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An Interactive Approach to Enhancing Communication Skills of Elementary School Students within the QTM Framework

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ABSTRACT

Effective communication skills constitute a crucial foundation for the development of children's social and academic competencies, making it essential to cultivate these skills from an early age in elementary education. This study aims to enhance students' effective communication skills through the implementation of the Quantum Teaching Model (QTM), which is believed to foster interactive learning and improve students' communicative abilities. The research employed a qualitative descriptive approach, involving 20 students from SD Negeri 2 Tambun, selected through representative sampling. Students were presented with open-ended problems requiring multiple solutions, thereby stimulating critical thinking and creativity. Data analysis was integrated with triangulation techniques through stages of data collection, simplification, categorization, presentation, and conclusion drawing. The results indicate an improvement in students' communication skills across the dimensions of curiosity (13.40%), attitude (8.25%), competitiveness (12.89%), and external motivation (14.44%). These findings affirm that the implementation of QTM promotes more active and participatory learning interactions, thereby enhancing students' communication skills and supporting the development of 21st-century competencies, particularly critical thinking, collaboration, and interactive communication. This study provides significant contributions to the development of QTM-based instructional strategies oriented toward improving students' communication competencies and classroom interactions.

Informasi Artikel

Kata Kunci:
Keterampilan Berbicara;
Model Pembelajaran Quantum;
Sekolah Dasar

ABSTRAK

Keterampilan komunikasi yang efektif merupakan fondasi penting dalam pengembangan kompetensi sosial dan akademik anak, sehingga perlu dikembangkan sejak dini di sekolah dasar. Penelitian ini bertujuan untuk mengembangkan keterampilan komunikasi efektif siswa melalui penerapan Quantum Teaching Model (QTM), yang diyakini mampu meningkatkan interaksi belajar dan keterampilan komunikasi interaktif siswa. Metode penelitian yang digunakan adalah deskriptif kualitatif, dengan melibatkan 20 siswa SD Negeri 2 Tambun yang dipilih secara representatif. Siswa diberikan masalah terbuka yang menuntut berbagai solusi, sehingga merangsang kemampuan berpikir kritis dan kreativitas. Analisis data dipadukan dengan teknik triangulasi melalui tahap pengumpulan, penyederhanaan, pengkategorian, penyajian, dan penarikan kesimpulan. Hasil penelitian menunjukkan adanya peningkatan keterampilan komunikasi siswa pada aspek rasa ingin tahu (13,40%), sikap (8,25%),

persaingan (12,89%), dan motivasi eksternal (14,44%). Temuan ini menegaskan bahwa penerapan QTM mendorong interaksi belajar yang lebih aktif dan partisipatif, sehingga keterampilan komunikasi siswa menjadi lebih efektif dan mendukung pengembangan keterampilan abad 21, khususnya kemampuan berpikir kritis, kolaborasi, dan komunikasi interaktif. Penelitian ini memberikan kontribusi penting bagi pengembangan strategi pembelajaran QTM yang berorientasi pada peningkatan kompetensi komunikasi dan interaksi siswa di kelas.

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INTRODUCTION

One of the common challenges faced by students during learning is the difficulty in expressing opinions in front of classmates, which can hinder learning progress. Therefore, it is important for educators to develop effective communication skills for students through innovative learning approaches (Lestari & Kurnia, 2023). This provides students with the opportunity to build and improve their own abilities independently during the learning process. Effective communication skills are very important, especially for elementary school students, especially in the higher grades.

Communication is an essential skill that we use in every moment of life. According to Afacan & Gürel (2019), another important issue is that the focus of quantum learning is communication skills. People want to have socially acceptable behaviors that allow for communication and interaction with others, and these skills are commonly referred to as social skills. In other words, communication skills are under the auspices of social skills.

Effective communication refers to the ability to change the attitudes of individuals involved in the interaction. The purpose of effective communication is to ensure that the message conveyed by the sender to the recipient can be understood clearly, using appropriate and comprehensive language, and maintaining a balance between conveying information and feedback. In addition, it is important to practice effective use of body language (Dansieh et al., 2021; Miranda & Wahyudin, 2023; Taly & Paramasivam, 2020). Therefore, learning communication skills should start early so that students are familiar with these skills when they are adults. The inability to communicate can result in a lack of confidence when speaking in public, as students may experience anxiety and panic that

disturbs their minds (Ruvalcaba et al., 2017). Therefore, teachers play a major role in directing students' success in mastering communication skills effectively.

The main key in improving student competence lies in the ability of teachers to support students in developing communication skills optimally. Students are often less motivated to speak in class, so they need encouragement or help from teachers to be willing and brave to participate and convey their thoughts and ideas. In developing effective communication for students, one of them can apply quantum-based learning.

