Journal of General Education and Humanities
Vol. 5, No. 1, February 2026, pp. 555 – 566, https://doi.org/10.58421/gehu.v5i1.924
ISSN 2963-7147

The Implementation of the Think Pair Share Strategy through Assemblr Edu Augmented Reality to Enhance Student's Speaking Skills

Mauizatul Fitrah[1], Konder Manurung[2], Andi Patmasari[3], Hastini[4]
Tadulako Univesity, Palu, Sulawesi Tengah

Article Info

Article history:

Received 2025-12-09
Revised 2025-12-29
Accepted 2025-12-29

Keywords:

Assemblr Edu
Augmented Reality
EFL Students
Speaking Skill
Think-Pair-Share

ABSTRACT

Speaking skills are among the most essential components of English language learning; however, many EFL students still struggle to speak fluently and accurately due to limited opportunities for meaningful practice and the reliance on conventional teaching methods. This condition was also found among eleventh-grade students of SMAN 4 Palu, who often hesitated, paused frequently, and lacked confidence when speaking English. Therefore, this research aimed to investigate whether the implementation of the Think-Pair-Share (TPS) strategy through Assemblr Edu Augmented Reality could enhance students' English speaking skills, particularly in terms of fluency and accuracy. This study employed a quantitative, quasi-experimental design with an experimental and a control group. The population consisted of eleventh-grade students of SMAN 4 Palu, and two classes were selected through simple random sampling. The experimental group was taught using the Think-Pair-Share strategy supported by Assemblr Edu Augmented Reality, while the control group received conventional instruction. Data were collected through oral pre- and post-tests focusing on speaking fluency and accuracy, and were analyzed using SPSS version 29 with descriptive statistics, normality and homogeneity tests, and an independent-samples t-test. The results showed a statistically significant improvement in students' speaking performance in the experimental group compared to the control group. The findings indicate that integrating the Think-Pair-Share strategy with Assemblr Edu Augmented Reality effectively enhances students' speaking skills by providing structured interaction and visual and audio support.

Corresponding Author:

Mauizatul Fitrah
Faculty of Teacher Training and Education, Department of Language and Art Education, Tadulako University
Email: mauizatulfitrahdoturu@gmail.com

1. INTRODUCTION

Speaking is one of the most important skills in learning English because it allows learners to participate actively in conversations and communicate their ideas effectively. As Brown [1] states, when someone can speak a language, it means that they are able to carry out a conversation with reasonable competence. Similarly, Derakhshan et al. [2] emphasize that speaking is a key indicator of communicative competence, as it demonstrates learners' ability to construct and convey meaning in real interactions. Therefore, speaking should be strengthened as one of the essential skills for students to develop their ability to interact in global communication.

However, in reality, speaking skills remain a major challenge. Globally, learners of English as a foreign language (EFL) are often hampered by a lack of environments that support real-world practice, resulting in slower development of speaking skills than of receptive skills such as reading or listening. Maqnunah [3] found that learners often face internal factors such as fear of making mistakes, lack of confidence, and embarrassment, as well as external factors like unsupportive contexts and insufficient opportunities for regular English practice, which impede their ability to speak effectively. Nationally, high school students in Indonesia tend to be passive speakers because learning is still predominantly exam-oriented, there are few opportunities for communicative practice, and motivation is low due to fear of making mistakes.

Marlia et al. [4] report that Indonesian senior high school students perceive speaking English as difficult due to limited vocabulary and fear of negative evaluation, all of which contribute to hesitation in oral communication activities. In line with these findings, Annisa and Nita [5] also reported that students' reluctance to participate in speaking tasks stems from inadequate vocabulary mastery and a persistent fear of making errors, which discourages them from expressing ideas in English. Their study suggests that when students are afraid of being judged, they tend to avoid communicative engagement, reinforcing the passive classroom speaking culture observed in many Indonesian high schools. Locally, at SMAN 4 Palu, many students admit they often pause for a long time, or even hesitate, when speaking English. This is exacerbated by conventional methods that emphasize memorizing vocabulary and sentence structures rather than spontaneous language use. This overview of global, national, and local issues reveals a gap between the curriculum's objectives and actual teaching practices, highlighting the need for innovative strategies to create a more interactive and supportive learning environment that encourages students to speak English.

