# IMPLEMENTATION OF THE QUR'AN COMPENDIUM MODEL IN MATHEMATICS LEARNING TO IMPROVE THE ANALYTICAL ABILITY OF CLASS VIII STUDENTS AT MTS 3 CILACAP

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**ABSTRAK**

Penelitian ini bertujuan untuk mengimplementasikan model kompendium Alquran dalam meningkatkan keterampilan analisis pada materi trigonometri. Penelitian ini adalah penelitian tindakan kelas dengan subjek penelitian sebanyak 20 peserta didik. Penelitian ini menggunakan dua siklus dengan masing-masing siklus terdiri dari dua pertemuan. Instrumen yang digunakan berapa lembar angket, lembar wawancara, tes, dan lembar observasi. Teknik analisis data menggunakan deskriptif kualitatif. Hasil penelitian menunjukkan bahwa: 1) model kompendium Alquran dapat meningkatkan keterampilan analisis peserta didik pada materi trigonometri; 2) hasil rata-rata nilai keterampilan analisis peserta didik pada siklus I menunjukkan peningkatan yang cukup baik dengan rata-rata 80,91; 3) hasil rata-rata nilai kemampuan analisis peserta didik pada siklus II menunjukkan peningkatan yang baik dengan rata-rata 90,31.

**Kata kunci**: model kompendium Alquran, pembelajaran matematika, kemampuan analisis, trigonometri.

***ABSTRACT***

*This study aims to implement the Qur'an compendium model in improving analytical skills on trigonometric material. This research is a classroom action research with 20 students as research subjects. This study consisted of two cycles with each cycle consisting of 2 meetings.The utilized instruments are in the form of questionnaire sheets, interview sheets, test, and observation sheets. The data analysis technique used in this study is descriptive qualitative. The results of the analysis show that: 1) The Qur'an compendium model can improve students' analytical skills on trigonometric material; 2) the students' analytical skills in the first cycle showed that the category was quite good with an average value of 80,91; 3) the students' analytical skills in the second cycle showed a good category with an average value of 90,31.*

***Keywords****: Qur'anic compendium model, mathematics learning, analytical skills, trigonometry*

## INTRODUCTION

Mathematics has a very important role. Students need mathematics to meet practical needs and solve problems in everyday life (p4tkmatematics.kemdikbud.go.id). Mathematics is one of the subjects that is a scourge for the majority of

students because it is known for its difficulties and complexities. Therefore, mathematics is also known to be disliked by students. Besides being difficult, learning math is also boring (Indriyani, Rizqi, & Mahmudah, 2020). Although, without realizing it, humans have actually applied mathematical concepts in their daily lives (Nisrina, Agustin, & Mahmudah, 2021). Therefore, mathematics is very crucial to be studied by students not only in Indonesia but also throughout the world. Because the benefits are extraordinary in all fields.

Mathematics can be used in trading and shopping, can communicate through writing / pictures such as reading graphs and percentages, can make notes with numbers, and so on. If we pay attention to various mass media, information is often presented in the form of percentages, tables, and even in the form of diagrams. Thus, in order for people to get correct information from what they read, they must have knowledge of percentages, how to read tables, and diagrams. In this case, mathematics plays an important role.

Mathematics taught in schools carries a very important mission, namely supporting the achievement of national education goals. Based on Permendikbud Number 22 of 2016 concerning the objectives of learning mathematics, namely: (a) understanding mathematical concepts, describing how the interrelationships between mathematical concepts and applying concepts or logarithms efficiently, flexible, accurate, and precise in solving problems, (b) reasoning patterns of the nature of mathematics, develop or manipulate mathematics in compiling arguments, formulate evidence, or describe mathematical arguments and statements, (c) solve mathematical problems which include the ability to understand problems, develop mathematical models of solving, solve mathematical models, and provide appropriate solutions, and (d) communicate arguments or ideas with diagrams, tables, symbols, or other media to clarify the problem or situation.

Through the compendium model of the Qur'an, education can develop students' spiritual/religious attitudes as well as teach mathematics material (Anggreni, 2019). In addition, it provides students with an

understanding that the Koran contains a lot of knowledge that can be learned, including mathematical material. Mualimin & Subali (2018) mention that the integration of Islamic values contained in the Koran into a learning process that has been proven to be able to reveal and discover many new things in the field of science and technology. It was also explained that many studies reveal that there is no conflict between science and al Quran (Loo, 2001; Jazila & Suliyanah, 2020).

Mathematics is a means to improve knowledge, skills, attitudes, and values as well as being responsible for the environment, society, nation, state, and having faith in God Almighty. Mathematics provides knowledge about life (Skovsmose, 2009). For example, the application of mathematics, arithmetic material can be used in trade science about ideal scales and the concept of buying and selling. A trader who understands mathematics and also has a high religious attitude will be honest. Trigonometric material can be used in the field of astronomy. And there are many more mathematical applications that can be linked to Islamic values. Therefore, the study of religion and mathematics has a very important meaning and is very closely related. By studying mathematics based on the Qur'an, it is hoped that the curiosity of students will be higher so as to create high analytical skills as well. Analytical skills are very important in solving a mathematical problem (Qolfathiriyus, et. Al: 2018). This is because mathematics is a basic science that has an important role in the development of science and technology by solving problems.

