



The Role of Islamic Religious Education Teachers in Shaping Student Character in the Digital Era of Class VIII at SMP Islam Plus Sabilunnajah

Alvi Barokah, Umar Al Faruq A. Hasyim, Lutfi Fadilah

Universitas Ma'arif Lampung, Indonesia

Corresponding Author ✉ tkjalvibarokah@gmail.com *

ABSTRACT

Effective learning is highly dependent on the model used by educators in the teaching and learning process. Quantum Learning is an innovative learning model that aims to create a fun and interactive learning atmosphere to improve student learning outcomes. This study aims to determine student learning outcomes by applying the Quantum Learning model in mathematics for first-grade students at MI Shodiqussalam Tanjung Jaya. The research method used was a qualitative method with a case study design. Data collection techniques were carried out through observation, interviews, and documentation involving the principal, first-grade teachers, and students. The data obtained were analyzed using data reduction, data presentation, and conclusion drawing techniques. The results of the study showed that the application of the Quantum Learning model has a positive impact on student learning outcomes in mathematics lessons on plane geometry based on three main domains, namely cognitive, affective, and psychomotor. In the cognitive aspect, students experienced an increase in understanding of mathematical concepts, especially in plane geometry material. From the affective aspect, students showed higher interest and motivation in learning, as seen from the results of the study which showed that the majority of students felt helped by the applied method. Meanwhile, in the psychomotor domain, students were able to apply mathematical concepts more practically through the use of learning aids. Thus, the Quantum Learning model is proven effective in improving the mathematics learning outcomes of grade I students at MI Shodiqussalam Tanjung Jaya, so it is recommended to continue to be implemented and developed to improve the quality of learning at the elementary madrasah level.

Keywords: *Learning Model, Quantum Learning, Learning Outcomes, Mathematics*

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INTRODUCTION

The use of conventional methods in learning activities can create a rigid learning process, with the teacher dominating the classroom and minimal active student involvement. Therefore, teachers need to create an engaging and comfortable atmosphere to motivate students to participate enthusiastically and comfortably. To create a more active atmosphere, teachers can implement a cooperative learning model, where students work in groups, collaborate, and help each other complete tasks or problems (Yunita et al., 2024).

A learning model is a conceptual framework that describes a systematic series for achieving a specific learning objective and serves as a guideline for educators or educational designers in planning and implementing learning activities (Majid, 2016). There are several types of learning models commonly used in learning activities, including: learning models *discovery/inquiry*, problem-based learning model, contextual learning model, cooperative learning model, problem-based learning model *project* and models *Quantum Learning*, and so on (Trianto, 2017). Therefore, the use of appropriate learning models is very necessary to create effective learning so that student learning outcomes also improve.

Learning outcomes are the abilities a child acquires after undergoing learning activities. Learning itself is a process in which a person strives to achieve a relatively permanent form of behavioral change through instructional or instructional activities. Typically, the teacher sets learning objectives (Novianti, 2019). Learning outcomes are all behaviors a student exhibits as a result of the learning process. These changes encompass all aspects of behavior, including cognitive, affective, and psychomotor aspects (Nurmawati, 2019).

Improving student learning outcomes is influenced, in part, by the learning model implemented by teachers during teaching. Using the right learning model can improve student learning outcomes. Selecting the right learning model significantly impacts student learning outcomes and can facilitate student understanding (Reksamunandar et al., 2020). Many learning models are implemented to create a conducive learning environment, especially in challenging subjects like mathematics. One learning model that is suitable for the aforementioned problems is the learning model *Quantum Learning*. Because the model *Quantum Learning* is a set of learning methods and philosophies that have been proven effective in schools and work businesses for all types of people and all ages (Hidayah & Hidayati, 2023).

Quantum Learning is one of the ways of teaching students that was initiated by Potter. Through *Quantum Learning* students will be invited to learn in a more comfortable and enjoyable atmosphere so that they will have more freedom to discover various new experiences in their learning (Syahputra et al., 2023). Benefits of learning using learning models *Quantum Learning* various benefits will be obtained, namely: a positive attitude in learning, increased learning motivation, lifelong learning skills, student self-confidence, success or improved learning outcomes (Zahran, 2019). Furthermore, the time available is also very limited. The fact that most learning takes place in classrooms with few resources makes the learning environment boring (Azizah et al., 2024).

Referring to the description above, it is clear that the model Teaching influences the quality of learning. A good teacher's teaching model will change student learning outcomes. Learning outcomes are those that occur when someone has learned, resulting in changes in behavior. Learning can change or improve their behavior, including knowledge, skills, and mastery of values.

