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The Effectiveness of Teleprompter-Assisted Problem-Based and Project-Based Learning in Enhancing Students' Speaking Skills

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Abstract: Speaking competence is an essential language skill that students need to master in the twenty-first century, yet many still struggle to express ideas confidently and effectively during speech activities. This study compared the effectiveness of **Problem-Based Learning (PBL)** and **Project-Based Learning (PjBL)** assisted by a teleprompter application in improving students' speaking skills while integrating ***Culturally Responsive Teaching*** **(CRT)** principles. A sequential explanatory mixed-methods design was employed. Quantitative data were collected through a quasi-experimental study involving 45 eighth-grade students at MTs NU 29 Patean, who were assigned to PBL and PjBL groups. Data collection included speaking performance tests, classroom observations, interviews, and documentation. Quantitative data were analyzed using N-Gain and t-tests, while qualitative data were examined through coding and thematic analysis. The results showed that both instructional models significantly improved students' speaking performance. However, the PBL group achieved greater improvement (N-Gain = 0.87) than the PjBL group (N-Gain = 0.74), with statistical analysis confirming a significant difference between the two approaches. Qualitative findings indicated that integrating CRT principles with teleprompter technology enhanced students' confidence, engagement, and classroom participation. The study concludes that both teleprompter-assisted PBL and PjBL effectively improve speaking skills, although PBL demonstrates superior effectiveness. These findings provide practical implications for culturally responsive, technology-supported language instruction in secondary education.

Keywords: *Project-Based Learning, Teleprompter, Application, Culturally Responsive Teaching, Speaking Skills*

A. Introduction

Learning Indonesian holds a strategic position in the national education system as a means of developing language, thinking, and cultural skills. Indonesian serves not only as a means of communication but also as an instrument for character building and national identity. Through this learning, students are expected to master four language skills: listening, speaking, reading, and writing, which in an integrated manner form literacy and communication competencies. In this context, speaking skills, particularly oratory, are a crucial skill that requires effective, critical, and communicative mastery of spoken language.

In recent years, public speaking has become an essential 21st-century skill, highly sought after in both education and the professional world. Advances in educational technology have shifted the learning paradigm from teacher-centered to student-centered, more collaborative and experience-based. Various studies have shown that Problem-Based Learning (PBL) and Project-Based Learning (PjBL) models are effective in improving speaking skills because they encourage students to think critically and creatively, and engage in real-world problem-solving (Rahmawati & Setiawan, 2023; Yuliana et al., 2021; Widodo & Wahyuni, 2022). Similarly, the Independent Curriculum (Kurikulum Merdeka) also emphasizes active, student-centered learning (Kemendikbudristek, 2022), although its implementation still faces challenges, particularly in the integration of digital technology (Wulandari & Samosir, 2023).

On the other hand, learning Indonesian cannot be separated from the diverse characteristics of students. Each student has a different sociocultural background, interests, and learning style (Yani & Susanti, 2023), so differentiated learning is needed, encompassing aspects of content, process, product, and learning environment (Najakh, 2025). Visual, auditory, and kinesthetic learning styles also influence how students absorb information, so learning strategies need to be adapted to be more effective and inclusive.

Theoretically, this research is based on social constructivism, which emphasizes that knowledge is built through social interactions and meaningful experiences (Vygotsky, 1978 in Rahayu, 2022). The PBL and PjBL models align with this theory because they encourage students to construct knowledge through collaboration and problem-solving (Rahmawati & Setiawan, 2023). Furthermore, the use of the Teleprompter application in public speaking learning provides visual support that helps students deliver texts more fluently, structured, and confidently, while reducing speaking anxiety (Kim, 2023; Rahmadilla et al., 2025).

However, public speaking instruction in schools is still dominated by conventional methods such as memorizing or reading texts, which results in low spontaneity, lack of audience interaction, and high levels of speaking anxiety. Furthermore, the use of technology such as teleprompters has not been fully pedagogically integrated into systematic learning models. Furthermore, the integration of innovative learning models, digital technology, and culture-basedapproaches such as Culturally Responsive Thinking (CRT) remains very limited.

