Gamified Team Tournaments with QuizWhizzer: Igniting English Learning Outcomes

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Abstract

The study addresses the persistent issue of low student motivation and engagement in English learning, which often leads to suboptimal academic outcomes. To tackle this problem, the research explores the integration of Team Game Tournament (TGT) and QuizWhizzer, combining gamification and collaborative learning strategies. The objective is to evaluate the effectiveness of this method in improving English learning outcomes among junior high school students. A quantitative approach was employed, involving 29 ninth-grade students from UPTD SMPN Satap 9 Barru during the 2024–2025 academic year. Participants were divided into experimental and control groups. The experimental group utilized TGT and QuizWhizzer, while the control group used Quizizz. Pre-test and post-test data were collected, and a t-test analysis was conducted to measure the impact of the intervention. Results demonstrated a significant improvement in the experimental group's post-test scores, indicating the method's effectiveness in enhancing student motivation, engagement, and academic performance. The findings suggest that integrating gamification and collaborative strategies can provide an innovative and effective solution to improve learning outcomes in English education.

Keywords: learning outcomes; QuizWhizzer; TGT

Introduction

Integrating gamified tools and collaborative learning strategies has transformed the education landscape, particularly in language learning (Yaccob et al., 2022). As active participants in the learning process, learners play pivotal roles in determining the success of teaching strategies, particularly in collaborative and gamified educational settings (Nur et al., 2014). Among these innovations, QuizWhizzer and Team Game Tournament (TGT) have gained prominence for their ability to boost student engagement and learning outcomes (Kazu & Kuvvetli, 2023). Gamification, defined as the application of game elements in learning contexts, introduces mechanisms such as points, badges, and leaderboards to create a more interactive and enjoyable learning experience (Park & Kim, 2021). Beyond entertaining students, gamification can enhance motivation and academic achievement (Naseri et al., 2023). Hellín et al., (2023), highlighted that gamified environments significantly enhance student engagement, with the majority of participants reporting a heightened sense of involvement in their learning (Latifa & Wadjedy, 2020). Similarly, Rivera & Garden (2021)that the incorporation of

gamification elements in educational settings led to measurable academic improvements, with students achieving higher performance outcomes compared to traditional methods.

QuizWhizzer exemplifies how gamified tools can enrich the learning experience (Yanuarto & Susanti, 2023). Features like instant feedback, leaderboards, and interactive quizzes foster active participation and peer collaboration (Zainuddin, 2024). Furthermore, these elements align with the principles of active learning, which emphasize student engagement and real-time interaction to deepen understanding (Alamri, 2024). Suwarni et al., (2023) emphasized the importance of timely feedback in driving effective learning, a core element of QuizWhizzer's design. As timely feedback allows students to identify gaps in their understanding and adjust their strategies, it becomes an essential component in achieving better academic outcomes (Luo, 2022). However, as Saputra & Rusmana (2021) noted, accessibility remains a key challenge, underscoring the need for equitable access to such digital tools to ensure inclusivity.

Complementing gamification, TGT is a collaborative learning strategy that merges teamwork with competition. Originally conceptualized by Slavin (1995), TGT has proven to enhance both academic and social skills. Studies by (Nurchasanah (2020) and Hidayah & Sari (2020) highlighted how TGT fosters motivation, communication, and critical thinking. By encouraging students to work together towards shared objectives, TGT not only improves learning outcomes but also builds essential interpersonal skills (Aidarahma et al., 2022). This strategy also creates a more engaging learning environment, making students feel more active and enjoy the learning process more deeply (Latifa, 2021). Nonetheless, its success relies on thoughtful planning, such as structuring tasks and balancing team compositions to promote active participation (Tussadiah & Febriyana, 2021).

These approaches are grounded in well-established educational theories. Vygotsky's (1978) social constructivism underscores the importance of learning through social interaction within the Zone of Proximal Development (ZPD). In this context, TGT facilitates peer collaboration, enabling students to achieve beyond their individual capacities. Similarly, Werbach & Hunter's (2012) gamification theory highlights how game elements like rewards and competition can sustain engagement and motivation. These theories, alongside Krashen (1982) emphasis on meaningful input in language learning, provide a robust framework for integrating QuizWhizzer and TGT into English education.

