Virtual Reality (VR) as Conversation Simulations to Enhance the Students' Public Speaking

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Abstract. This research aimed to describe Virtual Reality (VR) which is used as a tool of speaking simulation in the public situation, which allows students to practice in interactive and realistic environment without any pressure from a real audience. Through VR students have the potential to practice using a variety of scenarios, obtain direct feedback, and manage nervousness, besides enhancing student self confidence in public speaking. This study determines the effectiveness of using VR in improving students' verbal and nonverbal communication skills and explore its potential for soft skills development within Academic Oral Language Skills. This research intends to improve students' speaking skills in the English Education Department at State University of Medan. The study also identifies students' responses of the use of VR based conversation simulations and to reveal the various obstacles encountered in their implementation. This research employs a qualitative approach, with data collection techniques including interviews, documentation, and questionnaires.

Keywords: Conversation Simulations, Virtual Reality (VR), Public Speaking, Academic Oral Language Skills.

1. Introduction

Public speaking is one of the most essential skills for university students in both academic and professional settings. "It is the process of delivering a speech or presentation to a live audience with the goal of communicating information, sharing ideas, persuading, inspiring, or entertaining. It can take place in formal settings (like conferences or classrooms) or informal ones (like group discussions or social events)". Moreover, public speaking also requires the ability to manage the atmosphere and mastery of the material to be presented". [1] However, despite its importance, many students feel anxious or lack confidence when speaking in public. This anxiety often hinders them from conveying ideas and information effectively.

Speaking anxiety refers to the nervousness, fear, or discomfort when someone have to speak in front of others especially in public, in class, or during presentations. It is a common issue, especially among students learning a new language or lacking confidence, which is marked by both psychological and physiological reactions [2]. To overcome this issue, one effective approach is the

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use of technology, particularly through conversation simulations in Virtual Reality (VR). Virtual Reality enables users to interact within simulated environments that closely mimic real-world situations in a deep and immersive way. In the context of public speaking, VR can create the experience of speaking in front of a virtual audience, offering students the opportunity to practice without the fear of direct judgment [3].

Learning public speaking using VR plays a key role in helping students become more confident speakers. It gives them the tools, practice, and mindset needed to speak up clearly and comfortably in front of others. VR has the potential to transform the way speaking skills are taught by offering a more immersive, enjoyable, and effective learning experience [4]. Through this study, it is expected that empirical evidence can be found regarding the benefits of VR as an effective tool in developing students' public speaking skills, as well as providing new insights into the application of technology in the field of education.

2. Literature Review

2.1 Conversation Simulation

Conversation simulation is a practice or scenario designed to mimic real life interactions between two or more people, used as a learning method to enhance communication skills in various contexts such as job interviews, customer service, negotiations, and social conversations [5]. It also refers to the process of creating artificial conversations between one or more simulated participants (which could be humans, AI agents, or both), designed to replicate the flow and dynamics of real-life dialogue.

Conversation simulation offers several key benefits across different fields. It provides a safe and controlled environment where individuals can practice communication skills without real-world consequences. This is especially useful in training scenarios, such as customer service, language learning, or healthcare, where repeated practice with simulated interactions helps build confidence and competence. Additionally, conversation simulation allows for the exploration of a wide range of scenarios including rare or high-stress situations that might be difficult or costly to replicate in real life. It is also an effective solution, reducing the need for human role players or live trainers. By enabling consistent, scalable, and measurable training experiences, conversation simulation enhances learning outcomes and operational efficiency across various domains. This approach aims to improve communication skills, build self-confidence, and sharpen the ability to engage in effective conversations. Through a variety of simulated scenarios and challenges, participants are expected to be better prepared to face similar situations in real life.

2.2 Virtual Reality (VR)

Virtual reality (VR) is a technology that creates an immersive, computer-generated environment that users can interact with in a way that feels real. By using a VR headset, the users are placed inside a 3D world where they can look around, move, and manipulate virtual objects as if they were physically present. This immersive experience makes VR particularly valuable in fields such as gaming, education, healthcare, and training. For example, in education and professional

development, VR allows learners to engage with complex scenarios such as medical procedures, historical events, or engineering systems in a realistic and hands on way without real world risks. The sense of presence and interactivity provided by VR not only enhances engagement but also improves retention and understanding, making it a powerful tool for experiential learning and simulation.

In the context of learning Public Speaking, VR is used to create interactive experiences where students can practice speaking in 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. Students also have the opportunity to practice repeatedly, build vocabulary, improve pronunciation, and receive feedback based on their individual performance, making the learning process more personalized and effective [6].

All these devices work together with VR applications and software including educational apps and interactive games to enrich the learning experience in an engaging and interactive way [7]. 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 has the potential to become a powerful educational tool, provided it is used wisely and in accordance with learners' needs.

