

# The Effectiveness of the Quantum Learning Model in Improving Students' Speaking Skills at SMKN 1 Palopo

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## Abstract

This study investigated the effectiveness of the Quantum Learning model in improving eleventh-grade students' speaking skills at SMKN 1 Palopo. The research used a quantitative pre-experimental design involving one group that received a pre-test, four treatment meetings, and a post-test. The population consisted of 527 students, while the sample comprised 29 students of class XI AKL 3 selected through random sampling. The research instrument was an oral speaking test assessed through three indicators: pronunciation, comprehension, and fluency. During the treatment, the Quantum Learning model was implemented through the TANDUR framework: Grow, Experience, Name, Demonstrate, Repeat, and Celebrate. Learning activities focused on descriptive text, particularly describing tourist attractions and performing as a tour guide. The data were analyzed using descriptive statistics, normality testing, and a paired sample t-test with SPSS version 26. The results showed that the students' mean score increased from 44.69 in the pre-test to 61.79 in the post-test. The paired sample t-test showed a mean difference of -17.103,  $t = -4.816$ ,  $df = 28$ , and  $\text{Sig. (2-tailed)} = 0.000$ , which was lower than 0.05. These findings indicate a significant improvement in students' speaking skills after the implementation of the Quantum Learning model. The treatment also encouraged students to become more confident, focused, creative, and active in speaking activities. Therefore, the Quantum Learning model can be considered an effective alternative for improving students' speaking skills in English language learning.

**Keywords:** *Quantum Learning; speaking skills; TANDUR; descriptive text; pre-experimental design*

## Introduction

Speaking is one of the essential skills in English language learning because it enables students to express ideas, exchange information, and participate in academic and professional communication. In vocational high schools, speaking skills are especially important because students are prepared to communicate in future workplace contexts. However, many English learners still face problems in speaking, including limited pronunciation accuracy, low fluency, weak comprehension, and lack of confidence. These problems are not only caused by students' internal factors but also by the teaching methods used in the classroom.

Effective speaking instruction requires a learning model that can create an active, meaningful, and enjoyable classroom atmosphere. Leong and Ahmadi (2017) emphasize that speaking involves the process of sharing meaning through verbal and non-verbal symbols, while Brown (2004) highlights pronunciation, fluency, and comprehension as important components in speaking assessment. Therefore, a teaching model should give

students opportunities to practice speaking, receive meaningful input, and build confidence. If learning remains teacher-centered and monotonous, students may find it difficult to participate actively in oral communication.

Quantum Learning is one learning model that can be used to address these problems. DePorter and Hernacki (2001) describe Quantum Learning as an approach that makes learning more comfortable, enjoyable, and meaningful. The model emphasizes a supportive environment, active involvement, student motivation, and celebration of learning progress. In classroom practice, Quantum Learning is commonly implemented through the TANDUR framework, consisting of Grow, Experience, Name, Demonstrate, Repeat, and Celebrate. Through these stages, students are encouraged to connect new material with experience, practice actively, repeat learning points, and receive appreciation for their participation.

Several previous studies have examined Quantum Learning and related methods in speaking instruction. Altin and Saracaoglu (2019) investigated the effect of the Quantum Learning model on foreign language speaking skills, speaking anxiety, and self-efficacy among secondary school students. Nurhayati (2015) found that Quantum Teaching improved students' speaking achievement in a quasi-experimental study. Tambunan (2016) also reported that Quantum Teaching contributed to the improvement of students' speaking skills. These studies show that quantum-based teaching approaches have potential in language learning, particularly when they are used to create an active and enjoyable learning atmosphere.