In response to these challenges, this research recommends using the Think-Pair-Share (TPS) strategy combined with Assemblr Edu Augmented Reality media. Think-Pair-Share (TPS), developed by Lyman [6], consists of three stages: thinking individually, discussing with a partner, and sharing ideas with the class. These stages are designed to provide sufficient space for thinking, opportunities to practice in small groups, and the courage to perform in front of a larger audience. Empirical evidence suggests that TPS effectively engages learners in collaborative dialogue and supports improvement in speaking performance; for example, Sari and Sormin [7] found that TPS enhanced

students' active involvement and speaking ability in EFL classrooms. Similarly, Darmawan and Lestariningsih [8] reported that learners perceived TPS as helpful in enhancing self-confidence and supporting oral communication, especially when students used English as the medium of discussion.

The integration with Assemblr Edu Augmented Reality further enhances this process by providing students with contextual 3D visual and audio stimuli, such as interactive scenes of giving opinions, describing people, hobbies, expressing aspirations or dream jobs, and explaining simple instructions. As Fitayanti [9] points out, AR encourages learners to generate ideas more easily by visualizing communicative situations, which increases engagement and facilitates richer vocabulary use. Similarly, Anggraini and Apriana [10] found that the use of AR in English speaking instruction significantly improved students' speaking performance and motivation, as the visual-auditory elements helped learners conceptualize communicative situations and practice language in meaningful contexts. Additionally, Rahman et all [11] report that interactive media can enhance learners' vocabulary retention, pronunciation skills, and overall confidence in producing spoken language by providing real-time visual cues and sensory feedback. The combination of visual and auditory elements helps students generate ideas more easily, enrich their vocabulary, improve pronunciation, and construct sentences more fluently and accurately.

Based on these conditions, the researchers will offer novelty by integrating TPS and Assemblr Edu Augmented Reality in speaking learning, specifically to improve fluency and accuracy. It is expected that the implementation of this strategy will contribute both practically and theoretically by offering an alternative approach to English language learning and by addressing the research gap concerning the integration of Assemblr Edu Augmented Reality in speaking instruction within the Indonesian high school context, particularly at SMAN 4 Palu.

2. METHOD

This study employed a quantitative approach using a quasi-experimental design involving an experimental group and a control group. According to Hastjarjo [12], comparisons between groups are still needed. This idea is supported by Saputri and Mardiati [13], who explain that using pre-test and post-test in non-equivalent groups allows researchers to evaluate the effect of a treatment, even when the school already forms classes. The population consisted of all eleventh-grade students of SMAN 4 Palu, totaling 301 students, from which two classes were selected through simple random sampling. According to Timamah et al.[14] selecting an appropriate population is crucial because it directly influences the quality and validity of research results.

Class XI A served as the experimental group and was taught using the Think-Pair-Share (TPS) strategy supported by Assemblr Edu augmented reality, while Class XI B served as the control group and received conventional instruction. Data were collected through oral speaking tests administered as a pre-test and a post-test to measure students' speaking skills, focusing on fluency and accuracy, with scoring adapted from Heaton's rubric [15]. The treatment was conducted over six instructional meetings following the

stages of think, pair, and share. Data analysis was performed using SPSS version 29, including descriptive statistics, normality testing with Shapiro–Wilk, homogeneity testing with Levene's Test, and inferential analysis using Paired Samples t-Test and Independent Samples t-Test. These analyses were conducted to determine the effectiveness of the TPS strategy integrated with augmented reality in enhancing students' speaking skills.

3. RESULTS AND DISCUSSION

3.1. The Result of Students' Scores of Pre-Test and Post-Test

3.1.1 Pre-Test Control Group

Table 1. Pre-Test Control Group

N	Minimum	Maximum	Mean	Std.Deviation
34	48	60	54.50	3.440

In the descriptive analysis stage, researchers observed students' initial and final abilities based on pre-test and post-test results. In the control group, pre-test scores ranged from a minimum of 48 to a maximum of 60, with an average score of 54.50. These results indicate that the initial abilities of students in the control group were in the moderate category.