3. Public Speaking

Public speaking is the act of delivering a speech or presentation to an audience with the goal of informing, persuading, or entertaining. It is a vital communication skill used in various settings such as classrooms, conferences, workplaces, and community events. Effective public speaking involves not only clear and organized content but also confident body language, eye contact, vocal control, and the ability to engage the audience. Developing strong public speaking skills can boost self-confidence, improve critical thinking, and enhance professional and personal opportunities. Despite being a common fear for many people, regular practice and preparation can significantly improve one's ability to speak confidently and effectively in front of others.

3. Research Methodology

This research is an implementation of the use of Virtual Reality (VR) conversation simulation in the learning of Public Speaking, employing a qualitative approach. The qualitative method is used to generate descriptive data in the form of written or spoken words from participants and observed behaviors, with the researcher serving as the key instrument in the process of data collection and analysis [8]. In this context, it can be said that the study is centered on descriptions, where the collected data are presented in words or images that carry meaning beyond mere numbers or quantities [9]. The research subjects consist of 24 students from the English Education Department at Universitas Negeri Medan who are enrolled in the Receptive Oral Language Skills course. Data were collected through interviews conducted before and after the use of VR to identify its strengths and weaknesses, documentation to gather visual and written materials, and questionnaires to assess the feasibility of VR media and students' responses to its use. The analytical technique employed is

qualitative descriptive analysis, aiming to deeply describe students' experiences and phenomena, while the questionnaire results are analyzed statistically.

4. Result and Discussion

Result

The use of Virtual Reality (VR) in education requires several devices to create an immersive and interactive learning experience. In addition, VR controllers are used to interact with the virtual setting, allowing users to select, move objects, or navigate simulations. A computer or smartphone is also needed as a supporting device to run VR applications. All of these devices are supported by VR learning software or applications that provide interactive content designed to enhance students' engagement and improve their learning outcomes.

Simulation based or real experience educational content is designed to enhance the effectiveness of learning. In addition to primary devices such as headsets and controllers, the use of Virtual Reality (VR) in education also requires several supporting tools to create an optimal experience. A spacious and safe room is essential to allow users to move freely while interacting in the virtual world. Audio systems, such as headphones or speakers, play a crucial role in creating an immersive atmosphere. For more advanced applications, hand tracking or VR gloves provide more realistic control and tactile feedback. An internet connection is also required if the VR application is cloud-based or needs real-time content updates. Other supporting equipment, such as VR chairs or motion platforms, enhance movement simulations, while teachers or instructors can use tablets or computers to monitor and guide the learning process. With this complete set of tools, VR can deliver learning experiences that are not only engaging and interactive but also help students grasp the material more quickly through real life experiences in a virtual environment.

The implementation of public speaking activities using Virtual Reality (VR) combines immersive technology with communication training to create realistic and controlled practice environments. By simulating various public speaking scenarios such as classrooms, conference halls, or business meetings. VR allows individuals to practice delivering speeches in front of virtual audiences that react with gestures, distractions, or applause. This helps users become more comfortable with stage presence, manage anxiety, and improve skills like eye contact, vocal projection, and pacing. Unlike traditional methods, VR provides instant feedback and the opportunity for repeated practice without the pressure of a real audience. As a result, VR based public speaking training enhances confidence and performance, making it a valuable tool for students, professionals, and anyone looking to develop effective communication skills.

Discussion

The learning process of using Virtual reality began with an opening session, where the lecturer greeted the class, introduced the topic, explained the basic competencies and learning indicators, and engaged students in a discussion about personal appearances. During the main activity, the lecturer explained the preparation stages of public speaking and played a sample presentation video,

which students were asked to analyze in terms of content, body language, and vocal intonation. Students were then divided into groups to provide comments and design speaking activities based on various types of presentations, such as auditorium presentations, research presentations, interviews, and group discussions. These activities fostered 4C skills communication, collaboration, critical thinking, and creative thinking. Students were also encouraged to give feedback to one another using the designated platforms. The session concluded with students summarizing the lesson, the lecturer recapping the material, and assigning follow up tasks along with sharing the topic for the next meeting.

4.1 Virtual Reality (VR) in teaching Public Speaking

a. Auditorium Presentation

Auditorium presentation in public speaking refers to the activity of delivering material or a speech in front of a larger audience, typically conducted in spacious venues such as auditoriums or large halls. Before delivering their speech presentations, students are required to prepare a script to ensure that the presentation is well structured and tailored to the needs of the audience. In this process, the lecturer also guides the students and ensures that the message they intend to convey is clear and easily understood by a wider audience.

During a presentation in a large auditorium, the speaker commands the space by moving strategically, capturing the attention of the audience from various areas of the room. Students are encouraged not to speak from a fixed position only, but to engage the audience through purposeful body movement, making the presentation more dynamic and interactive.

1. Opening Presentation

Since this presentation activity takes place in a large room, the speaker must be able to use their voice effectively. During the learning practice, the speaker should project their voice to reach the entire audience, use engaging intonation, and maintain clarity in speech to successfully deliver a strong and impactful opening to the presentation.

2. Content Delivery Stage of the Presentation

Although the presentation is conducted virtually, the speaker strives to stay focused and maintain eye contact with individuals in different parts of the virtual room. This helps build an emotional connection with the audience. During practice, students deliver their presentation messages fluently, ensuring that the content is conveyed effectively and clearly to the audience.