Efforts are made to encourage active student participation during learning by using an innovative approach in the Quantum Teaching Learning (QTM) learning model. As teachers, it is expected to establish a model that can adjust to the characteristics of learning acceptance from each student, so that learning goals can be achieved and optimal learning outcomes can be achieved (Grasela et al., 2021)**.** One of the learning models is believed to be able to change students' academic and non-academic behavior and achievements for the better, as well as create a fun and interesting learning environment, such as by implementing the QTM learning model. The QTM model is also a model that focuses on the learning process that provides freedom to students, namely freedom of learning, freedom of interaction, freedom of communication, and freedom of access to learning resources. This will improve students' collaborative thinking skills so that it will improve student learning outcomes, innovative creativity, and critical thinking skills and interactions between students (Nahar et al., 2022)**.**

A quantum-based teaching approach harnesses the potential of students as well as their learning environment to create an effective learning atmosphere through interaction between learners in the classroom (Agus, 2023). The selection of the QTM learning model was chosen because it is believed that it can support the success of students in developing their effective communication skills. This TQL model presents a learning design that stimulates students' critical and creative thinking processes and makes students' personalities more qualified in their learning. QTM also emphasizes the importance of a fun learning process for anyone involved in learning, this is effective in improving student information retention and achieving optimal learning outcomes. This model emphasizes freedom, relaxation, wonder, fun, and joy. The quantum learning approach also involves changes in the interactions that occur in and around the learning environment, including the application of varied learning methods and creating a fun learning atmosphere to increase students' interest in learning (Mardiyanti, 2020)**.** Thus, students who were previously less interested in learning will become more enthusiastic. Furthermore, students will be able to easily understand the concept of learning according to the goals that have been set.

QTM learning uses all elements of the learning process, including guidance to create an optimal learning environment, delivery of subject matter, understanding of how students absorb information from teachers, and facilitating the implementation of learning (Ansori, 2023). Thus, it can be concluded that Quantum Teaching Learning is a dynamic learning model by activating interactions during learning that affect the

achievement of student success and are able to accommodate various student talents in the learning process.

Various studies have been conducted in the context of QTM. The research is focused on the development of literacy-based teaching materials (Aisyah et al., 2017), active and fun learning in elementary school children (Alismail, 2023), students' mathematical communication skills (La'ia & Harefa, 2021), Training Public Speaking Skills of Elementary School Students (Wati & Utami, 2022), Student Communication Skills in Student Data Presentation Materials (Hanisah & Noordyana, 2022), mathematical communication skills and student motivation (Hamzah et al., 2023). Although there have been many studies that have previously explored the use of the QTM model in elementary schools, in general the research still does not adequately explore the aspects of the QTM learning model that aims to improve students' effective communication skills. Based on the limitations contained in previous studies, the main focus of this study is to overcome the gaps in research findings that were not disclosed in previous studies, such as the limited research results that are concentrated on the development of effective communication skills through the implementation of the Quantum Teaching Learning model among elementary school students.

In contemporary educational studies, numerous literatures indicate that students' communication skills are a key competence in the 21st-century curriculum; however, students often remain insufficiently motivated to speak or interact effectively within routine learning contexts (Firdaus & Katili, 2025; Herlinawati et al., 2024; Kain et al., 2024). This highlights a pedagogical need for approaches that can engage students so that they not only receive information but also actively think, engage in dialogue, and express their ideas. Nevertheless, existing studies, including research on the implementation of QTM, tend to focus on general learning outcomes or specific skills such as mathematical reasoning or conceptual understanding, rather than explicitly measuring the comprehensive development of effective communication skills in elementary schools (Ramadhani, 2019). For example, the study by Tanjung et al., (2024) They found that QTM was more effective than conventional models in enhancing students' critical thinking and conceptual understanding in social studies; however, it did not directly assess effective communication within the broader context of classroom interaction. Other literature evaluating QTM generally measures academic learning outcomes or cognitive skills, while communication aspects are often only a minor component of the variables assessed, or are limited to speaking ability, as in studies applying QTM to train elementary students' speaking skills (Zeybek, 2017).

Although active participation–based learning models, such as small group learning or project-based learning, have been recognized in the international literature as capable of enhancing students' communication and collaboration skills, including idea expression and peer dialogue, this relationship has not yet been directly mapped in the context of QTM in elementary schools (Goyal et al., 2022). In other words, there remains an empirical gap regarding strong evidence that the systematic implementation of QTM enhances elementary students' effective communication skills across multiple

dimensions (e.g., interpersonal, presentation, collaborative), rather than merely improving classroom speaking ability or specific cognitive aspects. This gap indicates that previous studies have not adequately integrated comprehensive measurements of effective communication within the QTM framework. Consequently, the present study is both relevant and significant in addressing this academic gap. This study aims to expand the focus from merely enhancing academic or speaking skills to assessing effective communication holistically in elementary education, thereby contributing to the development of innovative teaching methods oriented toward the 21st-century skill needs of students.