3.1.2 Post-Test Control Group

Table 2. Post-Test Control Group

N	Minimum	Maximum	Mean	Std.Deviation
34	50	62	58.56	3.457

In the control group, post-test scores ranged from 50 to 62, with an average score of 56.56. This relatively low score range indicates that the improvement in students' speaking skills after conventional learning was not very significant. Although there was a slight increase from the pre-test results, this improvement was still in the moderate category and did not show any significant changes in terms of fluency or accuracy.

3.1.3 Pre-Test Experimental Group

Table 3. Pre-Test Experimental Group

N	Minimum	Maximum	Mean	Std.Deviation
34	48	63	56.06	4.348

The descriptive analysis of the pre-test for the experimental group shows that students' initial abilities were in the moderate range before treatment. The pre-test scores for the experimental group ranged from 48 to 63, with an average score of 56.06. This score range indicates that most students still have limited speaking skills, especially in fluency and accuracy.

3.1.4 Post-Test Experimental Group

Table 4. Post-Test Experimental Group

N	Minimum	Maximum	Mean	Std.Deviation
34	70	88	78.59	4.924

The results of the post-test descriptive analysis for the experimental group showed a very significant improvement after implementing the Think-Pair-Share strategy through the Assemblr Edu Augmented Reality media. The students' post-test scores ranged from 70 to 88, with an average score of 78.59. This high score range indicates that most students achieved good to excellent scores after participating in learning with this strategy.

Based on the descriptive analysis, the initial abilities of both groups were at a similar level, as evidenced by the pre-test scores, which had relatively balanced ranges and averages. However, after treatment, significant differences emerged in the post-test results. The control group showed only a small increase from pre-test to post-test, while the experimental group showed a large increase in scores. The higher scores and a post-test average of 78.59 indicate that the use of Think-Pair-Share via the Assemblr Edu Augmented Reality media effectively improved students' speaking skills. Thus, the learning strategy applied to the experimental group proved to be much more effective than conventional learning methods.

3.1.5 Test of Normality

Table 5. Test Of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Class	Statistic	df	Sig.	Statistic	df	Sig.
Final_Score	Pre Test Experimental	.086	34	.200*	.962	34	.285
	Post Test Experimental	.079	34	.200*	.975	34	.598
	Pre Test Control	.090	34	.200*	.965	34	.328
	Post Test Control	.113	34	.200*	.961	34	.268

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on the Normality Test results, it can be seen that the Sig. value in Shapiro-Wilk is greater than 0.05, meaning that the variable is normally distributed. Because the data is normal, the test is continued using the t-test.

3.1.6 Test of Homogeneity

Based on the homogeneity test table below, it can be seen from the significant value, based on Mean, which is 0.12 > 0.05, meaning that it can be concluded that the data has homogeneous variance. Thus, the assumption of homogeneity is fulfilled, and the next test stage can proceed.

Table 6. Test of Homogeinety Variance

		Levene Statistic	df1	df2	Sig.
Final_Score	Based on Mean	2.479	1	66	.120
	Based on Median	2.423	1	66	.124
	Based on Median and with adjusted df	2.423	1	62.930	.125
	Based on trimmed mean	2.478	1	66	.120

3.1.7 Hypothesis Testing

Table 7. Independen Sample Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Final_Score	Equal variances assumed	5.119	.027	-21.349	66	.000	-22.029	1.032	-24.090	-19.969
	Equal variances not assumed			-21.349	59.171	.000	-22.029	1.032	-24.094	-19.965

Based on the table above, it can be seen that the sig. (2-tailed) value is < 0.05, which means that there is a significant difference between the control and experimental groups, where the implementation of the think-pair-share strategy through Assmblr Edu augmented reality in the experimental group affected the students' scores, causing them to be higher than those of the control group, which did not receive any treatment.

3.2. Discussion

The objective of this research is to find out whether the implementation of the Think-Pair-Share strategy through Assemblr Edu Augmented Reality can enhance the English speaking skills of the eleventh-grade students of SMAN 4 Palu. In conducting this research, the researcher focused on two core aspects of speaking performance, namely accuracy and fluency. The students' speaking skills were measured through a series of tests, which served as the primary data-collection instrument. Two types of tests were administered: a pre-test and a post-test.