Although previous studies have discussed Quantum Learning or Quantum Teaching, further research is still needed in vocational school contexts, especially in speaking activities related to descriptive text and real-life communication tasks. The present study focuses on describing places and tour-guide performance as speaking activities for eleventh-grade students of SMKN 1 Palopo. This focus is relevant because describing tourist attractions requires students to organize ideas, pronounce words clearly, and communicate information coherently. The novelty of this study lies in applying the TANDUR-based Quantum Learning model to improve students' speaking skills through descriptive speaking tasks in a vocational high school context. Thus, the research question addressed in this article is whether the Quantum Learning model is effective in improving students' speaking skills at the eleventh grade of SMKN 1 Palopo.

## **Method**

This study used a quantitative method with a pre-experimental one-group pre-test and post-test design. The design was selected because the study aimed to measure the difference between students' speaking skills before and after the implementation of the Quantum Learning model. The research stages consisted of a pre-test, treatment, and post-test. The pre-test was used to measure students' initial speaking ability, the treatment was used to implement Quantum Learning, and the post-test was used to measure students' speaking ability after the treatment.

The research was conducted from July 8 to August 9, 2023 at SMKN 1 Palopo, located at Jalan KHM Kasim No. 10, Pattene, Palopo, South Sulawesi. The population consisted of all students at SMKN 1 Palopo, totaling 527 students across 15 classes. The sample was class XI AKL 3, consisting of 29 students. The sample was selected through random sampling because the class was considered appropriate for the implementation of the speaking treatment.

The research instrument was an oral speaking test. In the pre-test, students watched a video related to tourist attractions and were asked to describe the place orally in English. Their speaking performances were recorded and scored using a rubric modified from speaking assessment criteria. The rubric assessed three indicators: pronunciation, comprehension, and fluency. Each indicator was scored on a scale from 1 to 5, and the final score was converted into a percentage score. The same speaking assessment structure was used in the post-test after the treatment.

The treatment was conducted in four meetings using the Quantum Learning framework known as TANDUR: Grow, Experience, Name, Demonstrate, Repeat, and Celebrate. In the first meeting, students watched a video of Istana Datu Luwu and discussed descriptive text about tourist attractions. In the second meeting, students created descriptive texts about tourist attractions they had visited and presented them orally. In the third meeting, students learned how to act as tour guides, observed a tour-guide video, and practiced identifying the main ideas. In the fourth meeting, students performed as tour guides and described selected tourist attractions using the expressions and structures learned during the treatment.

The data were analyzed using SPSS version 26. Descriptive statistics were used to identify the mean score, standard deviation, minimum score, and maximum score of the pre-test and post-test. Students' scores were also classified into seven categories: excellent, very good, good, fairly good, fairly, fairly poor, and poor. A normality test was conducted using the Kolmogorov-Smirnov and Shapiro-Wilk tests. Because the data were normally distributed, the paired sample t-test was used to test whether there was a significant difference between students' pre-test and post-test speaking scores.

## Results

The analysis of students' speaking scores shows that the students' performance improved after the implementation of the Quantum Learning model. The pre-test was administered before the treatment, while the post-test was administered after four treatment meetings. The descriptive statistics are presented in Table 1.

Table 1. Descriptive Statistics of Students' Speaking Scores

Test	N	Minimum	Maximum	Mean	Std. Deviation	Std. Error Mean
Pre-test	29	26	66	44.69	10.674	1.982
Post-test	29	33	93	61.79	17.145	3.184

Table 1 shows that the students' mean score increased from 44.69 in the pre-test to 61.79 in the post-test. The minimum score also increased from 26 to 33, while the maximum score increased from 66 to 93. This indicates that students' speaking performance improved after learning through the Quantum Learning model.

Table 2. Classification of Students' Speaking Scores in the Pre-test and Post-test

Classification	Score	Pre-test F	Pre-test %	Post-test F	Post-test %
Excellent	96-100	0	0.00	0	0.00
Very Good	86-95	0	0.00	3	10.34
Good	76-85	0	0.00	2	6.90
Fairly Good	66-75	1	3.45	9	31.03
Fairly	56-65	3	10.34	5	17.24
Fairly Poor	36-55	17	58.62	8	27.59
Poor	0-35	8	27.59	2	6.90
Total		29	100.00	29	100.00

Table 2 indicates that most students were in the fairly poor category before the treatment. After the treatment, the distribution shifted to higher categories. Three students reached the very good category, two students reached the good category, and nine students reached the fairly good category. The number of students in the poor category decreased from eight students to two students.

