LEVERAGING VR AND DS TECHNOLOGY FOR ENHANCING ENGLISH SPEAKING SKILLS AMONG MULTIMEDIA STUDENTS

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Abstract

*English language proficiency is a cornerstone of success in the globalized digital media landscape, making it crucial for multimedia students to acquire strong speaking skills. To address this need, this study explores the potential of leveraging Virtual Reality (VR) and Digital Storytelling (DS) technologies to enhance English speaking skills among multimedia students. This research aims to assess the effectiveness of these innovative technologies in improving language learning outcomes and the overall educational experience. In the fast-evolving realm of educational technology, VR offers immersive and interactive environments that mimic real-life scenarios, fostering experiential and contextual learning. DS, on the other hand, engages students in content creation, stimulating creativity, comprehension, and language skills. By combining these two technologies, this study creates a dynamic and engaging language learning environment tailored to the unique needs of multimedia students. The methodology of this study involves a two-phase approach. In the first phase, students experience English-speaking scenarios in VR, including ordering in a restaurant, conducting interviews, and negotiating business deals. Immersive VR environments are created using headsets, enabling students to practice English within real-world contexts. In the second phase, students actively engage in DS by creating digital stories that involve dialogue, scriptwriting, and narrative development, all requiring the use of English. Data is collected through pre-and post-study assessments, surveys, and interviews with participating students. Preliminary findings suggest that the integration of VR and DS technologies has a profound impact on English speaking skills. Students reported improved pronunciation, fluency, and increased confidence in speaking English. Additionally, DS technology enhances creativity, storytelling skills, and conversational proficiency. This study highlights the significant potential of VR and DS technologies to enhance English language learning in multimedia programs. The findings provide support for the incorporation of these technologies into language education, creating a more engaging and effective learning experience for multimedia students.*

**Keywords:** Virtual Reality, Digital Storytelling, Language Learning, English Speaking Skills, Immersive Learning.

Introduction

In an increasingly interconnected world, English language proficiency stands as a cornerstone for success, particularly for students aiming to forge careers in multimedia (Kumar *et al*, 2021). Effective spoken English skills are pivotal, enabling multimedia professionals to articulate ideas, engage in global creative endeavors, and connect with diverse audiences across borders (Kim, 2016). Recognizing this vital need, the present research investigates the innovative integration of Virtual Reality (VR) and Digital Storytelling (DS) technologies as tools for enhancing English speaking skills among multimedia students.

Traditionally, language education has been primarily focused on reading and writing skills, often neglecting the development of speaking and listening abilities (Wongsuriya, 2020). However, the rapidly evolving digital media and communication landscape requires a more holistic approach to language learning, placing greater emphasis on effective verbal communication. This is particularly pertinent to students specializing in multimedia, where spoken language skills are instrumental for articulating creative concepts, conveying ideas, and engaging in dynamic collaboration. The field of multimedia encompasses a diverse array of creative forms, including video production, animation, and interactive storytelling, all of which necessitate fluency in spoken English for successful execution (Sosas, 2021).

To meet the evolving demands of modern education and the professional world, this research explores the potential of leveraging advanced technologies, such as VR and DS, to facilitate the development of English-speaking skills among multimedia students. Renowned for their immersive and interactive nature, these technologies present promising avenues for experiential learning and creativity enhancement.

The primary objective of this research is to assess the effectiveness of VR and DS technologies in enhancing English speaking skills among multimedia students. By capitalizing on VR's immersive qualities and DS's narrative-driven approach, we aim to create a dynamic and engaging language learning environment tailored to the distinctive needs of multimedia students.

The benefits of this research extend beyond the educational realm. Firstly, it addresses a pressing challenge in language education, ensuring that multimedia students are equipped with the verbal fluency and communication skills essential for excelling in a globally competitive environment. Secondly, it introduces innovative pedagogical methods that hold potential for adaptation to language learning across various educational contexts. Lastly, this study contributes to the growing body of knowledge on the application of technology in language education, offering valuable insights to educators, curriculum developers, and policymakers striving to enhance language proficiency through innovative means.

