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Research Article

Immersive Virtual Reality as a Rehearsal Space for L2 Speaking: EFL Learners' Perceived Social Presence, Situational Motivation, and Willingness to Communicate

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Abstract: Communicating in English as a Foreign Language (EFL) requires affective preparedness, particularly L2 motivation and willingness to communicate (WTC), yet many learners have limited access to authentic, low-stakes speaking opportunities in contexts where English is rarely used beyond the classroom. As a result, engaging in meaningful conversational experiences can remain challenging, especially for learners with constrained social opportunities and affective barriers. In this respect, Virtual Reality (VR), which can simulate real-world interactions in a digitally immersive environment, may provide learners with contextualized, a near-authentic setting for conversational rehearsal. To address this gap, this study explored the perceptions of eight Turkish EFL learners regarding the pedagogical affordances of the VR system and its perceived influence on their situational L2 motivation and WTC. Within this scope, the study adopted a qualitative case study design with thematic analysis using semi-structured interviews and written self-reports. The participants completed six scenario-based conversation episodes in a language app, interacting with virtual interlocutors via a high-immersion head-mounted display. Overall, the participants reported positive perceptions of a highly immersive VR experience and described it as supportive of situational L2 motivation and WTC in L2. The findings may point to the potential of immersive VR to support affective engagement and communicative readiness in resource-limited EFL settings.
Keywords: *EFL learners, high immersion, L2 motivation, virtual reality, willingness to communicate (WTC)*

INTRODUCTION

In the globalized world, English is used as a 'lingua franca', a phenomenon shaping the ideologies and the context of English Language Teaching and is defined as "any use of English among speakers of different first languages for whom English is the communicative medium of choice, and often the only option" (Seidlhofer, 2013, p. 7). In this sense, it is important for language learners to be able to communicate in this shared language or at least gain some exposure to such communicative situations. However, out-of-class opportunities for authentic communication in English are often limited (Terhune, 2016), particularly for those living in non-English-speaking contexts. This challenge is often associated with limited access to authentic interaction for EFL learners in the 'expanding circle' (see Kachru, 1990) since they seem to lack intercultural or contextual opportunities in the target language. The literature points to some key factors, such as the deficiency of textbooks in presenting authentic materials (Yang et al., 2020), in intercultural components (Hilliard, 2014), and other contextual variables, such as the language learning environment. These factors can prevent EFL learners from being exposed to communicative contexts and authentic materials and make the English language no more than a subject taught in schools (Yang et al., 2020).

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In this context, WTC matters because it is about whether learners feel able and willing to initiate interaction when a speaking opportunity arises (MacIntyre et al., 1998). L2 motivation complements this by accounting for the energy learners bring to learning across time. In expanding-circle contexts, where authentic interaction is not readily available, both can be fragile or difficult to sustain (Yashima, 2002). VR technology, defined as "computer-generated environments that simulate the physical presence of people and/or objects and realistic sensory experiences" (Freeman et al., 2017, p. 46), may help by offering conversational rehearsal in a socially meaningful yet psychologically safer space (Lin & Lan, 2015), and this could potentially facilitate learners' motivational engagement (Wehner et al., 2011) and WTC during conversation.

One of the underpinnings of this phenomenon is social presence theory (Short et al., 1976), basically explained as "the degree to which a person is perceived as a 'real person' in mediated communication" (Gunawardena, 1995, p. 151). In VR, users can experience not only a sense of "being there" in the virtual space, but also being there with others, and this relates to social presence (Liaw, 2019; Wang et al., 2017). This experience is shaped by users' mental representation of an "other" and by psychological, relational, and behavioral dimensions (Liu, 2018).

Social presence is a key factor for communication because a weaker sense of this presence may reduce users' attentive task engagement (Yılmaz et al., 2016). Highly immersive VR environments are effective in laying the groundwork for a high sense of social presence through richer affective and behavioral cues. Also, enhanced visual fidelity contributes to the extent of social presence in a communication platform (Gunawardena, 1995; Wang et al., 2017). When these cues are available, users are more likely to experience the interaction as socially meaningful, engaging the virtual interlocutors and the surrounding setting as socially present. As a result, this sense of social presence could motivate users to interact with those nearby in a more interpersonal way.

A variety of devices enable access to VR environments, such as smartphones, computers, and immersive head-mounted displays (HMDs) (Li et al., 2021). Especially, highly immersive VR can provide users with a practical and experience-based view as it enables to experience the whole virtual environment, minimizing the current environmental distractors through head-mounted displays. In this respect, the literature also aligns with this idea, suggesting that 3D virtual platforms provide a more immersive experience compared to other virtual learning environments (Dalgarno & Lee, 2010; Wang et al., 2017). These virtual environments allow users to extend classrooms beyond a physical classroom to a larger world by facilitating communication and interaction among the users (Svensson, 2003).

A growing body of research highlights the potential benefits of VR environments in multiple areas, ranging from tourism (e.g., Tussyadiah et al., 2018) to education (e.g., Yu, 2023), and increasingly in EFL contexts. Nevertheless, although VR is gaining popularity and is considered a promising tool for language learning, there is still little research on EFL learning in the literature, particularly in the Turkish EFL context; therefore, more studies are needed. Moreover, previous studies have mostly examined VR for supporting language skills such as listening, vocabulary, and grammar (e.g., DeWitt et al., 2022; O'Brien & Levy, 2008; Ogan & Lane, 2011; Tai & Chen, 2021; Yeh et al., 2022; Ziyatdinova & Bezrukov, 2020). However, the current study differs in its methodological approach and focus. It adopts an experience-based perspective and explores EFL learners' self-reported perceptions of high-immersion VR technology and its perceived relevance to their situational L2 motivation and WTC in English. Moreover, relatively few studies have focused on the relationship between the use of VR in EFL classes and students' perceived L2 motivation (see Dörnyei, 2009) specifically.