Table 3. Normality Test of the Pre-test and Post-test Scores

Test	Kolmogorov-Smirnov Sig.	Shapiro-Wilk Sig.	Interpretation
Pre-test	0.159	0.189	Normal
Post-test	0.200	0.253	Normal

The normality test shows that both pre-test and post-test scores were normally distributed because the significance values were higher than 0.05. Therefore, the paired sample t-test was used to test the hypothesis.

Table 4. Paired Sample T-test Result

Comparison	Mean Difference	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
Pre-test - Post-test	-17.103	19.124	3.551	-4.816	28	0.000

Table 4 shows that the Sig. (2-tailed) value was 0.000, which is lower than 0.05. This result indicates a significant difference between the pre-test and post-test scores. Therefore, the null hypothesis was rejected and the alternative hypothesis was accepted. In other words, the Quantum Learning model was effective in improving the speaking skills of eleventh-grade students at SMKN 1 Palopo.

## Discussion

The findings indicate that the Quantum Learning model significantly improved students' speaking skills. The increase in the mean score from 44.69 to 61.79 demonstrates that students performed better after the treatment. The paired sample t-test confirmed that the improvement was statistically significant. These results show that the implementation of the TANDUR stages helped students participate more actively in speaking activities and provided structured opportunities to practice pronunciation, comprehension, and fluency.

The improvement can be explained by the characteristics of Quantum Learning. The Grow stage helped attract students' attention and connect the material with their prior experience. The Experience and Name stages provided opportunities for students to observe, identify, and understand language features related to descriptive text. The Demonstrate stage encouraged students to speak orally and perform as tour guides, while the Repeat stage helped strengthen their understanding through review and practice. Finally, the Celebrate stage gave appreciation to students, which could increase motivation and confidence. This sequence created a learning atmosphere that was more active and enjoyable than conventional speaking practice.

The use of descriptive text and tourist attraction topics also supported the speaking process. Students were not asked to speak without context; instead, they were guided to describe places they had seen in videos or visited in real life. This made the speaking task more meaningful and helped students organize information more coherently. The tour-

guide activity also encouraged students to speak with a clearer purpose because they had to explain a place to an audience. As a result, students had more opportunities to practice speaking in a communicative situation.

These findings are consistent with previous studies. Nurhayati (2015) found that Quantum Teaching improved students' speaking achievement, while Tambunan (2016) reported that Quantum Teaching contributed to students' speaking skills. The findings also support Altin and Saracaoglu's (2019) discussion on the role of the Quantum Learning model in foreign language speaking contexts. Although the current study used a pre-experimental design, the improvement in students' scores suggests that Quantum Learning is a promising model for speaking instruction, especially when implemented through interactive and performance-based activities.

The study also shows that students became more confident, creative, focused, and less bored during learning. This is important because speaking anxiety and lack of confidence often prevent students from expressing ideas in English. By giving students repeated practice, positive reinforcement, and opportunities to demonstrate their ability, Quantum Learning can help reduce psychological barriers in speaking. The model therefore supports not only cognitive improvement but also affective aspects of speaking learning.

However, the implementation still had limitations. The study did not use a control group, so the improvement cannot be compared with another teaching method. The sample was limited to one class with 29 students. In addition, the treatment could be strengthened by involving students more directly with real learning environments. For example, when students learn to describe a place such as Istana Datu Luwu, taking them to the actual location could make the Experience stage more authentic and aligned with Quantum Learning principles. Future studies should use larger samples, longer treatment periods, and more direct real-world speaking tasks.