Based on the results of observations conducted on grade IV students of SDN 2 Tambun which is the focus of this study, it was found that 20 students out of 31 grade IV students still lack communication skills such as conveying arguments in front of the class in learning both individually and in groups. Based on these preliminary findings, it can be concluded that the factors that affect the lack of effective communication skills are caused by themselves, the school environment and the lack of opportunities for students to express arguments to increase their confidence. Based on these conditions, the role of an educator and the school environment is needed to develop the ability to communicate effectively with confidence. Other research also shows that communication is more effective when using a combination of spoken and written language at the same time. Therefore, this study aims to improve the ability to communicate effectively in grade IV students of SDN 2 Tambun. This research also contributes to Indonesian learning with fairy tale telling materials, for the development of effective communication skills in students through the application of the QTM model. In contrast to previous research that has not yet discussed the improvement of communication skills through the application of the QTM learning model in Indonesian learning fairy tale material.

METHOD

This study employed a qualitative descriptive method, chosen because the research aimed to provide an in-depth depiction of the process of developing effective communication skills through the implementation of the Quantum Teaching Learning (QTM) model in elementary schools. The qualitative descriptive approach allows the researcher to capture students' experiences, interactions, and learning strategies holistically, as well as to understand how this learning model facilitates the development of students' thinking and communication skills within the real classroom context.

The research subjects consisted of 20 fourth-grade students selected from a total population. The sample was chosen purposively, ensuring an even representation of the entire population, so that it reflects variations in academic ability, character, and levels of participation in classroom activities. This approach ensures that the data obtained can provide a valid picture of the impact of implementing the QTM model on students' communication skills.

Data were collected through a combination of observation, interviews, and documentation studies. Observations were used to assess students' behaviors during learning activities, particularly their ability to express ideas, collaborate, and communicate effectively. In-depth interviews with students and teachers aimed to explore perceptions, experiences, and challenges encountered during the learning process. Documentation was used to complement and verify the data through the analysis of class notes, assignment results, and recordings of learning activities. To ensure instrument validity, all interview guides, observation checklists, and documentation study protocols were content-validated by educational experts and pilot-tested on a small sample outside the study class to ensure clarity, relevance, and the instruments' ability to capture the necessary data.

The data analysis procedure was conducted systematically through four stages: data collection, reduction, presentation, and conclusion drawing. The data analysis procedure was carried out in a sequential and continuous manner to ensure that the research process was systematic and yielded valid findings. The first stage was data collection, which aimed to obtain comprehensive and relevant information regarding the development of students' effective communication skills through the implementation of the QTM. At this stage, data were gathered through classroom observations to directly examine communication interactions between students and teachers, interviews with teachers and students to explore their experiences and perceptions of the implementation of the QTM, and documentation in the form of instructional materials, students' work, and records of learning activities. All collected data were focused on aspects of students' effective communication, such as speaking confidence, clarity in expressing ideas, listening skills, and social interaction during the learning process.

After the data had been collected, the next stage was data reduction. In this stage, the researcher selected and simplified the raw data to align them with the focus and objectives of the study. Data relevant to the development of students' effective communication skills through the implementation of QTM were retained, while data that were not directly related were excluded. The reduction process was conducted by categorizing data into specific themes or categories, such as improvements in communication confidence, the quality of peer interactions, and students' engagement in each phase of the QTM. Data reduction was carried out continuously from the initial data collection stage until the completion of the study, ensuring that the analyzed data remained focused and meaningful.

The subsequent stage was data presentation, which involved organizing the reduced data into forms that were easy to understand and analyze. The data were presented in narrative descriptions that systematically and clearly illustrated the QTM process and changes in students' communication skills. In addition, data were also presented in the form of tables or summaries of observational results to demonstrate comparisons of students' communication abilities before and after the implementation of the learning model. This data presentation facilitated the identification of patterns, relationships, and

trends that emerged during the learning process, thereby supporting accurate data interpretation.

The final stage was conclusion drawing and verification. At this stage, the researcher interpreted the presented data to address the research questions and objectives. Conclusions were drawn based on consistent patterns and findings derived from observations, interviews, and documentation, thereby illustrating how the implementation of the QTM contributed to the development of effective communication skills among elementary school students. To ensure the trustworthiness of the findings, verification was conducted through source and technique triangulation, as well as by comparing data obtained from various instruments. Consequently, the conclusions generated are valid, credible, and scientifically accountable.

