

# Using Virtual Reality in Self-Access Learning Centers: Opportunities and Challenges

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外国語自律学習センターにおけるバーチャルリアリティの活用：  
可能性と課題

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## Abstract

Virtual reality, an immersive technology which allows users to interact with each other within a three-dimensional computer-generated environment, has many affordances for language learning and international exchange. This paper highlights the potential benefits of this technology and describes one possible use, an interactive workshop held through Otomon Gakuin University's self-access learning center, English Café at Otomon. In this workshop, faculty members and international students collaborate to create immersive mini-tours using 360-degree photographs of famous or personally meaningful sites from their home countries. In the workshop, participants from across the university have the chance to participate in the tours, then interact directly with the international students about the sights they have seen. In this way, participants are able to have a visceral experience of a location they have never traveled to, which can augment their interest and therefore the authenticity and quality of the subsequent interactions.

## Introduction

Virtual reality (VR) is a technology that immerses users, represented as avatars, in a three-dimensional (3D) computer-generated environment. While many people associate VR exclusively with headsets—or, more technically, head-mounted displays—VR platforms offer a broader range of experiences. These range from fully immersive VR, which requires a headset, to less immersive yet more accessible environments that can be accessed on a PC or mobile device.

VR attracts many users due to its ability to engage multiple human senses, particularly through features such as immersion, presence, and embodiment (Huang et al., 2010; Kiltner et al., 2012). Immersion allows users to feel as though they are fully enveloped in a virtual environment, opening the door to experiences that might otherwise be inaccessible, impractical, or unsafe. For instance, VR enables users to virtually explore distant or exotic locations without the logistical challenges of physical travel. Furthermore, it pro-

vides a safe and controlled means of visiting sites that might be hazardous in real life, such as disaster zones or conflict areas, enabling users to gain valuable insights or training without personal risk. These immersive experiences foster a strong sense of presence, wherein users feel as if they are physically present in the virtual environment. When VR platforms include multi-user capabilities, they also create opportunities for co-presence, the feeling of sharing a space with others in real time. This aspect of VR is particularly impactful for collaborative activities such as virtual meetings, group training, or social experiences, where users can interact as though they were face-to-face.

Another key feature of VR is embodiment, which refers to the sensation of having a virtual body or avatar that mirrors physical actions and interactions. This capability enhances the sense of realism, as users can use hand gestures, manipulate virtual objects, and perform tasks that closely simulate real-world interactions. Embodiment not only deepens the emotional and cognitive impact of VR experiences but also supports learning and skill development by engaging users' kinesthetic senses. By combining immersion, presence, and embodiment, VR creates highly engaging and lifelike experiences that resonate with users on a sensory and emotional level, making it a powerful tool for education, training, and entertainment.

Thanks to the affordances of immersion, presence, and embodiment, researchers and educators have successfully leveraged VR in educational fields where hands-on training and 3D visualization are critical, such as medical education and engineering (Radianti et al., 2020). By simulating realistic environments, VR provides medical students with opportunities to practice essential skills, such as surgical techniques or patient diagnostics, without the risk of harming actual patients. This safe yet immersive setting allows learners to gain confidence and competence before transitioning to real-world clinical practice.

Similarly, VR has proven to be a valuable tool in fields like architecture and manufacturing, where a deep understanding of spatial and structural concepts in 3D is paramount. Traditional methods of teaching these concepts often require significant investments of time and resources, such as building physical prototypes or using advanced visualization tools. VR offers a cost-effective and efficient alternative, enabling learners to interact with complex models, explore designs, and test solutions in a fully immersive 3D space. These examples illustrate how VR addresses unique challenges in disciplines like medicine and engineering, particularly when traditional learning methods are limited by safety concerns, the complexity of the subject matter, or resource constraints. By combining immersive experiences with active learning, VR enhances not only conceptual understanding but also practical skills, making it an indispensable tool for modern education.

In this paper, the authors will first examine the use of VR in language learning and teaching, before examining how it can be beneficial in self-access environments which aim to promote learner autonomy and international exchange. The discussion will focus on identifying specific aspects of language acquisition that can benefit from the integration of VR technologies and will highlight existing gaps in the literature, including areas where empirical evidence is limited or where VR's potential has yet to be fully explored.

Through this analysis, the authors aim to provide a comprehensive understanding of the current state of research and identify future directions for leveraging VR in language pedagogy. Finally, the authors will present a proposal for a VR workshop format that can be implemented in a self-access learning center, to illustrate how VR technology can be harnessed to promote international exchange among university students in Japan. This VR workshop, held at the English Café at Otemon (E-CO) at Otemon Gakuin University with input from international students, aims to promote intercultural understanding and communication through VR-based activities using PCs and Meta Quest 2 headsets along with an immersive content creation platform called ThingLink (<https://thinglink.com/>). By engaging students in authentic and immersive experiences, the workshop seeks to foster meaningful interactions across cultural boundaries.