## **Conclusion**

This study concludes that the Quantum Learning model was effective in improving the speaking skills of eleventh-grade students at SMKN 1 Palopo. The conclusion is supported by the increase in students' mean score from 44.69 in the pre-test to 61.79 in the post-test. The paired sample t-test also showed a significant result, with Sig. (2-tailed) = 0.000 < 0.05. Therefore, the null hypothesis was rejected and the alternative hypothesis was accepted.

The findings imply that Quantum Learning can be used as an alternative model for teaching speaking because it encourages active participation, repeated practice, confidence, creativity, and student appreciation. Nevertheless, this study was limited by its pre-experimental design and small sample size. Future researchers are encouraged to use control groups, larger samples, and real-world speaking contexts. English teachers are also encouraged to adapt the TANDUR stages creatively, especially by connecting speaking materials with students' actual environment and experiences.

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## References

- Afacan, O., & Gurel, I. (2019). The effect of Quantum Learning model on science teacher candidates' self-efficacy and communication skills. *Journal of Education and Training Studies*, 7(4), 86-95.
- Altin, M., & Saracaoglu, A. S. (2019). The effect of Quantum Learning model on foreign language speaking skills, speaking anxiety and self-efficacy of secondary school students. *Journal of Language and Linguistic Studies*, 15(3), 1083-1104.
- Anuradha, R. V., Raman, G., & Hemamalini, H. C. (2014). *Methods of teaching English*. Neelkamal Publications.
- Brown, H. D. (2004). *Language assessment: Principles and classroom practices*. San Francisco State University.
- Cohen, L., Manion, L., & Morrison, K. (2005). *Research methods in education* (5th ed.). Routledge Falmer.
- DePorter, B. (2008). *Quantum teaching: Putting quantum into practice learning in classrooms*. Mizan Media Utama.
- DePorter, B., & Hernacki, M. (2001). *Quantum learning: Membiasakan belajar nyaman dan menyenangkan* (A. Abdurrahman, Trans.). Mizan Media Utama. (Original work published 1992)
- Hamdayama, J. (2014). *Model dan metode pembelajaran kreatif dan berkarakter*. Ghalia Indonesia.
- Huda, W., Mardikantoro, H. B., & Haryadi, H. (2018). Quantum Learning model influence using series of drawings towards the fifth grade students' narrative writing skill. *Journal of Primary Education*, 7(3), 332-341.
- Kuning, D. S. (2020). Applications of social media to learn speaking. *Jurnal Elsa*, 18(1), 77-85.
- Leong, L. M., & Ahmadi, S. M. (2017). An analysis of factors influencing learners' English speaking skill. *International Journal of Research in English Education*, 2(1), 34-41.
- Mulyasa, E. (2015). *Menjadi guru profesional*. Rosdakarya.
- Nurhayati. (2015). *The effectiveness of Quantum Teaching toward students' speaking achievement*. Unpublished thesis, STAIN Ponorogo.
- Pourhosein Gilakjani, A. (2016). What factors influence the English pronunciation of EFL learners? *Modern Journal of Language Teaching Methods*, 6(2), 314-326.
- Sugiyanto. (2010). *Model-model pembelajaran inovatif*. Yuma Pustaka.
- Sunarya, N., & Pitaloka, F. (2018). Students' perception of English language anxiety in speaking skill. *Project Journal*, 1(3), 281.
- Susanti, E. (2019). Willingness to communicate in foreign language acquisition. *Jurnal Edukasi Lingua Sastra*, 17(2), 56-63.
- Tambunan, L. R. (2016). The effect of using Quantum Teaching in improving the students' speaking skills to the eleventh grade of SMA Negeri 6 Padang Sidempuan in 2015-2016 academic year. *Jurnal ESTUPRO*, 1(1).
- Tarigan, H. G. (2015). *Speaking as a language skill*. Angkasa.
- Zarrabi, F. (2018). English in an EFL context: Teachers' and learners' motivations for English language learning. *English Language Teaching*, 11(9), 17-25.