RESULT AND DISCUSSIONS

A. Result

Observations and interviews conducted over several days revealed that several fourth-grade students at SD Negeri 2 Tambun still exhibit limitations in effective communication, such as difficulty presenting arguments in front of the class, both individually and in groups. These findings suggest that factors contributing to students' limited communication skills include personal characteristics, the school environment, and insufficient opportunities for students to practice expressing their arguments and building confidence. Accordingly, the role of educators and the school environment is essential in fostering students' ability to communicate effectively and confidently.

Interviews with teachers were conducted to gain deeper insights based on their direct experiences and to complement the observational data. The results indicated several key issues: (1) out of 31 fourth-grade students, 20 still experience limitations in effective communication, (2) students face difficulties in expressing their thoughts and feelings verbally, (3) there are gaps in students' attitudes related to communication skills, (4) teachers have not consistently implemented strategies to facilitate students' communication, including conveying messages and understanding students' emotions, (5) efforts to create a supportive and engaging learning atmosphere are insufficient, and (6) the use of stimulating and interesting instructional media remains limited in classroom activities.

Table 1. Results of Interviews with Research Respondents

Indicator	Aspects studied	Interview results	Observation results
Student Curiosity	Mastery of concepts, exploring information and building narratives	Students in the fourth grade are already able to think critically, but there are still many of them who find it difficult to argue or argue in front of the class or the audience. (Interview on Monday, January 29, 2025)	In learning activities, students are able to think critically. In the classroom, there are still many students who are still afraid to argue or argue in public. (Observation results on Tuesday, February 13, 2025)
Attitude	Confidence, respect for the audience and tolerance	In the school environment and in learning activities, grade 4 students already have an honest, disciplined, responsible, caring and polite attitude towards teachers. (Interview on Monday, January 29, 2025)	Grade 4 students have applied a polite attitude towards school residents, and in learning activities all students are honest, but not all apply a disciplined attitude. (Observation results on Thursday, February 29, 2025)
Competence	High proficiency, healthy competition and forward-thinking	In learning activities, grade 4 students have quite good knowledge, and are able to receive and understand the material given. (Interview on Monday, January 29, 2025)	In learning activities, only a few students have good enough knowledge, where there are some students who have difficulty understanding the material in learning activities. (Observation results on Thursday, February 29, 2025)
External motivation	Motivation from homeroom teachers, school environment and family environment	Teachers always motivate students from before starting learning and at the end of learning. In the family environment, it is not certain that all students get motivation from their families because each student has a different life background. In the community, it is also not certain that students get motivated because each student has a different place to live. (Interview on Monday, January 29, 2025)	The motivation provided by the learning environment is still very lacking, which causes a decrease in students' ability to communicate effectively. (Observation results on Thursday, February 29, 2025)

The findings from the results of interviews and observations with respondents as listed in table 1, it can be concluded that the Quantum Teaching Learning learning model has a positive impact on the development of students' effective communication skills. There is an increase in the ability to communicate effectively during the learning process, which includes various aspects including: (1) there is a development in students' critical thinking skills during learning, although some students still feel less confident and afraid to argue, (2) all students show an attitude of honesty in learning activities, but not all apply a disciplined attitude consistently, (3) there is a variation in the level of knowledge of students in understanding the subject matter, although some students still face difficulties in understanding the material, and (4) students have received sufficient motivation to encourage their interest in communicating effectively. Thus, it can be seen that the use of the QTM learning model has given positive results in improving students' effective communication skills during the learning process.

Before the start of the learning process activities, students will be given a questionnaire instrument sheet or known as a pretest to collect preliminary data about students' communication skills. After that, the researcher will provide teaching using the Quantum Teaching Learning learning model. During the teaching and learning process, students are not only asked to listen to the material presented, but also to practice it. They were given the opportunity to practice independently by telling fairy tales using the images provided, relying on their imagination. Students can also ask questions and consult researchers if they experience difficulties. Next, students will tell their fairy tales for the researcher to assess. After that, the researcher will give a posttest questionnaire with alternating questions to students to practice their communication skills. The steps in learning the Quantum Teaching Learning (QTM) model are as follows:

1) Culture

At this stage, the general concept is to engage students, interest them, and focus on the material to be taught. The researcher aims to build a positive attitude from the beginning of learning to foster curiosity in students. Simple initial interaction with students and spark enthusiasm are implemented to engage students in the learning process.

2) Natural

Researchers are expected to be able to create a general experience for students through examples of events that are easy to understand. Through these experiences, students' brains will be stimulated to explore or seek more information.

