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The Use of the Quantum Teaching Method to Improve Learning Outcomes of the Al-Qur'an and Hadith Subject for Class IX.6 Students

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ABSTRACT

Purpose of the study: The purpose of this study was to determine the learning outcomes of the Al-Qur'an Hadith of class IX.6 students before using the quantum teaching method, the learning outcomes of the Al-Qur'an Hadith of class IX.6 students after using the quantum teaching method, and the differences in learning outcomes of class IX.6 students before and after using the quantum teaching method.

Methodology: The type of research used was Pre-Experimental with a One Group Pre-Test - Post-Test design. The sample of this research was class IX.6 as an experimental class totaling 25 students without a control class.

Main Findings: The study concluded that student learning outcomes before using the quantum teaching method were in the "very low" category. Student learning outcomes after using the quantum teaching method showed an increase in learning outcomes. There was a significant difference between the scores before and after using the quantum teaching method.

Novelty/Originality of this study: The novelty in this study is the use of the Quantum Teaching Method which can Improve Learning Outcomes of the Qur'an and Hadith Subjects in Grade IX Students. This is because there has never been a similar study before which makes this study something new and a new reference for readers and further research who want to study the quantum teaching method in the subjects of the Qur'an and Hadith.

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1. INTRODUCTION

One of the crucial components that connects learning to educational goals is the method [1]. Effective, enjoyable, and enthusiastic learning in the classroom is influenced by several factors [2]: the teacher, students, teaching materials, learning models and methods, and the environment [3]. Learning methods are one of the factors that teachers need to consider to ensure effective and well-planned learning [4].

Methods derived from learning models play a crucial and supportive role in the learning process [5], promoting successful learning and achieving learning goals [6]. These methods serve as a means of delivering the curriculum's curriculum materials [7]. Without methods, learning materials cannot be processed efficiently [8] and effectively in learning activities toward achieving educational goals [9].

A teacher who teaches in a classroom must have a strong grasp of the use of a method within a learning model [10]. The teacher must thoroughly master all the material to be taught [11]. The recitation or repetition method is used [12], which aligns with one type of quantum teaching method [13], namely repetition. The Qur'an describes teaching methods in a learning process, as Allah says in Q.S. Al-Alaq/96: 1-5.

ٱقۡرَأۡ بِٱسۡمِ رَبِّكَ ٱلَّذِي خَلَقَ ١ (خَلَقَ ٱلۡإِنسَٰنَ مِنۡ عَلَقٍ ٢ (ٱقۡرَأۡ وَرَبُّكَ ٱلۡأَكۡرَمُ ٣ (ٱلَّذِي عَلَّمَ بِٱلۡقَلَمِ ٤ (عَلَّمَ ٱلۡإِنسَٰنَ مَا لَمۡ يَعۡلَمۡ ٥

Translate:

Read it with (mentioning) the name of your God who created! He created humans from a clot of blood. Read it! Your Lord is the Most Glorious, who teaches (humans) with the pen. He taught man what he did not know [14].

Literature through this learning method, the subject matter presented by the teacher can be received and conveyed to students efficiently [15], effectively [16], and measurably [17], allowing for appropriate learning planning [18]. The use of a method within a learning model must consider the learning objectives to be achieved [19], the material or subject matter to be taught [20], and adapt it to the students' conditions [21], the environment, and, of course, the teacher's abilities as an educator.

It is important for a teacher to sort out the methods of a learning model that is applied in the learning process because it is often found that there are many problems [22] and obstacles that occur due to the incompatibility in choosing a learning method that is appropriate to the needs of students [23] and the needs according to the subjects being taught [24] and the absence of good determination [25], planning [26], and preparation before applying the learning method so that the desired learning objectives are achieved [27] and the learning process is full of motivation [28], enthusiasm, passion, and fun for good learning outcomes [29].

In general, elementary, middle, and college students feel that learning has never been something fun for them, learning is seen as an enemy that should be avoided, but now learning is fun and comfortable without feelings of anxiety, fear, and fatigue with the guidance of quantum learning or quantum teaching [9]. The quantum teaching method is one of the teaching methods that creates fun, exciting, enthusiastic, full of enthusiasm and motivation that encourages increased enthusiasm and perseverance in learning so that students have a lot of energy to carry out learning activities.

Students who have poor or low learning outcomes are students who are not enthusiastic about learning, which is shown by being discouraged and lazy in their learning activities. This occurs because students have little or no mastery of the subject matter. In addition, low learning outcomes can occur due to several factors, including not liking the subject, boring learning methods, lack of mastery of the teaching material, and not understanding the importance of learning activities and subject matter for their future [30].

Based on initial observations with the Al-Qur'an Hadith teacher at MTsN Parepare, the learning outcomes of class IX.6 students in learning the Al-Qur'an Hadith on the Tajweed science material, specifically the material "Fluent Reading of the Al-Qur'an with Tajweed Forms a Disciplined Attitude" are influenced by the method of a learning model used by the teacher during the teaching and learning process in class. In addition, in the interview, the Al-Qur'an Hadith teacher admitted that students lack interest and some students do not like the Al-Qur'an Hadith subject. Students tend to be less responsive in following the Al-Qur'an Hadith learning if the method used is still the general method without any alternative method updates such as the method of a conventional learning model, namely the lecture method. This occurs because of factors that cause one of them, namely the lack of experience/new atmosphere for students in the learning process because the teacher often uses the lecture method. The learning implemented tends to use a teacher-centered and one-way approach, so that students are not facilitated to be able to develop thinking skills by building their own knowledge.