Despite their potential, existing studies often explore gamification and TGT separately, leaving a gap in understanding their combined impact. While QuizWhizzer has been shown to enhance engagement (Hamid et al., 2022)and TGT has demonstrated improvements in collaboration and motivation (Riyanti et al., 2024), little is known about how these strategies work together to support English learning outcomes. Addressing this gap is crucial, particularly in the face of persistent challenges such as low motivation and disengagement among language learners. A survey by the British Council (2022) revealed that 60% of students find traditional methods monotonous, which negatively impacts their learning. Similarly, data from the Ministry of Education and Culture (2021) indicated that only 40% of students meet expected English proficiency levels by the end of secondary school. These findings underscore the urgency of adopting innovative teaching strategies

that resonate with students.

This study seeks to explore how the integration of QuizWhizzer and TGT can address these challenges by creating a more engaging and effective learning environment. Specifically, it aims to answer the question: "How do team game tournaments supported by QuizWhizzer influence students' English learning outcomes?" By investigating this question, the research aspires to provide practical insights for educators seeking to enhance language education through the combined use of gamification and collaborative learning.

Method

This study employed a quantitative approach to analyze the impact of team-based tournaments supported by QuizWhizzer on students' English learning outcomes. The primary aim was to measure the significant differences in students' English learning outcomes before and after the intervention using gamified methods. A quantitative method was deemed appropriate as it facilitates measurable data collection and statistical analysis to clearly demonstrate the effectiveness of QuizWhizzer in educational contexts. A t-test was utilized to test the hypothesis that significant differences exist between the control and experimental groups. This study aimed to contribute to the development of more effective and engaging methods for teaching English.

The participants in this study were 29 ninth-grade students from UPTD SMPN Satap 9 Barru during the 2024–2025 academic year. This population was selected because ninth graders are at an optimal cognitive developmental stage to grasp more complex English language concepts. Additionally, their foundational knowledge of English provided a solid basis for evaluating the intervention's effectiveness. The relatively small sample size allowed for a more in-depth study and detailed data collection regarding students' learning experiences and outcomes. This research is expected to provide valuable insights into English learning dynamics at the junior high school level in Indonesia (Sugiyono, 2014).

The instruments used in this study included pre-tests and post-tests designed to assess students' English proficiency. The pre-test measured the students' baseline abilities before the intervention, while the post-test evaluated improvements in their skills following the application of QuizWhizzer and team-based tournaments. These instruments provided quantitative data essential for analyzing the differences in learning outcomes between the control group (using Quizizz) and the experimental group (using TGT and QuizWhizzer). This data is expected to offer a clear picture of the effectiveness of the implemented methods in improving students' English learning outcomes.

The data collection process began with the administration of a pre-test to assess students' initial English proficiency. Afterward, students were divided into two groups: a control group and an experimental group. The control group was taught using Quizizz, while the experimental group used QuizWhizzer combined with the team game tournament method. The intervention took place over six sessions, each designed to facilitate active student interaction and enhance learning motivation. Upon completing the intervention, both groups undertook a post-test to evaluate differences in learning outcomes. This procedure ensured that the collected data accurately reflected the impact of the methods on students' English learning

outcomes (Outhwaite et al., 2020).

The data analysis aimed to evaluate the effectiveness of using QuizWhizzer in the Team Game Tournament (TGT) method to improve students' learning outcomes. Data from the pre-tests and post-tests were analyzed using a t-test to compare the average learning outcomes of the control and experimental groups. The t-test was deemed appropriate for determining significant differences between two independent groups (Hazra & Gogtay, 2016). The results are expected to provide clear insights into the impact of the applied learning methods on students' English learning improvement. Ultimately, this study aims to contribute not only to the development of English language teaching theories but also to provide practical recommendations for educators in implementing effective classroom strategies.