The study may offer valuable preliminary insights into how VR-based communicative tasks relate to learners' L2 motivation and WTC, key affective constructs in L2 learning. Additionally, it is important to understand the experiences and perceptions of the users, who are the EFL learners in this study, regarding the use of highly immersive technology, in order to assess its acceptance in the future and to identify its overall and goal-oriented advantages and disadvantages. Accordingly, the purpose

of this study is to explore the perceptions of EFL learners studying basic English at a state university in Türkiye regarding the use of head-mounted VR within the context of their situational L2 motivation and situational WTC, also drawing on the notion of ideal L2 self. The study will also explore the participants' self-reflections and overall perceptions of having a VR experience to discover possible positive and negative aspects through semi-structured interviews and written self-reports from their own perspectives. Taking all these into consideration, the current study will seek answers to the following research questions:

RQ1: What are the EFL learners' overall perceptions of using highly immersive VR in practicing specific communicative tasks?

RQ2: How do the EFL learners perceive the influence of practicing scenario-based everyday English interactions through highly immersive VR on their situational L2 motivation and WTC in English?

THEORETICAL FRAMEWORK

Virtual Reality (VR)

Virtual Reality can be broadly defined as a system providing a simulated or replicated experience of a real occurrence through virtual graphics and environments. It is a propitious system that enables users to experience a phenomenon in a virtual world in which the users feel like they are actually in that situation (Shu et al., 2019). It may especially support EFL learners in learning English in a more authentic environment without leaving their local context (Wang et al., 2017). Experiencing virtual environments can occur at different levels of immersion, including low and high. While the former is actualized through smartphones, keyboards, and computers in simple graphics (Freina & Ott, 2015), high immersion takes place in a virtual world that places the person in that environment with the help of highly immersive head-mounted devices (HMDs).

Overall, VR learning environments have been used in various fields ranging from engineering, tourism, aviation to education, and their efficiency has been studied increasingly in the literature. As for EFL learning and teaching, while some studies have focused on the use of VR in specific language skills (e.g., Alfadil, 2020; Bautista, 2012; Dolgunsöz et al., 2018; Lan et al., 2019; Meri-Yilan et al., 2019), it has also been investigated regarding learners' overall linguistic performances, learners' emotions (self-efficacy, motivation), acculturation, intercultural competence and communicative skill etc. (e.g., Chen, 2016; Liaw, 2019; Yang et al., 2020). For example, Dolgunsöz et al. (2018) suggested that VR environments could have a promising effect on learners' writing performances in the long term. In this vein, Lan et al. (2019) discovered that immersive VR increased students' writing performance and processing capabilities. In addition, Alfadil (2020) concluded that VR-supported games had a greater effect by facilitating and assisting vocabulary learning compared to traditional ways. In another study, Chen (2016) investigated the effect of VR on EFL learners' linguistic and cognitive traits and found that VR had a significant effect on the participants' overall linguistic skills in terms of grammar, vocabulary, phonetics, and syntax, and it helped learners to increase their cognitive capabilities.

Apart from its effect on linguistic skills, findings also suggested that learners held positive perceptions towards the overall VR experience (e.g., Barcomb & Iwashita, 2024; Lee et al., 2024; Lin & Wang, 2021; Makransky & Lilleholt, 2018; Salzman et al., 1999, as cited in Makransky & Lilleholt, 2018; Shadiev et al., 2020; Yang et al., 2020). More specifically, participants acknowledged that learning through VR platforms and environments was fun and motivating.

Although VR has been discussed in relation to potential learning benefits, users' perceptions should be considered because they not only inform the extent to which such technologies are adopted in educational settings but also shed light on how VR is experienced during interaction. Perception typically includes such criteria as usefulness, ease of use, intentions, and actual use (Jiang et al., 2021).

In a VR-based speaking task, these perceptions can influence the extent to which learners interact with the communicative task, which is closely linked to whether learners feel ready to initiate or participate in communication when opportunities emerge. If users perceive a VR platform as technically deficient, it may fail to engage them, which prevents them from feeling fully immersed, i.e., socially present. This, in turn, could impact their motivational engagement with the tasks.

While VR has been investigated in various fields and across specific language skills in EFL contexts, the evidence remains limited in terms of its affective and communicative dimensions. Specifically, little is known how it may support learners' situational L2 motivation and WTC through communicative tasks, which are key factors, particularly in the expanding circle, where authentic interactions are limited, and it is difficult to maintain these affective factors. As learners are the primary stakeholders and main beneficiaries of instructional practices, it is important to examine their perspectives from firsthand experience with this technology.

Presence, Situational L2 Motivation and WTC

With the wide integration of computers into our lives, the concept of "human–computer interaction" has emerged. Accordingly, this development raises the question of how users experience digital environments, particularly in terms of engagement and presence. This results in a shift towards understanding the psychological and experiential underpinnings of interaction with digital platforms. Presence has been discussed within various theoretical frameworks. Users can experience virtual worlds with a sense of physical presence (telepresence) and social presence, as if they are "there" (Wang et al., 2017). Social presence is associated with a multidimensional experience, including co-presence as well as psychological and behavioral engagement (Biocca et al., 2003).

