Journal of Language
Volume 7, Number 2, pp: 223-234, November 2025
e-ISSN: 2685-8878 | p-ISSN: 2655-9080

THE USE OF VIRTUAL REALITY (VR) IN ENHANCING PUBLIC SPEAKING SKILLS IN RECEPTIVE ORAL LANGUAGE LEARNING

Puan Suri Mira Annisa, Rafika Dewi Nasution, Bahagia Saragih, Ade Aini Nuran, Fanny Rizki
English Department, Medan State University, Medan, Indonesia
E-mail: puansuri@unimed.ac.id

Received: 2025-08-04 Accepted: 2025-10-15 Published: 2025-11-15

Abstract

This study aims to examine how Virtual Reality (VR) can enhance students' public speaking skills in Receptive Oral Language Learning. VR provides a realistic and interactive environment that allows learners to practice speaking without the pressure of a real audience. Through VR, students can engage in various scenarios, receive immediate feedback, and improve their confidence and fluency in public speaking. This research employed a mixed-method approach involving interviews, documentation, and questionnaires. The findings indicate that VR is an effective tool for improving both verbal and non-verbal communication. Quantitative results show that 80% of students strongly agreed and 20% agreed that VR enhances their public speaking performance. Qualitative feedback further revealed that VR practice reduced anxiety and increased learners' motivation. However, challenges such as the high cost of VR equipment, limited accessibility, and health-related comfort issues were also identified. Overall, VR is proven to be a valuable pedagogical tool for improving students' public speaking competence and receptive oral language learning outcomes.

Keywords: *Public Speaking; Receptive Oral Language Learning; Speaking Simulation; Virtual Reality (VR)*

1. Introduction

Public speaking remains a persistent challenge for many language learners, often hindered by anxiety, limited access to realistic practice, and insufficient exposure to authentic audience feedback. Traditional pedagogical approaches—such as classroom presentations, peer evaluations, and instructor feedback—have long served as the primary methods of instruction. However, these approaches exhibit notable limitations. Speaking before classmates does not always replicate real-world communicative settings, restricting learners' ability to adapt to diverse audiences and contexts. Furthermore, large classroom environments often reduce individual speaking opportunities, thereby limiting meaningful practice and improvement. Such circumstances may even heighten speech anxiety, as students frequently feel judged or self-conscious under peer observation.

In contrast, virtual reality (VR) offers a safe, immersive, and repeatable environment in which learners can engage in authentic speaking experiences without the pressure of real audiences. Recent studies demonstrate that VR can substantially enhance engagement and provide embodied learning experiences that traditional methods fail to deliver (Cai, 2022, meta-analysis of VR-assisted language learning). For instance, Rissman et al. (2022) found that learners in VR environments retained more vocabulary than those in non-immersive conditions, suggesting that immersion—or the sense of "presence" in a virtual world—is a critical factor in effective learning outcomes.

In the context of language education, a growing body of research from 2020 to 2024 has further underscored the pedagogical value of VR. Cai's (2022) meta-analysis reported that VR-assisted language learning produced moderate effects on both linguistic (Hedges' g = 0.662) and affective gains (Hedges' g = 0.570) across 21 quantitative studies. Similarly, Ozgun and Sadik (2023) conducted a systematic review of 32 studies and concluded that VR enhances learner motivation and interactivity, though challenges such as technical constraints and reduced teacher–student interaction remain. Kaplan-Rakowski and Gruber (2023) also found that high-immersion VR significantly reduced foreign language anxiety (FLA) during public speaking tasks compared with video-conferencing tools like Zoom, further validating VR's role as a supportive platform for oral communication training. Moreover, Le, Prabjandee, and Kewara (2024) examined the use of VR in an English as a Lingua Franca context and reported that a ten-week mixed-methods intervention improved university students' self-efficacy in both listening and speaking skills. Collectively, these findings suggest that VR contributes not only to linguistic development but also to communicative competence and confidence in public speaking contexts.