The traditional approach to language education faces inherent limitations when it comes to enhancing speaking skills (Baidoo-Anu & Ansah, 2023; Yu, Xu, & Sukjairungwattana, 2023). Conventional classroom-based learning often lacks real-world context, and students may struggle to apply their knowledge in practical, communicative situations (Li & Kou, 2023). This research endeavors to address these issues by employing VR and DS technologies to create immersive and interactive language learning experiences that are engaging and contextually relevant.

The theoretical framework for this research draws from a range of educational and cognitive theories. The integration of VR aligns with constructivist learning theory, which asserts that knowledge is constructed through experience and interaction with the environment. Furthermore, the use of DS aligns with the principles of experiential learning, wherein learners actively engage in the learning process through practical, hands-on experiences.

Additionally, the incorporation of these technologies into language education aligns with socio-cultural theory, emphasizing that language acquisition is a socially and contextually constructed process. By creating environments that mirror real-world interactions, this research intends to facilitate language learning within meaningful and socially constructed contexts.

This research seeks to illuminate the potential of VR and DS technologies in addressing the multifaceted challenges of language education for multimedia students, offering fresh perspectives and practical solutions within the broader discourse on innovative approaches to language acquisition.

Research Method

The research method adopted for this study is a mixed-methods approach (Pardede, 2019; Magsamen-Conrad, & Dillon, 2020; Dawadi, Shrestha, & Giri, 2021) designed to investigate the effectiveness of Virtual Reality (VR) and Digital Storytelling (DS) technologies in enhancing English speaking skills among multimedia students. The research method consists of two key phases: a quantitative analysis to assess the impact on language proficiency and a qualitative inquiry to capture the students' experiences.

Phase 1: Quantitative Analysis

- Pre-Study Assessments: Prior to the introduction of VR and DS technologies, students' baseline English speaking skills are assessed using standardized language proficiency tests. This serves as a reference point for measuring improvement.

-Technology Integration: The implementation of VR and DS technologies into the language learning curriculum involves interactive scenarios and storytelling exercises. The students engage in immersive language experiences through VR simulations and participate in DS activities.

-Post-Study Assessments: After the completion of the VR and DS modules, post-study assessments are conducted, utilizing the same standardized tests as the pre-study assessments. The results of these assessments are quantitatively analyzed to measure improvements in English speaking skills.

-Statistical Analysis: The quantitative data is analyzed using appropriate statistical methods, such as paired t-tests or analysis of variance (ANOVA), to determine the significance of the improvements in speaking skills.

Phase 2: Qualitative Inquiry

-Surveys: Students are provided with post-study surveys to gather their perceptions and experiences of using VR and DS technologies in language learning. The survey includes open-ended questions about their level of engagement, confidence, and perceived improvements in English speaking skills.

-Interviews: A subset of students is selected for in-depth interviews to explore their experiences further. The interviews delve into their feelings of immersion, creativity, and any challenges they encountered during the VR and DS activities.

-Thematic Analysis: The qualitative data collected through surveys and interviews is subjected to thematic analysis. Key themes and patterns related to the impact of VR and DS technologies on English speaking skills are identified.

This research method is specifically designed to address the problem of enhancing English speaking skills among multimedia students in a holistic manner. The mixed-methods approach combines quantitative assessments (Kansteiner & König, 2020; Kajamaa, Mattick, & de la Croix, 2020) to measure the effectiveness of the technologies objectively with qualitative data to understand the students' experiences, challenges, and perceived benefits. By employing standardized tests in the pre- and post-study assessments, this research aims to quantify the improvement in language proficiency accurately. Meanwhile, surveys and interviews provide insights into the multifaceted aspects of the students' language learning experiences. This combination of methods allows for a comprehensive understanding of the impact of VR and DS technologies on language learning.

Results and Discussion

The results and discussion section of this research article explores the impact of Virtual Reality (VR) and Digital Storytelling (DS) technologies on enhancing English speaking skills among multimedia students. This mixed-methods study incorporates quantitative analysis to measure improvements in language proficiency and qualitative inquiry to understand students' experiences, challenges, and benefits. The discussion is framed within the context of the theories presented in the introduction, focusing on constructivist learning, experiential learning, and socio-cultural theory.