Communicative interaction is a key yet challenging aspect of learning a foreign language, as it encompasses various dynamics such as social, pragmatic, and cognitive. Learners may be less able or willing to engage in such interaction due to anxiety, fear of negative evaluation, or limited opportunities. In this respect, it is useful that highly immersive virtual environments provide a real-like experience to address this gap. In particular, they enable users to feel like they are socially present in that setting. The literature presents the impact of social presence on learners' overall learning and related experience (e.g., Dalgarno & Lee, 2010; Wu et al., 2011; Yang et al., 2020). This sense of presence is not only associated with engagement but also with how learners perceive the meaning of interaction. When learners are fully immersed, i.e., when they feel socially present and psychologically safer than in the classroom environment, this may foster their motivational engagement (Wu et al., 2011), lower L2 anxiety, and make interaction more enjoyable and engaging (Barreda-Ángeles et al., 2023), thus supporting learners' readiness to initiate L2 interaction (i.e., WTC) (Dalgarno & Lee, 2010) by reducing the perceived risk of speaking. Such environments could also reduce EFL learners' fear of negative evaluation and enhance perceived communicative competence (Yang et al., 2020), partly because learners may experience less fear of making mistakes (Liaw, 2019) in an environment with no real-world social cost (Taguchi & Hanks, 2024). This aligns with previous research showing that higher levels of risk-taking and self-confidence are predictors of WTC outside the classroom (Lee & Lee, 2020; Thrasher, 2022). By experiencing these conditions through safe rehearsal in a preliminary VR setting, learners may become better prepared for real-world conversation.

L2 motivation can be broadly understood as the reasons, goals, self-perceptions, and learning experiences that initiate and sustain learners' engagement in learning and using an additional language. Task-based VR experience may also be linked to the L2 Motivational Self System (L2MSS), which was proposed by Dörnyei (2005, 2009). The core components of this theory are the Ideal L2 Self, the Ought-to L2 Self, and the L2 Learning Experience. While the Ideal L2 Self refers to learners' desired self-image as future L2 users, the Ought-to L2 Self is a future-oriented self-image shaped by external factors such as responsibilities, obligations, or expectations. These two elements pertain to future self-images; however, the third factor, L2 Learning Experience, focuses on the learner's current experience in the language learning environment (Dörnyei, 2019). This component

highlights the importance of situated learning experiences, including meaningful interaction, tasks, materials, and classroom conditions. Aspects such as curriculum, tasks, and lesson materials can contribute to the development of positive future L2 self-images.

Building on this theoretical basis and beyond its relevance to WTC, immersive VR may also be linked to learners' L2 motivation in two complementary ways. First, the novelty and structured engagement of VR can make the learning experience feel more enjoyable and focused. Second, interacting with virtual characters in a low-stakes setting may give learners the opportunity to try out their Ideal L2 Self through simulated communicative performance. When learners manage to complete these interactions successfully and receive immediate experiential feedback (Tai, 2022), the experience may help them see their desired L2 identity as more attainable, thus strengthening motivational engagement for future real-world communication. In this sense, VR-supported rehearsal may serve as a vision-enhancing experience by narrowing the gap between learners' current abilities and their desired L2 selves.

METHODOLOGY

Research design

This study adopted a qualitative case study design guided by a constructivist worldview. Qualitative research refers to "an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem" (Creswell, 2014, p. 62). A characteristic of the qualitative approach is that it attempts to discover insider meaning, in other words, participants' perspectives on the subject under investigation (Dörnyei, 2007). While the qualitative approach guides the purpose of understanding the students' experiences, the case study design narrows the scope of investigation to one specific implementation rather than a broader analysis of the research focus. In methodological terms, case study research enables an in-depth exploration of a bounded case (Merriam & Tisdell, 2016) in its real-life context (Yin, 2018), with a focus on the particularity and complexity of the case (Stake, 1995). For this reason, a case study design was selected because the investigated phenomenon was closely connected to the real instructional context in which it occurred. The study did not aim to isolate VR as an independent variable or measure its effectiveness through comparison; instead, it aimed to understand how learners experienced a particular VR implementation designed to rehearse possible real-life communicative situations and how this situated experience was related to their situational L2 motivation and WTC. In this study, the bounded case was the experiences of eight basic-level EFL learners using MondlyVR in a tertiary-level EFL context. The data were collected through semi-structured interviews and written self-reports.

Participants

The participants of this study were eight Turkish EFL students (N = 8) including four male and four female students, aged 18-20, who were studying basic English at a preparatory department of a public university in Türkiye. At the beginning of the academic year, all students took an institutional proficiency exam and were placed into A1, A2, or B1 groups according to the Common European Framework of Reference for Languages (Council of Europe, 2001). The participants in this study were initially placed in the A1 group. However, by the time the study was conducted toward the end of the semester, they had moved beyond the initial A1 content in line with the program's pacing schedule and were studying course content corresponding to the A2 level. Although the sample size was small, it was sufficient to conduct interviews and provide rich qualitative data as 6-10 participants are commonly regarded as adequate for interviews (Dörnyei, 2007). Participant recruitment initially followed convenience sampling as students were recruited from an intact class taught by the researchers, which aligns with the definition of selecting those who are readily available and accessible (Dörnyei, 2007). Participation was on a voluntary basis; those who agreed to take part were further identified through purposive sampling to obtain rich insights for the research (Dörnyei, 2007), with an additional criterion of no prior VR experience. Accordingly, 8 of the 25 students were included in the study. Prior to data collection, students were explicitly informed that their decision to participate or not would have no effect on their course performance or grades. All selected participants

provided informed consent to take part in the study and reported that they had no previous experience with VR.

Materials

Semi-structured interviews

Qualitative data can be generated through multiple sources, including recorded interviews and written texts (Dörnyei, 2007). In this study, qualitative data were collected through semi-structured interviews and written self-reports. We determined several questions and grouped them under the predefined themes. The first five themes were developed by drawing on a previously validated Augmented Reality Immersion (ARI) questionnaire (see Georgiou & Kyza, 2017) and were adapted accordingly. The ARI questionnaire had dimensions such as *engagement* (interest and usability), *engrossment* (emotional attachment and attention), and *total immersion* (presence and flow). In semi-structured interviews, we asked both predetermined questions and follow-up probes to explore emergent details. For instance, participants were asked 'Did you encounter any technical difficulties? How did that affect your experience?', 'Did your feelings change at any point during the session?', and 'What made the experience feel real or not real to you?' These probes encouraged participants to move beyond general impressions, reflect on specific moments, or provide concrete examples from their experiences, thereby enriching the depth and detail of the data collected. (see Appendix A for the predetermined themes and sample corresponding items for the semi-structured interviews for this study)

The questions for the first five dimensions *(interest, usefulness/usability, emotional status, attention and presence)* in the interview form were determined to address RQ1. The last two dimensions, *motivation and willingness to communicate*, were addressed in RQ2. The reason for establishing the above-mentioned themes beforehand was to ensure alignment with the research questions. As for the content validity criterion, the semi-structured interview questions were checked by two field experts for clarity and content, and the questions were finalized after minor revisions before the interviews.