3) Give it a name

This stage is the core of learning in the classroom. The researcher explains the events that have been illustrated previously with the material to be presented. Researchers are asked to use easy-to-understand language, clear concepts, and strategies that can be understood by students.

4) Demonstrate

After giving examples and explanations, researchers give students the opportunity to apply what they have learned. This can be done by using props such as picture media related to fairy tales.

5) Repeat

This stage aims to strengthen students' understanding of the material that has been studied previously. The researcher ensures that students have understood the concepts that have been explained before.

6) Celebrate

This stage is the closing of the quantum leaching learning model. The goal is to reward the effort, perseverance, and success that students have achieved. By ending the learning in a positive and lively way, students will feel satisfied and motivated to learn more at the next meeting.

Figure 1. Joint Documentation of the Principal and Teacher of SD Negeri 2 Tambun

The ability to communicate effectively through learning the QTM model was evaluated using instruments in the form of pretest and posttest questionnaires given to 20 grade IV students of SD Negeri 2 Tambun. The questionnaire was immediately filled out by the respondents and the results were collected in the form of tables to be analyzed. After learning using the Quantum Teaching Learning model, it was found that some students still did not show effective communication skills in the classroom. Details of the presentation of the results of the questionnaire from the curiosity indicator before and after the treatment of 20 grade IV students can be seen in table 2.

Table 2. Percentage of Students Curiosity Values

No.	Students Curiosity Aspects	Percentages		Increase (%)
		Pretest (%)	Posttest (%)	
1.	Concept Mastery	60,13	70,12	9,99
2.	Ability to explore information	55,64	70,98	15,34
3.	Building a narrative	60,89	75,76	14,87
Averages		**58,80**	**72,20**	**13,40**

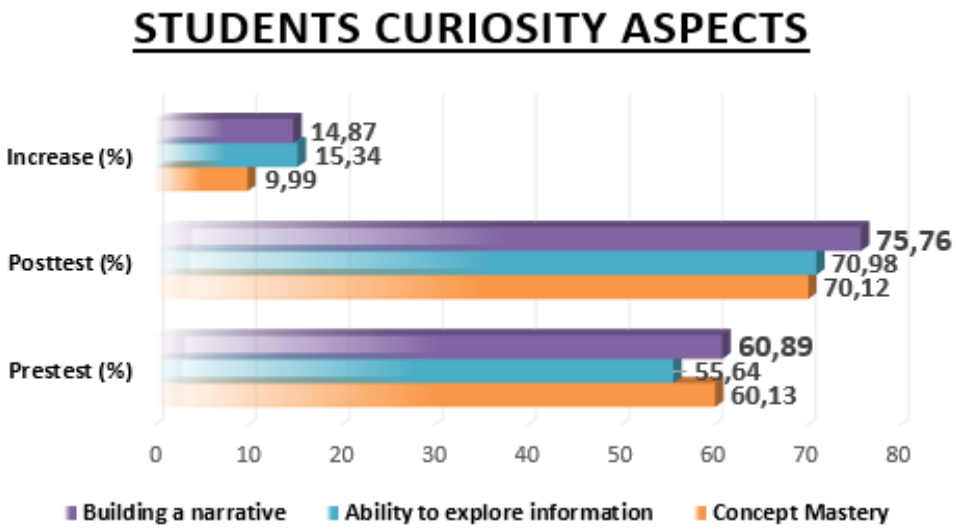

Figure 2. Data Visualization Analysis of Students Curiosity Aspects

The analysis of the percentage of curiosity indicators in table 2, it can be seen that the scores achieved by grade IV students before the implementation of the QTM learning model are lower than after the implementation of the model. This showed an improvement in effective communication skills after applying the QTM learning model, with an average percentage increase of 13.40% for all three indicators of curiosity. Furthermore, the percentage of questionnaire results from student attitude indicators before and after treatment in 20 grade IV students can be found in table 3.

Table 3. Percentages of Attitude Values

No.	Attitude Aspects	Percentages		Increases (%)
		Pretest (%)	Posttest (%)	
1.	Confident	60,43	75,22	14,79
2.	Respecting the audience	75,78	76,87	1,09
3.	Tolerance	70,88	79,75	8,87
Averages		**69,03**	**77,28**	**8,25**