Students are not enthusiastic about learning with the common methods often used in the teaching and learning process without any renewal that is not just a renewal of the method but there are interesting things from the method that make students enjoy learning the Qur'an Hadith so that their learning outcomes can improve. By implementing quantum teaching learning steps in tandur, it improves the ability to understand concepts, makes students more active in responding, asking questions, discussing and working together, demonstrating in front of the class and making the learning process more meaningful. From these efforts, it is hoped that student learning outcomes will increase in accordance with the predetermined research achievement indicators [31].

From the learning outcomes data for class IX.6 students, there are learning outcome scores that do not reach the KKM (75) in Al-Qur'an Hadith learning in the material "Fluent Reading of the Al-Qur'an Forms a Disciplinary Attitude: Understanding the legal provisions for reading mad prevalent mukhaffaf kilmi, mad prevalent mutsaqqal kilmi, mad prevalent mutsaqqal harfi and mad prevalent mukhaffaf harfi" which needs to be improved through the use of learning methods in the learning process that have never been applied by teachers. Al-Qur'an Hadith when teaching Al-Qur'an Hadith subjects in class IX.6. This is shown by the average student score of 72.0833. Of the total of 24 students, 6 students scored 70, 4 students scored 71, 4 students scored 72, 4 students scored 73, 4 students scored 74, and 2 students scored 75.

The research gap in this study is that there are not many studies specifically examining the application of the Quantum Teaching learning model in the context of Islamic Religious Education, particularly at MTsN Parepare. Previous research has generally focused on the effectiveness of Quantum Teaching in general subjects (such as science or language), but has rarely addressed the Islamic Religious Education domain. There is still a perception that Islamic Religious Education learning tends to be conventional, necessitating innovation with a

more creative, interactive, and enjoyable approach. Students tend to be passive and bored when learning the Quran and Hadith using conventional learning methods.

Several previous studies relevant to the author's research are. First, a study conducted by Fajar in 2018 entitled "Utilization of Islamic Religious Education Teaching Materials Based on the Quantum Teaching Tandur Type Learning Model to Improve Student Learning Outcomes at SMAN 6 Makassar" focused on the use of Quantum Teaching-based teaching materials (Tandur type) [32]. The results of this study showed an increase in student learning outcomes after the application of this method. Second, Hijrana in 2017 conducted a study "Implementation of Quantum Teaching in Improving the Learning Achievement of Grade VIII Students in Islamic Religious Education Subjects at SMPN 1 Campalagian" which focused on the implementation of Quantum Teaching in Islamic Religious Education subjects at the junior high school level [33]. The results of this study showed that the Quantum Teaching method was proven to improve student learning achievement. Third, a study conducted by Tifa Afriyah Ningsih in 2022 regarding "Application of the Quantum Teaching Tandur Model in Islamic Religious Education Learning in Improving Creative Thinking Skills of Students at SMPN 8 Cirebon City" [34], this study focused on the application of Quantum Teaching Tandur to hone creative thinking skills. The results of this study revealed a strong positive relationship between the implementation of Quantum Teaching and increased students' creative thinking skills. Fourth, in 2019, a study was conducted by Rudamayanti on "Implementation of the Quantum Teaching Tandur Model in Islamic Religious Education Subjects to Improve Learning Outcomes for Class VII at SMPN 40 Rejang Lebong" which focused on the implementation of Quantum Teaching Tandur to improve learning outcomes [24]. The results of this study showed that student learning outcomes with the Tandur method were higher than those with conventional methods.

The differences between these studies and the author's research are: Fajar [32] study focused more on Quantum Teaching-based teaching materials, while the author's study focused on the direct application of the Quantum Teaching method in the classroom. Hijrana [33] study examined student achievement in general, while the author's study focused more specifically on learning outcomes from the Qur'an and Hadith. Ningsih [34] study emphasized creative thinking skills, while the author's study focused on cognitive learning outcomes (material comprehension). Rudamayanti [24] study was conducted in junior high schools, while the author's study was conducted in MTsN (Islamic junior high schools), with different contexts and student characteristics. The author's research is unique in its local context (MTsN Parepare, specifically grades IX.6) and research object (tajweed material in the Qur'an and Hadith), which has not been examined in previous research.

The urgency of this research stems from the need to improve student motivation and learning outcomes in islamic religious education, which tend to be low when taught using traditional methods. Quantum Teaching is believed to be able to create a more engaging, active, and enjoyable learning environment, thus meeting the challenges of 21st-century learning. This research is urgent because it offers an alternative solution for transforming islamic religious education learning methods to be more relevant to the development of students living in the digital age.

