

## **Exploring the perceived ease of use and usefulness of an immersive VR tool among Palestinian English as a Foreign Language (EFL) learners.**

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### **Abstract:**

This study examined the perceptions of Palestinian English as a Foreign Language (EFL) learners regarding the integration of virtual reality (VR) in speaking classes, focusing on its perceived ease of use and usefulness. The study was conducted at Ziad Abu Ein Primary Upper School in Ramallah city, and surveyed 119 females from seventh and eighth grades to explore their views of VR as a new technological tool in EFL speaking classes in Palestine. The study was based on the Technology Acceptance Model and Situated Learning Theory, employing a quantitative design with a validated questionnaire adapted from Technology Acceptance Model. Six VR scenarios with a VR application aligned with the English for Palestine curriculum were developed in collaboration with EFL supervisors, teachers, and software specialists. Implementation lasted five months during the 2024/25 academic year. Data were analysed using SPSS. The findings showed that students perceived VR as a useful and relatively easy-to-use tool with the potential to enhance EFL speaking skills. The study

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recommended integrating VR tools into EFL teaching in Palestine by investigating EFL skills, providing student training, enhancing school infrastructure, and developing a VR-supported curriculum. Future research should involve conducting further experimental studies on the integration of VR into EFL instruction, utilising a variety of data collection tools to examine the impact of VR on different age groups and instructional strategies.

**Keywords:** Virtual Reality; Perceived Ease of Use; Perceived Usefulness; Technology Acceptance Model, Situated Learning Theory.

**ملخص:** هدفت هذه الدراسة الى استكشاف آراء متعلمي اللغة الإنجليزية كلغة أجنبية في فلسطين حول استخدام أداة الواقع الافتراضي في حصص المحادثة في اللغة الإنجليزية في فلسطين، مع التركيز على مدى سهولة استخدام الأداة وفائدتها. أُجريت الدراسة في مدرسة زياد أبو عين الأساسية العليا في رام الله، وشملت 119 طالبة في الصفين السابع والثامن لاستكشاف آرائهن حول الواقع الافتراضي كأداة تكنولوجية جديدة في صفوف اللغة الإنجليزية. اعتمدت الدراسة على نموذج "قبول التكنولوجيا" ونظرية "التعلم المتمركز حول الموقف"، باستخدام تصميم كمي مع استبيان موثق تم تكييفه من نماذج نظرية "نموذج قبول التكنولوجيا". تم تطوير ستة سيناريوهات واقع افتراضي متوافقة مع منهاج اللغة الانجليزية المعتمد في المدارس الحكومية في فلسطين بالتعاون مع مشرفي ومعلمي اللغة الإنجليزية ومتخصصي البرمجيات. استمرت فترة التنفيذ خمسة أشهر خلال العام الدراسي 2025/2024. تم تحليل البيانات باستخدام برنامج SPSS أظهرت النتائج أن الطالبات اعتبرن الواقع الافتراضي أداة مفيدة وسهلة الاستخدام نسبياً ولها القدرة على تحسين مهارات المحادثة في اللغة الإنجليزية. توصي الدراسة بدمج أدوات الواقع الافتراضي في تعليم اللغة الإنجليزية في فلسطين من أجل تطوير مهارات الطلاب، وتوفير التدريب لهم، وتعزيز البنية التحتية للمدارس، وتصميم منهج مدعوم بالواقع الافتراضي. كما يجب أن تركز البحوث المستقبلية على إجراء دراسات تجريبية حول دمج الواقع الافتراضي في تعليم اللغة الإنجليزية باستخدام صفوف مختلفة وأدوات جمع بيانات متنوعة.

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الكلمات المفتاحية: الواقع الافتراضي؛ سهولة الاستخدام المتصورة؛ الفائدة المتصورة؛ نموذج قبول التكنولوجيا؛ نظرية التعلم المتمركز حول الموقف.

## **Introduction:**

Technological advancements on a global scale are transforming education and encouraging Palestinian teachers to adopt innovative English as a Foreign Language (EFL) teaching tools, thereby enhancing learner interaction, engagement and participation in the classroom (Nsamba & Chimbo, 2023). This study examined EFL learners' views on the use of a virtual reality (VR) tool in speaking EFL classes in Palestine, with a focus on perceived usefulness and ease of use. Based on Davis et al.'s (1989) Technology Acceptance Model, which highlights these two factors as crucial for technology adoption, the study investigated the potential of VR tool to enhance speaking abilities, learner interaction, and engagement.