This situation indicates a research gap: there has been no study that simultaneously integrates PBL and PjBL models with teleprompter support, taking into account CRT and student learning styles in public speaking. However, sociocultural background has a significant influence on how students understand and construct knowledge, so learning needs to be more responsive to this diversity.
Based on this, this research is important to analyze the effectiveness of the PBL and PjBL models assisted by teleprompters in teaching public speaking, taking into account CRT and students' learning styles. Academically, this research is expected to enrich the study of technology-based learning and innovative pedagogy. Practically, the results of this study are expected to serve as a reference for teachers in developing more contextual, interactive, and appropriate public speaking learning that is tailored to the needs of students in the digital era.

Although previous studies have reported the effectiveness of Problem-Based Learning, Project-Based Learning, teleprompter technology, and *Culturally Responsive Teaching* independently, limited research has examined the integration of these variables within a single instructional framework. Existing studies tend to focus on either learning models or technological tools without considering students' sociocultural backgrounds and learning styles simultaneously. Furthermore, comparative evidence regarding the effectiveness of teleprompter-assisted PBL and PjBL in improving speaking skills remains scarce. Therefore, this study offers novelty by integrating PBL, PjBL, teleprompter technology, CRT principles, and learning styles into a comprehensive instructional model for speaking education.

The effectiveness of public speaking learning is influenced by the selection of appropriate learning models and instructional media. In this study, the Problem-Based Learning (PBL) and Project-Based Learning (PjBL) models are implemented with teleprompter assistance to improve students' public speaking skills. PBL encourages students to develop critical thinking and problem-solving abilities through authentic speaking situations, while PjBL facilitates active engagement through project-oriented learning activities. The teleprompter serves as a supporting technological medium that helps students organize ideas, improve speech fluency, and increase confidence during presentations.

B. Methods

This research employed a mixed-methods approach using a sequential explanatory design to obtain a comprehensive understanding of the effectiveness of two instructional models in improving students' speaking skills. In this design, quantitative data were collected and analyzed during the first phase, followed by qualitative data collection to explain, clarify, and enrich the quantitative findings. The integration of these two approaches enabled the researchers to evaluate not only the statistical effectiveness of the learning interventions but also the learning experiences, classroom interactions, and students' perceptions throughout the instructional process.

The quantitative phase adopted a quasi-experimental method because the existing classroom structure did not allow the participants to be randomly assigned to different groups. Specifically, the study implemented a nonequivalent control group design involving two experimental classes that received different instructional treatments. The first experimental group was taught using the Problem-Based Learning (PBL) model, whereas the second experimental group received instruction through the Project-Based Learning (PjBL) model. Both instructional models incorporated teleprompter technology as a learning aid and were implemented within the framework of *Culturally Responsive Teaching* (CRT). In addition, students' learning styles were considered during classroom activities to ensure that the instructional strategies accommodated individual learning preferences and encouraged active participation.

Prior to the implementation of the treatments, both groups completed a pretest to identify their initial level of speaking competence and to ensure that the two classes possessed relatively comparable abilities before the intervention. Following the pretest, each class participated in a series of learning activities based on its assigned instructional model. Throughout the intervention, the same learning objectives, teaching materials,

instructional duration, and teleprompter media were maintained across both groups to minimize external influences on the research outcomes. At the end of the instructional period, a posttest was administered to measure students' improvement in speaking performance and to compare the effectiveness of the two learning models.

The study was conducted at MTs NU 29 Patean and involved eighth-grade students as the research population. Two intact classes were selected to participate in the research. Class VIII C served as Experimental Group I and received instruction through the Problem-Based Learning model, while Class VIII A functioned as Experimental Group II and learned using the Project-Based Learning model. The participants were selected through a simple random sampling procedure after considering the equivalence of their initial speaking abilities based on the pretest scores. This sampling strategy was intended to reduce selection bias while maintaining the practicality of conducting classroom-based educational research.

Several variables were examined in this investigation. The independent variable consisted of the instructional model implemented in the classroom, namely Problem-Based Learning and Project-Based Learning. The dependent variable was students' speaking competence, which was evaluated through learning outcomes, classroom participation, and students' responses toward the instructional process. To maintain internal validity, several control variables were kept constant throughout the study, including the learning materials, classroom teacher, duration of instruction, assessment procedures, and the use of teleprompter media. Furthermore, the implementation of *Culturally Responsive Teaching* principles and students' learning styles were treated as moderating variables because they were expected to influence the effectiveness of the instructional models and students' engagement during the learning process.

