THE IMPACT OF QUANTUM LEARNING MODEL TYPE TANDUR ASSISTED BY QUIZZIZ MEDIA ON ENGLISH VOCABULARY MASTERY ABILITY

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ABSTRACT

This study aims to determine (1) the comparison of the improvement of English vocabulary mastery between fifth-grade students taught using the Quantum Learning Model of the TANDUR type assisted by Quizizz and those taught using the cooperative learning model Think-Pair-Share (TPS) assisted by Flash Cards and (2) the significant effect of the TANDUR model assisted by Quizizz on English vocabulary mastery. The background of this research is based on the low vocabulary mastery of elementary school students. The research employed a quasi-Experiment design with a nonequivalent control group model. The subjects consisted of 70 fifth-grade students at UPTD SDN Purwamekar. Data analysis included descriptive statistics, paired sample t-tests, N-Gain analysis, and simple linear regression. The results showed that the Experiment group's average score increased from 36 to 89, with an N-Gain of 0.817 In contrast, the control group improved from 41 to 79 with an N-Gain of 0.632. The paired t-test significance value was 0.000 ($p < 0.05$), and the coefficient of determination (R^2) was 0.886, indicating that 88.6% of the improvement was attributed to the learning treatment. The results demonstrate that the TANDUR model, assisted by Quizizz, is effective in enhancing vocabulary mastery and is a relevant approach to be applied as an innovative, technology-based learning strategy at the elementary school level.

Keywords: TANDUR Quantum type, Quizziz media, vocabulary mastery, English lesson.

A. INTRODUCTION

Proficiency in English as a international language is essential in today's era of globalization (Sari and others., 2021). Mastering English can create significant opportunities in many areas of life (Jin & Webb, 2025; Rullyanti & Putra, 2023).

However, students' mastery of English is still relatively low, According to EF's 2024 English Proficiency Index Report, with a score of 468, Indonesia is ranked 80th out of 111 countries, which falls into the low category when referring to the CEFR (Common European Framework of Reference for Languages). (EF Global Site, 2024).

Low mastery of English is due to the lack of mastery of English vocabulary as a fundamental aspect, where the amount and quality of vocabulary owned by a person determines the level of proficiency in the language. (Jin & Webb, 2025).

This is in line with the findings of observations made by researchers in class V UPTD SDN Purwamekar. Based on the results of interviews with homeroom teachers, the implementation of English language learning at the school is still not running optimally due to the lack of teaching experts in the field of English and insufficient lesson hours. This condition has a significant impact on the students, leading to a low mastery of English. Data from the previous midterm summative results showed that 55 out of 92 students scored below the predetermined Minimum Completion Criteria (KKM) of 75. This finding indicates the need to improve the quality of English language learning, especially vocabulary mastery, to support the achievement of students' basic competencies more effectively.

Researchers have tested an innovative approach to address the low mastery of English vocabulary among fifth-grade elementary school students. This approach utilizes the TANDUR type of quantum learning model, which consists of six steps: Grow, Experience, Name, Demonstrate, Repeat, and Celebrate. The aim of this model is to foster an active, enjoyable, and meaningful learning environment. Studies conducted by Fajarini (2023), Kusuma and others. (2018), Nurmalia (2020), Syukria (2019), and Vanwyngaarden and others. (2024) indicate that the TANDUR-type quantum learning

model is effective in enhancing student learning outcomes in English lessons.

Implementation of educational games as part of the TANDUR approach has been proven to increase student's awareness of their involvement in the learning process (Parks & Tellier, 2007).In this case, researchers utilized the Quizizz digital platform as a learning medium that integrates material with elements of educational games through interactive quizzes.

This platform allows teachers to deliver material while providing exercises in the form of quizzes that are packaged like games, thereby increasing active participation and student interest in learning. As a learning media, Quizizz plays a role in helping students focus more, be actively involved, and contribute to improving learning outcomes, especially in English language learning.

Considering this background, the author carried out a reseach titled: "*The Impact of Quantum Learning Model Type TANDUR Assisted by Quizziz Media on English Vocabulary Mastery Ability*."

B. Reseach Method

This study utilizes a quasi-Experiment design, specifically a nonequivalent control group design. This design involves both Experiment and control groups, each undergoing a pretest to establish their initial condition before the treatment is administered. The study then assesses the impact of the treatment by conducting a posttest on the Experiment group. (Sugiyono, 2023)

Table 1 Nonequivalent Control Group Reseach Design

Class	*Pretest*	*Treatment*	*Posttest*
Experimence	O1	X1	O2
Control	O3	X2	O4

(Sugiyono, 2023)

The research design was chosen because it will produce more accurate data with the availability of comparative materials between the two classes. This design is in perfect alignment with the objectives of this study, which is to find out the effect of using learning models in improving the ability to master English vocabulary in English language learning in grade V elementary school.

