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EXPLORING THE ROLE OF VIRTUAL REALITY IN ENHANCING SPEAKING CONFIDENCE AMONG EFL STUDENTS

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ABOUT ARTICLE

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Abstract: This study investigates the role of virtual reality (VR) in enhancing speaking confidence among learners of English as a Foreign Language (EFL). Speaking confidence is widely recognized as a critical factor influencing learners' oral performance, yet many students experience anxiety and lack of self-assurance in real communicative situations. The research aims to examine how VR-based language learning environments contribute to improving learners' confidence in speaking. A mixed-method approach was employed, involving experimental and qualitative data collected from EFL students participating in VR-assisted speaking activities. The findings indicate that VR provides immersive, low-anxiety environments that foster increased participation, reduced speaking anxiety, and improved self-confidence. The study concludes that VR is an effective pedagogical tool for enhancing speaking confidence and recommends its integration into language learning curricula.

Introduction. Speaking is widely recognized as one of the most complex and cognitively demanding skills in second and foreign language acquisition, particularly for

learners of English as a Foreign Language (EFL). Unlike receptive skills such as reading and listening, speaking requires real-time processing of linguistic knowledge, rapid lexical retrieval, grammatical structuring, and phonological encoding under time pressure. This multidimensional demand is further complicated by affective and psychological barriers, including communication anxiety, fear of negative evaluation, and low self-efficacy beliefs (Horwitz et al., 1986). These affective filters often inhibit learners' willingness to participate in oral communication, thereby limiting opportunities for meaningful language practice. As MacIntyre et al. (1998) emphasize, willingness to communicate (WTC) is a key predictor of oral proficiency development, and it is strongly mediated by speaking confidence. Consequently, even learners with adequate linguistic competence may experience performance breakdowns when psychological constraints override their cognitive resources. In this context, speaking confidence can be defined as a learner's perceived ability to successfully engage in oral communication in the target language without excessive anxiety or avoidance behavior. It is not merely a by-product of linguistic proficiency but a distinct affective construct that influences interactional behavior, risk-taking in communication, and overall communicative competence. Therefore, developing speaking confidence is considered a central pedagogical objective in EFL instruction, particularly in environments where exposure to authentic communicative situations is limited.

Recent advancements in educational technology have introduced new paradigms for addressing these challenges, among which virtual reality (VR) has emerged as a particularly promising innovation. VR-based learning environments create immersive, interactive, and three-dimensional spaces that simulate real-world communicative contexts. These environments enable learners to engage in contextualized speaking practice without the immediate social pressure of face-to-face interaction. According to Radianti et al. (2020), VR supports experiential and situated learning by allowing learners to "experience" language use in realistic scenarios, such as virtual classrooms, workplaces, or social interactions. Unlike traditional classroom-based speaking activities, which are often constrained by time, space, and limited authenticity, VR provides continuous opportunities for repetition, experimentation, and self-paced interaction, all of which contribute to reduced anxiety and increased engagement. From a theoretical standpoint, VR-based language learning is strongly grounded in constructivist learning theory, which posits that knowledge is actively constructed through experience and interaction rather than passively received (Kolb, 1984). In VR environments, learners are not merely observers but active participants who construct meaning through

simulated communicative acts. This experiential dimension is further supported by Krashen's (1982) affective filter hypothesis, which argues that language acquisition is facilitated when learners experience low anxiety, high motivation, and positive emotional states. VR environments, by providing a non-threatening and immersive space, are capable of lowering the affective filter, thereby enhancing learners' readiness to produce spoken language.

In addition, VR contributes to the development of communicative competence by integrating cognitive, social, and emotional dimensions of language learning. The sense of presence generated in VR environments increases learner engagement and creates a perception of "being in" the target language context, which enhances authenticity and motivation. This immersive quality allows learners to practice not only linguistic forms but also pragmatic and sociocultural aspects of communication, such as turn-taking, politeness strategies, and contextual appropriateness. Against this theoretical background, the present study is positioned to explore the impact of VR-based language learning on speaking confidence among EFL students. Specifically, it investigates how immersive virtual environments influence learners' emotional responses, particularly anxiety reduction, and how these changes affect their willingness to participate in oral communication. Furthermore, the study examines the extent to which VR enhances learners' self-perception as competent English speakers by providing repeated exposure to realistic communicative scenarios. By focusing on these dimensions, the research aims to contribute to a more comprehensive understanding of how emerging technologies can be leveraged to address long-standing affective barriers in language learning and to support the development of confident, autonomous speakers of English.

Methodology. This study adopts a mixed-methods research design, integrating both quantitative and qualitative approaches in order to obtain a more comprehensive and triangulated understanding of the impact of virtual reality (VR) on speaking confidence among EFL learners. The use of a mixed-method framework is particularly appropriate in language education research, as it allows for the simultaneous measurement of observable changes in learner performance and the exploration of subjective psychological and experiential dimensions that cannot be fully captured through numerical data alone.