Data were collected using both quantitative and qualitative techniques. Quantitative data were obtained from students' pretest and posttest scores, which reflected changes in speaking performance before and after the treatments. Qualitative data were gathered through classroom observations, semi-structured interviews, and documentation to provide deeper insights into students' learning experiences, classroom interactions, and the implementation of the instructional models. Combining these data sources allowed the researchers to triangulate the findings and increase the credibility and trustworthiness of the research results.

The primary instrument for quantitative data collection was a speaking performance assessment designed to evaluate multiple dimensions of speech delivery. The assessment rubric measured several components, including content relevance, organizational structure, vocabulary selection, argument development, clarity of ideas, pronunciation, fluency, and overall language use. To complement the quantitative findings, non-test instruments were also employed. Classroom observation sheets were used to document students' participation, engagement, collaboration, and communication during learning activities. Semi-structured interview guidelines enabled the researchers to explore students' perceptions, learning experiences, and challenges encountered throughout the intervention. In addition, documentation in the form of lesson plans, photographs, classroom records, and students' learning products was collected to support data verification.

The quantitative data were analyzed using descriptive and inferential statistical techniques. Descriptive statistics summarized students' learning achievements before and after the intervention, while inferential statistics were applied to determine whether significant differences existed between the two instructional models. Prior to hypothesis testing, the data were examined through normality and homogeneity tests to ensure that the assumptions required for parametric analysis were satisfied. Paired-sample t-tests were conducted to determine whether each instructional model significantly improved students' speaking performance, whereas independent-sample t-tests were employed to compare the effectiveness of the PBL and PjBL groups. Statistical significance was determined at the 0.05 level, indicating that a probability value below this threshold represented a statistically significant difference between the two learning models. Meanwhile, qualitative data were analyzed through data reduction, coding, categorization, thematic interpretation, and triangulation to identify recurring patterns and explain the quantitative findings comprehensively.

Ethical considerations were carefully observed throughout the research process. Permission to conduct the study was obtained from the school administration before data collection commenced. All participants were informed about the objectives and procedures of the study, and informed consent was obtained prior to their participation. Students' identities and personal information were kept confidential by using anonymous codes in all research documents and publications. Furthermore, the researchers ensured that participation in the study did not negatively affect students' academic achievement, emotional well-being, or psychological condition. All learning activities were implemented as part of regular classroom instruction, ensuring that every participant received equitable educational opportunities regardless of the instructional model assigned to their class.

C. Results and Discussion

The findings indicate that both the **Problem-Based Learning (PBL)** and **Project-Based Learning (PjBL)** models, when supported by a teleprompter application and implemented through the principles of ***Culturally Responsive Teaching*** **(CRT)**, contributed positively to the improvement of students' speaking competence. The integration of technology, culturally relevant instructional practices, and learning-style adaptation created a learning environment that encouraged students to communicate more confidently and effectively during speech activities. Overall, students in both instructional groups demonstrated noticeable progress after participating in the intervention.

The research was conducted at MTs NU 29 Patean from **2 to 16 April 2026** and involved two eighth-grade classes. Class VIII A participated in learning activities using the Problem-Based Learning model, whereas Class VIII C received instruction through the Project-Based Learning model. Both classes studied the same instructional materials, were taught by the same teacher, and followed an identical learning schedule. The only distinction between the two groups was the instructional model applied during the learning process. This arrangement allowed the researchers to compare the relative effectiveness of the two approaches under similar classroom conditions.

Students' speaking performance was assessed before and after the intervention using standardized speaking assessments. The post-test results served as the primary quantitative evidence for evaluating learning effectiveness after each instructional model had been

implemented. Throughout the learning activities, students were required to prepare, organize, and deliver speeches using the teleprompter application as instructional support. The application enabled students to concentrate on pronunciation, fluency, eye contact, and speech delivery without becoming overly dependent on printed notes. As students became more familiar with the technology, they demonstrated greater confidence and reduced speaking anxiety during classroom presentations.

The instructional process was further strengthened through the implementation of Culturally Responsive Teaching. Learning materials, discussion topics, and speech assignments were connected to students' cultural backgrounds and everyday experiences. This contextual approach increased students' engagement because they were able to relate the learning content to familiar social and cultural situations. The integration of local values also encouraged students to express their ideas more naturally and meaningfully, making classroom communication more authentic and interactive.