The importance of this research is because it can answer real problems in the classroom, based on initial observations at MTsN Parepare, grade IX.6 students experienced low learning outcomes of the Qur'an Hadith, especially in the tajwid material. This is influenced by the teacher's learning method which is still predominantly lecture-centered and teacher-centered, so that students are less active, unmotivated, and tend to be bored. This research is important because it tries to present an alternative solution through the application of the Quantum Teaching method which is more interactive and fun. Innovation in Islamic Religious Education learning is also the reason for the importance of this research. Islamic Religious Education subjects, especially the Qur'an Hadith, are often considered monotonous and less interesting for students, so with this research conducted, there is an opportunity to integrate innovative approaches into religious learning so that students can learn more meaningfully, actively, and fully motivated. In addition, strengthening the theory of Quantum Teaching in the context of Islamic Religious Education, because previous research generally tested Quantum Teaching in general subjects (Science, Language, and so on). This research is important because it expands the application of Quantum Teaching theory into the realm of Islamic Religious Education, especially the tajwid material, thus providing new contributions to academic literature.

This research produces practical contributions for teachers and schools. The research findings can serve as a practical reference for islamic religious education teachers in selecting more appropriate learning strategies. For schools, this research can serve as a basis for developing programs to improve the quality of learning, thus optimizing student learning outcomes. This research is relevant to the needs of 21st-century education, which emphasizes learning that fosters creativity, collaboration, communication, and problem-solving. Student-centered Quantum Teaching aligns with these demands. Therefore, this research is crucial to ensure that islamic religious education remains relevant in addressing the challenges of the times. Therefore, the significance of this research lies in its contribution to improving learning outcomes of the Qur'an and Hadith, presenting innovative islamic religious education learning methods, and providing empirical evidence that Quantum Teaching can be effectively adapted in madrasas.

The purpose of this study was to describe in depth how the Quantum Teaching model was applied in Islamic Religious Education learning at MTsN Parepare and to determine the effect of Quantum Teaching on student learning outcomes in Islamic Religious Education subjects by proving how the learning outcomes of the Qur'an Hadith of class IX.6 students before using the quantum teaching method, proving how the learning outcomes of the Qur'an Hadith of class IX.6 students after using the quantum teaching method, and proving whether there were differences in the learning outcomes of class IX.6 students before and after using the quantum teaching method. In addition, it also aims to analyze student responses to learning with the Quantum Teaching approach.

The author's research shares similarities in the use of learning models, but differs in the focus of variable Y, educational level, teaching materials, and school context. This is the novelty of your research. The uniqueness or novelty of this research lies in its focus on integrating Quantum Teaching with islamic religious education, a practice rarely explored in previous research. This research was conducted in the specific context of MTsN Parepare, thus providing a practical contribution to the development of learning strategies in madrasas. This study not only tested the effectiveness of the method but also emphasized the learning environment, teacher-student interaction, and increased motivation within the context of Islamic religious education.

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2. RESEARCH METHOD

This research was conducted at MTsN Parepare. The type of research used was Pre-Experimental with a One Group Pre-Test - Post-Test design. The sample of this research was class IX.6 as an experimental class consisting of 25 students without a control class. Before using the learning method in the learning process, students were given pre-test questions and then given post-test questions after the learning method was used. This type of research is quantitative research with an experimental approach. The population in this study were all 25 students of class IX.6 MTsN Parepare and the sample in this study were 25 students of class IX.6. The research instrument in this study was a test instrument, namely pre-test, treatment, and post-test. Data collection techniques in this study were observation, testing, and documentation.

The sampling technique used in this study is a saturated sampling technique, which is a sampling technique that takes all members of the population as samples [35]. The research instruments used are Pre-Test, Treatment (treatment), Post-Test. The test instrument in the form of test questions used in this study is a multiple-choice question instrument with 4 alternative answers with a total of 15 multiple-choice questions. This instrument was made by the author himself by compiling the instrument starting from compiling questions, conducting trials, carrying out item analysis such as question validity tests, question reliability tests, question difficulty levels tests, and question discrimination tests using the SPSS application.

Data analysis techniques used for data analysis in this study were descriptive statistics and inferential statistics [36], and the research procedure or procedure for implementing the test given was to first test the test instrument before being given to students who were the research sample in the experimental class (class IX.6). The data analysis technique in this study is that the researcher uses the U test as a statistical test, the test is carried out using the IBM SPSS Statistics 25 Commuter Licensel application.

Data analysis is processed statistically through the t-test technique, a technique used if researchers want to evaluate differences between effects [6]. First, the calculation of the analysis requirement test is carried out before conducting the u-test, the requirement test in question is the normality test, the homogeneity test, and the hypothesis test. This hypothesis testing uses the u-test carried out with Mann-Whitney U (non-parametric statistics). The test given was a multiple-choice pre-test and post-test test consisting of 12 questions. The test was carried out at the beginning of learning before giving treatment using the quantum teaching method in the learning process and at the end of learning after giving treatment using the quantum teaching method in the learning process. The treatment was given 4 times in each meeting lasting 4 x 40 minutes.

3. RESULTS AND DISCUSSION

3.1. Learning Outcomes Pre-Test Data

Before the research was conducted, the students were given an initial test in the form of 12 multiple-choice questions before the lesson began to determine the level of students' knowledge of the material, fluent reading of the Qur'an with tajwid, and forming a disciplined attitude. The test was given before the Qur'an and Hadith lessons began at the first lesson.