Based on the pre-survey data that the author conducted at MI Shoodiqussalam Tanjung Jaya, Bangun Rejo District, Central Lampung, it is known that the learning outcomes of first grade students in the subject are still considered incomplete, this is shown by the number of first grade students, namely 20 students, there are 11 students who obtained scores below the KKM (70), while the remaining 9 students obtained scores above the KKM.

This is supported by the results of observations conducted by the author at MI Shoodiqussalam Tanjung Jaya, Bangun Rejo District, Central Lampung, which showed

that students were less actively involved in the learning process due to the use of inappropriate learning methods. MI Shoodiqussalam, which is still relatively new and has not been established for long, is only four years old and has two classes, namely grades 1, 2, and 3. The author directly observed the learning process in the classroom. It was found that in the learning process students were less actively involved due to the methods used. This has the potential to prevent students from fully experiencing the benefits of learning and creating a less dynamic atmosphere. As a result, student involvement in learning can be reduced, which in turn can affect the development of students' thinking skills. In addition, the author also conducted a direct interview with the Homeroom Teacher I at MI Shoodiqussalam Tanjung Jaya. Mrs. Refi Setiari as the first grade teacher of MI Shoodiqussalam said that: "Indeed, the learning model used in teaching mathematics tends to use the lecture method." The principal of MI Shoodiqussalam, Mr. Agus Sutriasna, emphasized that: "MI Shoodiqussalam is still a relatively new educational institution. It is only four years old and only has two classes: grades 1, 2, and 3. Two teachers have received teaching certification, while three others are still in the process of completing their studies."

Based on the results of a pre-survey and observations conducted at MI Shoodiqussalam Tanjung Jaya, Bangun Rejo District, Central Lampung, it can be concluded that the learning outcomes of first-grade students in Mathematics are still relatively low. This low learning outcome is caused by several factors, including students' lack of active involvement during mathematics learning due to the inappropriate methods used. The less engaging and tending to be boring learning atmosphere also impacts students' low thinking skills, thus affecting their learning outcomes.

The author obtained various problems at MI Shoodiqussalam Tanjung Jaya regarding the learning methods and models applied at the school from the results of interviews with class teachers, as well as based on observations that the author had made during the initial observation on September 12, 2024 at the school.

This research is supported by several relevant studies, including: *First*, Rachmawati (2018), "Application of Model *Quantum Learning* To Improve Mathematics Learning Outcomes of Class III SDN Seneng", The results of the study showed an increase in student learning outcomes after using the model. *Quantum Learning* In cycle I, the average score was 97.86 with 100% learning completion. In cycle II, the average score was 98.57 with 100% learning completion. *Second*, Sihotang et al., (2021), "Application of Quantum Learning Model in Increasing Students' Interest in Learning Mathematics", The results of this study show that the application of quantum learning model can increase students' interest in learning. *Third*, Dewi et al., (2022), "Strategy *Quantum Learning* in Mathematics Learning in Elementary Schools", The results of the study show that the application of the method *Quantum Learning* in mathematics learning at SDN 01 Wonorejo includes: A safe school environment equipped with mathematics learning facilities and infrastructure; The existence of praise and rewards as a form of recognition; a comfortable atmosphere, sufficient lighting and pleasing to the eye; students are given the freedom to interact; the use of varied and fun learning methods; providing skills through various methods and games. *Fourth*, Harahap (2023), research results show that the model *Quantum Learning* Effectively applied to first-grade students to improve mathematics learning outcomes, both cognitively and affectively. Emotional engagement and a positive learning atmosphere significantly influence student learning outcomes. *Fifth*, Muskaan (2022), The research results show that the quantum learning approach is implemented

in three stages: introduction, core, and closing. The core activities involve the supervising teacher and classmates, engaging in collaborative learning guided by the teacher. Learning evaluations are conducted weekly, midterm, final, and graduation.

The research to be conducted has similarities with previous research in the use of models. *Quantum Learning* as an approach to mathematics learning. Research by Rachmawati (2018), Sihotang et al. (2021), and Dewi et al. (2022) all examined the effectiveness of *Quantum Learning* in improving student learning outcomes and interest. The similarities between the research conducted by (Harahap, 2023) and the research to be conducted at MI Shoodiqussalam Tanjung Jaya lie in the focus on using the Quantum Learning model as an innovative approach in mathematics learning and the research subjects, both of which are in the first grade of the madrasah. All three studies show that this model can create a pleasant learning atmosphere, improve understanding, and encourage active student interaction. However, the research to be conducted differs in terms of the focus of the population and the research context. The previous research was conducted in elementary schools with various grade levels, while the research to be conducted focuses on first grade students at MI Shoodiqussalam Tanjung Jaya in the 2024/2025 academic year. In addition, this research adapts to the characteristics of elementary madrasah students who may have different learning needs compared to elementary school students in general. Thus, this research is expected to provide new contributions to understanding the application of *Quantum Learning* in the context of madrasa education.