The study was conducted at Ziad Abu Ein Primary Upper School in Ramallah city in Palestine with 119 female students in seventh and eighth grades. A questionnaire adapted from Davis (1989) and validated by Chintalapati and Daruri (2017) was used, incorporating twelve items taken from Ironsi (2023). The first section measured perceived usefulness, assessing the impact of VR on speaking performance and communication. The second section evaluated perceived ease of use, focusing on clarity, flexibility, interactivity and proficiency in VR use. Both scales demonstrated excellent reliability (Cronbach's  $\alpha = .930$ ), thereby supporting the methodological rigour of the study and the investigation into the effectiveness of VR in Palestinian EFL classrooms.

## **I. Research Design**

As part of this study, six immersive VR scenarios were implemented, using the Situated Learning Theory, with the VR application being designed collaboratively by Palestinian EFL supervisors, school staff, the InterTech Company software team, and members of the local community who funded the development of the application. Each scenario was carefully

crafted to align with the official EFL curriculum in Palestinian public schools. This ensured that the content was pedagogically relevant and culturally appropriate for learners. The VR intervention was implemented over the first and second semesters of the academic year 2024/2025, totalling five months. Based on the Situated Learning Theory which asserts that learning occurs through participation in real-world activities (Lave & Wenger, 1991). During this period, students participated in structured VR sessions. These sessions allowed learners to engage in authentic, context-rich language tasks that promoted active communication and interactive collaboration. The long-term implementation provides a comprehensive evaluation of the impact of VR on improving EFL speaking outcomes.

### **I.1- Tools for gathering data**

The questionnaire was adapted from Davis's (1989) Technology Acceptance Model and validated by Chintalapati and Daruri (2017). It included twelve items assessing perceptions of new technology, which were taken from Ironsi (2023). The section consisted of two parts. The questionnaire included two parts; the first part focused on whether students perceived the usefulness of VR. Students were asked to rate their level of agreement with a series of statements using a Likert scale ranging from 'strongly agree' to 'strongly disagree'. Specifically, they were asked whether using VR helped them to learn new ideas, improved their speaking skills and performance, made them more effective speakers, facilitated speaking in EFL. Cronbach's alpha was  $\alpha = .930$ , indicating excellent internal reliability and strong coherence among the items in the scale. The second part of the questionnaire assessed students' perceived ease of use of the VR tool. Students were asked to indicate whether it was easy for them to learn how to use VR and make it work as desired; whether their interaction with VR was clear and understandable; whether they found the VR tool flexible and easy to interact with; whether it was easy for them to become proficient in using VR; and whether VR was clear and easy to understand. This scale

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also showed excellent internal consistency, with a Cronbach's alpha of  $\alpha = .930$ .

### **I.2- Tools for analyzing data**

All statistical analyses for this study were conducted using SPSS software, enabling a systematic examination of analysing data.

## **II. Research Questions**

The study addressed two primary research questions, investigating students' experiences of using the VR tool for English language learning. The first question included six items and focused on students' perceptions of the usefulness of the VR tool. The six items were whether: the VR tool helped learners to learn new ideas; improved their speaking skills; improved their speaking performance; made learners more effective speakers, made it easier to speak English as a foreign language, and whether VR tool was helpful in teaching them to speak. The second question included six items and examined students' perceptions of the ease with which VR could be used for EFL learning. The first item asked whether learning to use the VR tool was easy, learners found it easy to make the VR work as they wanted, learners interaction with the VR was clear and understandable, found the VR tool flexible and easy to interact with, and whether learners found it easy to become proficient in using the VR tool and whether the VR was clear and easy to understand..

### **II.1- Results and discussion**

This section presents the results of the study, focusing on students' views of the ease of use and perceived usefulness of the VR tool for EFL speaking skills, as measured by a validated questionnaire with two sections. The findings revealed the impact of VR on learners' speaking performance.