Based on the results of the research conducted in class IX.6 MTsN Parepare, the author can collect data through test instruments and roll out learning outcome data (pre-test and post-test) in the form of learning outcome scores for the Al-Qur'an Hadith subject for class IX.6 MTsN Parepare students. Description of learning outcome data (pre-test) of the subject of Al-Qur'an Hadith before students using the Quantum Teaching method in grade IX.6 MTsN Parepare.

Table 1. Descriptive Statistics of Learning Outcomes of Students of the Al-Quran and Hadith Subjects Using Quantum Teaching in Class IX.6 MTsN Parepare

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Pre-Test	25	16,00	83,00	46,0800	22,63832
Valid N (listwise)	25				

Based on the descriptive statistical analysis table above, it shows that the value of the pre-test is 46.0800. The maximum value of the pre-test is 83.00. The minimum value of the pre-test is 16.00. The standard value of the pre-test is 22.638322. It can be concluded that there has been no improvement in the learning outcomes of students before the use of quantum teaching methods in the learning process. The results of the pre-test data analysis of class IX.6 students in the form of frequency distribution and bar diagrams.

Table 2. Pre-Test Frequency Distribution

No.	Interval	f_i	x_i	f_ix_i	x_i-x	$(xi-x)^2$	$f_i(xi-x)^2$	Percentage (%)
1.	16-28	8	19,5	156	23,7	561,69	4.493,52	32.00%
2.	29-41	5	32,5	162	10,7	114,49	572,45	20.00%
3.	42-54	2	45,5	91	-2,3	52,9	105,8	8.00%
4.	55-67	4	58,5	234	-15,3	234,09	939,36	16.00%
5.	68-80	5	71,5	357	-28,3	800,89	4.004,45	20.00%
6.	81-93	1	84,5	84	-41,3	1.705,69	1.705,69	4.00%
	∑	25	312	1080	100.2	3.469,75	3.469,75	100.00%

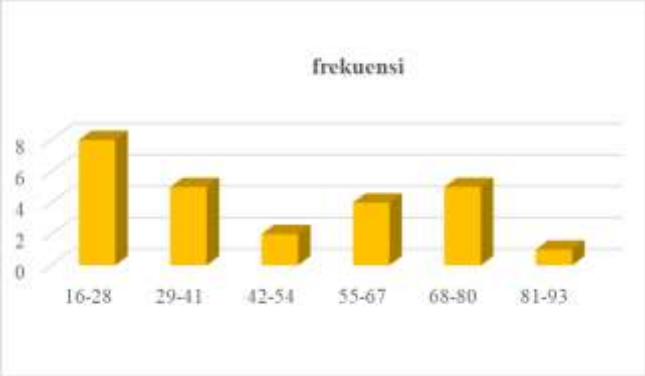


Figure 1. Pre-Test Bar Chart

The results of the descriptive analysis for the learning outcomes (pre-test) of students before being given treatment can be seen in the following table below:

Table 3. Descriptive Analysis of Learning Outcomes (Pre-Test) of the Al-Qur'an Hadith Subject by Students Using Quantum Teaching in Class IX.6 MTsN Parepare Test

Descriptive Statistics	Pre-Test
Number of Samples	25
Mean	46,08
Standard Deviation	22,638
Varians	512,493
Minimum	16
Maximum	83

Based on the table above, it shows that the maximum score in the learning outcome data (pre-test) using Quantum Teaching method is 83, the minimum score is 16 with an average value calculation of 46.08, a standard deviation of 22.638, and a variance value of 512.493.

The data collected in the table above is the basis for determining the classification of learning outcomes of pre-test. Where the value of the classification of learning outcomes is in the range (0-100). So that the classification of learning outcomes of students in the Al-Qur'an Hadith subject before using quantum teaching in class IX.6 MTsN Parepare is shown as follows:

Table 4. Distribution of the Complementary Learning Outcomes of the Students (Pre-Test) for the Al-Qur'an and Hadith Subjects Using Quantum Teaching in Class IX.6 MTsN Parepare Test

No.	Value Range	Frequency	Percentage	Category
1	0-34	12	48 %	Very Low
2	35-54	3	12%	Low
3	55-64	2	8%	Medium
4	65-84	8	32%	High
5	85-100	0	0%	Very High
	Total	25	100%	

Based on the table above, it can be seen that the learning outcomes of students (pre-test) using quantum teaching methods in class IX.6 MTsN Parepare are 12 people in the "very low" category with a score of 48%, 3 people in the "low" category with a score of 12%, 2 people in the "medium" category with a score of 8%, 8 people in the "high" category with a score of 32%.

The learning outcomes of students (pre-test) have not yet seen an increase in learning outcomes (pre-test) before being given treatment in the learning process using quantum teaching methods in class IX.6, this is proven by the distribution table of categorization of student learning outcomes (pre-test) of the Al-Qur'an Hadith subject before using the quantum teaching method in class IX.6 MTsN Parepare, which shows that the highest learning outcomes are in the "very low" category with 12 students.

3.2. Learning Outcomes Post-Test Data

After the implementation of the learning process that was carried out as many as 4 times, then class IX.6 which had been given the treatment and given pre-tests was then given post-tests through the learning process using quantum teaching methods. This test was given at the end of the study, namely in class 4. The purpose of this test was given at the end of the study to see the difference in learning outcomes of students before and after using quantum teaching methods in the Al-Qur'an Hadith subject. Description of learning outcome data (post-test) of Al-Qur'an Hadith subject for class IX.6 students using quantum teaching.