Written self-reports

The participants also completed a written self-report to reflect on their overall VR experiences. They were not instructed or restricted about the content of the report; instead, they were asked to write about any aspect of their experience. Since one potential threat to qualitative studies is social desirability bias, in which participants act in accordance with social expectations, using multiple data sources supports the trustworthiness of the study. Written self-reports were used to increase the credibility as they provide an additional data source giving insight into the investigated case, and this self-administered way may reduce some response biases (Groves et al., 2011).

MondlyVR v6.0.0.

MondlyVR is a highly immersive VR language learning app that consists of scenarios for everyday English interaction and vocabulary learning in various languages. In the present study, everyday English exchanges on specific social interactions were used. The app normally includes seven episode-based scenarios in which the students can have conversations with the virtual interlocutors in line with the theme of the episode, but the participants completed only six. The sequence starts with background scenes (e.g., packing luggage at home), is followed by travel-related context (e.g., the airport and plane journey), and continues with an in-city train episode in which the user talks to a stranger and arrives at the hotel. Overall, the episodes form a coherent vacation narrative, rather than independent, randomly ordered, constructed tasks. (see Appendix B for the content of the episode-based scenarios). Although the episodes took place within a vacation context, the conversations themselves involved everyday interactions such as ordering food, asking for information, making an appointment, talking to a taxi driver, and engaging in routine greetings and small talk exchanges. The aim of using these episodes was not to teach or assess academic English or course-specific content, but to examine how basic-level EFL learners experienced VR-based spoken interaction and to provide them with a low-stakes opportunity for such interaction.

Regarding the interface, users can view the interlocutors' utterances on the left side and replay them if needed. On the right, possible responses are displayed for users to select. Users may also produce an alternative response or disable captions. If a response is not recognized as plausible, it is not accepted, prompting users to repeat the utterance. (see Figure 1 for a sample snapshot from MondlyVR)

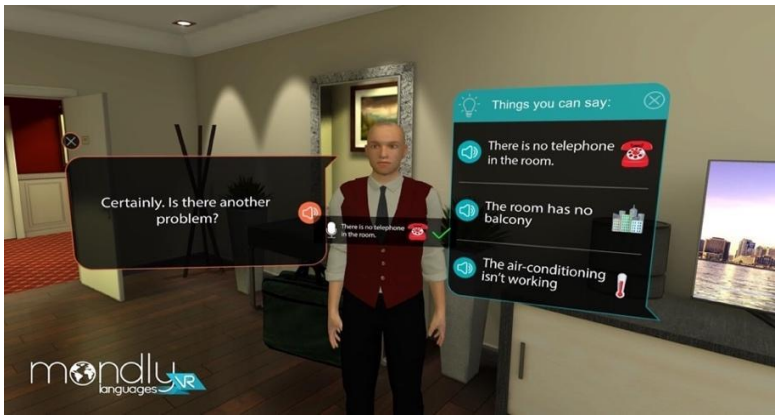

Figure 1 Caption: "*A sample snapshot from Episode 4 (Retrieved from: https://cdn.soft112.com/mondly-learn-languages-in-vr/00/00/0H/DD/00000HDD4F/pad_screenshot_2.jpg)*"
Figure 1 ALT-TEXT*: "A virtual hotel-room scene showing a hotel staff member standing in front of the user and asking the guest whether he can help with anything else. Sample response options are displayed on the screen for the user."*

MondlyVR was selected as the application used in the intervention for several reasons. Firstly, it was one of the few available applications that offered relatively elaborated communicative content for L2 setting. Besides, among the applications reviewed, it was the only one that could be directly integrated into the Meta Quest 2 system and accessed through the headset. As the application was not free to use, it was purchased online by the researchers for the purposes of this study. MondlyVR also offered several pedagogically relevant features, including a coherent storyline, captions that functioned as scaffolding, and adequate graphic quality, all of which were considered important for enhancing the user experience. The theme of the episodes was considered potentially interesting as it could help basic-level EFL learners envision themselves using English in travel-related situations outside their own country and communicating with people from different linguistic and cultural backgrounds. This could also contribute to their ability to envision their ideal L2 selves more clearly.

Meta Quest 2 with Hand Controllers

Meta Quest 2 is a highly immersive head-mounted VR headset with a wide field of view that has a built-in operating system. It does not require a separate device, such as a smartphone, as it operates via its built-in system with highly sensitive hand controllers. It is also equipped with built-in speakers, enabling users and others nearby to hear the sounds. Another feature of the headset is that it is voice and motion-tracking capable, that is, it can track users' movements and support voice input when worn on the head.



Figure 2 Caption: "*Meta Quest 2 and hand controllers* **(**Retrieved from: https://m.media-amazon.com/images/I/51h6QZYt-nL._AC_SL1098_.jpg)"
Figure 2 ALT-TEXT: "*A white head-mounted virtual reality headset with attached head straps and two hand controllers with buttons placed beside it.*"

Procedures

Overall, the data collection stage lasted for three weeks. Throughout the process, the researcher had various roles: a guide during the VR sessions for possible system failures and an observer to view the experience. Both the VR headset and the language app were repeatedly tested by the researcher a week before implementation. Furthermore, a brief trial session was conducted with all participants to ensure physical suitability and minimize the risk of motion sickness or physical strain. The participants were selected on a voluntary basis and informed about the study. The study received approval from the institution and the ethics committee prior to data collection.