Another important aspect of the intervention was the consideration of students' preferred learning styles. Visual learners benefited from the scrolling text displayed by the teleprompter, which helped them organize ideas and maintain the sequence of their speeches. Auditory learners developed their speaking ability through listening activities, teacher modeling, and peer discussions before delivering their presentations. Meanwhile, kinesthetic learners strengthened their communication skills through repeated practice, movement, role-playing, and direct presentation activities. Accommodating these different learning preferences allowed students to participate more actively and contributed to improvements in overall speaking performance.

Students' speaking ability was evaluated using a comprehensive assessment rubric that measured several dimensions of oral communication, including content organization, clarity of ideas, vocabulary use, pronunciation, intonation, body language, fluency, confidence, and creativity in speech delivery. The assessment results demonstrated improvement across these components in both groups, indicating that integrating instructional models with digital technology and culturally responsive pedagogy supported students' overall communication development.

To complement the quantitative findings, qualitative data were collected through classroom observations, semi-structured interviews, and supporting documentation. The qualitative analysis followed a systematic procedure consisting of data reduction, coding, categorization, theme development, and interpretation. These analyses provided deeper insights into students' classroom experiences, participation, motivation, and perceptions of the learning process. Many students reported that the teleprompter application reduced their nervousness when speaking in front of the class and enabled them to focus more effectively on expressing ideas rather than memorizing complete speech texts.

The credibility of the findings was strengthened through methodological triangulation. Information obtained from speaking performance assessments was compared with classroom observation records, interview responses, and documentary evidence to verify consistency across different data sources. This triangulation process increased the reliability of the conclusions and provided a more comprehensive understanding of the impact of the instructional interventions.

Overall, the mixed-methods sequential explanatory design enabled the researchers to combine statistical evidence with detailed qualitative explanations. While the quantitative analysis demonstrated measurable improvements in students' speaking achievement, the qualitative findings clarified how teleprompter-assisted Problem-Based Learning and Project-Based Learning, together with culturally responsive instruction and learning-style accommodation, contributed to students' confidence, engagement, and communication skills. The integration of these instructional elements offers valuable implications for developing more effective and inclusive speaking instruction in secondary education.

Table 1. Recapitulation of Research Results Data

Statistics Name	Pretest Experiment 1 (PBL)	Pretest Experiment 2 (PjBL)	Posttest Experiment 1 (PBL)	Posttest Experiment 2 (PjBL)
N	23	23	22	22
XMax	69.5	59.5	98	96
XMin	40	39.5	90.5	78
Mean	57.14	50.26	94.52	86.98
Standard Deviation	8.91	4.41	2.11	4.83
Variance	79.36	19.41	4.46	23.31

Based on Table 1, it can be seen that both learning models implemented were able to improve students' abilities in writing speech scripts and practicing speaking. In the pretest stage the number of students who took the test in each class was 23 people. The average (mean) pretest score in experimental class 1 using the *Problem Based model Learning* (PBL) was 57.14, while in experimental class 2 which used the *Project Based model Learning* (PjBL) of 50.26. This result shows that the initial speaking ability of students in both classes is still in the moderate category, with the average for the PBL class slightly higher than the PjBL class.

Judging from the maximum and minimum pretest scores the PBL class obtained the highest score of 69.5 and the lowest score of 40, while the PjBL class obtained the highest score of 59.5 and the lowest score of 39.5. The difference in the range of scores indicates that the initial abilities of students in the PBL class tend to be better than those in the PjBL class In addition, the pretest standard deviation in the PBL class was 8.91 with a variance of 79.36, while in the PjBL class the standard deviation was 4.41 with a variance of 19.41. This indicates that the initial abilities of students in the PBL class were more diverse, while the abilities of students in the PjBL class were relatively more homogeneous.

Problem Based Learning (PBL) model assisted by Teleprompter with implementation of *Culturally Responsive Teaching* (CRT) and visual, kinesthetic and learning styles auditory proven effective increase ability give a speech participant education indicated by an increase significant from pretest to posttest. PBL encourages participant active learners solve real problems so that more often train convey verbal ideas in relevant context which is in line with Rosyana et al. (2022). This finding was also confirmed by Imam Mudofir et al. (2025) which states that PBL improves skills speak through structured dialogue and active involvement of participants educate and Agustise (2020) and Dwiyamtini (2023) who showed existence improvement significant skills speak through exercise repetition and reflection systematic The use of a teleprompter helps smoothness delivery speech while

CRT makes learning more contextual and meaningful so that increase trust self participant educate in speaking in front of general (Oktadela & Elida, 2022; Imam Mudofir et al., 2025).