Table 5. Descriptive Statistics of Student Learning Outcomes (Post-Test) in the Al-Qur'an Hadith Subject Using Quantum Teaching Method in Class IX.6 MTsN Parepare

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
post-test	25	16,00	100,00	63,9600	23,13634
Valid N (listwise)	25				

Based on the descriptive statistical analysis table above, it shows that the value of the post-test melan is 63.9600. The maximum value of the polst-telst is 100.00. The minimum value of the polst-telst is 16.00. The standard value of the polst-telst is 23.13634. It can be concluded that there has been an increase in student learning outcomes after the use of quantum teaching and learning models in the learning process. Results of post-test data analysis of class IX.6 students in the form of frequency distribution and bar diagrams.

Table 6. Post-Test Frequency Distribution

No.	Interval	f_i	x_i	f_ix_i	x_i-x	$(xi-x)^2$	$F_i(xi-x)^2$	Persentase (%)
1.	16-31	2	19,5	39	-42,18	1.779,15	3.558,3	8.00%
2.	32-47	4	35,5	142	-26,18	685,39	2.741,56	16.00%
3.	48-63	6	51,5	309	-10,18	103,63	621,78	24.00%
4.	64-79	3	67,5	202	5,82	33,87	101,61	12.00%
5.	80-95	9	83,5	751	21,82	476,11	4.284,99	36.00%
6.	96-111	1	99,5	99	37,82	1.430,35	1.430,35	4.00%
	∑	25	357	1.542	-71,28	4.528,41	12.738,79	100.00%

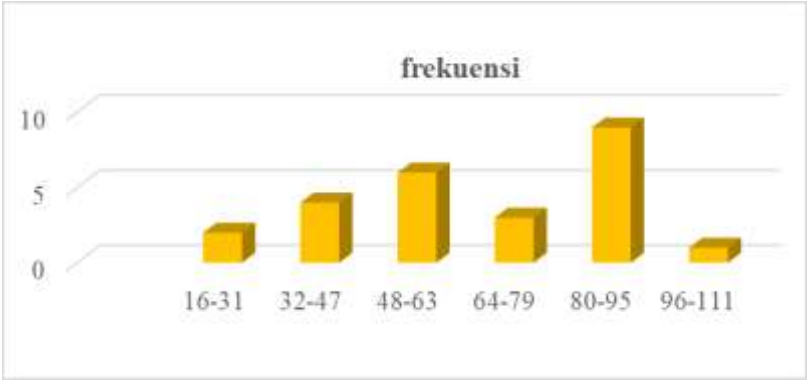


Figure 2. Post-Test Bar Chart

The results of the descriptive analysis for the learning outcomes (post–test) of students who have been given treatment in the learning process using quantum teaching can be seen in the following table below:

Table 7. Descriptive Analysis of Student Learning Outcomes (Post-Test) in the Al-Qur'an Hadith Subject Using Quantum Teaching in Class IX.6 MTsN Parepare

Descriptive Statistics	Post-Test
Sample Size	25
Mean	63,69
Standard Deviation	23,
Variance	535,290
Minimum	16
Maximum	100

Based on the table above, it shows that the maximum score in the learning outcome data (post-test) after using quantum learning is 100, the minimum score is 16 with an average value calculation of 63.69, a standard deviation of 23.136, and a variance value of 535.290.

The data collected in the table above is the basis for determining the classification of learning outcomes of the students. Where the interval value of the classification of learning outcomes is in the range (0-100). So that the classification of the learning outcomes of the students of the Al-Qur'an Hadith subject after using quantum learning in class IX.6 MTsN Parelparel is shown as follows:

Table 8. Distribution of the Complementary Learning Outcomes of Students (Post-Test) for the Al-Quran and Hadith Subjects Using Quantum Teaching in Class IX.6 MTsN Parepare

No.	Value Range	Frequency	Percentage	Category
1	0-34	3	12 %	Very Low
2	35-54	6	24 %	Low
3	55-64	3	12 %	Currently
4	65-84	9	36 %	Tall
5	85-100	4	16 %	Very high
	Total	25	100 %	

Based on the table above, it can be seen that the learning outcomes of students (post-test) after using quantum learning in class IX.6 MTsN Parelparel are 3 people in the "very low" category with a score of 12%, 6 people in the "low" category with a score of 24%, 3 people in the "medium" category with a score of 12%, 9 people in the "high" category with a score of 36%, 4 people in the "very high" category with a score of 16%.

The learning outcomes of students (post-test) appear to have increased after being given treatment in the learning process using quantum teaching methods in class IX.6, this is proven by the distribution table of categorization of student learning outcomes (post-test) of the Al-Qur'an Hadith subject after using the quantum teaching method in class IX.6 MTsN Parepare, which shows that the highest learning outcomes are in the "high" category with 9 students.

3.3. Data Analysis Requirements Testing

Before conducting further data processing, a prerequisite test for the study was carried out, namely the normality test. In this study, the normality test uses the Shapiro Wilk test to determine whether the data distribution is normal or not. In conducting the normality test, the Shapiro Wilk normality test is used using a significance level of 0.05. If the significance number (Sig.) is greater than 0.05, it means the data is normally distributed and if the significance number (Sig.) is smaller than 0.05, it means the data is not normally distributed. The following are the results of the normality test obtained from the SPSS test results.