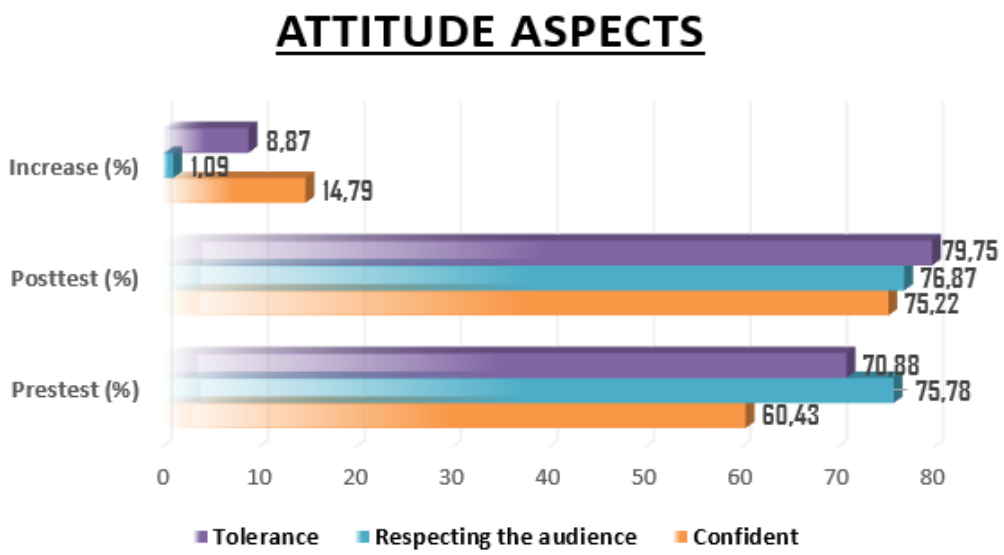

Figure 3. Data Visualization Analysis of Attitude Aspects

It can be seen that the scores obtained by grade IV students before receiving treatment using the QTM learning model are lower than after the implementation of the model. This shows an improvement in effective communication skills after applying the QTM learning model, with an average percentage increase of 8.25% for all three attitude indicators. Furthermore, the percentage of questionnaire results from student competency indicators before and after treatment in 20 grade IV students can be found in table below.

Table 4. Percentages of Competition Values

No.	Competition Aspects	Percentage		Increase (%)
		Pretest (%)	Posttest (%)	
1.	Have a high willpower	66,02	79,23	13,21
2.	Healthy competition	70,88	85,65	14,77
3.	Thinking forward	65,09	75,78	10,69
Averages		**67,33**	**80,22**	**12,89**

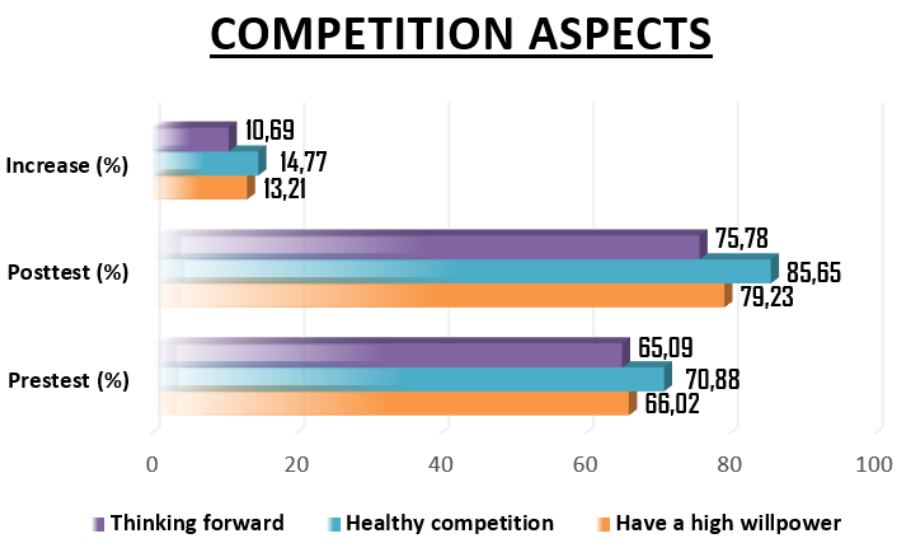

Figure 4. Data Visualization Analysis of Competition Aspects

The scores obtained by grade IV students before receiving treatment using the QTM learning model are lower than after the implementation of the model. This indicates an improvement in effective communication skills after implementing the QTM learning model, with an average percentage increase of 12.89% for all three competency indicators. Furthermore, the percentage of questionnaire results from the external motivation indicators of students before and after treatment in 20 grade IV students can be found in table 5.

