. (Wiyanto, 2017 ). The 2013 curriculum implements learning using the scientific method as a measure. The 2013 curriculum places great emphasis on the use of scientific methods as a component of contemporary educational pedagogy. To enable it to be realized, All competencies and domains contained in the 2013 curriculum require a scientific approach. (Ekawati, 2016).

What is meant by "scientific learning" is a scientific method which, by placing specific phenomena in focused and in-depth research, formulates general findings in a learning context combined with scientific processes, helping students develop knowledge, attitudes and abilities. Meanwhile, the scientific approach refers to a teaching method where students actively create concepts, recognize or identify problems, formulate problems, convey or formulate hypotheses, collect data using various techniques, analyze data, determine conclusions, and share. Concepts, laws, or principles discovered. (Hasan, 2019).

The scientific method emphasizes student participation in the learning process, especially with regard to process abilities such as observation, classification, measurement, prediction, explanation, and conclusions. (Hosnan, 2016).

The findings of observations made in class XI MA Salafiyah explained that students did not participate when learning to teach, did not accept explanations from the teacher, and rarely voiced thoughts or asked questions. Because the focus of the learning process is more on the teacher who tells stories or gives lectures to students, the teaching and learning activities of aqeedah morals often need to be more varied. So that educators play a more critical role in the learning process. Despite using the 2013 curriculum, student enthusiasm for learning has decreased. In addition, there are still students who prefer to play and laugh with their friends throughout class; this shows that students' enthusiasm for learning still needs to be improved. Not all students are motivated to study at home; only a tiny percentage of students are actively interested in their studies.

The problems that arise in class show how closely the scientific method influences students' willingness to learn. This is the background to the importance of research being carried out to ascertain how the scientific approach influences student motivation.

The concept of relationships and their functions can be applied directly through the stages of a scientific approach, namely as follows: the learning process begins with a process of observing which functions to arouse curiosity so as to produce meaningful knowledge and insights about relationship concepts. Moreover, function; the second step is to ask questions at this stage. The scientific approach is a diverse learning process so that students actively have concepts, laws, or principles from observing, asking, reasoning, trying, and communicating (5M). To create an interactive classroom, teachers first ask questions and encourage students to respond. Next, students reason by processing information about the relationships and functions they have learned. Finally, students try to apply the experimental concept of relations and their functions, which can help develop their knowledge, attitudes and skills. Finally, students share the experimental results they have described, which can help students feel more confident about their abilities in learning. (Kurino, 2019). Therefore, learning the ideas of relationships and functions can be done through scientific methods as part of alternative methods of solving problems.

All levels of the 2013 curriculum use a scientific approach to the teaching and learning process. Knowledge, skills and attitudes are three domains of learning that are impacted by scientific learning. From an educational perspective, the scientific method includes observation, inquiry, experimentation, processing, and sharing with all students. Likely, these scientific techniques are only sometimes suited to appropriate procedural use for particular topics, materials, or circumstances. Applying scientific ideals or characteristics while avoiding unscientific values or characteristics is known as the scientific method in learning. (Hasan, 2019). The scientific principles of pedagogy are discussed, namely:

1) Observe

Observation activities use *meaningful* learning. This method has several advantages, including the presentation of natural media objects that are fun, challenging for students and easy to implement. Observation activities are instrumental in answering students' curiosity. So learning is essential.

2) Ask

teacher gives students many opportunities to ask questions related to what they see, hear, and read during observation exercises. After that, students are expected to structure the questions and ask them later so they can focus more on the content and generate their responses. The results of observations from tangible to abstract things become material for inquiry.

3) Gathering Information

When instructors have an idea of how well students understand the content, they may give students additional homework to gather more information. So the instructor knows how well the class understands the lecture. Due to the fact that information is not limited to the instructor but depends on the material presented, you can also use the internet, newspapers and so on. "Data collection" is a continuation of the question and answer session.

4) Processing Information (associating)

Writing or reporting the results of information search, association analysis, and pattern recognition are the following activities. Instructors use these findings, demonstrated in class, to assess student or group learning goals. At this point, students

receive guidance and instruction on how to use the information gathered from the discussion to conclude. They also learn how to follow procedures, think inductively and deductively, and behave with integrity, rigour, discipline and respect for rules. Activities that involve the use of factual facts that can be seen or logical and systematic reasoning to reach conclusions in the form of knowledge are also called thinking.