Table 9. Normality Test

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre_Test	,198	25	,012	,892	25	,012
Post_Test	,195	25	,015	,943	25	,176
a. Lilliefors Significance Correction						

Table 10. Pre-Test Data Normality

	Shapiro-Wilk		
	Statistic	df	Sig.
Pre_Test	,892	25	,012

In the results of the pre-test data normality test, the significance value is greater than 0.01 using a significance level of 0.05. This means that the sig. value is greater than α, namely 0.01 < 0.05. So, it can be concluded that the pre-test data is not normally distributed.

Table 11. Post-Test Data Normality

	Shapiro-Wilk		
	Statistic	df	Sig.
Post_Test	,943	25	,176

In the results of the normality test of the poll-test data, the significance value is known to be 0.17 using a significance level of 0.05. This means that the sig. value is greater than α, namely 0.17 > 0.05. So, it can be concluded that the poll-test data is normally distributed.

Table 12. Pre-Test - Post-Test Homogeneity Test

Test of Homogeneity of Variances					
		Levene Statistic	df1	df2	Sig.
Learning outcomes	Based on Mean	,032	1	48	,860
	Based on Median	,015	1	48	,902
	Based on Median and with adjusted df	,015	1	47,799	,902
	Based on trimmed mean	,033	1	48	,857

In the results of the holmogelnity test of the pre-test and post-test learning data, the significance value of Baseld by Melan is greater than 0.860 using a significance level of 0.05. This means that the sig. value of Baseld by Melan is greater than α, namely 0.860 > 0.05. So, it can be concluded that the data from the prel-test and polst-test learning results are homogen data.

3.4. Hypothesis Testing

Hypothesis testing was conducted with inferential statistical analysis to answer the third problem formulation, namely whether there is a difference in the learning outcomes of students of grade IX.6 before and

after using the quantum method teaching at MTsN Parepare. The purpose of hypothesis testing is to determine whether there is a difference in the learning outcomes of students of grade IX.6 Before and after using the quantum method teaching at MTsN Parepare. Based on the statistical requirement test, it was concluded that the pre-test learning outcome data and the post-test learning outcome data in this study were distributed normally and the data were homogen. Therefore, the hypotheses test can be carried out using the single sample U test formula or the Paired Samples T Test. The hypotheses formula is as follows:

Hol : μ1 = μ2 (not equal) versus Ha : μ1 ≠ μ2 (equal)

Prohibition:

Ho: There is no difference in the learning outcomes of the Qur'an and Hadith students before the use of quantum learning in grade IX.6 MTsN Parepare.

Ha: There is a difference in the learning outcomes of the Qur'an and Hadith students after the use of quantum learning in grade IX.6 MTsN Parepare.

The following is a table of the results of the hypotheses test using the Mann-Whitney Test, data from the pre-test and post-test learning results of the Al-Qur'an Hadith students of class IX.6 MTsN Parepare.

Table 13. Pre-Test Learning Outcomes

Ranks				
	Group	N	Mean Rank	Sum of Ranks
Learning Outcomes	Pre-Test	25	20,04	501,00
	Post-Test	25	30,96	774,00
	Total	50		

From the table above, it can be seen in the table above that the Mean Rank of the Pre-Test is 20.04.

Table 14. Post-Test Learning Outcomes

Ranks				
	Group	N	Mean Rank	Sum of Ranks
Learning Outcomes	Pre-Test	25	20,04	501,00
	Post-Test	25	30,96	774,00
	Total	50		

Meanwhile, it can be seen in the table above that the Mean Rank of the Post-Test is 30.96. Therefore, based on the output table of "Test Statistics" descriptive Ranks in the Mann Whitney Test above, it is known that the Mean Rank shows that there is a difference in learning outcomes (pre-test) before using Quantum Teaching method with a Mean Rank of 20.04 and learning outcomes (post-test) after using Quantum Teaching method with a standard deviation of 30.96. This means that descriptively there is a difference in learning outcomes between students before and after using Quantum Teaching method.

Table 15. Mann-Whitney U Test

Test Statistics[a]	
	Learning Outcomes
Mann-Whitney U	176,000
Wilcoxon W	501,000
Z	-2,663
Asymp. Sig. (2-tailed)	,008
a. Grouping Variable: Group	

In the output table "Test Statistics" in the Mann-Whitney Test test which was rolled out based on SPSS data output, the Asymp. Sig. (2-tailed) value of the pre-test and post-test learning outcomes is 0.008, which is smaller than < the sig. 0.05 value, meaning 0.008 < 0.05. So, it can be concluded that the Hypothesis Hol is rejected and Ha is accepted or in other words, there is a significant difference in the values of the pre-test and post-test scores after using the Meltodel Quantum Teaching for IX 6 students. This shows that there is an increase in the learning outcomes of the pre-test and post-test scores after using Quantum Teaching Method.