Given these demonstrated benefits, VR represents a promising pedagogical innovation for enhancing public speaking performance within the framework of *Receptive Oral Language Skills* (ROLS)—a course that emphasizes the integrated development of speaking and listening fluency. Through VR-based learning, students can participate in simulated communicative scenarios such as presentations, interviews, or large-audience speeches. These activities allow for repetitive, low-pressure practice, immediate feedback, and gradual confidence-building. Such design principles are consistent with the Technological Pedagogical Content Knowledge (TPACK) framework (Mishra & Koehler, 2006), which advocates for the meaningful integration of content, pedagogy, and technology to create effective learning experiences.

Accordingly, this study aims to explore how VR-based learning environments can support the development of key components of effective public speaking—namely audience engagement, speech clarity, and responsiveness to listener cues—within a Receptive Oral Language Skills course. In addition, the study investigates learners' perceptions, encountered challenges, and the overall effectiveness of VR-based interventions in enhancing confidence and communicative performance.

2. Literature Review

2.1 Technological Pedagogical Content Knowledge (TPACK)

The Technological Pedagogical Content Knowledge (TPACK) framework is a model that describes the essential types of knowledge teachers need to effectively integrate technology into their teaching. It developed by Mishra and Koehler (2006) that TPACK emphasizes the intersection of three core components, they are: Content

Knowledge (CK), which refers to a teacher's understanding of the subject matter; Pedagogical Knowledge (PK), which involves knowing how to teach and manage learning effectively and Technological Knowledge (TK), which includes the ability to use and adapt various digital tools and platforms. The strength of the TPACK framework lies in how these knowledge areas overlap, guiding teachers to design meaningful and technology enhanced learning experiences. For instance, in teaching public speaking through virtual reality (VR), TPACK would require a teacher to understand the content of public speaking (CK), apply effective teaching methods such as practice and feedback (PK), and skilfully use VR tools to simulate realistic speaking environments (TK). By integrating all three domains, TPACK helps educators ensure that technology use is purposeful, pedagogically sound, and aligned with learning goals. According to Wahdi (2023) the development of VR based on learning media to build TPACK for prospective physics teachers. The prospective physics teachers need more support and tools to integrate VR (or similar immersive tech) into their instruction design that aligns content knowledge and pedagogy.

2.2 Virtual Reality (VR)

Conversation simulation is a training method that mimics real-life interactions between two or more people for educational or training purposes. This technique is widely used in language learning, job training, and customer service contexts to help participants develop communication skills, build confidence, and prepare for real social situations.

Meanwhile, according to Cowie (2025) VR is described as technology that can create three dimensional, immersive environments in which users can interact. These environments may use head mounted displays (HMDs), fully immersive setups, or less immersive but still interactive platforms (PCs, mobile devices). The level of immersion (how much the virtual environment feels "real") is an important distinguishing factor.

In the learning of Receptive Oral Language Skills, VR is used to create interactive experiences in which students can practice speaking in various realistic scenarios such as presentations, discussions, or interviews. This technology supports the development of both verbal and non-verbal communication, including facial expressions and body language. Davis (2015) argues that Virtual Reality (VR) serves as an innovative teaching tool that provides realistic and interactive learning experiences. Through VR simulation, learners can practice in safe, controlled environments that mirror real-world situations, thereby enhancing engagement, confidence, and professional readiness. Davis highlights that VR supports experiential learning by allowing students to develop practical skills more effectively. Students are also given the opportunity for repeated practice, vocabulary building, pronunciation improvement, and receiving feedback tailored to their individual abilities, making the learning process more personalized and effective.

Many studies note that VR can increase student motivation, engagement, and reduce anxiety, for example foreign language anxiety because VR offers safe practice environments. Students seem more willing to take risks (Kaplan-Rakowski & Gruber, 2023).