The research location at MI Shoodiqussalam Tanjung Jaya has its own uniqueness which is an important factor in this study. As an elementary madrasah, MI Shoodiqussalam not only emphasizes academic education but also integrates Islamic values into the learning process. This creates a unique learning environment, where the learning approach must be able to accommodate students' cognitive development while strengthening their moral and spiritual aspects. Furthermore, first-grade students at this madrasah are in the early stages of formally introducing mathematical concepts, so the application of the learning model *Quantum Learning* can provide a more engaging and interactive learning experience from an early age. With a fun and active-oriented learning environment, this method is expected to help improve student learning outcomes.

This research is important to conduct because it contributes to developing appropriate learning strategies for first-grade students at Madrasah Ibtidaiyah. Considering that mathematics is often considered a difficult subject, the application of *Quantum Learning* it is hoped that this research will help students overcome learning barriers and increase their motivation from an early age. Furthermore, the results of this study can serve as a reference for teachers in designing more innovative learning methods that are tailored to the characteristics of madrasah students. The findings also have the potential to provide new insights for education administrators regarding the effectiveness of *Quantum Learning* in improving the quality of learning in Madrasah Ibtidaiyah.

Given this reality, the learning process, particularly in mathematics, requires the implementation of learning models that engage students and create a fun learning environment, thereby stimulating their critical thinking skills. These three factors can be achieved. *Quantum Learning* can be applied by teachers in mathematics learning so that the learning process is enjoyable, students become active and do not feel bored with the lesson material being presented. Based on the description above, the author was motivated to conduct research with the title "Application of the Mathematics

Learning Model "*Quantum Learning*" On the Mathematics Learning Outcomes of Class I Students at MI Shoodiqussalam Tanjung Jaya in the 2024/2025 Academic Year".

METHOD

This study uses a qualitative method with a case study design to gain an in-depth understanding of the application of the model *Quantum Learning* on the learning outcomes of first-grade students at MI Shoodiqussalam Tanjung Jaya. A qualitative approach was chosen because this study aims to explore phenomena that occur in a natural learning context (Creswell, 2016). Case studies allow researchers to comprehensively explore the learning process by involving various parties, such as the principal, first-grade teachers, and students (Yin, 2018). Data collection techniques include observation, interviews, pretest-posttest, and documentation to obtain valid and in-depth information (Sugiyono, 2019). Observation is used to directly observe the implementation of the learning model *Quantum Learning* in learning, while interviews were conducted with teachers and students to understand their experiences in the learning process. Documentation was used as additional data to verify information obtained from other data collection techniques.

This research was conducted at MI Shoodiqussalam Tanjung Jaya, Bangun Rejo District, Central Lampung, with a duration of 15 days, covering the data collection and processing stages. *purposive sampling* used to determine the research subjects, namely the principal, first grade teachers, and first grade students, who are considered to have relevant information regarding the implementation *Quantum Learning* (Miles et al., 2021). The data collected included information on teaching strategies, classroom interactions, and student learning outcomes as measured through report cards and direct observation. To ensure data validity, this study employed triangulation techniques, comparing interview results, observations, and existing documents (Patton, 2015). Source triangulation was conducted by comparing data from various informants, such as teachers and students, to obtain a more objective picture of the implementation of *Quantum Learning* in improving students' mathematics learning outcomes. With systematic methods and rigorous data triangulation, this research is expected to provide valid and useful findings for developing learning strategies in Islamic elementary schools. Data analysis techniques include data reduction, data presentation, and conclusion drawing.

RESULTS AND DISCUSSION

MI Shoodiqussalam Tanjung Jaya is an elementary Islamic school located in Bangun Rejo District, Central Lampung. This school's vision is to produce a generation of faithful, knowledgeable, and noble characters by implementing an education based on Islamic values. The facilities provided are quite adequate, such as comfortable classrooms, a library, and other learning support facilities. Furthermore, MI Shoodiqussalam is also active in various extracurricular activities that support the development of students' character and academics. In the learning process, this school continuously strives to adopt innovative methods to improve the quality of education. One of the innovations implemented is the use of the learning model *Quantum Learning* in mathematics learning to improve the learning outcomes of first grade students.