Results

The results of this study were analyzed using the SPSS 29 statistical application, employing descriptive and inferential approaches to evaluate the impact of integrating Team Game Tournament (TGT) and QuizWhizzer on students' English learning outcomes. The analysis focuses on determining whether the data meets the assumptions required for parametric tests, such as normality and homogeneity, before conducting further statistical tests.

Table 1. Tests of Normality

	Class	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Result	Pre-test (Control)	.199	14	.139	.941	14	.435
	Post-test (Control)	.180	14	.200*	.945	14	.485
	Pre-test (Experimental)	.190	15	.152	.944	15	.430
	Post-test (Experimental)	.203	15	.097	.914	15	.155

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

The normality test aims to ensure that the data on student learning outcomes in this study are normally distributed. The normality test results show a significance value greater than 0.05, which means that the data is normally distributed. This ensures that the normality assumption is met, so parametric statistical analysis, such as the t-test, can be validly used to evaluate differences in learning outcomes between experimental and control groups. With normal data distribution, the analysis results have high accuracy in representing the relationship between the variables under study.

Table 2. Tests of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Value	Based on Mean	.332	1	27	.569
	Based on Median	.202	1	27	.656
	Based on Median and with adjusted df	.202	1	25.692	.657

Based on trimmed mean	.278	1	27	.602

The homogeneity test was conducted to determine whether the variance of the learning outcomes data from the two groups was similar. Based on the results of the Levene test, the significance value of 0.569, greater than 0.05, indicates that the variances of the two groups are homogeneous. This equality of variance is important for the validity of the t-test analysis, as it allows direct comparison between the experimental group using Team Game Tournaments with QuizWhizzer and the control group using Quizizz. The homogeneity of the data supports the conclusion that the differences in learning outcomes found come from the treatment given, not from differences in group variance.

Table 3. Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		F	Sig.	t	Df	Significance One-Sided p	Two-Sided p			Lower	Upper
Value	Equal variances assumed	0.332	0.569	-3.210	27	0.002	0.003	-6.629	2.065	-10.866	-2.391
	Equal variances not assumed			-3.190	25.449	0.002	0.004	-6.629	2.078	-10.905	-2.352

Based on the Independent Samples Test table, the Levene's test result shows a significance value (Sig.) of 0.569, which is greater than the threshold of 0.05. This indicates that the variance in learning outcomes between the group treated with Gamified Team Tournaments with QuizWhizzer and the other group is homogeneous. Assuming equal variances, the t-test result shows a significance (two-tailed) value of 0.003, which is less than 0.05. This result indicates a statistically significant difference in students' English learning outcomes before and after being treated using the method. The average difference in learning outcomes between the groups is -6.629, with a 95% confidence interval ranging from -10.866 to -2.391, demonstrating a substantial impact of the treatment on students' academic performance.

The findings of this study indicate that the implementation of Gamified Team Tournaments with QuizWhizzer significantly improves students' learning outcomes in English language learning. This method not only provides an innovative, technology-based learning experience but also effectively enhances student engagement and motivation to learn. The effectiveness of this method is evident from the significant difference in learning outcomes between the students who