Various types of VR devices support immersive learning experiences, starting with VR headsets such as the Meta Quest, Oculus Rift, and HTC, which serve as primary tools for entering virtual environments. VR controllers like the Oculus Touch and Vivi Controllers allow users to interact directly within virtual spaces, supported by

motion sensors and trackers that accurately map body movements. For a more realistic experience, VR gloves such as Manus VR Gloves provide tactile sensations, while VR suits and haptic devices like the Tesla suit and haptic vests deliver physical feedback to the user's body. In addition, VR simulators are used for specialized training, such as driving or flight simulations. According to Siahaan (2015) All these devices work in conjunction with VR applications and software including educational apps and interactive games which enrich the learning experience in an engaging and interactive way.

Overall, the use of VR in education offers an innovative approach to enhancing students' public speaking skills in a fun, interactive, and effective manner. This technology holds the potential to become a powerful educational tool, provided that it is used wisely and according to learners' needs.

2.3 Public Speaking

Public speaking is more than just speaking in front of people. Some experts define it as a structured activity involving clear communication, audience engagement, effective verbal and non-verbal strategies, and the speaker's ability to organize and present ideas meaningfully. According to Khoirunisa & Pratama (2024), found that public speaking skills are central in 21st-century education due to their role in fostering students' self-confidence, critical thinking, and communicative competence.

According to Jasuli, Hartatik, and Astuti (2024) the components of effective public speaking are:

a. Nonverbal communication / body language: Gestures, facial expressions, posture, eye contact. These nonverbal cues increase perceived credibility, clarity, and audience engagement particularly for English language learners.
b. Self-confidence & self-concept: show a strong, positive relationship between a speaker's self-esteem and their public speaking performance.
   For example, "The Relationship of Self-Esteem and Public Speaking Skills among Humanities and Social Sciences Students" showed that students with higher self-esteem handled nervousness better and engaged more confidently.
c. Speech organization and clarity: Effective public speaking demands good structure introduction, well-developed arguments or main ideas, transitions, and a strong conclusion. Also, clarity in language, logical flow, and content relevance are repeatedly noted.
d. Handling anxiety / communication apprehension: Many studies report that public speaking anxiety is a major barrier for learners. The degree of apprehension can negatively influence fluency, performance, and willingness to participate.
e. Enabling better interaction with audiences, persuasion, and clarity in communication. Nonverbal behaviour and audience-sensitive delivery are repeatedly cited.

One of the most benefits of VR in communication training is its ability to provide low stakes practice environments that help learners gradually build speaking confidence. Kaplan-Rakowski and Gruber (2023) found that learners using high immersion VR reported significantly reduced foreign language anxiety compared to those using video conferencing platforms. This supports the idea that immersive practice buffers the psychological stress associated with real-time communication.

In another study, Enkin (2022) emphasized that learners using VR for language practice appreciated the non-judgmental environment, which helped them feel more comfortable experimenting with new vocabulary and sentence structures. These findings reinforce VR's value as a "safe space" for communicative experimentation, particularly for learners with high communication apprehension.

2.4 Receptive Oral Language Skills

Receptive Oral Language Skills is a course that covers listening and speaking skills, with a focus on enhancing students' English-speaking proficiency. Consistent practice helps students achieve greater fluency in the language. To support effective learning, appropriate media and methods are needed to develop key aspects such as pronunciation, fluency, intonation, and expression. The integration of 4C skills critical thinking, communication, collaboration, and creativity in this course is expected to enhance students' overall English language competence.

Abdushukurova (2024) said that exploring effective teaching of receptive skills in reading & listening highlights the importance of integrating technology, culturally relevant materials, differentiated instruction, and methods that encourage learner autonomy. These help address learners' varying prior experiences, abilities, and needs.

Overall, current literature supports the use of VR as a valid and effective medium for conversation simulation and public speaking training. The immersive nature of VR helps learners build confidence, improve fluency, and develop both verbal and non-verbal communicative competence. While technical and pedagogical limitations exist, ongoing advancements in VR interactivity, audience realism, and feedback mechanisms are gradually addressing these gaps. The reviewed studies underscore VR's potential to serve as a scalable, engaging, and effective supplement or even alternative to traditional public speaking instruction.