The pre-test was conducted to identify the students' baseline speaking ability and to serve as a comparison for the post-test results. The pre-test for both the experimental and control groups was administered on Tuesday, October 28, 2025. It consisted of four questions, and each student was invited to come forward individually to choose one question prepared by the researcher. At this stage, the researcher evaluated the students' initial speaking performance before the treatment was applied. The pre-test results indicated that most students showed patterns of difficulty similar to those observed during the preliminary observation. In both groups, students struggled to understand the meaning of certain words and had difficulty expressing ideas fluently. Many students also admitted that they often paused for a long time or even hesitated when speaking English.

Based on these findings, the researcher interpreted that the difficulties were also related to usual teaching methods that emphasize memorizing vocabulary and sentence structures rather than encouraging spontaneous language use. Several factors contributed to these problems, particularly students' limited exposure to varied vocabulary and their lack of opportunities to practice speaking in meaningful and interactive contexts. The pre-test results showed that students in both groups demonstrated similar initial speaking ability, and neither group had reached the expected standard. This indicates that, before treatment, the students generally faced challenges with fluency and accuracy, and both groups began the study with relatively comparable levels of speaking proficiency.

After administering the pre-test, the researcher proceeded to the treatment phase, which was conducted only for the experimental group. The treatment consisted of six meetings using the Think-Pair-Share (TPS) strategy through Assemblr Edu Augmented Reality. In the first and second meetings, the researcher introduced and explained the TPS strategy and demonstrated how the AR media would support the learning process. Through Assemblr Edu, students accessed AR objects equipped with built-in audio and text descriptions, allowing them to view key vocabulary and listen to accurate pronunciation models. This multimodal input helped them build vocabulary understanding, improve pronunciation accuracy, and prepare to speak more spontaneously.

However, in the early stage of the treatment, the researcher found several challenges. Some students were shy to speak up, felt nervous, and showed a lack of attention during the activity. These initial difficulties are consistent with studies, such as Maghfira [16], who found that students often hesitate and lack confidence at the beginning of TPS sessions before gradually becoming more active as they enter the Pair stage. Similarly, Aris [17] reported that TPS helps reduce students' speaking anxiety because discussing ideas with a partner first provides a safe space for them to prepare before speaking in front of others. Research by Alfino et al.[18] also noted that one challenge in implementing TPS is students' lack of confidence and difficulty expressing opinions during the first application, which can affect their participation and attention during discussions. In the third and fourth meetings, students gradually began to understand the Think-Pair-Share (TPS) strategy better. They became more active during pair discussions, paid more attention to the AR visuals and descriptions, and started to enjoy speaking activities.

This improvement aligns with Oktafiani et al. [19], who explained that AR media increases student engagement and supports clearer idea generation through 3D visual and audio stimuli. Likewise, Chiew et al. [20] found that AR integration in EFL classrooms not only improved fluency and pronunciation but also boosted learner confidence and reduced speaking hesitation by providing immersive contextual practice with real-time feedback. Moreover, research such as that by Novriati et al. [21] confirmed that the use of AR media in experimental classrooms improved students' speaking outcomes compared with control groups, suggesting that AR can help learners construct clearer sentences and articulate ideas more confidently after treatment. Additional evidence from Yousefi et al. [22] showed that collaborative AR significantly enhanced EFL learners' speaking proficiency and reduced communication apprehension, further supporting the claim that AR

environments can lower affective barriers and encourage more active oral participation. Overall, these findings support previous research, confirming that the combination of TPS and AR media creates a more interactive, supportive environment that ultimately encourages students to speak more actively, fluently, and accurately.

Meanwhile, the control group did not receive the Think-Pair-Share treatment nor the use of Assemblr Edu Augmented Reality. Instead, they continued learning through the traditional teaching method commonly used by their English teacher. The learning process mainly involved the teacher's explanation. This condition is in line with findings from Freeman et al. [23], who conducted a large meta-analysis of 225 studies and reported that active learning approaches significantly improved students' performance compared to the traditional teaching method. Similarly, Kozanitis and Nenciovici [24] found that passive teacher-based instruction yielded lower achievement gains than active learning, based on a meta-analysis of humanities and social sciences students. In addition, Rumansyah [25] showed that students in classes using interactive multimedia modules outperformed those taught through conventional modules, suggesting that traditional teaching offers fewer opportunities for skill practice and cognitive engagement because the instruction did not include interactive media, pronunciation models, or structured speaking stages like TPS; the opportunities for students to practice speaking spontaneously were limited. During the meetings, the researcher observed that some students remained passive, spoke only when called upon, and tended to rely on memorized vocabulary rather than expressing ideas freely. Although some students participated, the overall classroom atmosphere provided fewer chances to develop fluency and accuracy compared to the experimental group.