The participants of the study consisted of 40 undergraduate students majoring in Foreign Language and Literature at a higher education institution. These participants were selected due to their relevance to the research context, as they are actively engaged in advanced English language learning and regularly participate in speaking-oriented coursework. The participants were randomly assigned into two groups: an experimental group and a control

group. The experimental group engaged in VR-based language learning activities, while the control group followed traditional classroom-based speaking instruction. This quasi-experimental structure was designed to ensure comparability between groups while allowing for controlled observation of the VR intervention's effects.

The experimental group participated in VR-enhanced speaking sessions that simulated authentic communicative environments. These included virtual interviews, role-playing scenarios, academic discussions, and real-life situational tasks such as ordering food, attending meetings, and social interaction in public spaces. Such immersive tasks were designed to replicate real-world communicative demands and provide learners with opportunities to practice spontaneous speech in meaningful contexts. In contrast, the control group completed conventional speaking activities typically used in EFL classrooms, such as pair discussions, teacher-guided dialogues, and textbook-based role-plays without immersive technological support. The intervention period lasted for six weeks, during which both groups received equal instructional time to ensure consistency in exposure. Data collection involved multiple instruments to enhance validity and reliability through methodological triangulation. Quantitative data were obtained through pre- and post-intervention speaking confidence tests, which measured learners' self-perceived confidence levels using standardized Likert-scale questionnaires. These instruments assessed dimensions such as willingness to speak, anxiety reduction, perceived fluency, and self-efficacy in oral communication. In addition, qualitative data were collected through semi-structured interviews conducted after the intervention. These interviews aimed to capture learners' personal experiences, perceptions of VR-based learning, emotional responses, and perceived changes in their speaking behavior. Classroom performance observations were also used as supplementary data to evaluate actual speaking behavior in both groups.

The analytical procedures combined statistical and interpretive methods. Quantitative data from pre- and post-tests were analyzed using comparative statistical techniques to determine the significance of changes in speaking confidence between the experimental and control groups. This allowed for an objective measurement of VR's impact on learner outcomes. Qualitative data from interviews were analyzed using thematic analysis, which involved identifying recurring patterns, themes, and conceptual categories related to learners' experiences with VR-based speaking activities. This dual approach ensured that both measurable outcomes and subjective learner perspectives were systematically examined. The theoretical foundation of the study is grounded in Communicative Language Teaching (CLT),

which emphasizes interaction as both the goal and means of language learning, and Krashen's (1982) Affective Filter Hypothesis, which highlights the importance of emotional variables such as anxiety, motivation, and confidence in second language acquisition. Within this framework, VR is conceptualized as a pedagogical tool that lowers affective barriers by creating immersive, low-anxiety environments that encourage meaningful communication. By integrating these theoretical perspectives, the study seeks to explain not only whether VR improves speaking confidence, but also how and why such improvements occur within the language learning process.

Results. The results of the study indicate a statistically and pedagogically significant improvement in speaking confidence among participants in the experimental group compared to those in the control group. Quantitative analysis of pre- and post-test data reveals that learners exposed to VR-based speaking activities demonstrated a higher degree of self-reported confidence in expressing their ideas in English. This improvement suggests that immersive technological environments can positively influence affective dimensions of language learning, particularly learners' perceived communicative self-efficacy and willingness to engage in oral interaction.

One of the most prominent findings is that virtual reality environments contribute to a noticeable reduction in speaking anxiety. This effect can be explained by the concept of a "low-risk communicative space," where learners are not subjected to immediate social judgment or negative peer evaluation. Within VR settings, students reported experiencing reduced fear of making mistakes, which is a key factor inhibiting oral production in traditional classroom contexts (Horwitz et al., 1986). The anonymity and psychological safety provided by virtual environments appear to lower the affective filter, thereby facilitating more spontaneous and fluent speech production. These findings are consistent with earlier research suggesting that immersive technologies can effectively mitigate language anxiety and create more supportive learning conditions (Chen, 2016).

Another significant outcome of the study is the marked increase in learner engagement and active participation during speaking tasks. VR-based activities encouraged students to interact more frequently, respond more spontaneously, and take greater communicative risks compared to conventional classroom instruction. The heightened sense of presence and realism generated by VR scenarios contributed to a stronger perception of authenticity in communication, which in turn motivated learners to engage more deeply with speaking tasks. From a communicative language teaching perspective, this increased engagement is

particularly important, as meaningful interaction is a core driver of language acquisition. Qualitative findings obtained through semi-structured interviews further reinforce the quantitative results. Participants consistently described VR-based learning as highly motivating, enjoyable, and psychologically supportive. Many students reported that VR environments helped them gradually overcome shyness and build speaking confidence over time, particularly through repeated exposure to realistic communicative situations. The opportunity to practice speaking in simulated real-life contexts—such as interviews, social interactions, and academic discussions—was perceived as particularly beneficial for developing fluency and reducing hesitation. Students also emphasized that the iterative nature of VR practice allowed them to make mistakes without embarrassment, reflect on their performance, and improve progressively. The integration of quantitative and qualitative data provides strong evidence that VR-based language learning not only enhances speaking confidence but also transforms learners' affective and behavioral engagement with oral communication tasks. These findings highlight the pedagogical potential of VR as an effective tool for reducing anxiety, increasing participation, and fostering sustainable development of speaking confidence in EFL contexts.