Education is a key factor in shaping an intelligent, creative, and highly competitive generation in this modern era. One of the challenges in education is how to create an effective, enjoyable learning process that enhances students' understanding of

the material being taught. Mathematics, as a basic subject, is often considered difficult by students, so innovative learning methods are needed to increase their interest and learning outcomes. In this context, the approach *Quantum Learning* present as a method that can create a more interactive, enjoyable, and meaningful learning atmosphere for students. *Quantum Learning* combining various learning strategies involving cognitive, affective, and psychomotor aspects to improve students' understanding and academic achievement. Therefore, this study focuses on the application of the learning model. *Quantum Learning* in mathematics learning in class I MI Shoodiqussalam Tanjung Jaya to find out its implications in improving student learning outcomes.

Model Implementation *Quantum Learning* In Mathematics Learning for Class I Students at MI Shoodiqussalam Tanjung Jaya

Model *Quantum Learning* applied in mathematics learning at MI Shoodiqussalam Tanjung Jaya through three main stages, namely planning, implementation, and evaluation, which are designed to improve the learning outcomes of grade I students. In the planning stage, teachers develop interactive learning strategies by incorporating elements of educational games, the use of visual media, and creating a comfortable and enjoyable classroom atmosphere so that students are more motivated in learning. Next, the implementation stage is carried out by applying learning techniques. *Quantum Learning* These include fostering active student engagement, connecting material to real-life experiences, and utilizing learning aids. Teachers also acknowledge each student's efforts to build their confidence in understanding mathematical concepts. Evaluation is then conducted flexibly through interactive quizzes, group discussions, and awards for students who demonstrate progress in their learning, further motivating them to continue improving their understanding.

With this approach, it is hoped that grade I students of MI Shoodiqussalam Tanjung Jaya can learn mathematics in a more enjoyable, easy to understand way, and are able to improve their learning outcomes optimally.

1. Planning

Planning stage in model implementation *Quantum Learning* at MI Shoodiqussalam Tanjung Jaya is carried out systematically to ensure the success of mathematics learning in class I. Teachers first prepare a Learning Implementation Plan (RPP) that integrates the principles *Quantum Learning*, such as creating a fun, interactive, and motivating learning environment. In an interview with the principal, he stated that "Teachers must be able to design learning that not only focuses on the material but also provides enjoyable experiences so that students can more easily understand mathematical concepts." This is consistent with research conducted by Sihotang et al. (2021), which showed that *Quantum Learning* can increase student engagement and motivation to learn if planned well. Therefore, the planning stage is a fundamental aspect in the successful implementation of this method.

In addition to preparing lesson plans, teachers also determine the learning strategies to be used, such as the use of concrete teaching aids, educational games, and question-and-answer methods that emphasize student engagement. This planning aims to make students more active in the learning process and understand mathematical concepts in a more enjoyable way. According to a first-grade teacher, "In this planning, we ensure that each learning session is equipped with interesting activities so that students do not feel bored and are more motivated to learn." This is in line with research by Dewi et al., (2022), which found

that the use of varied learning strategies in *Quantum Learning* can improve elementary school students' understanding of mathematical concepts. Therefore, this planning stage focuses not only on developing materials but also on designing effective strategies to improve the quality of learning.

Apart from strategic planning, teachers also prepare learning media that support implementation. *Quantum Learning*. The media used include number cards, counting blocks, and interesting learning videos for first grade students. In an interview with the principal, he explained that "Interesting learning media can increase students' interest in learning, especially in subjects such as mathematics which are often considered difficult by children." Rachmawati's (2018) research also shows that interactive media in *Quantum Learning* can help students understand mathematical concepts more easily and enjoyably. Therefore, using appropriate learning media is an important part of the planning stage that should not be overlooked.

In this planning stage, the teacher also pays attention to the psychological aspects of students by creating a conducive and motivating classroom atmosphere. The teacher designs learning methods that involve movement, expression, and positive interactions between students and the teacher. According to a first-grade teacher, "We try to create a comfortable and non-pressurizing learning environment for students, so they are more confident in solving math problems." This is consistent with the findings of Sihotang et al. (2021), which show that a positive classroom atmosphere in *Quantum Learning* can help students overcome learning anxiety and boost their self-confidence. Thus, this planning focuses not only on the learning material but also on the students' emotional state, which plays a crucial role in successful learning.