As the participants were selected from an intact class, the potential influence of teacher-student power relations was also considered. The students were informed that the participation in this study was voluntary and that they had the right to withdraw from the study at any time. Besides informing them that their participation or non-participation would have no relevance to their course requirements or class performance, before the interviews, they were also reminded that there were no expected or preferred answers to interview questions, and their responses should reflect their genuine thoughts regardless of their positive or negative VR experience. Along with the formal implementation, informal interactions with a few students also occurred outside the formal context; however, these were not treated as formal data or included in the analysis. Nevertheless, it is acknowledged that social desirability bias may still have been present during the interviews, and this possibility was considered during the interpretation of the findings.

Upon obtaining institutional permission and participants' written consent, data collection began. Before engaging in the episodes through VR headset, the participants were informed about the tool, the app, and the system characteristics of both. During the first week, participants separately experienced the first three episodes in the app consecutively. Each episode lasted for around 5 minutes with a total of approximately 15 minutes per session. During these VR sessions, participants did not only select the displayed responses; they also produced their own alternative spoken responses while interacting with the virtual interlocutors. Therefore, the activities were described as response-supported spoken interactions rather than fully open-ended conversations or simple structured interactions. After each use, the researcher sanitized the headset for hygiene reasons. During the VR sessions, the researcher also used brief concurrent prompts to get an insight into immediate impressions while they were wearing the headset. These prompts were asked only at natural pauses (e.g., moments with no active dialogues, such as solitary or silent stages, etc.) to preserve immersion without causing an interruption. These concurrent prompts were used only to monitor participants' immediate experience during the VR sessions and were not treated as a separate data source in the formal analysis. "What do you see now?" "How do you feel now?" "Where are you now?" are examples of this type of question. After finishing the episodes, each student was allowed to relax for some time. They were then interviewed about the experience in line with the predefined themes, and the interviews were audio-recorded with the participants' consent. The interviews were conducted in Turkish to gain an in-depth understanding and to avoid language-related constraints, considering the participants' limited L2 proficiency. The transcribed excerpts were translated into English by the researcher, and an independent colleague cross-checked the English translation for accuracy. Apart from the VR stage, each interview lasted about 20 minutes. Thus, the interview data consisted of 16 interview sessions, with a total of approximately 320 minutes of audio-recorded data. In the second week, they completed the rest of the episodes, and the same protocol was followed in the second session. The reason for conducting two interviews was to get a better understanding of their perceptions or discover any different or changed ideas. A one-time interview is considered insufficient to gain a valuable understanding (Polkinghorne, 2005). All the stages of data collection occurred outside class time, and these sessions took place in the researchers' office without interruption of the environment. After completing the procedures, participants were asked to write a self-report about their overall perceptions, reflecting on their experiences. Each participant submitted one open-ended written self-report of approximately one page. In the third week, they were given 4-5 days to complete and submit these reports.

Data Analysis

The audio-recorded interviews were transcribed verbatim. The interview transcripts and written self-reports were analyzed through deductive thematic analysis, drawing on Braun and Clarke's (2006) thematic analysis framework, because the main domains were predefined in line with the research questions and interview protocol. The data were read repeatedly, and the responses were coded under these predefined domains. Within each domain, repeated points, positive or negative views, and concerns were identified. Written self-reports were analyzed as an additional qualitative data source to identify supporting, convergent, or divergent evidence in relation to the predefined domains. The second interview and the written self-report were used to strengthen the credibility of the first interview data. The two interviews and written self-reports were juxtaposed to identify convergence or divergence and integrated accordingly. The self-reports largely aligned with the predefined domains and yielded no new subthemes.

The results were presented in descriptive thematic summaries. To enhance the trustworthiness of the analysis, an independent researcher reviewed the transcription, translation, and coding process. Inter-coder agreement was calculated (α=0.86). The responses for the predefined dimensions were analyzed to address the corresponding research questions (see Section 3.2.1).

FINDINGS

Participants' responses for the first five components in the interview form addressed RQ1. The transcribed and analyzed data indicated that participants generally reported positive perceptions about experiencing VR for language learning.

Table 1. Summary of participants' perceptions of the overall VR experience

Theme	Salient Descriptors	Concerns
Interest	wonderful; interesting; different; amazing; fun	—
Usefulness/Usability	not complex; easy to use	heavy headset; limited portability; reduced comfort
Emotional Status	excited, impatient, relaxed, curious	—
Attention	focused; no distractors; forgot surroundings	—
Presence	sincerity; being there; real-like; background sounds	—

Note. Descriptors summarize recurring expressions in interviews and self-reports; concerns reflect reported constraints.

For the first component, all the participants (N = 8) viewed the overall VR experience as interesting. They used such adjectives as *"wonderful, interesting, different, amazing, fun"* to describe the interest level and how they were involved in VR and the language app. Participants commonly attributed their interest to the novelty of the experience, the immersive headset, and the vivid features of the scenarios. Below are selected excerpts showing that participants perceived practicing scenario-based everyday English interactions in VR as interesting.

> "*Generally, it was a wonderful experience for me. It affected me remarkably to talk to someone. That someone could be a gadget as well. It was so interesting to experience both VR and daily conversations." (P1)*

> *"It was interesting for me. Especially, the situations got my interest. The curtain at the hotel room was swinging a little. The leaves were moving slowly on the ground. Everything was*

planned and considered. I was fascinated in virtual respect because this was my first experience in VR. I even considered touching the plants at one place." (P2)

The second component, usefulness/usability, focused on the students' perceptions about how usable they perceive the platform itself and the practicality of the VR-based communicative task. Participants reported their opinions on whether the system was easy to use and control, and whether they experienced any technical, physical, or health-related problems. Their comments reflected both affordances and constraints. Most emphasized ease of use and low complexity (N = 7), while one participant reported a limitation related to the headset's weight and portability, which reduced perceived usefulness. In addition to physical constraint, the participant also commented on the linguistic level of the app.