received the treatment and those who did not. Therefore, Gamified Team Tournaments with QuizWhizzer can be recommended as an interactive and effective teaching approach to support the achievement of learning objectives in English classes. Integrating technology with gamified learning methods offers an innovative solution to increase student engagement and improve overall learning outcomes (Bouchrika et al., 2021).
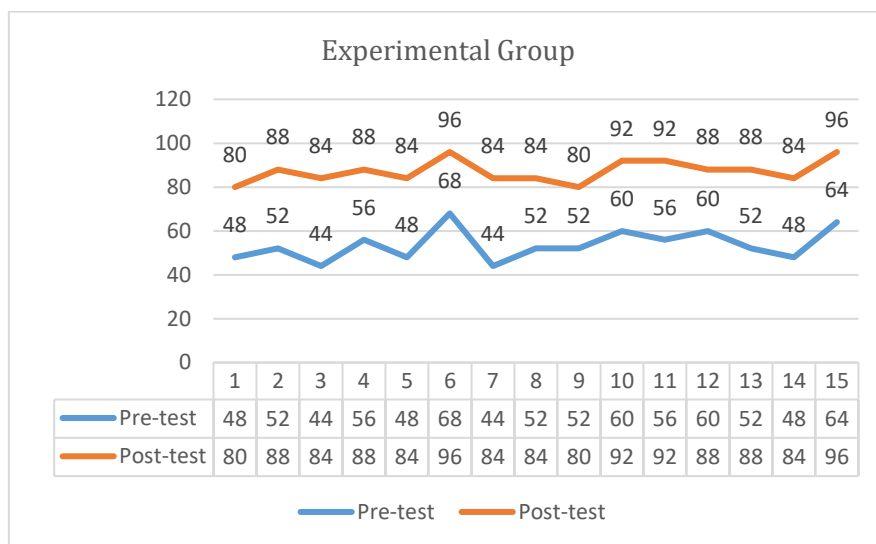

Figure 1. comparison of pre-test and post-test scores in the experimental group

Based on the data above, students' learning outcomes showed a significant improvement after using Team Game Tournament with QuizWhizzer. Students' pre-test scores ranged from 44 to 68, with an average of 54, indicating that their initial English learning abilities were in the low to moderate category. However, after the treatment, post-test scores increased significantly, ranging from 80 to 96, with an average of 87. This 36 point increase in average scores reflects the effectiveness of the gamification-based learning method in enhancing students' understanding of the material.

In greater detail, this improvement was observed across all students in the experimental group, where each student demonstrated higher post-test scores compared to their pre-test scores. The student with the lowest pre-test score of 44 achieved a post-test score of 84, while the student with the highest pre-test score of 68 improved to 96. This uniform improvement indicates that the competition-based gamification method benefits not only students with higher initial abilities but also those with lower starting points. It highlights the method's capability to create an inclusive and effective learning experience.

The data emphasizes that the elements of competition and team collaboration applied in the classroom play a crucial role in enhancing students' motivation and learning outcomes. The consistent improvement across all students demonstrates that this method is not only effective in increasing their understanding of the learning material but also positively impacts their engagement and active participation in the learning process. Therefore, this method can be recommended as an innovative learning approach that supports optimal improvement in students' learning outcomes.
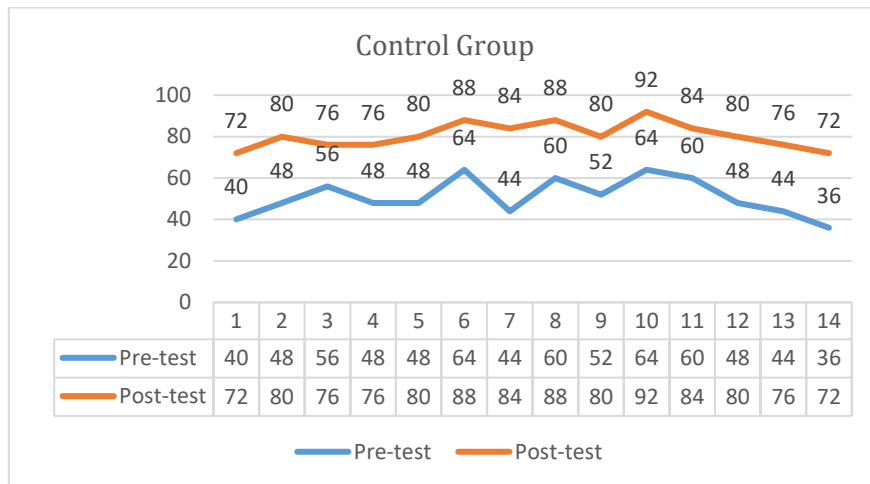
Fiqure 2. comparison of pre-test and post-test scores in the control group

Based on the data displayed, there is an improvement in students' English learning outcomes after using Quizizz as a learning media. Pre-test scores in the control group ranged from 36 to 64, with an average of approximately 51. This indicates that students' understanding of the material before the treatment varied widely, with some students demonstrating relatively low comprehension. After the intervention using Quizizz, post-test scores significantly increased, ranging from 72 to 92, with an average of 81. These results suggest that Quizizz had a positive impact on students' learning outcomes in English.