Apart from developing strategies and preparing learning media, teachers also design evaluation methods that are in accordance with the concept. *Quantum Learning*. Evaluation is carried out in the form of interactive quizzes, group discussions, and providing feedback. *reward* for students who are active in learning. The principal stated that "Fun and non-pressuring evaluation methods for students will make them more motivated to learn, especially in subjects that require conceptual understanding such as mathematics." Research by Dewi et al., (2022) also revealed that evaluation in *Quantum Learning* Reward-based learning can improve students' learning motivation and academic performance. Therefore, in this planning stage, teachers ensure that the evaluations used not only measure students' understanding but also encourage their enthusiasm for learning.

Overall, the planning stage in implementing the model *Quantum Learning* At MI Shoodiqussalam Tanjung Jaya, the curriculum is carefully designed, taking into consideration various aspects, such as lesson plan development, learning strategies, learning media, student psychological conditions, and evaluation methods. With good planning, it is hoped that the implementation of the curriculum will be effective. *Quantum Learning* can have a positive impact on the understanding and learning outcomes of grade I students in mathematics. The principal emphasized that "The success of this learning model is very dependent on careful planning and consistent implementation by the teachers." Therefore, well-conducted planning is a very important initial step in implementing *Quantum Learning* in order to achieve optimal results in improving the quality of mathematics learning at MI Shoodiqussalam Tanjung Jaya.

2. Implementation

Implementation stage of model application *Quantum Learning* Mathematics learning at MI Shoodiqussalam Tanjung Jaya begins with fostering students' interest in the material being studied. Teachers begin learning by instilling the concept of "What's in it for me?" so that students understand the usefulness of mathematics in everyday life. For example, in addition and subtraction, teachers relate it to shopping activities at a grocery store or counting objects around them. In an interview with the principal, he stated that "By understanding the benefits, students will be more motivated to learn because they feel the learning is relevant to their lives." This aligns with research by Sihotang et al., (2021), which shows that experiential learning can increase student motivation. With this approach, students become more enthusiastic and motivated to participate in mathematics learning.

Once students' interest grows, teachers enter a natural stage, providing learning experiences that are understandable to all students. Teachers present concrete experiences using props such as number blocks, toy coins, and interactive pictures to help students understand the concepts of addition and subtraction more easily. Teachers also invite students to role-play in everyday situations, such as making transactions in the school cafeteria or sharing food with friends. According to a first-grade teacher, "When students experience a concept themselves through real-life activities, they understand and remember it more easily than just listening to the teacher's explanation." Dewi et al., (2022) in their research also stated that experiential learning increases students' active involvement in class. With this approach, students not only understand the theory but can also relate it to real-life situations around them.

The next step is naming, which involves providing keywords, concepts, methods, formulas, or strategies that help students understand the material. In this stage, the teacher introduces appropriate mathematical terms, such as "side," "angle," and "diagonal" in plane figures. The teacher also writes simple formulas on the board and explains how to use them to calculate the area and perimeter of plane figures. The principal emphasized that "Clarifying and repeating terms will help students remember concepts longer and better." This is supported by research by Rachmawati (2018), which shows that providing keywords and systematic learning strategies can improve students' memory in understanding mathematical concepts. By understanding basic terms and strategies, students become more confident in solving math problems.

The next stage is demonstration, which provides students with the opportunity to demonstrate their understanding of the material. Teachers ask students to solve math problems independently and explain their thinking process to the class. Students are also encouraged to practice in small groups, where they can discuss the answers with their peers. According to a first-grade teacher, "By providing students with the opportunity to demonstrate their understanding, they become more confident and more active in learning." Research by Dewi et al. (2022) also found that student involvement in demonstrating their understanding can improve critical thinking and problem-solving skills. With this method, students are not just passive recipients of the material but are also active in developing their own understanding.

After students demonstrate their understanding, the teacher moves to the repetition stage, which involves repeating the material to reinforce student understanding. The teacher uses interactive quizzes and quick Q&A techniques to ensure that the concepts taught have been well understood. In addition, the teacher

also provides additional practice in the form of simple questions that are worked on in groups so that students become more familiar with the concepts they have learned. The principal emphasized that "Repetition in a fun form, such as quizzes or games, can help students remember concepts longer without getting bored." This is in line with research by Sihotang et al., (2021), which shows that repetition strategies in *Quantum Learning* improve student retention of the material taught. With this technique, students become more proficient at solving math problems independently.

The last step in the implementation *Quantum Learning* is to celebrate, namely to give appreciation for the efforts and success of students. Teachers give rewards in the form of applause, motivational words, or small gifts to students who show progress in learning. According to a first-grade teacher, "Giving simple rewards such as praise or small gifts can increase students' self-confidence and make them more motivated to learn." Rachmawati's (2018) research also shows that reward strategies in *Quantum Learning* has a positive impact on students' motivation and enthusiasm for learning. This appreciation makes students feel appreciated for their efforts and is further motivated to continue improving their understanding of mathematics.