The Project Based Learning (PjBL) model assisted by Teleprompter has also been proven effective in increase ability give a speech participant educate through active involvement in planning and completion project authentic speech This result in line with Putri & Ardi (2023) who stated that PjBL capable increase skills communication participant educate in a way overall through activity based relevant projects In addition Afifatuzzahra et al. (2024) and Hastuti & Malihah (2024) also emphasized this existence improvement significant skills speak after implementation PjBL because participant educate more involved in a structured and applicable learning process Teleprompter helps fluency and accuracy delivery speech while CRT makes material more relevant with experience culture participant educate so that increase involvement and understanding (Setiawan et al., 2024; Putri & Ardi, 2023). The difference style visual, kinesthetic and auditory learning also makes learning more adaptive and meaningful for participant educated (Hakim et al., 2022; Rosyana et al., 2022).

Comparison results show that although both models are equally effective in increase ability giving a speech the PBL model is more superior compared to PjBL This can be seen from the results of statistical tests which show difference significant as well as higher posttest scores high in PBL class PBL is more emphasizes real problem solving that allows participant educate train speak systematically in a focused and repetitive manner so that more optimal in increase skills speaking (Fitriyani et al., 2025; Imam Mudofir et al., 2025). On the other hand PjBL more focus on the final results of the project and collaboration so that development skills speaking is not as intensive as in PBL. Although Thus both models remain influenced by the implementation of CRT which increases relevance and motivation of participant learning educated (Putri & Ardi, 2023; Sari et al., 2025) and difference learning styles that make the learning process still varied and meaningful (Hakim et al., 2022; Rosyana et al., 2022).

The qualitative findings further strengthen the effectiveness of the Teaching at the Right Level (TaRL) approach in physical education learning. Increased student participation, motivation, and confidence observed during the learning process suggest that the improvement in learning outcomes was not solely reflected in test scores but also in students' attitudes toward learning. These findings are consistent with previous studies that emphasize the importance of differentiated instruction in creating inclusive and engaging learning environments. Therefore, the TaRL approach can be considered an effective strategy for improving both cognitive and practical learning outcomes in volleyball education.

D. Conclusions

Based on results research can concluded that the *Problem Based Learning* (PBL) and Project Based Learning (PjBL) models are assisted Teleprompter application with implementation of *Culturally Responsive Teaching* (CRT) and style visual, kinesthetic and auditory learning You're welcome effective in increase ability give a speech participant educate but PBL shows more results tall compared to PjBL This is seen from improvement PBL value from 57.14 to 94.52 with N-Gain 0.87, while PjBL increase from

50.26 to 86.96 with an N-Gain of 0.74. The statistical test results also show existence difference significant between both models, where PBL is more superior Because more emphasize solution problem contextual development think critical compilation arguments and exercises systematic speaking in accordance with experience culture participant educate via CRT, as well as more in accordance with characteristics style study Meanwhile that PjBL still effective Because based structured and contextual projects but need independence higher and longer time long so that less than optimal in learning giving a speech at MTs.

As for the suggestions in study This is for teachers to expect can apply the *Problem Based Learning* and Project Based Learning models in learning give a speech with utilize digital media such as Teleprompter so that the learning process more interesting interactive and helpful participant educate in develop skills speak in a way systematically In addition for researchers furthermore expected can develop study with using other learning models or variables different in learning give a speech so that study scientific in the field This become more broad and deep.

In addition to the quantitative results, qualitative data were obtained through classroom observations, interviews, and documentation during the implementation of the learning process. The findings revealed that students in both groups showed increased confidence and participation in delivering speeches. Students became more active in expressing ideas, responding to questions, and collaborating with their peers throughout the learning activities.

The implementation of *Culturally Responsive Teaching* (CRT) enabled students to connect speech topics with their cultural backgrounds and daily experiences, making learning more meaningful. Furthermore, the use of the Teleprompter application helped students organize their ideas more effectively and reduced anxiety during speech performances. Students with visual learning styles benefited from the text display, auditory learners improved through listening and speaking activities, while kinesthetic learners demonstrated greater engagement through direct practice.