## **II.2 Students' perceptions of the usefulness of the VR in English language learning**

Students generally had positive perceptions of the usefulness of VR in supporting their English language learning, particularly with regard to speaking EFL. The overall mean score was 4.06, indicating rather high perceived usefulness of VR. This study assumed that the effectiveness of VR tools depends on their perceived ability to improve English-speaking skills (Davis & Granić, 2024). Virtual reality tool created interactive classroom atmosphere that fostered positive attitudes towards its usefulness (Kosa et al., 2020). Based on the assumption that VR enables contextualised learning through simulated real-world interactions (Mukasheva et al., 2023), the study found that the VR intervention successfully improved Palestinian EFL learners' speaking skills. These results are consistent with previous studies suggesting that VR improved EFL speaking performance (Lu, 2025; Yan et al., 2024; Zhao et al., 2024), enhanced overall learners' proficiency in second/foreign English (Chan, 2023) and facilitated contextualised language acquisition (Cowie & Alizadeh, 2025; Godwin-Jones, 2023). The findings were further supported by research demonstrating VR's ability to facilitate the acquisition of new knowledge and ideas (Bilgin & Tokel, 2019 ; Fuhrman et al., 2021 ; Kaplan-Rakowski & Thrasher, 2025 ; Legault et al., 2019 ; Luan et al., 2024 ; Shi et al., 2024 ; Wu & Hung, 2022 ; Yan et al. et al., 2024). Learning EFL instruction is a significant area of VR application, a trend that can be attributed to the technology's support for embodied learning. VR scenarios also provided authentic contexts that have been shown to facilitate English learning (Bilgin & Tokel, 2019). These results highlight that learners perceived VR as a highly useful tool for improving their English, particularly their speaking skills. This aligned with prior research supporting VR's role in fostering contextualised, engaging EFL learning experiences.

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### **II.2- Students' perceptions of the ease of use of the VR in English language learning**

Students' responses indicated a consistent medium level of agreement across all items related to the ease of use of VR. The findings suggested that, overall, learners considered VR to be reasonably straightforward to operate, with interactions generally clear and understandable. They also perceived the tool as sufficiently flexible to accommodate their needs and felt able to achieve a functional level of proficiency. While ease of use was positively acknowledged, the agreement levels did not reach the strong range, indicating that although most students found VR manageable, there may still have been minor challenges in mastering its functions. The highest score was for the statement 'VR was clear and easy to understand', and the lowest for 'It was easy for me to become proficient in using VR'. This suggests that, although learners found the VR tool clear and easy to follow, they struggled to develop proficiency in using it quickly, indicating that more training or practice may be necessary to boost their technical confidence. This study assumed that the effectiveness of VR tools depends on their ease of use in facilitating improvements in English speaking skills (Davis & Granić, 2024). These results emphasised that technical difficulties can reduce learners' willingness to use VR consistently, thereby diminishing its perceived instructional value (Teo & Noyes, 2014). Similar findings were reported by Parmaxi and Demetriou (2020), who noted that inadequate technical infrastructure limited the effectiveness of VR in language classrooms. This is consistent with the findings of Jensen and Konradsen (2018), who observed that the immersive nature of VR can make classroom management more challenging for teachers.

#### **Conclusion:**

This study examined how Palestinian EFL learners perceive the use of VR in English-speaking classes, with a particular focus on its perceived ease of use and usefulness within the framework of the Technology Acceptance Model (Davis, 1989)

and the Situated Learning Theory(Lave & Wenger, 1991). The findings revealed that VR positively impacted learners' engagement, interaction, vocabulary acquisition and speaking proficiency. This suggests that VR can transform traditional classroom practices into more interactive, learner-centred experiences. Students generally viewed VR as a manageable and effective learning tool, emphasising its capacity to generate authentic, immersive, and motivating language-learning environments. The study had several limitations; these included focusing on a single school with 119 female students, having limited VR equipment, inconsistent electricity and internet access, and relying on only one data collection tool. Despite these constraints, the findings confirmed that perceived usefulness and ease of use are key factors in students' acceptance of VR in EFL classrooms. To facilitate the long-term integration of VR technology, schools must provide adequate equipment, stable electricity and reliable internet access, while teachers and learners should receive continuous technical and pedagogical training. The Palestinian Ministry of Education and Higher Education should develop a national VR-enhanced EFL curriculum featuring interactive, culturally relevant content, in partnership with EFL teachers, supervisors, local community and the curriculum designers. Future research should expand to larger and more diverse samples, use multiple data collection tools such as validated pre- and post-tests, employ experimental designs and examine the long-term effects on learning outcomes, emotional factors and teacher preparedness. Studies should also explore the combination of VR with innovative teaching approaches, as well as assessing the impact of infrastructure, training and technological familiarity on VR adoption, with the aim of ensuring its equitable and effective use in Palestinian EFL classrooms.

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