Overall, the implementation of the model *Quantum Learning* The mathematics learning model in grade I of MI Shoodiqussalam Tanjung Jaya has yielded positive results. Students become more active, motivated, and more easily understand basic mathematical concepts through the stages of Grow, Experience, Name, Demonstrate, Repeat, and Celebrate. The principal concluded that "the model *Quantum Learning* very effective in creating a pleasant learning atmosphere and improving student learning outcomes, especially in subjects such as mathematics which are often considered difficult." The results of this study are also in line with research conducted by Dewi et al. (2022), which stated that *Quantum Learning* can significantly improve student learning outcomes by implementing interactive, experience-based learning methods. Therefore, this model can be an effective learning strategy for improving students' mathematical understanding in elementary schools.

3. Evaluation

Evaluation stage in model implementation *Quantum Learning* The aim of this study was to assess the extent to which learning success had been achieved by first-grade students at MI Shoodiqussalam Tanjung Jaya. The evaluation was conducted using authentic assessments covering three main domains: cognitive, affective, and psychomotor. The cognitive domain focuses on students' knowledge in understanding the mathematical concepts taught. The teacher administered written tests and quizzes to measure students' understanding of plane figures. The first-grade teacher stated that "The test results show an increase in conceptual understanding in most students, especially in solving addition and subtraction problems." These results are in line with research by Dewi et al. (2022), which states that the application of *Quantum Learning* can improve students' cognitive abilities because of its interactive and contextual approach.

Apart from the cognitive aspect, evaluation is also carried out in the affective domain, namely how students' attitudes towards learning mathematics after implementing it. *Quantum Learning* The teacher observed student engagement during the learning process, including their level of enthusiasm and cooperation in group activities. Observations showed that students were more active in asking

questions and more confident in answering questions compared to before the implementation. *Quantum Learning*. The first-grade teacher emphasized that "Students who were initially passive became more active, and some even began helping other students who were having difficulty understanding the material." Research conducted by Sihotang et al. (2021) also supports this finding, stating that *Quantum Learning* can increase student motivation by creating a more enjoyable and interactive learning environment. Thus, this approach not only improves understanding but also fosters positive attitudes toward mathematics learning.

In the psychomotor domain, evaluation is conducted by observing how students apply the skills they have learned in practical activities. Teachers observe how students use teaching aids such as counting blocks or number cards to solve problems. In addition, students are also asked to verbally explain their steps in solving math problems in front of the class. The principal stated that "This method not only helps students understand concepts but also trains their communication skills from an early age." This is supported by research by Rachmawati (2018), which states that *Quantum Learning* can improve students' critical thinking and problem-solving skills through an active approach. With psychomotor domain evaluation, students are better able to apply mathematical concepts in a wider variety of situations.

Assessment in learning *Quantum Learning* Assessment is also conducted formatively and summatively to obtain a comprehensive picture of student progress. Formative assessment is conducted continuously throughout the learning process, for example through oral questions, group discussions, and daily practice exercises. Meanwhile, summative assessment is conducted through end-of-chapter or semester exams to measure students' long-term understanding of the material learned. A first-grade teacher explained that "The combination of formative and summative assessments helps us adjust teaching methods to be more effective according to students' needs." Research by Dewi et al. (2022) also emphasizes the importance of continuous assessment in *Quantum Learning* to ensure that students not only understand the material instantly, but also retain it in the long term.

Apart from using tests and observations, evaluation in *Quantum Learning* This is also done through student portfolios, which include records of their learning progress. Teachers compile documentation in the form of student work, observation notes, and student reflections on their learning. With these portfolios, each student's progress can be monitored individually, and teachers can provide more specific feedback. The principal stated that "Portfolios provide a more comprehensive picture of student development, not only academically, but also in terms of attitudes and skills." A study by Sihotang et al. (2021) showed that the use of portfolios in evaluation *Quantum Learning* can help identify students' strengths and weaknesses more accurately, so that learning interventions can be carried out more effectively.

Overall, the evaluation stage of the implementation of the model *Quantum Learning* Mathematics learning at MI Shoodiqussalam Tanjung Jaya showed positive results in improving students' understanding, motivation, and skills. Assessments covering the cognitive, affective, and psychomotor domains provided a more holistic picture of student development. A first-grade teacher concluded that "The implementation of *Quantum Learning* proven to improve the quality of learning, especially in terms of student engagement and deeper understanding of concepts". The results of this study are in line with the findings of Dewi et al. (2022) and

Rachmawati (2018), which emphasized that *Quantum Learning* can improve learning effectiveness through a more active and enjoyable approach. Therefore, it is hoped that the application of this model can continue to be developed to improve the quality of education, particularly in mathematics learning in elementary schools.