"It is like you are in a different world. You have got the control. It wasn't complex. Everyone can use it. I didn't have any difficulties or problems. I just got sweaty due to the weather. As for usability, I would like to have this in language classes. It could be an alternative for Erasmus as well." (P5)

"I don't think VR glass was usable because it was heavy. If we use it for a long time, it may cause problems. For example, I have a hernia in my neck, so it was heavy for me. It's not usable because we have to use it with such a glass and cannot take it anywhere we go. The app was a bit simple in terms of language level." (P8)

As for the participants' emotional status during the implementation, all participants (N = 8) described the VR experience using the adjectives such as e*xcited, impatient, relaxed, and curious*. Regarding attention, no participant reported attention-related difficulties. They indicated in the interviews and self-reports that there were no notable distractors and that they felt fully immersed. They also noted that they often forgot the physical surroundings while wearing the VR headset and practicing the dialogues.

"There were no distractors. I felt so immersed that I totally forgot the real world." (P1)

"It was so realistic that I wanted to look around to view the surroundings sometimes." (P2)

Another dimension to understand participants' overall perceptions of VR was presence, including social and spatial presence. The analysis suggested generally positive responses (N = 8) across participants. They reported a sense of "being there", in the moment, and described the interaction as similar to a real conversation in terms of mutual exchange. They also noted that the experience felt realistic and that they could hear background sounds in settings such as the train, airport, and hotel.

"*The way the bellboy was looking at me at the reception scene was so realistic. You feel like you are physically and socially there. When the receptionist lady asked me if I got the map, that made me happy, it was so kind. The woman in the train told me to wake her up if she was asleep. I felt like we were close friends. In a scene, the person didn't understand me. Maybe she/he wouldn't really understand me in a real case either. The woman leaned towards me while asking for my order at the restaurant. I liked it. I felt like I was there. Generally, being understood was a good thing for me." (P2)*

The last two components corresponded to RQ2. The interviews and the written self-report indicated that participants generally viewed the virtual conversations as beneficial for their situational L2 motivation and WTC. For both themes, seven participants reported a perceived favorable impact and linked it to completing communicative tasks successfully, which gave them an immediate sense of achievement. However, one participant stated that the experience made no difference in terms of motivation and WTC. In other words, the participant described a neutral effect, noting that these components remained at the same level.

Regarding the situational L2 motivation, participants described the implementation as supportive.

> *"It increased my motivation certainly. Seeing that you can do the thing that you couldn't do made me feel motivated. I realized that I could do it now." (P3)*

> *"I think this experience motivates students because the most difficult thing for students is speaking. When compared to the first session, I felt more motivated and wanted to add my own sentences [in the dialogues]." (P7)*

On the other hand, one participant noted that the implementation had no positive or negative influence on her situational motivation, adding that she preferred more realistic and practical apps for L2 speaking.

> *"I think it's not a big deal for motivation. If I happened to buy this VR, I would use it once and then put it away. Different apps can be used instead of VR. This VR system is a bit overrated." (P8)*

Similarly, seven students reported that the experience supported their WTC. They generally stated that VR-based conversations helped them increase their willingness to speak, strengthened their self-confidence, and reduced speaking anxiety.

> *"I was already looking for someone to speak in English. I can't find, I couldn't find. Talking to the people in the game increased my confidence. If I had a chance to talk to someone in real life now, I would feel less shy and more relaxed. It helped me take my speaking anxiety away a bit." (P1)*

As noted above, one participant indicated that the experience did not noticeably change her WTC. Nevertheless, she reported increased self-confidence.

> *"I have already wanted to learn and speak English. This was just a different experience for me, so it didn't increase my WTC much. At least, it increased my self-confidence." (P8)*

DISCUSSION

RQ1 examined the participants' overall perceptions and reflections on their fully immersive VR experience. The findings suggest that immersive VR functioned as a psychologically safe rehearsal space in which learners performed communicative identities under conditions of reduced evaluative pressure. Analysis of the interview data and written self-reports suggested that the participants generally held positive perceptions of experiencing VR via a highly immersive HMD, which is consistent with Yang et al. (2020). In addressing the first research question, responses fell into dimensions including interest, usefulness/usability, emotional state, attention, and presence. Participants generally reported positive and engaging experiences, with perceived usefulness and ease of use supporting engagement (Salzman et al., 1999, as cited in Makransky and Lilleholt, 2018) and positive emotions such as excitement aligning with observations that learners often perceive VR as fun and relaxing (Lin & Wang, 2021). Participants' reports of strong immersion and the absence of distractors suggest sustained attentional focus under highly immersive conditions. This pattern aligns with the observation that deeper immersion is often accompanied by more positive emotions (Makransky & Lilleholt, 2018).

Interacting extensively with the virtual environment and engaging in conversations with the characters contributed to their social presence. Participants' comments are consistent with social presence theory (Short et al., 1976) and further multidimensional features of presence (Biocca et al., 2003). In line with these frameworks, presence was not only perceptual but also relational. In this