Discussion. The findings of this study provide strong empirical support for the claim that virtual reality (VR) is an effective pedagogical tool for enhancing speaking confidence among EFL learners. The results are consistent with prior research emphasizing the positive role of immersive technologies in shaping affective variables such as motivation, engagement, and anxiety reduction in language learning contexts (Radianti et al., 2020; Makransky & Petersen, 2019). In particular, the present study extends this body of literature by demonstrating that VR not only improves general learner engagement but also specifically strengthens learners' self-perceived speaking confidence, which is a critical component of oral communicative competence. From a pedagogical standpoint, the integration of VR aligns closely with the principles of Communicative Language Teaching (CLT), which prioritizes meaningful interaction and authentic language use as central elements of instruction. VR environments create simulated yet realistic communicative contexts in which learners can actively engage in spoken interaction without the constraints of traditional classroom settings. These environments replicate real-world communicative situations such as interviews, academic discussions, and everyday social exchanges, thereby bridging the persistent gap between classroom-based practice and authentic language use. As a result, learners are provided with

opportunities to develop not only linguistic accuracy but also fluency, spontaneity, and pragmatic competence in contextually rich settings.

Furthermore, the observed reduction in speaking anxiety can be theoretically interpreted through Krashen's (1982) Affective Filter Hypothesis. According to this framework, language acquisition is facilitated when emotional barriers such as anxiety, low motivation, and lack of confidence are minimized. The findings of this study suggest that VR environments effectively lower the affective filter by creating immersive, engaging, and psychologically safe learning spaces. Within such environments, learners experience reduced fear of negative evaluation and increased willingness to take communicative risks, which are essential conditions for developing speaking confidence and fluency. Despite these positive outcomes, the study also identifies several practical challenges associated with the implementation of VR in EFL instruction. One of the primary limitations is the requirement for adequate technological infrastructure, including VR headsets, compatible software, and stable digital resources. In addition, effective use of VR in language teaching necessitates a certain level of digital literacy and pedagogical competence on the part of instructors. Without proper training, teachers may struggle to design and facilitate meaningful VR-based learning experiences. Moreover, instructional design plays a crucial role in ensuring that VR activities are not merely technologically impressive but also pedagogically purposeful and aligned with learning objectives.

Conclusion. This study demonstrates that virtual reality (VR) plays a significant and multifaceted role in enhancing speaking confidence among EFL students by transforming the conditions under which oral language practice occurs. Unlike conventional instructional environments, VR-based learning systems provide immersive, interactive, and psychologically safe communicative spaces in which learners can engage in spoken interaction without the immediate pressure of real-world social evaluation. Such environments reduce affective barriers particularly communication anxiety and fear of negative judgment thereby enabling learners to participate more freely and develop greater self-confidence in their oral performance.

The findings further suggest that VR integration into language learning curricula has implications that extend beyond speaking confidence alone. By simulating authentic communicative contexts and enabling repeated exposure to realistic interactional scenarios, VR contributes to the development of broader communicative competence, including fluency, pragmatic awareness, and interactional adaptability. In this sense, VR functions not merely as

a supplementary instructional tool but as an experiential learning environment that aligns with contemporary theories of communicative language teaching and situated learning. The increased learner engagement observed in VR settings also indicates that such technologies may foster sustained motivation, which is a critical factor in long-term language development. However, despite these pedagogical advantages, the effective implementation of VR in EFL instruction is contingent upon several essential conditions. First, adequate technological infrastructure is required, including access to VR devices, stable software systems, and technical support. Without these resources, the scalability of VR-based instruction remains limited. Second, pedagogical planning is crucial to ensure that VR activities are not used as isolated technological experiences but are meaningfully integrated into curriculum objectives. Teachers must be equipped with both technical skills and instructional strategies to design tasks that maximize linguistic and communicative outcomes. This highlights the importance of teacher training programs that address both digital literacy and pedagogical adaptation in technology-enhanced language learning environments.

Future research in this area should adopt a longitudinal perspective to examine the sustained impact of VR-based learning on speaking confidence over extended periods. Additionally, comparative studies between VR and other immersive technologies, such as augmented reality or mixed reality, could provide deeper insights into the relative effectiveness of different digital environments in language acquisition. Further investigation is also needed to explore the influence of VR on other language skills, particularly listening comprehension, pronunciation accuracy, and interactional competence. Expanding the scope of research in these directions would contribute to a more comprehensive understanding of how immersive technologies can be systematically integrated into second language pedagogy to enhance overall communicative proficiency.

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