Mathematics Learning Outcomes of Grade I Students at MI Shoodiqussalam Tanjung Jaya

Measuring learning outcomes is a crucial aspect in evaluating the effectiveness of mathematics instruction at MI Shoodiqussalam Tanjung Jaya. This study examines student learning outcomes across three main domains: cognitive, affective, and psychomotor. In the cognitive domain, methods used to measure student understanding include written tests, oral exams, and portfolios that reflect students' development in understanding mathematical concepts.

Based on the results of the written test given, approximately 75% of students showed a good understanding of plane figures, such as addition and subtraction. The first-grade teacher stated that "Most students were able to solve math problems more confidently after implementing the model." *Quantum Learning*. This result is in line with research conducted by Dewi et al. (2022), which states that problem-based learning *Quantum Learning* able to increase understanding of concepts in greater depth due to the active approach applied.

In the affective domain, this study assesses students' attitudes and interests towards mathematics learning after the implementation of *Quantum Learning*. Measurements were conducted through observations of student behavior during learning, as well as interviews with the first-grade teacher. The first-grade teacher revealed that "Students appear more enthusiastic and motivated to learn, especially because they feel the material being taught is relevant to everyday life." Research conducted by Sihotang et al. (2021) also shows that problem-based learning *Quantum Learning* can increase students' learning motivation by creating a more enjoyable and interactive learning atmosphere.

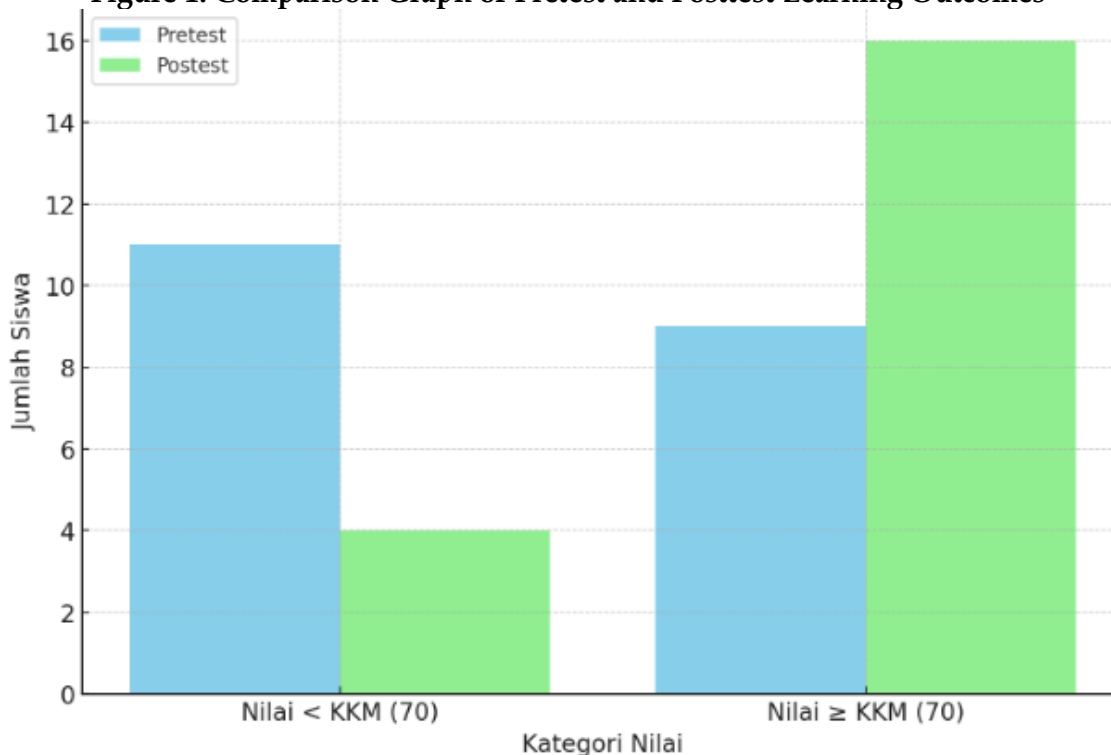
Meanwhile, in the psychomotor domain, this study measured students' skills in applying mathematical concepts to concrete activities. Observations were conducted to see the extent to which students were able to use teaching aids such as counting blocks and number cards in solving problems. The results of the observations showed that approximately 80% of students were able to use teaching aids well, indicating an improvement in their fine motor skills. In addition, a performance test was conducted by asking students to solve problems on the board and explain their steps. The principal stated that "This activity helps students be more confident in expressing their thoughts and understand concepts more practically." A study conducted by Rachmawati (2018) also found that the application of *Quantum Learning* able to improve students' critical thinking skills through hands-on and interactive activities in mathematics learning.