5) Communicate

Teachers should give students opportunities to share what they have learned through the scientific method. The results of information-gathering, association and pattern-searching activities can be written down or described in this activity. These objectives can be used in class and assessed by instructors as learning objectives for individual students or small groups.

The next step is to record or report the information, relationships and patterns found during the information search. After the findings are presented in class, the instructor assesses them as learning objectives for individual students or groups of students. The results of conceptualization can be communicated verbally, through textual visuals, diagrams or charts, through communication activities. Through presentations, reports, and other work, students will be able to share their knowledge, abilities, applications and discoveries. Since networking and communication skills are equally important, students should have both. Students can improve their networking and communication skills through group projects. A scientific approach to learning can be incorporated into a variety of teaching models, tactics, or techniques. Techniques based on problem-based learning, project-based learning, research-based learning, discovery-based learning, and other related techniques.

The emphasis on education is when the variables affect learning and student academic achievement. It is based on the idea that learning is more than conveying information; it is also related to the process of knowledge creation, which is influenced by emotional, cultural, and social contextual variables. In response to this, educators are expected to be able to use learning strategies that originate from the way the school environment is used. (Arifuddin, 2021). The application of a scientific approach is part of the way for teachers to implement the learning process by utilizing all accessible resources.

An essential component of learning activities is motivation. The term motivation comes from the word motive, which can cause someone to act or be involved in an

activity. (Uno, 2016). Motivation is the driving force to carry out specific actions to achieve planned goals; learning motivation can give rise to behaviour in learning (Asra, 2017).

Student behaviour is greatly influenced by learning motivation, which in turn encourages learning behaviour. (Dimiyati, 2018). Motivation and learning influence each other and relate to each other, defining "learning motivation as the motivation that comes from within (internal) students and motivation from outside (external) students, which aims to change behaviour through various supports". Learners who are motivated to succeed show excellent learning procedures and results. On the other hand, students who lack learning motivation show poor learning outcomes and processes. Because motivation can affect learning performance, motivation is part of the components needed in learning activities. (Uno, 2016). All physical encouragement that encourages students to learn ensures that learning occurs continuously and provides direction for learning activities to achieve goals, which is known as learning motivation (Nasution, 2018).

There are several forms of motivation; intrinsic and extrinsic motivation are two categories based on the source of motivation, depending on your point of view. Extrinsic and intrinsic motivation are as follows: 1. Motivation that comes from within is called intrinsic motivation. This drive often arises from a person's goals, ambitions and interests so that he is eager to pursue them. 2. Motivation that is thought to come from sources outside one's self is called extrinsic motivation. This type of motivation is usually in the form of something material in nature, such as cash rewards or other incentives that are obtained for the efforts made. It can also come from outside influences such as invitations, gifts, praise, orders, or coercion from others, which make people want to take action in certain situations. (Sardiman, 2018).

Supporting students both internally and externally to depend on behaviour change is the basis of learning motivation. Motivation to learn in general can be shown by the following: 1) a strong desire to succeed; 2) encouragement as well as learning needs (Asrul et al., 2018); 3) hopes and aspirations for the future; 4) appreciation and learning; 5) exciting learning activities; and 6) a supportive learning environment that makes student learning easier. (Arifudin, 2021).

In educational efforts, motivation has a vital role. Learning motivation can lead to the development of initiatives and activities, as well as sustain persistence in

completing learning tasks. In line with that, here are some signs that students are motivated to learn:

1. Be serious.
2. Excited in all things.
3. Really curious or curious.
4. Able to "go alone" when the instructor gives assignments to the class.
5. Be confident in yourself.
6. Have a more vital concentration ability.
7. Challenges that need to be addressed are considered difficulties.
8. Tenacious and strong in battle.