The population in this study amounted to 70 students who were

divided equally into two classes. Class VA, the Experiment group, used the TANDUR type quantum learning model with Quizziz media assistance, while class VB, the control group, employed the Think Pair Share type cooperative learning model with Flash Card media assistance. The treatment for each class was carried out for a comprehensive 4 days, with a duration of 2x45 minutes.

C. Result and Discussion

Significant Difference in English Vocabulary Mastery Ability between Experiment and Control Classes

The significant difference in the mastery of the experiment class and the control class can be seen in Table 2.

Table 2 *Pretest*, *Postest* and *N-Gain* Vocabulary Mastery Students Class V UPTD SDN Purwamekar

Experiment Class						
N	*Pretest*		*Postest*		*N-Gain*	
35	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD
	36	15,64	89	6,89	0,82	0,116

Control Class						
N	*Pretest*		*Postest*		*N-Gain*	
35	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD
	41	16,43	79	9.31	0,63	0,149

The experiment class obtained an average posttest of 89 and an N-Gain value of 0.82 (effective category), while the control class obtained an average posttest of 79 and an N-Gain of 0.63 (moderately effective category). This shows that the two groups experienced different improvements, where the experiment class using the TANDUR type quantum learning model (which emphasizes active student participation and individualized learning) with Quizziz media assistance was more effective in improving students' vocabulary mastery ability than the control class using the TPS type cooperative learning model (which focuses on group collaboration and peer learning) with Flash Card media assistance.

The effectiveness of the TANDUR type quantum model supported by interactive learning media in the form of Quizziz makes the learning atmosphere more enjoyable, so it has an impact on better absorption of material, which has an effect on better learning outcomes. This is in line with the findings in research conducted by (Erlita & Sari, 2023 Fauziyyah and others., 2024 Rahmah and Saragih, 2023 Utari and others., 2021 Wahyuni and others., 2023), which states that Quizziz can

create a pleasant learning atmosphere with images and quizzes so that students can better absorb the material.

The Impact of TANDUR-type Quantum Learning Model on Students' English Vocabulary Mastery Ability

The impact of the model on posttest results is illustrated in the simple linear regression analysis results presented in Table 3.

Table 3 simple linear regression analysis results of Pretest dan Posttest Eksperiment Class

R^2	*R Square*	*Std. error of the estimate*
0,886	0,785	3,192

Table 3 reveals the coefficient of determination (R^2) of 0.886, indicating that a substantial 88.6% of the increase in the score of English vocabulary mastery ability is directly influenced by the TANDUR type quantum learning model assisted by Quizizz media. The remaining 11.4% is influenced by other factors outside the treatment, underscoring the TANDUR model's significant influence.

This supports the findings of research conducted by DePorter (2007) and Vanwyngaarden and others., which indicate that the TANDUR-type quantum learning model positively influences student learning outcomes. This is because the learning steps involved incorporate the concept of accelerated learning and enhance students' memory retention of the material.

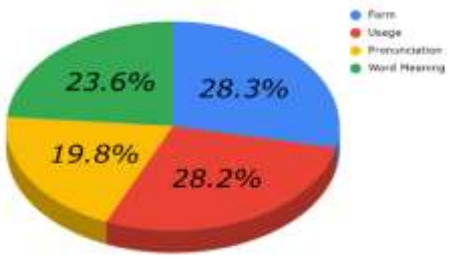

Figure 1 Percentage Increase Per Indicator

In Figure 1, there is an increase in students' mastery of English vocabulary across 4 test indicators. namely form by 28.3%, usage by 28.2%, word meaning by 23.6%, and pronunciation with a percentage of 19.8%.

The TANDUR type quantum learning model, when augmented by Quizziz, has proven to be more effective in enhancing students' memory ability to recall word forms and usage in a sentence. However, it is less effective in improving students' understanding of word meanings in different contexts and their pronunciation of words.

E. Conclusion

The TANDUR-type quantum learning model assisted by Quizizz media improves students' vocabulary mastery skills better than the TPS-type cooperative learning model assisted by Flash Card media with an enhancement of 88.6%.

The highest improvement was seen in the form (0.68) and usage (0.58) aspects, showing that this model promotes students' understanding of vocabulary structure and usage in an active, meaningful learning context.

Based on the results of the study, which underscore the importance of improving students' English vocabulary skills, particularly in the aspects of pronunciation and word meaning, future researchers are advised to focus on these areas. The study's findings are significant and can guide further research in the field of language acquisition, particularly in the context of vocabulary skills improvement.

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