The improvement was evident in nearly all students, although with less variation compared to the experimental group. For instance, the student with the lowest pre-test score of 36 experienced a modest improvement to 72 in the post-test. Meanwhile, the student with the highest pre-test score of 64 achieved a post-test score of 92. Overall, while there was a noticeable improvement, the pattern of growth appeared more stable and less varied than in the experimental group, which used team game tournament with Quizwhizzer.

The data indicates that Quizizz, as an interactive technology-based learning medium, can enhance students' learning outcomes. However, it does not produce the same level of impact as the gamification and competition-based method used in the experimental group. The improvements recorded in the control group were more uniform but lacked the higher degree of variation seen in the experimental group. This suggests that while tools like Quizizz are effective for improving learning outcomes, integrating competition and team collaboration elements, as in the experimental method, can have a greater effect on students' motivation and comprehension.

Discussion

The results showed that the implementation of team game tournament tournament with QuizWhizzer significantly improved students' English learning outcomes compared to the Quizizz-based method. In the experimental group, the pre-test scores ranged from 44 to 68 with an average of 54, increasing to 80 to 96 with an average of 86 after the intervention. Meanwhile, the control group using

Quizizz showed a lower improvement, from pre-test scores of 36 to 64 with an average of 51 to post-test scores of 72 to 92 with an average of 81. These findings suggest that the use of competition-based gamification and team collaboration through QuizWhizzer not only improved students' material understanding, but also their learning motivation and active engagement during the learning process. This significant change can be explained through Vygotsky's social constructivism theory (1978), which emphasizes the importance of social interaction in learning, as well as Werbach & Hunter's gamification theory(2012), which shows how competition and reward elements can motivate students more effectively. Teachers need to pay attention to the importance of designing lessons that support active collaboration and healthy competition among students, while students should be directed to utilize immediate feedback and interactive learning experiences to identify and correct their shortcomings. Thus, the integration of gamification technology such as QuizWhizzer is able to create an inclusive and effective learning environment to improve student learning outcomes.

The use of *Team Game Tournament* (TGT) supported by QuizWhizzer in English language learning has significant practical implications for teachers, students and all educational stakeholders. For teachers, the findings demonstrate the importance of designing learning strategies that are not only oriented towards meeting curriculum targets but are also able to increase student motivation and active engagement. The use of gamification elements, such as competition, rewards and team collaboration, requires careful planning, from the preparation of interactive materials to the formation of heterogeneous working groups to ensure inclusivity and fairness (Firmansyah & Rosmansyah, 2024). In this collaborative setting, students are encouraged to share ideas and work together when they encounter difficulties in understanding the text, fostering a sense of mutual support and collective problem-solving (Nur, 2021). By providing immediate feedback and fun learning experiences, teachers can create a conducive learning environment for all students, both high and low ability, creating a learning atmosphere that encourages active participation and healthy competition (Dörnyei & Muir, 2019).

For education policy makers and other education actors, the results of this study highlight the need to support the use of technology in the learning process through providing equal access and training for teachers in implementing gamification-based methods. Investment in technology infrastructure and capacity building for educators are key to maximizing the effectiveness of this method. In addition, education actors at the school level are expected to encourage collaboration and competition-based learning innovations, by adapting this approach to their respective local contexts. Thus, educational policies that support the integration of gamification such as QuizWhizzer in English language learning can have a positive impact not only on improving student learning outcomes, but also on developing 21st century skills, such as communication, cooperation, and creative problem solving.