Based on the problems above, the purpose of this study is to determine the application of the Qur'anic compendium model in improving the analytical skills of class VIII students on trigonometry material..

## METHOD

This research is a classroom action research conducted in 2 cycles, each of which consists of 2 meetings. Each cycle consists of stages of planning, implementation, observation, and reflection. The research subjects were students of class VIII at MTs Negeri 3 Cilacap, totaling 20 students. Data collection techniques through observation, interviews, and

questionnaires. Data validity using a triangulation technique.

## RESULT AND DISCUSSION

Learning mathematics in trigonometry using the compendium model of the Qur'an is carried out in two cycles with each cycle consisting of two meetings. In the first cycle, the teacher gave motivation by conveying a verse from the Koran, namely Q.S. Al Baqarah: 149.

وَمِنْ حَيْثُ خَرَجْتَ فَوَلِّ وَجْهَكَ شَطْرَ الْمَسْجِدِ الْحَرَامِ ۖ وَإِنَّهُ لَلْحَقُّ مِن رَّبِّكَ ۗ وَمَا اللَّهُ بِغَافِلٍ عَمَّا تَعْمَلُونَ ﴿١٤٩﴾

*Meaning: "And wherever you come out (come), then turn your face towards the Haram Mosque, Verily that provision is right from your Lord. And Allah is never heedless of what you do.".*

The verse above is one of the verses used as educators in starting learning trigonometry material. After the teacher provides an explains of the relationship between the verses of the Koran and trigonometry, the teacher does a brainstorm, namely by giving analysis questions. With this activity, students will be accustomed to analyzing a problem.

Table 1.The average results of the analysis skills test of students in the first cycle

| The meeting | Average value | % completeness |
|---|---|---|
| I | 78,35 | 50 % |
| II | 83,48 | 75 % |
| Average | 80,91 | 62,5 % |

Based on table 1, it can be explained that the average value of students' analytical skills in cycle I have shown good enough, namely with an average value of 80.91 and the percentage of completeness is 62.50%. Evaluation in the first cycle is that students are still confused in identifying problems, there are still many students who lack confidence in expressing opinions, the activity of each group member varies, there are still quite some students who have not been involved during learning.

The evaluation and results in the first cycle are used as the basis for learning in the second cycle. In the second cycle, the teacher motivates by delivering Q.S. Al Anbiya: 30.

أَوَلَمْ يَرَ الَّذِينَ كَفَرُوا أَنَّ السَّمَاوَاتِ وَالْأَرْضَ كَانَتَا رَتْقًا فَفَتَقْنَاهُمَا ۖ وَجَعَلْنَا مِنَ الْمَاءِ كُلَّ شَيْءٍ حَيٍّ ۖ أَفَلَا يُؤْمِنُونَ ﴿٣٠﴾

*Meaning: "And do the disbelievers not know that the heavens and the earth were formerly one, then We separated them; and We made every living thing*

*out of water; then why do they not believe? ".*

In the second cycle, the teacher provides problems that must be solved by students in groups. After the discussion, each group presented the results of their discussion. At the end of the lesson, the educator provides a quiz to measure the ability in the second cycle.

Table 2.The average results of the analysis skills test of students in the second cycle

| The meeting | Average value | % completeness |
|---|---|---|
| I | 86,27 | 85% |
| II | 94,36 | 95% |
| Average | **90,31** | **90%** |

Based on table 2, it can be explained that the average value of students' analytical skills in cycle II has shown good, namely with an average value of 90.31 and the percentage of completeness that is 90%. These results have proven that the Qur'an compendium model can improve students' analytical skills. Students' religious character will be strengthened if science is taught with religion (Astuti et al, 2020). Students learn constructively and meaningfully when the Discovery-Based Unity of Sciences learning paradigm is used, and they can apply each phase in the learning process to develop critical-thinking abilities and personal religious convictions. Integrate the value of science and religion in the development of critical thinking skills and personal religious views in students (Khasanah, et al., 2019).

In addition to being able to improve analytical skills, the Qur'an compendium model makes students more motivated in understanding mathematics material so that it can increase activity and learning activities. Risnita, et al (2021) explained that there was an increase in learning activities and the activeness of students through learning that connected with the verses of the Qur'an. Students' learning motivation on the subject of the set can be increased through interconnection learning of mathematics and the Koran in junior high school students (Hasibuan, 2020). The study of the Group Integrated-Interconnected technique with Qur'anic verses can boost junior high school pupils' motivation to master mathematics (Oktaviani, Shalahuddin, & Walid, 2018). There is an influence between

the integration of mathematics learning with the Qur'an on student learning motivation and student learning outcomes (Jannah, 2019).

## CONCLUTION

The results of the analysis show that: 1) The Qur'an compendium model can improve students' analytical skills on trigonometric material; 2) the students' analytical skills in the first cycle showed that the category was good enough with an average value of 80.91; 3) the students' analytical skills in the second cycle showed a good category with an average value of 90.31.

Suggestions for this research are that in addition to integrating with the verses of the Koran, mathematics can be integrated with alhadists. In addition, it can also develop students' critical and creative thinking skills and the ability to solve mathematical problems.

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