Table 5. Percentages of External Motivation

No.	External Motivation Aspects	Percentages		Increase (%)
		Pretest (%)	Posttest (%)	
1.	Motivation by homeroom teachers	70,32	86,87	16,55
2.	School environment	72,99	89,88	10,89
3.	Family environment	71,34	87,23	15,89
Averages		**71,55**	**87,99**	**14,44**

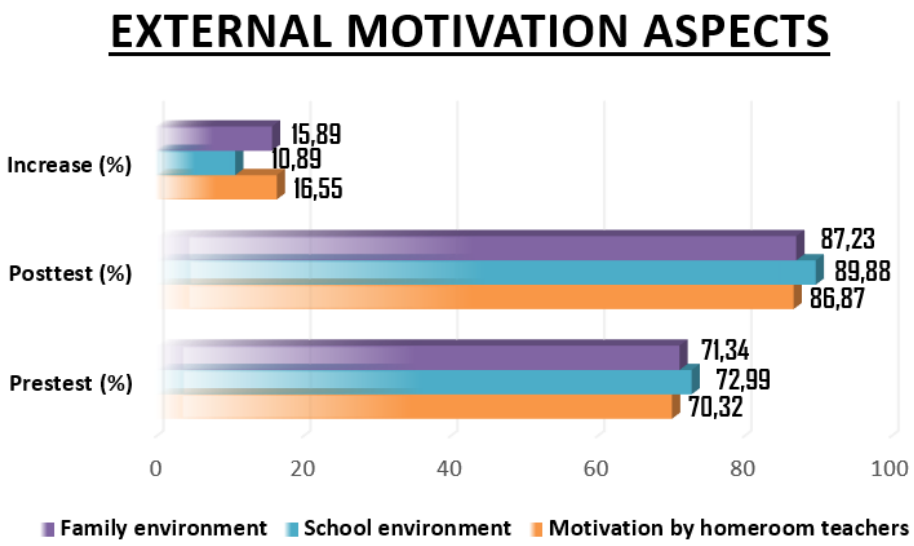

Figure 5. Data Visualization Analysis of External Motivation

The data on the percentage of external motivation indicators in table 5, it can be seen that the scores obtained by grade IV students before receiving treatment using the QTM learning model are lower than after the implementation of the model. This shows an improvement in effective communication skills after applying the QTM learning model, with an average percentage increase of 16.46% for all three external motivation indicators. Thus, the QTM learning approach is able to create an effective and efficient learning environment by utilizing the potential possessed by students, such as students' curiosity, attitudes, abilities, and motivation, as well as considering their learning environment through classroom interaction (Agus, 2023).

Figure 6. Documentation of Quantum Teaching Learning Activities

The results of the interview conducted on Monday, January 29, 2025, we obtained information that grade IV students of SD Negeri 2 Tambun still lack effective communication skills. The lack of media use and learning approaches that have not focused on students are revealed from the interview results. The use of media and learning approaches has a significant impact on the achievement of learning objectives. According to Junge et al. (2021), the use of learning media during the material

introduction stage will enhance interactivity in the learning process and the effectiveness of delivering the learning material at that time.

The results of observations on the implementation of learning on Monday, January 29, 2025 found that grade IV students of SD Negeri 2 Tambun still had difficulty conveying words and expressing thoughts and feelings. This condition is caused by the lack of action taken by teachers towards students in the learning process, including in terms of conveying messages and understanding feelings in communication. Therefore, in developing the ability of students, as stated by Wulandari et al. (2023), An education practitioner must at least have the ability to observe, guide, and develop student competencies in certain aspects, both individually, socially, and managerially.

The results of observations on Monday, January 29, 2025 also show that teachers in grade IV of SD Negeri 2 Tambun still lack interesting media in the learning process. This can be seen when teachers still often adopt lecture methods that are less varied, causing low student participation in learning and making them passive in class. This statement is in line with the view of Shafait et al. (2021) who emphasized that the more accurate the teaching method used by educators, the more effective the learning achievement will be.

Figure 7. Documentation with the Research Team in SD Negeri 2 Tambun (School Project Location)

The results of observations, interviews, and documentation that have been carried out, this study found that the fourth grade students of SD Negeri 2 Tambun: (1) During learning activities, students have shown the ability to think critically. However, there are still many students who feel reluctant to express their opinions or argue in public, (2) The 4th grade students have shown polite behavior towards school members, and although most of the students are honest in learning, not all of them are consistent in maintaining discipline, 3) In the learning process, only some students have a good understanding, while others have difficulty understanding the material, (4) The lack of motivational support from the learning environment is still the main obstacle that hinders students' ability to communicate effectively.

B. Discussions

The implementation of the Quantum Teaching Model (QTM) has been demonstrated to substantially enhance the effective communication skills of fourth-grade students at SD Negeri 2 Tambun within the context of Indonesian language learning, particularly during storytelling activities. This enhancement is reflected in the observed increases across four key indicators of effective communication: curiosity, attitude, competition, and external motivation. The findings indicate that the QTM model, which prioritizes active student engagement, the creation of a meaningful learning environment, and humanistic interaction, effectively fosters a conducive educational setting that supports the development of elementary students' communication competencies.