The results of this study make a significant theoretical contribution to the development of English language education and teaching, particularly at the junior secondary school level. In the context of learning based on Vygotsky's social constructivism theory(1978), the use of *Team Game Tournament* (TGT) and QuizWhizzer supports collaborative learning that encourages students to learn

through social interaction within the *Zone of Proximal Development* (ZPD). This approach not only strengthens students' understanding of English materials, but also provides a more meaningful learning experience through collaboration and competition. By integrating gamification elements such as rewards, immediate feedback and leaderboards, this research enriches active learning theory which emphasizes the importance of students' involvement in the learning process as active subjects, not just recipients of information.

More broadly, this research also contributes to the development of English language learning theories that are relevant to the needs of the 21st century. The findings show that the use of technology such as QuizWhizzer, which supports gamification-based learning, not only improves students' motivation and learning outcomes but also facilitates the development of communication and problem-solving skills. In the context of English language teaching, this approach helps students improve language skills through interactive practice and meaningful repetition (Nitta & Baba, 2018). In addition, these results provide a conceptual framework for educational researchers and practitioners to further explore the effectiveness of integrating gamification and collaborative learning in various aspects of language teaching. Thus, this study is not only relevant to English language teaching theory but also broadens the scope of educational technology implementation in supporting more innovative and inclusive learning.

This study has some similarities with previous research in terms of the positive impact of using gamification and collaborative learning strategies on student learning outcomes. As revealed by Yaccob et al., (2022) and Kazu & Kuvvetli (2023)the integration of gamification tools such as QuizWhizzer can improve student engagement and their academic outcomes. In addition, the research of Hellín et al., (2023) and Rivera & Garden (2021) also support that gamification elements such as leaderboards, points, and rewards have a significant impact on student motivation and performance. These findings are in line with research results showing that TGT, as a collaborative method designed to blend teamwork and competition, is able to improve students' social and academic skills, as proposed by Nurchasanah (2020). Support from previous research shows consistency in the effectiveness of gamification and collaboration approaches to learning, particularly in the context of language education.

However, the difference of this study lies in the exploration of the combination between gamification through QuizWhizzer and TGT collaborative learning strategy, which has rarely been discussed in one integrated study. Previous research tends to focus on one of the approaches, thus providing less insight into how these two strategies can complement each other in improving student learning outcomes. For example, Hamid et al., (2022) focused more on the role of QuizWhizzer in increasing student engagement, while Riyanti et al., (2024) emphasized the contribution of TGT in building collaboration and motivation. This study fills the gap by showing that the combination of these two approaches not only increased students' motivation and engagement but also significantly improved their English learning outcomes. This difference may be due to the more holistic approach in this study, which was designed to integrate aspects of gamification and collaboration together, resulting in a more comprehensive impact on student learning.

Conclusion

This study shows that the use of Team Game Tournament (TGT) supported by QuizWhizzer significantly affects the improvement of students' learning outcomes in English language learning. The results of the analysis showed a significant difference between the group of students using this method and the control group using the conventional Quizizzebased method. The TGT-based gamification method with QuizWhizzer increased students' engagement, motivation, and understanding of learning materials more effectively through elements of healthy competition and team collaboration. Thus, the integration between interactive gamification and collaborative learning approaches can strengthen student learning outcomes and create a more inclusive learning experience.

However, this study has some limitations. One of the main limitations is the limited sample size, which involved only 29 students from one school. This limits the generalizability of the results to a wider population. In addition, this study only focused on cognitive aspects in the form of learning outcomes without further examining affective aspects or social skills that may also be improved through this method. Future research should include a larger sample size from different school backgrounds to increase external validity. In addition, further research should also examine the impact of this method on social skill development, long-term motivation, as well as the utilization of this method in other subjects.

As a recommendation for future study development, further research could explore the development of a more adaptive gamification-based learning platform, tailored to heterogeneous student ability levels. In addition, collaboration between researchers, educational technology developers, and policy makers needs to be strengthened to design gamification-based learning models that can be widely applied at various levels of education. With continuous innovation, this method is expected to not only improve students' academic achievement but also support the development of 21st century skills such as teamwork, problem solving and digital literacy.

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