study, presence appeared to serve as an experiential mediator; vivid sensory cues, responsive dialogue turns, and embodied interaction via the HMD may have enhanced attentional focus and meaningful and emotional engagement. Particularly, HMD seems to have lowered the real-world distractors while increasing immersion. This, in turn, may have strengthened the authenticity of interactions and facilitated communicative risk-taking. More specifically, they felt as if they were having a conversation with a real person and exchanging expressions and statements. Producing utterances in English and being understood by the interlocutor made them feel a sense of "being with" the interlocutor. For example, in the train episode, one participant described the interaction as meaningful and indicated that she perceived the virtual character as a close friend: "The woman in the train told me to wake her up if she was asleep. I felt like we were close friends" (P2). This suggests that perceived social presence was strengthened through mutual exchange and a sense of psychological engagement within the VR interaction; in other words, participants remained mentally involved in the virtual interaction. Similarly, this interaction can be interpreted in terms of locutionary, illocutionary, and perlocutionary aspects of speech (see Austin, 1962). In practice, participants were able to make utterances, and the virtual characters responded and acted accordingly. Additionally, the vividness and realistic features may have contributed to participants' sense of spatial presence, which, in turn, facilitated their social presence (Barreda-Ángeles et al., 2023). For instance, one participant indicated noticing realistic details, and she even wanted to touch them, while another mentioned hearing the surrounding background sounds. This evaluation can be attributed to the characteristics of high immersion (Wang et al., 2017), such as 3D-rich graphics through HMDs. Overall, these presence-related perceptions are congruent with results in the literature (Dalgarno & Lee, 2010; Liaw, 2019). Similarly, Shadiev et al. (2020) reported that learners often perceive immersive VR experiences as positive in communicative tasks. However, it can be suggested that perceived VR quality or immersion level may play a role in satisfaction in this respect. Low immersion with poor graphics may be less engaging and could result in less favorable learner perceptions.

The second research question addressed EFL learners' perceptions of the effect of practicing conversations through VR on their situational L2 motivation and WTC. The findings indicate that learners perceived an increase in situational L2 motivation. This appears to reflect a temporary activation of motivational energy during the VR experience influenced by successful task completion rather than a stable, trait-level change in motivation. From the perspective of Dörnyei's (2009) L2 Motivational Self System, these positive motivational responses can be interpreted as the VR environment supporting learners in visualizing and concretizing their ideal L2 self-image. The ability of participants to successfully complete conversational tasks in the simulated environment provides immediate, affirmative experiential feedback ("Seeing that you can do the thing that you couldn't do made me feel motivated"). Recognizing this success may also contribute to a sense of self-efficacy. Although self-efficacy is often linked to mastery experience and cognitive simulation of success (Bandura, 1997), VR simulations may make such simulations more concrete and convincing through their vivid, immersive features. As a result, successful performance in these simulated dialogues may reduce the perceived gap between learners' current L2 competence and their Ideal L2 Self by translating abstract future self-images into performed communicative interaction in the VR environment, thus strengthening the intrinsic motivational drive necessary for sustained language learning (Dörnyei, 2009). While Makransky and Lilleholt (2018) do not address L2 motivation directly, their finding that higher immersion is associated with stronger motivation and learning outcomes provides indirect support for this interpretation.

The findings that learners did not express fear of making mistakes (Liaw, 2019) or of being judged may align with the view that immersive VR attenuates the psychological threat associated with high-pressure L2 speaking, a major inhibitor of WTC. Seven participants reported increased WTC as a result of reduced anxiety and greater self-confidence. This aligns with MacIntyre et al.'s (1998) WTC model, indicating that higher self-confidence and lower anxiety play a key role in communicative intention. Within a simulated yet socially meaningful interactional space, learners experienced a protective buffer against speaking anxiety. In this vein, face-threatening classroom atmosphere can be alleviated via immersive VR since it appears that eliminating negative peer judgment and creating a risk-free environment lowers the affective filter. The situational decoupling of anxiety from speech

production suggests that VR affords a socio-cognitive environment favorable to procedural confidence development, whereby learners rehearse communicative behaviors without the burden of face-threat dynamics. Accordingly, VR can be considered a bridge between the classroom environment and real-world communication, allowing rehearsal space for social interaction.

The participants reported that the perceived social presence of virtual interlocutors facilitated near-authentic dialogue while preserving a psychologically safe environment. This aligns with presence-based theories of VR-mediated language learning, which posit that simulated interpersonal immediacy promotes engagement and supports the gradual internalization of communicative agency (Yang et al., 2020). Despite being a short-term intervention, the experience appeared to support learners with situational L2 motivation and willingness to engage in virtual L2 communication. This preliminary finding may indicate that VR-supported communicative rehearsal supports learners' *ideal L2 self* development and lower speaking anxiety.

However, the design of this system shaped the nature of the interaction, mostly relying on a guided conversation rather than an entirely open-ended one. Limited opportunities to make self-generated utterances may restrict the opportunity for negotiation of meaning. When the interaction flow is suspended, the sustainability of social presence may be affected negatively. However, the same pattern may serve as a scaffolding, supporting learners by providing a psychologically safe ground for a lower perceived risk of speaking. This scaffolding may be particularly beneficial for learners with lower L2 proficiency by reducing cognitive and linguistic load. In addition, although the speech recognition captured some alternative utterances out of the system's expected ones, it was not consistent. If learners' utterances are perceived as implausible, this situation may impede their feeling of social presence. In this sense, an improved speech recognition via AI support could strengthen the interactional flow of VR-based conversations.

While the findings suggest psychological and affective benefits, infrastructural and institutional realities, alongside technical concerns, must be addressed as well. Higher education institutions may face structural difficulties, such as large class sizes and workload pressures, which limit effective, individualized communicative instruction. The VR application’s ability to simulate one-on-one, authentic conversations is valuable because it compensates for the deficit of speaking opportunities that occurs in large classes. However, the high cost of specialized VR equipment and the logistical difficulties of implementing one-on-one sessions in a resource-limited educational system pose significant practical barriers to widespread adoption (Yang et al., 2010). Furthermore, the finding that the heavy headset posed a limitation to a participant with physical discomfort indicates the need for universally accessible design and careful ethical considerations in VR integration. In the same vein, longer exposure to a VR headset may also lead to cybersickness or dizziness (Barreda-Ángeles et al., 2023). This outcome should be given attention for VR use and further possible integration in educational settings. Taken together, acknowledging these practical, ethical, and financial limitations is crucial for enhancing the feasibility of VR-based activities in educational settings.