The most substantial improvement was observed in the curiosity indicator, which increased by 13.40% from the initial condition. This result indicates that the QTM model successfully fosters students' intrinsic motivation to ask questions, respond, and express ideas orally. The fundamental principle of Quantum Teaching, which positions learning experiences at the center of instruction, enables students to construct understanding through exploration and active interaction (Fahmi et al., 2022; Yigiter, 2023). This finding is consistent with previous studies asserting that Quantum Learning–based instruction enhances students' curiosity and communication abilities because learning activities are designed to be contextual and meaningful.

Furthermore, the communication attitude indicator also demonstrated notable improvement, suggesting that students began to communicate their ideas while considering ethical aspects, self-confidence, and respect for interlocutors. This indicates that QTM influences not only the cognitive dimension of communication but also its affective aspects. The model emphasizes the importance of positive teacher–student relationships, allowing students to feel safe and confident in expressing themselves. This finding reinforces the results of Kang et al. (2025), who reported that Quantum Teaching and Learning is effective in fostering positive attitudes and emotional intelligence among students, which directly impacts the quality of interpersonal communication in the classroom.

An increase of 12.89% in the competition indicator demonstrates that the QTM learning environment is capable of creating healthy and constructive competition among students. In storytelling activities, students are encouraged to perform better without experiencing pressure, as competition is embedded within a collaborative and appreciative atmosphere. This finding aligns with the study by Ramya et al. (2025), which reported that the implementation of Quantum Teaching enhances students' confidence and participation in learning activities through reinforcement and the celebration of learning achievements.

Moreover, the external motivation indicator showed the most significant improvement, with an increase of 14.44%. This result indicates that positive reinforcement strategies, praise, and the creation of an enjoyable learning environment within QTM greatly influence students' enthusiasm for engaging in effective communication. These findings are consistent with the research conducted by (Ashwin

et al., 2023), which emphasized that the Quantum Teaching model is more effective than conventional instruction in improving students' motivation and communication skills.

These quantitative findings are further supported by interview results revealing that, prior to the implementation of QTM, most students experienced difficulties in expressing ideas and articulating thoughts verbally. This condition suggests that previous instructional practices did not provide sufficient opportunities for students to actively practice communication skills. The application of QTM addressed this issue by presenting a learning approach that positions students as active subjects in the learning process. This result is in line with the study by Majid et al. (2025), which concluded that Quantum Teaching is effective in enhancing students' communication skills through practice-based activities and language expression.

Additionally, interview data indicated that teachers had not fully created a learning atmosphere that encouraged effective communication habits, both in delivering messages and in understanding students' emotions during communication. Through the implementation of QTM, the teacher's role shifted toward that of a facilitator who is capable of building a communicative and empathetic learning environment. This finding supports the study by Colognesi et al. (2023), which concluded that Quantum Learning enhances the quality of teacher student interactions and students' academic communication skills.

The findings of this study confirm that the Quantum Teaching Learning model possesses significant advantages in improving elementary school students' effective communication skills across cognitive, affective, and motivational dimensions. Nevertheless, the limitation of this study, which involved only a single school, indicates the need for further research with a broader range of participants to strengthen the generalizability of findings regarding the effectiveness of QTM.

CONCLUSIONS

The implementation of the Quantum Teaching Model (QTM) has proven effective in enhancing the communication skills of students at SD Negeri 2 Tambun. Improvements in communication skills were observed across four primary indicators: curiosity increased from 58.80% to 72.20% (an increase of 13.40%), attitude improved by 8.25%, competitiveness increased by 12.89%, and external motivation rose by 14.44%. These findings indicate that prior to the implementation of QTM, most students experienced difficulties in verbally expressing their ideas, and the learning process did not fully support effective communication through classroom management and the creation of a conducive learning environment. In addition to improving cognitive aspects of communication skills, the application of QTM also had a positive impact on students' affective and motivational domains. This supports the development of 21st-century skills, particularly critical thinking, collaboration, and interactive communication. The findings further reinforce evidence that instructional models emphasizing active interaction, meaningful learning environment management, and a humanistic approach can serve as effective strategies for developing elementary school students' communication skills. The

limitation of this study lies in the relatively short duration of QTM implementation; therefore, the observed improvements in communication skills may reflect short-term effects. Future research is recommended to extend the implementation period and to explore the application of QTM across various subject areas in order to obtain more comprehensive evidence regarding the sustained effectiveness of this model in developing interactive communication skills.

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