The instructor will be enthusiastic about carrying out the learning process in class if the signs above appear. However, the opposite situation could happen. This shows that some students need more motivation. There are several signs of poor student motivation, including:

1. Ignoring what is being studied.
2. Weak will to fight.
3. Completing an action is like being asked to lift a large object.
4. Finding the courage to "go it alone" when faced with a task is not easy.
5. You are relying on others.
6. If "forced", they can walk.
7. Lack of ability to focus. Even though they may not be in the classroom mentally, they are physically present there.
8. They often make noise.
9. When faced with challenges, we whine easily and get depressed.

Students may be motivated to learn in various ways. Among them are as follows: distribution of numbers, giving rewards, exams, exam competitions, knowing test

results, praise and punishment, learning motivation, interests, and goals that have been set. In line with that, there are many approaches to foster and increase student motivation. To begin with, part of her strategy is to emphasize to children the importance of being prepared for the future, where the majority will include more difficulties as well as competitiveness. Second, it provides students with real-world examples of successful individuals and the success factors they envy. Third, demonstrate to students how the material they have studied relates to real-world situations. Fourth, emphasize to children the importance of thinking and doing the best they can. Fifth, give prizes to students for completing their assignments. Sixth, student achievement goals need to be well-defined. After the learning process is complete, students need to understand what competencies they need to master. Create an environment where students can feel encouraged and welcomed as step seven. Eighth, try to answer children's questions positively and immediately praise their ability to ask good questions. Lastly, to ensure that students feel free from an assignment, it is best to divide up large assignments so tasks are more straightforward. Tenth, ensure that student competition is manageable because students may feel anxious when participating in the learning process because of the intense competition. Eleventh, educators must show their enthusiasm for teaching, as well as their mastery of the subject matter. (Nasution, 2018).

The factors in this research that can be used to describe learning motivation are 1) desire to learn, 2) strict work ethic, 3) striving for progress, and 4) competition to encourage achievement.

### **Research methods**

Thirty respondents were selected for this study at MA Salafiyah based on suitable sampling criteria, such as using a saturated sampling approach or taking samples from the total population.

Quantitative research using quantitative descriptive techniques is the type of research used. The t-test and analysis of the coefficient of determination are the data analysis methods used. In this study, the methods used to obtain data were observation sheets, questionnaires, and documentation. Moreover, the data analysis method used is 1) a validity test; 2) an Alpha Cronbach reliability test using SPSS 25



window; 3) a Test of the Partial Regression hypothesis (t-test); and 4) a Test of the coefficient of determination.

## Results and Discussion

Research findings on how the scientific method influences learning motivation and aqidah values in Salafiyah, Massachusetts: By using a questionnaire filled out and assessed by class XI students based on 20 statements to ensure validity, researchers were able to collect data. Before evaluating the hypothesis, a reliability test was carried out. Every research statement in the questionnaire must be tested for reliability. Consisting of 20 statement items on the scientific method variable and 20 statement items on the learning motivation variable, the total is 40 statement items. Next, the test data results will be compared against the minimum value of 0.60 for Cronbach's Alpha. These results can be illustrated in Tables 1 and 2 below, from the results of reliability tests using SPSS 25 for Windows:

**Table 1.** Output of the scientific approach reliability test

Reliability Statistics	
Cronbach's Alpha	N of Items
,836	20

**Table 2.** Reliability test results for learning motivation

Reliability Statistics	
Cronbach's Alpha	N of Items
,895	20

(Source: Processed primary data, 2023)

Assessing the hypothesis is the next test. In this study, the partial regression test was used to test the hypothesis. Known: based on the results of data processing in SPSS

**Table 3.** Partial regression test (t-test)

### Coefficients <sup>a</sup>

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	-24,596	22,182		-1.109	,277
	Scientific approach	1,283	,270	,669	4,760	,000

a. Dependent Variable: Motivation\_Learning

(Source: Primary Data, processed in 2023)

Referring to the sig probability value of 0.05, a sig value comparison can be made. As shown in the previous table, 0.000 is a significance value (sig). It can be determined that Ho is rejected while Ha is accepted if  $0.000 < 0.05$ . the use of a scientific-based learning approach significantly influences learning motivation.

If visible.  $t_{hitung} > t_{tabel}$ , then a variable is considered to influence other variables. (Ghazali, 2016). As seen in Table 3 above, the level is 0.025,  $t_{(table)} = 2.048$ , and  $t_{(calculation)}$  is 4.760 at  $df_{nk} = 28$ .