At the same time, it should also be considered that a novelty effect may have contributed to self-reported thoughts observed in this study because the study covered a short-term implementation. Although the interviews and self-reports pointed to relevant themes, the data largely relied on the students’ self-reports, and they were experiencing a new and potentially interesting tool for the first time. Nevertheless, this does not invalidate the overall experience; instead, it provides preliminary indications that VR-supported communicative rehearsal may have potential contributions to situational L2 motivation and WTC, particularly if implemented over longer periods, as it may buffer against the speaking anxiety for EFL learners, creating a safe rehearsal zone for the real world.

CONCLUSION AND SUGGESTIONS

This research is a qualitative case study with the constructivist perspective investigating Turkish EFL learners' perceptions of using VR in relation to L2 motivation and WTC. Eight EFL students participated on a voluntary basis and experienced six scenario-based conversation episodes in

a virtual language app using a high-immersion head-mounted VR headset. Semi-structured interviews and written self-reports were used as the main data collection tools. The findings suggested that participants generally held positive perceptions of experiencing a VR-supported conversational experience. They described the experience as interesting and usable, and reported positive emotional responses. They also indicated that the implementation met their expectations in terms of presence, noting that they felt as if they were "in" the virtual environment with others. In addition, participants perceived the VR-based conversation practice as supportive of their situational L2 motivation and WTC in English.

As an implication, the findings suggest that VR platforms may be used as a supplementary tool in English classes, as they can be engaging and motivating for students and can provide simulated scenarios for conversational rehearsal in a psychologically safer space. Moreover, highly immersive VR implementation could address different intelligences and individual differences as VR scenes are equipped with audio, spatial-visual, kinesthetic, and musical features. Another aspect is that engaging with educational VR platforms could be helpful to encourage shy students to initiate interaction by supporting their self-confidence and reducing high anxiety. It may serve as a potential source for L2 teachers to support lower-proficiency learners regarding linguistic burden. If more research is conducted on using VR for communicative purposes in L2 classrooms, there may be a clearer picture regarding pedagogical value and the feasibility of VR in instructional design. Moreover, the findings may be relevant to VR developers and suggest that collaboration between education stakeholders and VR designers could be beneficial.

Suggestions and Limitations

The results of this study offer insights into the potential integration of one of the latest technologies into EFL classes. During the research process, both the researcher and the participants offered suggestions. Regarding the VR experience, participants indicated that they would be willing to continue using VR in language classes; however, they also noted that the graphics and the language app could be improved by adding more realistic facial expressions and a greater sense of movement.

While the current study provides useful qualitative insights into learners' experiences of VR, several limitations should be acknowledged. Firstly, the sample size of the study was small (N = 8), which limits the transferability of the results beyond the context. In addition, although a qualitative approach provided a nuanced exploration of participants' perspectives, the findings relied largely on self-reports, which highlights the need for more diverse and larger-scale research designs. Moreover, participants' self-reports may have been influenced by a novelty effect as the immersive VR experience was new to them. Accordingly, longer-term quantitative and qualitative research could be implemented to assess whether the motivational drive generated by VR results in a stable change in the ideal L2 self and sustained communicative behavior over time.

From both technical and interactional perspectives, another limitation concerns how well the app recognized learners' self-generated responses when they used the more open-ended option. MondlyVR allowed users to hide the displayed response options and give their own spoken answers, but this mode would have been more effective with stronger speech-recognition capacity. A VR application with more flexible AI-supported interaction and more accurate recognition of learners' spoken responses could provide a richer environment for unrestricted interaction with virtual interlocutors.

Apart from these considerations, future research could employ mixed-methods or experimental designs to compare the longitudinal effects of high-immersion VR on WTC and L2 proficiency with those of other technological aids mentioned in the literature, such as augmented reality or gamification platforms. Finally, further studies are needed to explore scalable and accessible VR solutions that can mitigate the infrastructural and financial limitations identified, ensuring practical transferability of technology integration to diverse educational environments.

Ethical Statement: This study was conducted in accordance with the principles of research and publication ethics. The required ethical approval was obtained from the Ethics Committee for Human Research in Social Sciences at Bolu Abant Izzet Baysal University (Protocol No: 2022/546, Date: 26.12.2022).

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APPENDICES

Appendix A. Semi-structured interview themes and sample corresponding items

Theme	Sample Item
1) Interest	*Did you find it interesting and different to practice the everyday conversations through VR and the language app?*
2) Usefulness/Usability	*What can you say about this experience that you performed through VR headset? How do you evaluate its usefulness?*
3) Emotional Status	*How did you feel during this experience? (Excited, curious, impatient, etc.)*
4) Attention	*Were there any factors affecting your attention positively or negatively during this experience?*
5) Presence	*Did you really feel like you were there when you experienced these virtual conversations?*
6) Motivation	*How and to what extent did practicing English (or a foreign language) through virtual reality affect your language motivation?*
7) Willingness to Communicate	*How did this experience affect your willingness to communicate in English?*

Appendix B. Episodes and their contents in MondlyVR

Episodes	Theme	Content
Episode 1	Hello	Talking to a stranger sitting across from you on the train and getting to know each other by using related phrases (e.g., Hello, how are you, I'm good etc.)
Episode 2	Taxi	Talking to the taxi driver about where you want to go and daily taxi chitchat such as "Do you like it here?", "Your total is…", "Keep the change" and "Thanks" etc.
Episode 3	Hotel Reception	Talking to the receptionist about your registration for the accommodation (e.g., "The room with a view, please", "No, I don't have a map of the city" etc.)
Episode 4	Hotel Room	Talking to the bellboy about anything you would like for your room
Episode 5	Dinner at a restaurant	Giving order to the waitress, talking to a stranger in the restaurant and getting to know each other
Episode 6	Doctor's Appointment	Arranging an appointment at a doctor's clinic