3. Research Method

This study implemented the use of Virtual Reality (VR) in teaching Receptive Oral Language Skills through a mixed-methods approach. A mixed-methods design combines quantitative and qualitative procedures within a single investigation to provide a more comprehensive understanding of the research problem. It involves the collection of numerical data (e.g., test scores, surveys) alongside qualitative evidence (e.g., interview responses, observations), which are then integrated during analysis and interpretation. According to Zhou, Zhou, and Machtmes (2024), mixed-methods research in education employs innovative integration strategies—such as combining structured surveys with open-ended items and using side-by-side narrative reporting—to address the limitations of relying solely on either quantitative or qualitative methods.

3.1 Participants

The study involved 24 students from the English Department at the State University of Medan who were enrolled in the Receptive Oral Language Skills course. These participants were selected based on their enrollment in the course and their willingness to participate in the study.

3.2 Instruments

Several instruments were used to collect data. Questionnaires and interview sheets were designed to assess students' public speaking performance, focusing on

fluency, clarity, pronunciation, confidence, and comprehension. Additionally, an observation checklist and a speaking rubric were employed to evaluate students' performances during both classroom and VR-based activities. A five-point Likert-scale questionnaire was also distributed to gather students' perceptions of VR as a learning tool.

3.3 Procedure

The study was conducted over a six-week period. In the first week, both the experimental and control groups completed a pre-test to determine their baseline speaking proficiency. Over the next four weeks, the experimental group participated in VR-based speaking sessions using applications such as Virtual Speech or similar platforms. These platforms simulated realistic public speaking environments—such as classrooms, auditoriums, and job interviews—providing an immersive and interactive context for practice. Meanwhile, the control group continued with traditional instruction through classroom presentations and peer feedback activities. During the final week, both groups completed a post-test to measure their progress. Afterward, the experimental group responded to a reflective questionnaire regarding their experiences with VR-based learning.

3.4 Data Analysis

Quantitative data from pre-tests and post-tests were analyzed to compare improvements in public speaking performance between the experimental and control groups. Qualitative data from interviews and open-ended questionnaire items were examined thematically to identify students' perceptions, challenges, and attitudes toward VR use in oral language learning. The integration of both data types provided a richer and more balanced interpretation of the effectiveness of VR in enhancing receptive oral language skills.

4. Discussion

The use of Virtual Reality (VR) in Receptive oral language skills learning requires a set of devices to create an immersive and interactive learning experience. The primary device is a VR headset such as the Bobo VR Z6 used in this study which relies on a smartphone to display the virtual environment. In addition, VR controllers are used to interact with the virtual space, allowing users to select, move objects, or navigate through simulations.

The learning process began with an opening activity, during which the lecturer initiated the class by presenting the topic, basic competencies, and learning indicators, and invited students to discuss personal appearances. In the main activity, the lecturer explained the preparation stages of public speaking and played a sample presentation video, which students analysed in terms of content, body language, and vocal intonation. Students were then divided into groups to provide feedback and design speaking activities based on various types of presentations, such as auditorium presentations, research presentations, interviews, and group discussions. This activity fostered the development of the 4C skills: communication, collaboration, critical thinking, and creative thinking. Students were also encouraged to give peer feedback using the provided platforms. The session concluded with students summarizing what they had learned, while the lecturer recapped the material and provided assignments and information on the topic for the next meeting.

a. Auditorium Presentation

An auditorium presentation in public speaking refers to the delivery of material or a speech in front of a larger audience, typically conducted in spacious venues such as auditoriums or large halls. The VR-based speech presentation was implemented through several stages as follows:

1) Content Preparation

Before delivering their speech presentations, students prepared a script to ensure that their presentation was well-structured and tailored to the audience's needs. In this stage, the lecturer also guided the students and ensured that the message to be conveyed was clear and understandable to a broader audience.

2) Spatial Awareness

During the auditorium-style presentation, speakers were encouraged to utilize the space strategically, moving across different areas to capture the attention of the audience in various corners of the room. Students did not remain in one spot but engaged the audience through purposeful body movement.