3.5. Discussion of Research Results

The main findings of this study are that the implementation of Quantum Teaching at MTsN Parepare has been proven to improve student motivation and learning outcomes in islamic religious education. Students become more active, the classroom atmosphere is more enjoyable, and teacher-student interactions are more positive compared to conventional methods. This correlation between these findings and previous research aligns

with DePorter & Hernacki's [37] study, which confirmed that the Quantum Teaching method can create an active, creative, and enjoyable learning environment. Furthermore, it is consistent with the findings of previous research in non- islamic religious education fields, which stated that Quantum Teaching can improve learning outcomes in both exact sciences and language subjects. The uniqueness of this study lies in its specific application in islamic religious education, a subject where conventional teaching methods are typically used. In general, it can be concluded that Quantum Teaching is effective in various subjects, including islamic religious education, because it fosters students intrinsic motivation, creates meaningful learning, and improves learning outcomes. Therefore, Quantum Teaching can be recommended as a strategic approach to improving the quality of learning in both madrasahs and public schools.

Proper the results of learning the Qur'an and Hadith of students in class IX.6 after using Quantum Teaching method. Based on the results of the pre-test learning data processing, it shows that the learning results of students (prel-telst) in class IX.6 MTsN Parepare do not appear to have increased the learning results (pre-test) in class IX.6 when given treatment. This is indicated by the existence of factors that influence the learning results of students who are low when the learning process does not use Quantum Teaching method. Several factors that directly or indirectly influence learning outcomes are student factors, facilities and infrastructure factors, environmental factors, and learning outcome factors that refer to the normative formulation must belong to students after implementing the learning program (Arifin). Of these factors, the factor that most influences the low learning outcomes is the facilities and infrastructure factor, both related to quality, completeness and its use, such as teachers, materials, and techniques, media, learning resource materials, programs. Because in the first study, the researcher had not yet applied the quantum teaching method to the learning process carried out, where before the experimental class was given treatment using the quantum teaching method in the learning process, the results of student learning (pre-test) showed no improvement in learning outcomes.

The results of Learning Al-Qur'an Hadith by students of Class IX.6 after using Quantum Teaching method. Based on the results of the data processing of the results of the poll-test learning, it shows that the results of the learning of students after using Quantum Teaching method in class IX.6 MTsN Parelparel appear to have increased the results of the learning of students (polst-telst) after being given the treatment. Because in the fourth study, the researcher has applied quantum learning model to 4 studies on the learning process that was carried out where after the class of quantum learning model was given treatment with the use of quantum learning model on the learning process, the learning outcomes (post-test) of students were observed to have increased learning outcomes. This proves that the use of quantum learning model can improve the learning outcomes of students, because it is in accordance with several advantages of quantum learning according to Daryanto and Karin [7].

Differences in the learning outcomes of grade IX.6 students before and after using the quantum teaching method. Based on the results of data processing before and after the use of quantum teaching methods, it shows that there are differences in the learning outcomes of students before using quantum teaching methods and after using quantum teaching methods. Therefore, the hypothesis Hol is rejected and the hypothesis Ha is accepted or there is a significant difference between the values of before and after using quantum teaching methods. This shows that there is an increase in the learning outcomes of both before and after using quantum teaching methods in grade IX.6 MTsN Parepare. The results of this study are in line with several previous studies, where, according to a study conducted by Rudamayanti entitled "Implementation of Quantum Teaching Methods in Islamic Religious Education Subjects in Improving Learning Outcomes of Grade VII at SMPN 40 Rejang Lebong" where the results of the study showed that the t-test was 8.762. While the t-test at a significant level of 5% was 2.06. Because t-test < t-test, Hol was rejected at a significant level of 5%. Thus, the average islamic religious education learning outcomes of students using Tandur methode are higher than the average islamic religious education learning outcomes of students without using Tandur method in class VII of SMPN 40 Rejang Lebong. This research proves that Tandur method can improve development in students' cognitive aspects as seen from their learning outcomes. Then, Fajar with the title of the thesis "Utilization of Islamic Religious Education Teaching Materials Based on Quantum Teaching Model of TANDUR Type to Improve Learning Outcomes of Students of SMAN 6 Makassar" was obtained the value of t = -10.542, df = 27 and sig. (2-tailed) or bp-value = 0.000 < 0.05, meaning the significance value is smaller than the error level or H0 is rejected. Thus, the proposed hypothesis has been tested by data so that it can be concluded that there is a positive influence on improving the learning outcomes of students who are taught by utilizing Islamic Religious Education teaching materials based on Quantum Teaching learning models for class XI MIPA 4 SMAN 6 Makassar.

The implications of this research include three. First, theoretical, as this study strengthens the theory that Quantum Teaching can be applied across subjects, including islamic religious education, a previously understudied topic. Second, practical, as islamic religious education teachers can use Quantum Teaching as an alternative teaching strategy to improve the quality of learning. Third, educational policy, where madrasas and schools can use the results of this study as a basis for curriculum innovation and teacher training to be more creative. Next,the limitations of this research include, the research location was limited to MTsN Parepare, so the

results may not be representative of all madrasas. Furthermore, the research focused more on cognitive learning outcomes, while the affective domains (religious attitudes, morals) and psychomotor domains were not explored in depth. Furthermore, the limited duration of the study does not reflect the long-term effects of Quantum Teaching implementation.