## Literature Review

### Past Research on VR and Language Learning

The use of VR in language learning and teaching is a relatively new and evolving area of research and practice. Early versions of virtual environments for language learning can be traced back to the 2000s with platforms like Second Life, which provided virtual spaces for language practice and interaction. However, these platforms were not originally associated with VR technology in the modern sense. Until about a decade ago, VR equipment was largely inaccessible to many educators due to high costs and limited availability, restricting its adoption in language education.

The landscape began to shift with the advent of more affordable and user-friendly VR devices and platforms. For instance, major tech companies like Google introduced economical solutions such as Google Cardboard, which, when paired with apps like Google Expeditions, gained widespread adoption in K-12 education worldwide (Alizadeh, 2019). These innovations helped familiarize educators with the potential of VR, sparking increased interest in its application for language teaching. Over time, standalone VR headsets, such as the Oculus (rebranded as Meta) series, entered the market, offering more advanced capabilities at relatively lower costs. While still expensive for individual teachers, these devices became feasible for researchers and educators with institutional funding or grants.

The COVID-19 pandemic further amplified interest in VR for language learning by highlighting its capacity to bridge physical distances and facilitate meaningful interaction in immersive virtual spaces. This shift led to a surge in research, culminating in a number of systematic and scoping reviews, including those by Parmaxi (2020), Huang et al. (2021), and Alizadeh and Cowie (2022). These reviews underscore the potential of VR to enhance language learning by fostering higher motivation, improving learner engagement, and supporting learning gains. At the same time, they point to persistent challenges, such as technological barriers, high costs, and limited access to and training in VR for many educators and institutions.

As highlighted above, research on VR in language learning has uncovered several significant benefits

this technology can offer. Among these, the most commonly reported advantage is its ability to enhance learner motivation and engagement. Multiple studies have assessed these psychological factors using surveys and interviews, consistently reporting increased motivation levels among learners when VR is integrated into language learning activities (Alizadeh & Cowie, 2024; Ebadi & Ebadijalal, 2020; Lin & Wang, 2021). This heightened motivation often translates into greater participation and enthusiasm, creating a more dynamic learning experience.

Beyond psychological factors like motivation and engagement, some research has focused on learning outcomes in VR-supported environments. A substantial portion of this work has centered on vocabulary learning and speaking skills, as these areas are particularly well-suited to VR's interactive and immersive affordances. Through exposure to virtual scenarios that mimic real-life interactions, learners can practice vocabulary and conversational skills in contextually rich, low-risk environments.

Another promising area of inquiry is the development of intercultural competence and cross-cultural communication skills. Studies such as those by Li et al. (2024) and Shadiev et al. (2021) demonstrate that VR can expose learners to diverse cultural contexts, fostering greater awareness and understanding of different perspectives. Through simulated experiences, learners can engage in authentic cultural exchanges, enhancing their ability to navigate cross-cultural communication challenges effectively.

These findings suggest that VR offers unique opportunities to support both linguistic and cultural dimensions of language learning, although further research is needed to explore its full potential across a wider range of skills and contexts. One potential area for the integration of VR is within self-access learning centers, commonly known as SALCs.

### **Use Cases of VR in a SALC and Benefits**

SALCs are social learning spaces, usually situated in universities. They aim to support extracurricular language learning through the provision of both professional support, in the form of learning advising services (Carson & Mynard, 2012; Kato & Mynard, 2016), and peer support. Taking a community of practice approach, SALCs enable learners to interact and collaborate with other language learners through the use of the physical (or virtual) SALC space.

Thornton et al. (2021) identified three main purposes of a SALC, to foster learner autonomy, provide opportunities for language use, and to provide opportunities for intercultural exchange. VR has the potential to enhance all these functions, depending on the tasks for which it is used. Wu et al. (2021) found that the implementation of self-directed learning strategies such as goal-setting, planning, and self-evaluation was significantly enhanced in a group of learners who had engaged in VR tasks over a control group, suggesting that there is a role to play for VR in fostering autonomy. VR offers various opportunities for language use outside the boundaries of the physical SALC space, such as virtual exchange and immersive role-plays. SALCs already aim to bridge the gap between the classroom and the real world. Through VR,

this world can be brought even closer. VR “makes it possible to test reality in the absence of reality” (Chateau et al., 2019, p. 262). In terms of intercultural exchange, VR can allow participants to connect with people all over the world. While this can now also be achieved through teleconferencing or similar tools, using VR can facilitate a more immersive experience, as participants can “visit” overseas environments, possibly with people who are more familiar with those locations, potentially creating a deeper understanding and connection with the places.