Finally, after completing the treatment, both the experimental and control groups were given a post-test to measure their speaking improvement. The experimental group showed a clear and noticeable enhancement in their speaking performance after being taught through the Think-Pair-Share (TPS) strategy integrated with Assemblr Edu Augmented Reality. Students in this group demonstrated better fluency, more accurate pronunciation, and more confidence when expressing their ideas. In contrast, the control group showed only minimal improvement. This limited progress occurred because the control group continued to receive instruction through the usual teaching method without the structured support provided by the TPS stages or the visual and audio input offered by AR media. As a result, students in the control group had fewer opportunities to practice spontaneous speaking and less guidance in organizing their ideas during communication.

The analysis results show that the treatment had a significant effect on students' speaking performance. The Independent Sample Test indicated a statistically significant difference between the experimental group, which was taught using the Think-Pair-Share strategy supported by Assemblr Edu Augmented Reality, and the control group, which received conventional instruction. This means that the improvement in the experimental group occurred specifically because of the treatment, not because of random variation. The improvement was achieved because TPS provided structured communication stages that encouraged students to think, rehearse, and speak gradually and supportively. In contrast, the AR media provided visual prompts, vocabulary support, and pronunciation models, making it easier for students to produce clear, fluent expressions.

Compared with previous research, this study's findings demonstrate clear alignment, but with a stronger combined effect. Maghfira [16] found that the Think-Pair-Share technique significantly improved students' speaking fluency because its structure allowed students to rehearse their ideas in the Pair stage before speaking in front of the class. Students in her study initially felt hesitant, but gradually became more confident after repeatedly practicing with a partner. The present research shows a similar pattern; however, the improvement in this study appears stronger because Assemblr Edu Augmented Reality additionally supported students. While Maghfira relied solely on verbal interaction, this study provided students with visual prompts, vocabulary cues, and pronunciation models via AR, helping them generate ideas more easily. Therefore, compared with Maghfira's findings, this research confirms the fluency benefits of TPS but also demonstrates that integrating AR amplifies the process by providing students with richer input during the Think and Pair stages.

Aris [17] reported that TPS improved students' speaking accuracy, especially pronunciation and grammar, because the Pair stage gave learners a chance to correct each other and practice before presenting publicly. His findings showed that TPS reduces anxiety, increases confidence, and improves language production accuracy. The present research supports these results, as students also showed noticeable improvement in accuracy after experiencing repeated practice cycles in TPS. However, the improvement in this research became more prominent due to the presence of AR features in Assemblr Edu. Unlike Aris, who relied on textbook-based discussions, this reserach provided pronunciation audio models and visual contextual support that helped students use more precise vocabulary and clearer sentence structures. Thus, compared to Aris' findings, the current research strengthens the argument that TPS improves accuracy and further shows that accuracy improves even more when TPS is combined with AR media.

Oktafiani et al.[19] examined the use of Augmented Reality in a high school context and found that AR increased students' engagement, motivation, and clarity of understanding by providing 3D visuals and audio support. Although their study focused on critical thinking skills rather than speaking, their findings are relevant because they show how AR helps students process information and stay focused during learning. The present study aligns strongly with these findings; AR likewise helped students in the experimental group generate ideas, understand vocabulary, and practice pronunciation more effectively. The difference is that this study integrates AR into the TPS structure, creating a more systematic flow for speaking practice. Compared to Oktafiani's study [19], which used AR as a standalone enhancement tool, this research shows that AR becomes even more impactful when combined with cooperative strategies such as TPS. The synergy between TPS and AR produced significant improvements beyond engagement, directly contributing to students' fluency and accuracy in speaking.