The first grade teacher confirmed that "Repetition of material using the method *Quantum Learning*" very helpful for students who initially had difficulty understanding mathematical concepts." This finding is reinforced by research by Dewi et al. (2022), which states that repeating material using interactive techniques can improve students' memory in understanding complex mathematical concepts. In addition to cognitive and affective aspects, the results of the study also show that giving appreciation in learning has a positive impact on student motivation. The principal emphasized that "Students who are given appreciation tend to be more

motivated to continue trying and are not afraid to try new challenges in learning mathematics." This is in line with research by Sihotang et al. (2021), which states that appreciation in learning can increase student self-confidence and create a more positive learning environment.

Based on the results of the pretest and posttest related Mathematics Learning Outcomes of Class I Students at MI Shoodiqussalam Tanjung Jaya, it was found that there was a significant increase in student learning outcomes after the implementation of the model. *Quantum Learning*. Before this model was implemented, based on pre-survey data conducted at MI Shoodiqussalam Tanjung Jaya, Bangun Rejo District, Central Lampung, out of 20 first-grade students, only 9 students (45%) obtained scores above the Minimum Completion Criteria (KKM), which was 70, while the other 11 students (55%) were still below the completion standard. However, after the implementation of the *Quantum Learning* model, the post-test results showed a significant increase, where most students managed to achieve scores above the KKM. This increase reflects that the model *Quantum Learning* It can create a more enjoyable and meaningful learning environment and motivate students to be more active in understanding the material, particularly in mathematics, thus directly impacting their overall learning outcomes. To further explain this, here's a comparison chart:

Figure 1. Comparison Graph of Pretest and Posttest Learning Outcomes



The comparison graph of the pretest and posttest results above shows a significant increase in the Mathematics learning outcomes of class I students at MI Shoodiqussalam Tanjung Jaya after the implementation of the model. *Quantum Learning*. Before the implementation of the model, as many as 11 students (55%) obtained scores below the KKM and only 9 students (45%) achieved scores \geq KKM. However, after the implementation of the model *Quantum Learning*, the number of students who had not completed the learning process decreased drastically to only 4 students (20%), while 16 students (80%) managed to achieve or exceed the KKM score.

This increase shows that the learning model *Quantum Learning* effective in helping students understand Mathematics material better through an interactive, fun learning approach, and motivating students to be more active in the learning process.

Overall, the research results show that the application of the model *Quantum Learning* The use of the method in mathematics learning in grade I of MI Shoodiqussalam Tanjung Jaya has had a positive impact on student learning outcomes. Measurement of learning outcomes through the cognitive, affective, and psychomotor domains showed an increase in students' understanding, motivation, and skills in solving mathematics problems. The grade I teacher concluded that "The method *Quantum Learning* provide significant changes in mathematics learning, both in terms of conceptual understanding, student involvement, and their motivation in learning". These results are consistent with research by Dewi et al. (2022) and Rachmawati (2018), which emphasize that the learning approach *Quantum Learning* can improve the quality of mathematics learning through more active and enjoyable methods. Therefore, the application of this model is expected to continue to be developed to improve the quality of education, particularly in mathematics learning at the elementary school level.

CONCLUSION

Based on the research results, it can be concluded that the application of the model *Quantum Learning* in mathematics learning in grade I of MI Shoodiqussalam Tanjung Jaya has had a positive impact on student learning outcomes. Measurements conducted in the cognitive domain showed an increase in students' understanding of mathematical concepts, especially in the material on plane figures, which was supported by the method of repeating the material and the use of teaching aids. From the affective aspect, students showed a higher interest and motivation in learning, as evidenced by research results that showed the majority of students felt helped by teacher explanations that were easy to understand and relevant to their lives. In the psychomotor domain, students were able to apply mathematical concepts practically, both through solving problems on the board and using learning aids. In addition, the awards and appreciation given by teachers were proven to increase students' self-confidence and enthusiasm for learning. Thus, the model *Quantum Learning* can be considered as an approach that is able to improve students' mathematics learning outcomes, so it is hoped that it can continue to be applied and developed to improve the quality of learning at the elementary school level..

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