These qualitative findings support the quantitative results, indicating that the integration of PBL and PjBL models with the Teleprompter application and CRT positively contributed to students' speech learning outcomes. This study aimed to examine the effectiveness of Problem-Based Learning (PBL) and Project-Based Learning (PjBL) integrated with the Teleprompter application and the *Culturally Responsive Teaching* (CRT) approach in improving students' speaking skills. The findings indicate that both learning models contributed positively to students' speech performance, although the PBL model demonstrated greater effectiveness in improving speaking ability.

Theoretically, this study contributes to the growing body of literature on technology-assisted speaking instruction by demonstrating the potential of combining digital tools, student-centered learning models, and culturally responsive pedagogy. Practically, the findings suggest that teachers can utilize teleprompter-based learning activities to enhance students' confidence, engagement, and speaking performance. of *Culturally Responsive Teaching* (CRT) and accommodate students' visual, auditory, and kinesthetic learning styles to optimize learning outcomes. Future researchers are recommended to

investigate other learning models, variables, or educational settings to broaden and deepen the understanding of effective strategies for improving students' speaking abilities

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References

Afifatuzzahra F., Kurnia, R., Pratiwi, R., & Rosmaria. (2024). The Effectiveness Of The Implementation Of The Project Based Learning Model On Students' Speaking Skills In English Language Courses At MTS Muhammadiyah Kota Solok. *Pendas: Jurnal Elementary Education Science 09* (3), 167–179.

Almulla, M. A. (2020). The effectiveness of the project-based learning approach as a way to engage students in learning. Sage Open, 10(3), 1–15. https://doi.org/10.1177/2158244020938702

Augustise P. (2020). Improving ninth grade students' speaking skills through the application of *Problem Based Learning* (PBL) method at SMPN 3 Tungkal Jaya Muba. *Przeglad Wschodnioeuropejski 11* (1), 417–425. https://doi.org/10.31648/PW.5999

Benlaghrissi, H., & Ouahidi, L. M. (2024). The impact of mobile-assisted project-based learning on developing EFL students' speaking skills. Smart Learning Environments, 11(18). https://doi.org/10.1186/s40561-024-00303-y

Chen, Y. C. (2024). Effects of technology-enhanced language learning on reducing EFL learners' public speaking anxiety. Computer Assisted Language Learning, 37(4), 789–813. https://doi.org/10.1080/09588221.2022.2055083

Doubet, K., & Hockett, J. (2017). *Differentiation in the classroom: A framework for responsive teaching* ASCD.

Dwiyamtini, MR (2023). Application of *Problem Based Learning* (PBL) to improve English speaking skills. *Applied Research on English Education (AREE), 1* (2), 80–91. https://doi.org/10.26714/aree.1.2.2023.80-91

Fitriyani, F., Nensilianti N., & Ambo Dalle. (2025). Comparison of *Problem Based Learning* and Project Based Learning models in learning write text short story student Class XI of SMAN 4 Makassar. *Journal Onoma : Education, Language, and Literature, 11* (1), 442–452. https://doi.org/10.30605/onoma.v11i1.5243

Hakim, L., Lubis, PHM, & Khaokhajorn W. (2022). Developing the adaptive materials based on learning style to increase student's conceptual understanding. *Journal Education Study Learning Innovation 6* (1), 115–128. https://doi.org/10.21831/jk.v6i1.47735

Hastuti D., & Malihah, N. (2024). Systematic Literature Review (SLR): Implementation of the Project-Based Learning (PJBL) approach to improve students' speaking skills. *Proceedings of International Interdisciplinary Conference and Research Expo, 1* (1), 88–107. https://doi.org/10.18326/iicare.v1i1.634

Hoesny, M. U., Setyosari, P., Praherdhiono, H., & Suryati, N. (2024). Integrating digital technology into project-based learning: Its impact on speaking performance. MEXTESOL Journal, 48(3), 1–11.

Imam Mudofir, et al. (2025). Improving English speaking skills by structured dialogue through *Problem Based Learning* (PBL). *International Journal of Multilingual Education and Applied Linguistics, 2* (3), 349. https://doi.org/10.61132/ijmeal.v2i3.388

Kim, J. (2023). The use of teleprompter technology in improving public speaking confidence. *Journal of Educational Technology Systems, 51* (3), 214–228.