In connection with the previous research discussed above, this research's overall findings further strengthen the evidence that the Think-Pair-Share strategy and digital media can significantly support students' speaking development. The results clearly show that integrating Think-Pair-Share with Assemblr Edu Augmented Reality is highly effective in enhancing students' fluency and accuracy. This is supported by the statistical

analysis, which revealed a significant difference between the pre-test and post-test results of the experimental group. Therefore, it can be concluded that students' speaking ability improves significantly after receiving the treatment. In other words, the use of the Think-Pair-Share strategy through Assemblr Edu Augmented Reality effectively enhanced the speaking skills of the eleventh-grade students at SMAN 4 Palu. Based on these statistical findings, H_1 is accepted, and H_0 is rejected.

In light of these findings, this research demonstrates that the combination of TPS and AR media provides richer input, stronger engagement, and more structured speaking support than conventional instruction, contributing to a substantial improvement in students' overall speaking performance.

4. CONCLUSION

This research demonstrates that the implementation of the Think-Pair-Share (TPS) strategy with Assemblr Edu Augmented Reality can serve as an effective instructional approach to support the development of students' English speaking skills. Through structured peer interaction and the use of interactive digital media, students were encouraged to actively participate in speaking activities, engage more confidently, and practice language use in a supportive learning environment. The findings of this study have important pedagogical implications, particularly for English teachers, suggesting that combining cooperative learning strategies with augmented reality technology can create more engaging, student-centered speaking instruction. This approach may help teachers address common challenges in speaking classrooms, such as low participation, limited practice opportunities, and students' anxiety when speaking English.

However, this research was conducted within certain boundaries. The study involved a limited number of participants from a single senior high school and was implemented over a relatively short instructional period. Therefore, the findings should be interpreted within this specific educational context. Future research is recommended to involve larger and more diverse samples, longer treatment durations, and different educational levels. Further studies may also explore the integration of Think-Pair-Share with other emerging digital technologies or investigate its impact on other language skills. Overall, this research contributes to the broader field of English language education by offering practical insights into how technology-enhanced cooperative learning can support effective speaking instruction and be applied in real classroom contexts.

ACKNOWLEDGEMENTS

I would like to express my gratitude to Prof. Drs. Konder Manurung, DEA., Ph.D., and Andi Patmasari, S.Pd., M.Pd., for their guidance and support throughout the research process. As well as to Hastini, S.Pd., M.A., for her helpful feedback as the reviewer. My sincere thanks also go to the principal of SMA Negeri 4 Palu and to Farida, S.Pd., the English teacher, for all their assistance, as well as to all students who participated and cooperated during the research. Lastly, I would like to thank my family and friends for their unwavering prayers and support throughout the completion of this research.

REFERENCES

[1] Brown., *Teaching by Principles of language Learning and Teaching.* San Fransisco State University: (Longman, 2001.

[2] A. Derakhshan, "Revisiting Research on Positive Psychology in Second and Foreign Language Education: Trends and Directions," *Lang. Relat. Res.*, vol. 13, no. 5, pp. 1–43, 2022, doi: 10.52547/LRR.13.5.1.

[3] H. J. Maqnunah, E. L. Education, and U. N. Semarang, " An Exploration of EFL Speaking Challenges from the Perspective of Parcipants Outside the School Environment," vol. 1, pp. 195–208.

[4] S. N. Marlia Marlia(1), Fitri Amaliah Akbal(2), "EFL Students' Speaking Anxiety in Indonesian SeniorHigh School," Lang.Teach., vol. 17, p. 4, 2023, doi:https://doi.org/10.24036/ld.v17i1.121085.

[5] A. N. Sabilla and N. Kaniadewi, "Investigating English-Speaking Problems of Senior High School Students in Indonesia," vol. 6, no. 1, pp. 88–107, 2025, doi: 10.35961/salee.v6i1.1617.

[6] Lyman, *Think-Pair-Share:An Expanding Teaching Technique: MAA-CIE*. Cooperative News., 1987.

[7] R. K. Sari, I. P., & Sormin, "The Implementation of Think-Pair-Share Technique to Increase Students'active Involvement in Their Speaking Ability," *J. Educ. Sci.*, vol. Vol. 6 No., 2022, doi: https://doi.org/10.31258/jes.6.3.p.364-376.

[8] R. R. Darmawan and F. E. Lestariningsih, "Students View Toward the Use of the Think-Pair-Share Teaching Strategy on Students Oral Comunication Skill in an EFL Context," vol. 11, no. 4, 2023.