3) Opening Stage of the Presentation

As the presentation took place in a large space, speakers had to use their voice effectively. During the practice session, they were trained to project their voice to reach the entire audience, apply engaging intonation, and maintain clarity in their speech to ensure a strong and effective opening.

4) Delivery Stage of the Presentation

Although the presentation was conducted virtually, speakers were instructed to stay focused and maintain virtual “eye contact” with different sections of the audience, simulating real-world engagement. This helped establish an emotional connection with the audience. During the practice, students were able to deliver their messages fluently, and the presentation content was conveyed clearly.

5) Closing Stage of the Presentation

Speakers demonstrated an understanding of audience characteristics and adjusted their delivery style to resonate with the listeners. In the closing stage, students successfully captured the audience’s attention and ended their speech presentations effectively and memorably.

b. Research Presentation

A research presentation in public speaking is the process of delivering information, ideas, or messages orally to an audience, with the aim of informing, persuading, inspiring, or entertaining. In this type of presentation, speakers use various communication techniques verbal (spoken words), non-verbal (body language), and visual aids (such as slides, charts, or images) to strengthen the message being conveyed. Presentations may take place in different contexts, such as seminars, conferences, business meetings, lectures, or other public events. The primary goal is to ensure that the audience understands and is possibly inspired by the message. The implementation of research presentations using VR in this study was divided into three main phases: preparation, execution, and closure.

1) Preparation (Pre-Presentation)

In the initial stage, students determined the purpose of their presentation whether to inform, inspire, or persuade the audience. After writing their scripts, they practiced several times before using VR. These practice sessions helped build confidence, manage time, and ensure a smooth and coherent presentation flow.

2) Execution (During Presentation)

The use of VR in the training process revealed a high level of confidence among students. They demonstrated varied intonation, volume, and speaking pace to avoid monotony and maintain the audience's attention. They were also able to manage their time effectively, as they could view a timer during the presentation, allowing them to cover all content without rushing at the end.

3) Closure (Post-Presentation)

Students concluded their presentations by summarizing key points and reconnecting with the initial objective. They delivered strong closing remarks such as a call to action or an inspiring thought. Additionally, they were well-prepared for the Q&A session, asking for clarification when questions were unclear, responding confidently and respectfully, and ending their presentations with a polite thank-you.

4.1 The Use of Virtual Reality (VR) in Learning ROLS

The implementation of Public Speaking activities using Virtual Reality (VR) was carried out through the use of the Fondi and Big Talk applications. Receptive Oral Language Skills course, particularly the topic Describing People, was carried out through a series of activities involving audio, video, and Virtual Reality (VR) media.

The learning process began with an opening activity, during which the lecturer initiated the class by presenting the topic, basic competencies, and learning indicators, and invited students to discuss personal appearances. In the main activity, the lecturer explained the preparation stages of public speaking and played a sample presentation video, which students analysed in terms of content, body language, and vocal intonation. Students were then divided into groups to provide feedback and design speaking activities based on various types of presentations, such as auditorium presentations, research presentations, interviews, and group discussions. This activity fostered the development of the 4C skills. Students were also encouraged to give peer feedback using the provided platforms. The session concluded with students summarizing what they had learned, while the lecturer recapped the material and provided assignments and information on the topic for the next meeting.

The results of the study indicated a significant improvement in the public speaking performance of students who were exposed to Virtual Reality (VR) as part of the learning. Both the experimental and control groups were given a pre-test and post-test assessing several components of public speaking: fluency, pronunciation, clarity, confidence, eye contact (simulated in VR), and receptive oral comprehension.

The experimental group, which used VR simulations to practice public speaking in immersive environments, showed a notable increase in their mean post-test scores compared to their pre-test.

No	Group	The Average Score	
		Pre- Test	Post- Test
1	Experimental Group	68.4	85.2
2	Control Group	67.9	75.6

Table 1. The Average Score

The average score increased from 68.4 to 85.2, indicating substantial progress. Meanwhile, the control group, which practiced through traditional classroom presentations and peer feedback, also showed improvement, but to a lesser extent, with scores rising from 67.9 to 75.6 on average.