Laske, M. M., DiGennaro Reed, F. D., & Braren, J. T. B. (2024). The efficacy of remote video-based behavioral skills training and awareness training on public speaking performance. Journal of Applied Behavior Analysis, 57(1), 247–261. https://doi.org/10.1002/jaba.1030

Li, R., & Zheng, Y. (2024). Improving EFL learners' speaking skills and willingness to communicate via artificial intelligence-mediated interactions. System, 121, 103254. https://doi.org/10.1016/j.system.2024.103254

Ministry of Education, Culture Research, and Technology. (2022). *Report implementation Independent Curriculum* Ministry of Education, Culture Research, and Technology of the Republic of Indonesia.

Najakh (2025). Differentiated instruction and learning style strategies in modern classrooms. *Journal of Learning Innovation, 8* (1), 33–47.

Octadela R., & Elida, Y. (2022). The use of *Problem Based Learning* in improving students' speaking skills. *Journal of English Language and Education, 7* (2), 132–138. https://doi.org/10.31004/jele.v7i2.309

Putri, WN, & Ardi. (2023). Meta-analysis: Assessing improvement skills communication through approach discovery, problem-based, and project-based learning *JRTI (Journal of Indonesian Action Research), 8* (2), 223–233.

Qiao, L., & Yijun, W. (2023). Technology-assisted instruction in speaking performance: A review. *Language Learning & Technology Journal, 27* (1), 88–102.

Rahayu. (2022). Constructivist learning theory in modern educational practice. *Educational Research and Evaluation Journal, 10* (2), 55–70.

Rahmadilla S., et al. (2025). Digital media integration in speaking skill development using teleprompter applications. *International Journal of Language Education, 9* (2), 120–135.

Rahmadilla, F., Marsofiyati, & Utari, E. D. (2025). The effect of using teleprompter applications on the public speaking skills of office administration students. International Conference on Digital Business Innovation and Technology Management (ICONBIT).

Rahmawati, D., & Setiawan, R. (2023). Project based learning and *Problem Based Learning* in language learning improvement. *Journal of Education and Learning, 17* (4), 201–215.

Rosyana KE, Riyadi R., & Sriyanto MI (2022). Analysis activity Study reviewed from style Study participant Educate *Journal of Elementary Education, 10* (1), 19–24. https://doi.org/10.20961/jpd.v10i1.62986

Sari, IP, et al. (2025). Project-Based Learning (PjBL): Enhancing students' speaking skills. *Journal Eduscience 12* (6), 1652–1660. https://doi.org/10.36987/jes.v12i6.7998

Setiawan, T., et al. (2024). Analysis application of the Project Based Learning learning model on student activity Study participant Educate *Journal on Education, 7* (1), 4024–4033. https://doi.org/10.31004/joe.v7i1.6757

Siregar, M., et al. (2023). The role of digital media in improving students' speaking skills. *Journal of Language Teaching and Research, 14* (6), 150–160.

Sirisrimangkorn L. (2021). The effects of project-based learning on speaking skills using digital media. *Asian Journal of Education and Training, 7* (3), 45–52.

Tanase, M. (2022). *Culturally Responsive Teaching* in language education. *Journal of Multicultural Education, 16* (2), 99–110.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes* Harvard University Press.

Wang, X., et al. (2026). Problem-based learning and its impact on critical thinking and communication skills. *Journal of Contemporary Educational Research, 11* (1), 1–15.

Widodo, A., & Wahyuni, S. (2022). Project based learning in improving students' speaking performance. *Journal of English Language Teaching, 11* (2), 98–110.

Wulandari, T., & Samosir R. (2023). Challenges in implementing Merdeka Curriculum in Indonesian language learning. *Journal of Curriculum Studies, 15* (1), 77–90.

Yani, S., & Susanti, D. (2023). Learner diversity and differentiated instruction in classroom practice. *Journal of Education and Learning Development, 6* (2), 66–80.

Yuliana, R., et al. (2021). *Problem Based Learning* in improving students' speaking skills. *Journal of Language Education, 9* (1), 30–41.

Zheng, C., Wang, L., & Chai, C. S. (2023). Self-assessment first or peer-assessment first: Effects of video-based formative practice on learners' English public speaking anxiety and performance. Computer Assisted Language Learning, 36(4), 806–839. https://doi.org/10.1080/09588221.2021.1946562