As a result, if  $t_{(count)} > t_{(table)}$ ,  $4.760 > 2.048$ , then Ho is rejected and Ha is approved. This explains that learning motivation is greatly influenced by scientifically based learning.

Previous research entitled "The Effect of Applying a Scientific Approach on Increasing Student Interest in Learning Moral Beliefs at MA Manongkoki, Tarakan District" by Nur Alfiyah Rasid (2018) might also be used to support this reason. The objectives of this research findings are to teach students about moral principles at the MA Morals MA Manongkok District. Based on the results of statistical analysis of the interface (Simple et al.), if the value of t count  $>$  t table is  $43.5 > (1.68595)$ , then Tarakan is a place where Ho is rejected, and Ha is accepted. So, the conclusion is that the scientific method influences students' desire to learn about moral principles at MA Manongkoki, Tarakan District.

Assessing the hypothesis is the next test. In this research, the partial regression test is used for hypothesis testing. Known: based on the results of data processing in SPSS.

**Table 4.** Test Coefficient of Determination

**Summary Model <sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
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1	,669 <sup>a</sup>	,447	,428	8.58515
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a. Predictors: (Constant), Scientific\_Approach

b. Dependent Variable: Learning\_Motivation

(Source: Primary Data, processed in 2023)

The R Square value, which is also known as the coefficient of determination (KD), is obtained from Table 5 and shows how well the interaction between the independent and dependent variables forms the value of the regression model. The calculated KD value is  $(0.447 \times 100) = 44.7\%$ . This explains that variable Y (desire to learn) is influenced by the independent variable (scientific approach) of 44.7%, and other variables influence the remaining 55.3%.

The final findings of the study showed that the scientific method affected learning motivation, indicated by the value of  $t_{count} > t_{table}$ ,  $4.760 > 2.048$ , and a significance level of  $0.000 < 0.05$ , so it was concluded that  $H_a$  was accepted and  $H_o$  was rejected. This explains that learning motivation is greatly influenced by scientifically based learning. Although 55.3% of the influence was due to reasons other than the desire to learn, 44.7% of the influence was of high quality.

When the scientific method is used, students become enthusiastic about continuing educational activities because it gives them the confidence to voice their ideas, support them, and disagree with the opinions of other students. With this scientific method, students are encouraged to ask questions, test something or seek information, reason, and communicate in order to find or develop ideas. The scientific teaching method involves engaging students both physically and psychologically in the learning process, motivating them, and giving their education more importance by fostering a positive learning environment. This is in line with the point of view. (Maryani, 2018), The learning objectives are for students to actively construct concepts, laws, or principles from the stages of observation, problem-solving, hypothesis-making, data collection using various methods, data analysis, drawing conclusions, and concept communication – established rules and regulations.

The basis of the learning process in the scientific method consists of five steps, namely observing, asking, trying, thinking (associating), and sharing. (Musfiqon, 2015). When approaching this learning task with the scientific method, the five stages of scientific learning are put into practice. The teaching and learning process becomes more structured, and students and their groups work together better to complete each

task. This builds students' confidence and ability to voice their opinions when they are asked, provide reasons for those questions, and participate in group discussions. However, some students only depend on their friends.

The findings of MA Salafiyah's observations used throughout the learning process can also support the application of the scientific method. Educators who promote moral values through teaching engage in direct and indirect observation. The instructor divides the class into small groups until the students can get knowledge related to the material studied after students have had the opportunity to ask questions about what they see being taught. Students then provide an oral or written summary of the material they have learned, along with any conclusions or findings from their observations.

Discussion

### Conclusion

The study concludes that there is a relationship between the scientific method and learning motivation with a value of  $t \text{ count} > t_{\text{table}}$ ,  $4.760 > 2.048$ , and  $0.000 < 0.05$ , which explains that  $H_a$  is accepted and  $H_o$  is rejected. This explains that learning motivation is strongly influenced by scientific-based learning. Although 55.3% of the influence was due to causes other than the desire to learn, 44.7% of the influence was of high quality.

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