3. Closing Stage of Presentation

The speaker is able to understand the characteristics of the audience well and adjust their delivery style to resonate with a wider group of people. In the closing stage, students successfully capture the audience's attention, allowing them to end the speech presentation in a powerful and impactful manner.

b. Research Presentation

Presentation in public speaking is the process of delivering information, ideas, or messages to an audience orally in a public setting, with the purpose of informing, persuading, inspiring, or entertaining. In this kind of presentation, the speaker uses various communication techniques—

verbal (spoken words), non-verbal (body language), and visual aids (such as slides, graphs, or images) to reinforce the message being conveyed.
Presentations can take place in various contexts such as seminars, conferences, business meetings, lectures, or other public events. The main objective is for the audience to clearly understand or feel inspired by the message delivered.
The stages of conducting a public speaking presentation using Virtual Reality (VR) are divided into three main phases:

1. Preparation (Pre Presentation)

In the initial stage, students determine the objective of the presentation—whether to inform, inspire, or persuade the audience. After drafting the script, students practice several times before using VR. This rehearsal phase helps them build confidence, manage their timing, and ensure a smooth flow of the presentation

2. Delivery (During Presentation)

The use of VR during this phase demonstrates that students present with great confidence. They apply varied intonation, volume, and speaking pace to avoid monotony and maintain the audience's attention. They are also able to manage their time effectively by viewing a timer displayed during the presentation, ensuring that all content is delivered without rushing at the end.

3. Closing (Post Presentation)

Students conclude the presentation by summarizing the main points and linking back to the original purpose. They deliver a strong closing statement—such as a call to action or an inspiring thought. Furthermore, they are well-prepared for the Q&A session, confidently asking for clarification when questions are unclear, and responding with politeness and assurance. Finally, they end their presentation with a courteous "Thank you."
This structured approach ensures that students are not only technically prepared but also emotionally and intellectually equipped to deliver impactful presentations using Virtual Reality.

c. Interview

Interview practice using VR is highly beneficial for students in preparing for an interview session. The BigTalk platform provides a virtual interviewer who asks questions directly to the student. Students practice answering these questions in real time. This technique greatly helps students with mental preparation, accuracy in responding to questions, and improving their 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 the questionnaire distributed to students after receiving Receptive Oral Language Skills (ROLS) instruction using Virtual Reality (VR) media. The questionnaire was designed to measure students' understanding, confidence, and perceptions regarding the use of VR in the learning process. Each item in the questionnaire examines key aspects such as the level of content comprehension, the relevance of VR in learning, digital skills acquired, and students' motivation to use VR in the future. The results of the questionnaire are presented in the following diagram.

Based on the analysis of the questionnaire table, 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%). Then the Statement, “The use of VR media can improve my English language skills,” shows that 17 students (56.7%) strongly agreed, 10 students (33.3%) agreed, and 3 students (10%) were unsure. Lastly, statement, “The use of VR media is very effective in improving Public Speaking,” indicates that 19 students (63.3%) strongly agreed, 10 students (33.3%) agreed, and 1 student (3.3%) was unsure.

4.3 Challenges in Using Virtual Reality Conversation Simulations in learning Public Speaking

The use of conversation based Virtual Reality (VR) simulations in learning Public Speaking offers great potential to enhance students’ listening and comprehension skills in English. However, there are several challenges that must be addressed to ensure this technology can be implemented effectively and inclusively.

While virtual reality (VR) conversation simulations offer significant benefits for learning public speaking, they also come with several challenges. One major challenge is the cost and accessibility of VR equipment, which can be expensive and may not be readily available in all educational institutions or for individual learners. Another issue is the technical complexity involved in setting up and maintaining VR systems, which may require specialized knowledge and support. Additionally, some users may experience motion sickness or discomfort when using VR headsets for extended periods, which can limit the effectiveness of training sessions. There is also the challenge of ensuring realism and emotional engagement in virtual audiences if the simulations do not feel life like or interactive enough, learners may not fully develop the emotional and adaptive skills needed for real world public speaking. Then the next challenge health and user Comfort Issues, using VR headsets for extended periods can cause side effects such as eye strain and dizziness. This must be taken into account when designing content and setting the duration of learning sessions to ensure student comfort and safety.

5. Conclusion

The integration of Virtual Reality (VR) in public speaking practice represents a significant advancement in language learning and communication training. VR creates immersive, interactive environments that simulate real life speaking situations, helping learners overcome fear, build confidence, and improve fluency in a safe space. Through interaction with virtual characters and BigTalk application, students can receive immediate feedback and practice social and communication skills in various situations. Responses from English Education students show that the majority strongly agree that the use of VR enhances English language skills and is effective in teaching Public Speaking. However, several challenges were identified, including the high cost of hardware, limited access, and discomfort during VR use. In conclusion, VR is a powerful tool that complements traditional speaking practice by offering realistic, flexible, and supportive environments for learners to develop their speaking skills more effectively and confidently.

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