[9] S. Fitayanti, "Transforming and Evaluating EFL Speaking Skills with Augmented Reality : An AR-Based Module," vol. 12, no. 2, pp. 833–842, 2024.

[10] L. Anggraini, "Integration of augmented reality (ar) technology in english speaking learning 1," 2025.

[11] A. Rahman and Z. Hassan, "Augmented Reality for Vocabulary Learning and Speaking Skills of Tourism Employees," vol. 13, no. 2, pp. 811–823, 2025.

[12] T. D. Hastjarjo, "Rancangan Eksperimen-Kuasi," *Bul. Psikol.*, vol. 27, pp. 187–203, 2019, doi: 10.22146/buletinpsikologi.38619.

[13] L. S. and Mardiati, "Desain Penelitian Quasi Eksperimen Dalam Penelitian Pendidikan:," *J. Serunai Mat.*, vol. 17, pp. 78–87, 2025.

[14] and F. J. L. Timamah, H. Sa'diyah, F. Munawaroh, "The Important Role of Population and Samples in Educational Research," *Demagogi J. Soc. Sci. Econ. Educ.*, vol. 3, no, pp. 55–56, 2025, doi: 10.61166/demagogi.v3i1.66.

[15] J. B. Heaton, *Writing English language tests: Longman handbook for language teachers*, New Editio. London: Longman Group UK Limited, 1988.

[16] M. Maghfira, "The Implementation of Think-Pair-Share Technique in Improving Students' Speaking Skill," *J. Stud. Guru dan Pembelajaran*, vol. 3, no. 3, pp. 511–517, 2020, doi: 10.30605/jsgp.3.3.2020.495.

[17] S. I. Aris, "The use of think pair share method on students' speaking skills at SMA Negeri 2 Selayar," Undergraduate thesis, English Education Dept., Muhammadiyah University of Makassar, Makassar, Indonesia, 2023.

[18] Alfino, B. Y., Rochsantiningsih, D., & Sulistyawati, H., "Improving Students' Class Participation by Optimizing the Use of Think-Pair-Share Tecnique." Meningkatkan Partisipasi Siswa Dengan Mengoptimalkan," vol. 22, no. 2, 2019, doi: 10.20961/paedagogia.v22i2.

[19] R. Oktafiani, E. W. Suci, A. D. Kesumawardani, Salsabila, and N. A. Puspitasari, "The Effect of the Think-Pair-Share Learning Model Assisted by Augmented Reality Media on the Critical Thinking Skills of Class XI Students of SMA Negeri 1 Sumberjaya," *E3S Web Conf.*, vol. 482, 2024, doi: 10.1051/e3sconf/202448205007.

[20] C. F. Ling, G. Kho, H. Xuan, K. M. Yien, L. Y. Zhen, and M. Yunus, "Augmented Reality (AR) in ESL Classrooms : A Quasi-Experimental Study on Enhancing Speaking Skills," vol. 1, no. 1, pp. 38–47, 2025.

[21] E. Nofriati and S. L. Dewi, "The Effect of Using Augmented Reality in the Students' Speaking Skill," vol. 11, no. 2, pp. 437–448, 2024, doi: 10.22219/celtic.v11i2.

[22] C. Apprehension, "Research Paper," pp. 1–23, 2024.

[23] S. Freeman *et al.*, "Active learning increases student performance in science , engineering , and mathematics," vol. 111, no. 23, pp. 8410–8415, 2014, doi: 10.1073/pnas.1319030111.

[24] A. Kozanitis and L. Nenciovici, "Effect of active learning versus traditional lecturing on the learning achievement of college students in humanities and social sciences : a meta - analysis," *High. Educ.*, vol. 86, no. 6, pp. 1377–1394, 2023, doi: 10.1007/s10734-022-00977-8.

[25] M. Rumansyah, S. M. P. N. Kandangan, J. P. Batur, K. Hulu, and S. Selatan, "Perbedaan Pengaruh

Pembelajaran dengan Menggunakan Modul Interaktif dan Modul Konvensional terhadap Pemahaman Konsep IPA The Differences of Effect of Teaching by Using Interactive Module and Conventional Module on the Understanding of Science Concept," vol. 4, no. 1, pp. 54–62, 2016.