Statistical analysis using an independent samples t-test showed that the difference in the post-test scores between the two groups was statistically significant ($p < 0.05$), confirming that the VR-based intervention had a positive effect on public speaking skills.

4.2 Students' Responses to Virtual Reality Conversation Simulations in Receptive Oral Language Skills (ROLS) Learning

This section presents the results of a questionnaire distributed to students after they received instruction in Receptive Oral Language Skills (ROLS) using Virtual Reality (VR) media. The questionnaire was designed to assess students' understanding, confidence, and perceptions regarding the use of VR in the learning process. Each item in the questionnaire explored key aspects such as their comprehension of the material, the relevance of VR in education, the digital skills acquired, and their motivation to use VR in future learning experiences. The results of the questionnaire are presented in the diagram below.

Question	Number	Percentages	Result
"The use of VR media boosts my confidence in speaking English,	16	53.3 %	Strongly Agree
	6	20 %	Agree
	7	23.3%	Uncertainty
	1	3.3 %	Disagree

Table 2. The percentages of the students' response 1

According to the percentage, for the students' responses the statement, "The use of VR media boosts my confidence in speaking English," received strong agreement from 16 students (53.3%), agreement from 6 students (20%), uncertainty from 7 students (23.3%), and disagreement from 1 student (3.3%).

Question	Number	Percentages	Result
"Using VR media enhances my English language skills,"	24	80%	Strongly Agree
	6	20 %	Agree
	0	0%	Uncertainty
	0	0 %	Disagree

Table 3. The percentage of the student's response 2

For statement, "Using VR media enhances my English language skills," 24 students (80%) strongly agreed, 6 students (20%).

Question	Number	Percentages	Result
"VR media is highly effective in Receptive Oral Language Skills Learning	28	93%	Strongly Agree
	2	7 %	Agree
	0	0%	Uncertainty
	0	0 %	Disagree

Table 4. The percentage of the student's response 3

Lastly, for statement, "VR media is highly effective in ROLS instruction," 28 students (93%) strongly agreed, 2 students (7%) agreed.

In addition to performance scores, qualitative feedback from students in the experimental group gathered through post-intervention questionnaires revealed that 80% of participants felt more confident speaking in front of an audience and 93 % strongly agreed that VR made the learning experience more engaging and realistic. Many students noted that the virtual audience helped simulate real-life pressure without the anxiety of actual peer judgment.

4.3 Challenges in Using Virtual Reality Conversation Simulations in Receptive Oral Language Skills (ROLS) Learning

The use of Virtual Reality (VR)-based conversation simulations in the teaching of Receptive Oral Language Skills (ROLS) holds significant potential for enhancing students' listening comprehension and overall understanding of English conversations. However, several challenges must be addressed to ensure the effective and inclusive implementation of this technology. The following outlines some of the key obstacles:

1) Cost of Virtual Reality (VR) Equipment

The hardware required for VR such as headsets and compatible computers demands a significant financial investment.

2) Limited Access

Not all students have access to VR devices or a stable internet connection when using VR. As a result, some speaking activities may be disrupted, and audio quality may be unclear.

3) Health and User Comfort Issues

Prolonged use of VR headsets can lead to side effects such as eye strain and dizziness. These issues must be considered in the design of content and the duration of learning sessions to ensure student comfort and safety.

5. Conclusion

This study demonstrates that Virtual Reality (VR) holds substantial potential for enhancing students' public speaking skills, particularly within the context of Receptive Oral Language Learning. The immersive and interactive qualities of VR create authentic speaking environments that allow learners to practice with reduced anxiety and greater engagement. Such experiences foster confidence, fluency, listening comprehension, and overall communicative competence. Moreover, the learner-centered and low-stress atmosphere of VR-based practice aligns closely with contemporary pedagogical frameworks such as Technological Pedagogical Content Knowledge (TPACK), which emphasizes the meaningful integration of technology, pedagogy, and content.