Quantitative Analysis: Measuring Improved English Speaking Skills

The quantitative phase of this research sought to provide a quantitative understanding of the impact of VR and DS technologies on English speaking skills. To achieve this, a two-step process involving pre-study and post-study language proficiency assessments was conducted, using standardized tests. The aim was to quantifiably measure improvements in speaking skills among the participating multimedia students.

The results of the quantitative analysis clearly indicate a significant improvement in English speaking skills among students who participated in the VR and DS interventions. Post-study assessments revealed a substantial increase in average scores compared to the pre-study assessments. These findings indicate that the integration of VR and DS technologies effectively enhances English speaking skills.

The results align with the theoretical framework established in the introduction. The constructivist theory posits that knowledge is constructed through experience and interaction with the environment. The immersive and interactive nature of VR, coupled with the narrative-driven approach of DS, offers a practical and engaging environment for students to construct their language skills. As observed in the quantitative data, the experiential learning aspect of these technologies facilitated a measurable improvement in English speaking skills.

Qualitative Inquiry: Understanding Student Experiences and Perceptions

The qualitative inquiry phase, which included post-study surveys and interviews, aimed to provide a deeper understanding of students' experiences and perceptions regarding the use of VR and DS technologies in language learning. The aim was to explore the students' feelings of engagement, immersion, creativity, and the challenges they encountered during the VR and DS activities.

The surveys and interviews revealed that students found the use of VR and DS technologies highly engaging. They described an increased sense of immersion, which allowed them to experience real-world language scenarios. The data also suggested that these technologies facilitated an enhanced sense of confidence in speaking English and a greater willingness to engage in English conversations. Additionally, students felt that the VR and DS activities promoted creativity, storytelling skills, and conversational proficiency.

These qualitative findings resonate with the socio-cultural theory (Al-Amrani, 2022), which emphasizes that language acquisition is a socially and contextually constructed process. The VR and DS technologies effectively created contexts for meaningful and socially constructed language learning. The interactive and creative nature of these technologies aligns with the principles of experiential learning, wherein students actively engage in the learning process through practical, hands-on experiences.

Theoretical Alignment: Constructivism, Experiential Learning, and Socio-Cultural Theory

The theoretical underpinnings of this study align with three key educational theories: constructivism, experiential learning, and socio-cultural theory.

Constructivism: The quantitative results demonstrate that students actively constructed their language skills through their experiences with VR and DS. The constructivist theory posits that knowledge is constructed through experiences and interaction with the environment. The immersive and interactive nature of these technologies provided students with practical and engaging environments to construct their English speaking skills.

Experiential Learning: The qualitative findings highlight that the use of VR and DS technologies engaged students in practical, hands-on language learning experiences. The experiential learning theory contends that learners actively engage in the learning process through practical, experiential activities. In this study, students actively participated in language learning activities through the use of VR and DS technologies, which contributed to the development of their speaking skills.

Socio-Cultural Theory: The qualitative data underscore the importance of the social and contextual aspects of language acquisition. The socio-cultural theory emphasizes that language acquisition is a socially and contextually constructed process. By creating contexts for meaningful and socially constructed language learning, VR and DS technologies facilitated language acquisition in real-world contexts.

The findings of this research have significant implications for language education in multimedia programs. The integration of VR and DS technologies offers a dynamic approach to enhancing English speaking skills, providing contextually rich and engaging learning experiences. It supports the development of constructivist learning, where students actively construct their knowledge through experiences. Moreover, the positive impact of these technologies on students' confidence and motivation to engage in English-speaking activities suggests that they foster a learner-centered approach to language education. The active and creative participation observed among students during VR and DS activities indicates that these methods cater to the multifaceted needs of multimedia learners, enhancing their language skills. Future research may explore the long-term effects of incorporating VR and DS technologies into language education, including their scalability and cost-effectiveness. Additionally, the specific attributes of VR and DS that contributed to language skill development should be investigated further, informing the design of more targeted language learning experiences.

Conclusion

In conclusion, the results and discussion of this study affirm the efficacy of VR and DS technologies in enhancing English speaking skills among multimedia students. This research contributes to the broader discourse on innovative approaches to language acquisition, highlighting the potential of technology to transform language education within the framework of constructivist, experiential, and socio-cultural theories.

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