Indeed, there has already been some use, albeit limited, of VR in self-access and language center contexts with such aims. Fitzgerald (2021) has detailed experimental projects with immersive technologies which have taken place at the Learning Commons at the University of Virginia in recent years, with the purpose of providing training for language instructors wanting to use VR in classroom environments. Enkin and Kirschling (2021) report on three projects which have been conducted in the smart language lab at University of Nebraska-Lincoln, to explore the opportunities offered by immersive technologies to support language courses in their institution. Chateau et al. (2019) describe the setup and implementation of a dedicated VR space in their SALC at the University of Lorraine, France, which has the aim of fostering autonomy by providing opportunities for active language use.

They describe the following uses for VR activities in a self-access environment:

1. Blended interactive workshops based around tours and travel experiences for non-specialists for whom language learning can be a source of anxiety,
2. Teacher training sessions for student teachers at the secondary level who use VR as a source of authentic input for language lessons,
3. Intercultural and professional language exchange between French graduate students and English-speaking international students, where they meet up in a virtual environment to complete tasks in a content and language integrated learning (CLIL) course.

Offering VR workshops or similar programs may also have the advantage of attracting new and different students to use a self-access learning center. Once there, they may start to engage in other, more traditional SALC activities such as learning advising sessions or conversation sessions, which in turn will benefit their language learning.

### **Challenges of Integrating VR in SALC Activities**

While initial feedback from participants was overwhelmingly positive, Chateau et al (2019) also highlight potential pitfalls and challenges of using VR. The immersive nature of VR makes it unsuitable for some students, particularly those with epilepsy or other similar conditions. Indeed, anyone may get nausea or an adverse reaction from using VR headsets. In the case of a collaborative program with another institution, the expense of VR hardware, and to some degree software, may make it difficult to find partners for a VR program, if both institutions require the same access to technology. The setup and maintenance of

systems can also prove to be very time-consuming for program coordinators, and a degree of technical difficulty should be anticipated and planned for (Fitzgerald, 2021).

SALC learning advisors and students also need sufficient training to be able to successfully and confidently hold VR sessions. This involves building familiarity with both hardware and software necessary for each session. In addition, they should have enough expertise in the technical aspects of VR platforms to effectively troubleshoot any technical issues that may arise.

## **Using VR at E-CO**

This section outlines a workshop proposal for E-CO workshops using VR (Figure 1). The workshop has the following aims:

1. To promote intercultural exchange between international students & home students at Otemon Gakuin University,
2. To provide exposure to English and other languages through both VR and in-person interactions.

By involving international students from the planning phase of the workshop, we hope to enhance their own planning and presentation skills and provide valuable opportunities to share some aspects of their culture in an immersive setting using VR.

The workshop process is divided into two sessions:

1. A preparation session where the international students become familiar with the technology and software to be used in the workshop, and build their content with support from the E-CO director and VR specialist faculty member,
2. A voluntary workshop session open to all Otemon Gakuin University students. Participants will get the chance to experience the immersive VR environment created by the international students, then use this experience as a basis for further, in-person, interaction during the workshop.

### **Workshop Content**

Each international student will prepare several images of interesting cultural sites from their hometown, using Google Street View. These could be rural or urban sites. The images will be uploaded into a web-based software program called ThingLink, which allows text and audio tags to be added to 360-degree images. Students will then add the text and audio to their images and share them with each other in a trial session. These images will provide the basis for the workshop.

In the subsequent workshop session, students will be shown how to use the VR headsets and then have the choice to explore the different 360-degree images designed by the students, reading the text and checking the audio while viewing the images. After the immersive VR experience, students will ask each international student follow-up questions about their experience, to learn more about each culture or tourist site represented in the images. In this way, it is hoped that the interest level of the participants and quality of

interaction can be enhanced through the immersive experience of using VR.

Through this workshop, the authors hope to test the impact and practical viability of VR as a tool to enhance interactions in self-access environments.



Figure 1 VR Workshop Poster at E-CO

## Summary and Conclusion

This paper has explored the use of VR as a form of educational technology to support language learners, using examples from broader educational contexts, such as medical and engineering education, to highlight its transformative potential. The paper has outlined specific cases for VR usage in a SALC environment, including immersive language practice, virtual cultural exchanges, and opportunities for collaborative learning. It has also addressed the challenges educators and institutions may face, such as accessibility and the need for training, and hopes that the upcoming workshop can offer insights into how these obstacles might be overcome.

Looking ahead, the authors aim to incorporate VR-integrated events at E-CO on a more regular basis. Additionally, they plan to expand the scope of this project by using VR to connect students at Otemon Gakuin University with peers from other universities across Japan and abroad, strengthening the links between the university and its overseas partner institutions.

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