Furthermore, the research entitled "Implementation of Quantum Teaching in Improving the Learning Achievement of Grade VIII Students in Islamic Religious Education Subjects at SMPN 1 Campalagian" written by Hijrana [33], revealed that the results of the research showed that the use of the Quantum Teaching learning model can improve the learning achievement of grade VIII students in Islamic Religious Education subjects at SMP Nelgelri 1 Campalagian. In addition, the research conducted by Tifa Afriyah Ningsih entitled "Implementation of Quantum Teaching Model in Islamic Religious Education Lessons in Improving Creative Thinking Skills of Students of SMP Negeri 8 Kota Cirebon" [34], based on the results of this research, there is a very strong positive relationship between the relationship of quantum teaching model and creative thinking skills, so that if the value of the quantum teaching model variable is high enough, then the value of the creative thinking ability variable is high enough. From several previous research results, it supports the results of the research conducted by this research.

In this study, the author found that the implementation of Quantum Teaching was proven to improve the learning outcomes of grade IX.6 students of MTsN Parepare in the subject of Al-Qur'an Hadith (tajwid material). The post-test results showed a significant increase compared to the pre-test, which means Quantum Teaching is able to create a more enjoyable, interactive, and effective learning atmosphere. Fajar [32] found that the use of teaching materials based on Quantum Teaching type Tandur can improve the learning outcomes of Islamic Religious Education students at SMAN 6 Makassar. This is in line with the author's research, where Quantum Teaching was also proven to improve academic achievement. Then, Hijrana [33] showed that the implementation of Quantum Teaching was able to improve the Islamic Religious Education learning achievement of SMPN 1 Campalagian students. These results strengthen the author's findings that Quantum Teaching can be applied effectively to religious subjects. Ningsih [34] emphasized the positive relationship between Quantum Teaching and students' creative thinking abilities. This supports the author's findings that Quantum Teaching not only improves cognitive outcomes but can also foster creativity and student engagement. Meanwhile, Rudamayanti [24] found that students learning using the Tandur Quantum Teaching model achieved higher learning outcomes than those using conventional methods. These results are consistent with the author's research, which also found a significant difference between learning outcomes before and after Quantum Teaching was implemented.

Based on the author's research and previous research, it can be generalized that Quantum Teaching is effective when applied to various educational levels (junior high school, senior high school, Islamic junior high school) and various subjects, including islamic religious education. This consistency of results reinforces the belief that Quantum Teaching can overcome student boredom, increase motivation, and improve learning outcomes both cognitively and affectively. Therefore, the author's research findings are not isolated but strongly supported by previous research. The difference is that the author's research provides novelty because it focuses on the learning outcomes of the Quran and Hadith (tajwid) at MTsN Parepare, a previously unstudied subject.

The advantages of this study are that it focuses on innovation in Islamic Religious Education learning because this study presents the Quantum Teaching method which is rarely used in the Al-Qur'an Hadith subject, the results are clearly measurable because it uses the One Group Pre-Test - Post-Test design, so that the differences before and after treatment are clearly visible, practical contributions because the study provides direct benefits for Islamic Religious Education teachers as an alternative learning method to improve student learning outcomes, and also provides a real context because the study was conducted based on real problems at MTsN Parepare (low learning outcomes, conventional methods), so the results are applicable. Behind its advantages, this study is also not free from shortcomings, namely this study was conducted without a control class so that the study only used one experimental class, so it is less powerful in comparing the effects of the method with other methods, then the duration of the study is limited because it only covers one material (tajwid) in one period, so it does not reflect the long-term impact, learning outcomes focus on cognitive outcomes only so that the affective domain (religious attitudes, love of the Qur'an) and psychomotor (practice of reading the Qur'an) have not been explored in depth, and generalization is limited because it was only conducted in one school (MTs).

While previous research has focused on Quantum Teaching in general subjects (science, mathematics, and language), the author's research focuses on islamic religious education, specifically the Quran and Hadith, specifically the tajwid (recitation) topic. Previous research generally focuses on academic achievement or creativity, while this study focuses more on improving the cognitive learning outcomes of Islamic Religious Education students. Teachers at MTsN Parepare have never implemented Quantum Teaching, so this study fills the gap in innovative methods used in islamic religious education learning at madrasahs.

4. CONCLUSION

Based on the results of the study, it can be concluded that the learning outcomes of the Qur'an Hadith of class IX.6 MTsN Parepare before the implementation of the Quantum Teaching method were still low, indicated by the average pre-test score which was in the very low category. Student learning outcomes after the implementation of Quantum Teaching increased significantly, indicated by a higher average post-test score. There was a significant difference between learning outcomes before and after the implementation of Quantum Teaching, so this method was effective in improving the learning outcomes of the Qur'an Hadith of class IX.6 MTsN Parepare. Therefore, this study confirms that Quantum Teaching can be an innovative solution in Islamic Religious Education learning, especially to improve students' understanding of tajwid.

Recommendations for future research include conducting similar studies in other madrasas or schools to increase generalizability of the results. Further studies are needed to examine the impact of Quantum Teaching on students' affective domains (religious attitudes, Islamic values) and psychomotor domains. Further in-depth research is needed to examine the combination of Quantum Teaching and digital technology in islamic religious education learning to address the challenges of the 5.0 era. Longitudinal research is recommended to determine the long-term impact of Quantum Teaching implementation.

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