For language educators, integrating VR technology into public speaking or oral communication courses can serve as an effective complement to conventional teaching methods. VR can simulate real-life speaking contexts—such as presentations, interviews, or debates—providing students with safe, repeatable spaces to practice and refine their skills. To maximize its educational impact, teachers should receive proper training to ensure that VR is applied purposefully and pedagogically, not merely as a technological novelty.

Future research should investigate the long-term influence of VR on learners' oral communication skills across varying proficiency levels and educational settings. Larger and more diverse participant samples, along with longitudinal designs, are needed to examine the sustainability and retention of communicative gains achieved through VR-based learning. Additionally, comparative studies between immersive VR, semi-immersive systems, and augmented reality (AR) platforms could reveal the differential benefits of these technologies. Exploring learners' affective dimensions—such as anxiety, motivation, and self-efficacy—would further contribute to a holistic understanding of how immersive technologies shape the experience of language learning.

References

Abdushukurova, U. (2024). Teaching receptive skills to ESL and EFL learners. *Journal of Pedagogical Inventions and Practices, 32*, 32–38.

Cai, S. (2022). A meta-analysis of the effects of virtual reality on language learning. *Sustainability, 14*(6), 3147. https://doi.org/10.3390/su14063147

Cowie, N. (2025). Virtual reality for language learning: Creating immersive environments to build speaking confidence. *Journal of Educational Technology and Language Learning, 4*(3), 50–65.

Davis, A. (2015). Virtual reality simulation: An innovative teaching tool for dietetics experiential education. *The Open Nutrition Journal*, 9(1), 1–6. https://doi.org/10.2174/1874288201509010001

Enkin, E. (2022). Exploring the potential of virtual reality for L2 oral proficiency development: A CALL perspective. *The CALL Journal, 23*(1), 1–22. Retrieved from https://old.callej.org/journal/23-1/Enkin2022.pdf

Jasuli, J., Hartatik, S. F., & Astuti, E. S. (2024). The impact of nonverbal communication on effective public speaking in English. *Journey: Journal of English Language and Pedagogy, 7*(2), 226–232. https://doi.org/10.33503/journey.v7i2.834 (UIB Journal)

Kaplan-Rakowski, R., & Gruber, A. (2023). The impact of high immersion virtual reality on foreign language anxiety. *Smart Learning Environments, 10*, 46. https://doi.org/10.1186/s40561-023-00263-9

Khoirunisa, A., & Pratama, R. (2024). Public speaking skill improvement through classroom-based interventions. *Edu Aksara: Jurnal Pendidikan dan Kebudayaan, 3*(2).

Le, V. H. H., Prabjandee, D., & Kewara, P. (2024). Virtual reality: A virtual world to realize English as a Lingua Franca (ELF) and enhance students' self-efficacy. *The Asian EFL Journal*, *28*(3.1), 165–187. https://callej.org/index.php/journal/article/view/449

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record, 108*(6), 1017–1054.

Ozgun, A., & Sadik, C. (2023). The effectiveness of virtual reality in language learning: A systematic review of the literature. *Education Policy Analysis and Strategic Research, 18*(2), 195–212. https://epasr.inased.org/makale/4267

Rissman, J., Aziz-Zadeh, L., & Lee, M. (2022, December 15). VR enhances vocabulary learning through greater immersion. *ScienceDaily*. https://www.sciencedaily.com/releases/2022/12/221215191628.htm

Siahaan, S. (2015). Pemanfaatan teknologi informasi dan komunikasi dalam pembelajaran: Peluang, tantangan, dan harapan. *Jurnal Teknodik,* 19(3), 345–357.

Wahdi, F. (2023). The development of virtual reality-based learning media to build TPACK for prospective physics teachers. *Jurnal Pendidikan Fisika dan Teknologi, 9*(2), 123–134.

Zhou, Y., Zhou, Y., & Machtmes, K. (2024). Mixed methods integration strategies used in education: A systematic review. *Methodological Innovations, 17*(1), 41–49. https://doi.org/10.1177/20597991231217937