การสำรวจทัศนคติของผู้เรียนภาษาอังกฤษเป็นภาษาต่างประเทศที่มีต่อเทคโนโลยีจักรวาลนฤมิตรในการเรียนภาษา

Investigating English as Foreign Language Learners' Attitudes Toward Virtual Reality Technology in Language Learning

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Abstract

This research aims to explore the attitudes of English as Foreign Language learners towards virtual reality technology in language learning and to highlight the most recent developments and future possibilities in the field of VR technology usage in language learning. In this study, one-group pre- and post-test design was used to collect and analyze the data on students' attitudes before and after. Additionally, an explanation of VR learning experiences in English classes (GE course) was provided in detail. The questionnaires were analyzed to determine the students' perspectives on the use of VR technology in English language education. After gaining an understanding and trial of VR technology in language learning, the students' attitudes toward VR interactivity in language learning was significantly different, as shown by the results. With a mean score of 4.57, the results showed that English as Foreign Language learners had a positive view of VR technology as a way to learn a language in immersive learning. Most of the interviewees' points of view fell into three main categories: 1) interaction, 2) concentration, and 3) memorization. Future study directions are recommended in order to determine the implications of virtual reality on language acquisition.

Keywords: Virtual Reality Technology, Language Learning, English as Foreign Language Learners' Attitudes, Immersive Learning

1. Introduction

VR technology is already being utilized on the consumer market for a variety of uses. In recent years, the COVID1 9 epidemic has boosted the appeal of virtual reality (VR) technology) [1]. This technology has also been utilized in the field of education. However, the use of VR systems in education is uncommon, particularly in English language study. Utilizing advanced technology in language learning can aid students in acquiring knowledge from a variety of sources and perhaps enhance their language proficiency. This apparatus may organically immerse English language learners in a brand-new, motivated learning experience.

The most efficient strategy for learning a foreign language is one that encourages learners to utilize the language in natural contexts. However, the classroom's controlled communication setting cannot substitute actual experience. Therefore, VR technology may be utilized to create a stimulating language-learning environment [2]. According to Pomerantz [3], extending Virtual Reality technology in language learning can give a deeper level of immersion in a simulation of the actual world. This is a highly successful approach of language acquisition. Important components of foreign language acquisition include interactive contact with

native speakers and learner preparedness [4]. Learners' readiness may also be viewed as part of their learning.

Extended Reality technologies, when used in language learning [3], [4], a particularly effective method for learning a language, can provide -a degree of- immersion to a simulated "genuine" setting, according to EDUCAUSE reports from the past two years [3], [4]. Language acquisition includes social contacts with native speakers as well as practice and contextual use of the target language. This is not always possible due to time, geography, or financial constraints. VR's increasing popularity as a potential language-learning aid is mostly attributable to its propensity to tackle such problems by providing users with a virtual environment that is almost real. Immersion allows language learners to acquire a second language while simultaneously experiencing a distinct culture outside their own geographic region, without having to travel overseas.

Users can experience context-rich worlds developed specifically for language learning through the use of virtual reality [5]. Immersion is necessary for language acquisition. In this context, a number of commercial apps, such as virtual worlds (Second Life), simulation games (The Sims), massively multiplayer online games (WoW, LoL), and bespoke VR applications, have been utilized. According to Lin and Lan's analysis of VR research findings published between 2004 and 2013 in the four leading CALL journals (Language Learning & Technology, CALICO Journal, Computer Assisted Language Learning, and ReCALL), open social virtualities were the most commonly used technology in language learning VR applications (65.6%). This was predicted given that the ability of these settings to facilitate user engagement and communication was previously acknowledged.

VR applications are founded on several educational theories, such as ubiquitous learning, self-directed learning, constructivism, situational learning, inquiry-based learning, game-based learning, and engagement theory [6]. Virtual Reality (VR) is one of the most promising learning and training technologies of the twenty-first century due to its technological innovation and pedagogical flexibility [7].

Creating a sensation of presence or "being there" in the virtual environment is the most important concept and objective of virtual reality [7]. This emotion is directly connected to one's sense of immersion in an artificial environment. Immersion is the engagement in one's surroundings that makes it impossible to keep track of time or the outside world, while simultaneously providing a sensation of "being" in the work setting. However, different technologies can provide differing degrees of immersion. Immersive vs non-immersive is a commonly used and early classification for immersive capabilities. Using a more accurate taxonomy, three types of VR systems may be separated. Non-immersive VR or desktop VR systems require a desktop computer-based 3D graphics system and a network connection in order for users to traverse the VE using a mouse, keyboard, and computer screen. This is typically the case for gaming software and 3D virtual worlds. Desktop-based virtualization for gaming and education should be referred to as desktop VEs to avoid misunderstanding with desktop VR. Due to their presentation on two-dimensional (2D) computer displays, these environments cannot convey a feeling of immersion. Users of these systems must utilize an avatar to immerse themselves in the virtual environment in order to achieve immersion. Despite the fact that certain non-immersive VR platforms offer first-person or other perspectives, users of non-immersive or desktop VR systems frequently explore the environment using their avatars [8].

Wang and Iwata [9] allude to the virtual environment in which students may engage in and observe dialogues. Students may "travel" to various areas and "talk" with residents in the target languages by moving their bodies. The learner "walks" out of a hotel and seeks to call a cab in a standard virtual reality language curriculum. When a taxi comes, the driver inquires about the passenger's destination. After the student

enters the taxi, the real-time conversation continues. Once the cab reaches the airport, the subject of flight check-in will be brought up.

Participatory, real-time speaking activities like this pique the attention of the student and increase their proficiency in the target language. Accessible to language learners are a variety of VR programs. Students are able to converse with an online robot in the target language in a genuine setting. The program delivers instantaneous feedback on the student's pronunciation, grammar, and vocabulary [9].

Language by bringing it closer to real life, it is essential to notice that they do not achieve the desired, perfect result. The experience of authentic language acquisition cannot be replicated by the organized and communicative process of classroom learning. Scientists emphasize that studying a foreign language in textbooks and the classroom as a whole hinders development in learning and utilizing the language, especially in areas such as teaching vocabulary, speaking, spontaneous communication, and intercultural competency [10].

These shortcomings underline, on the one hand, the importance of the linguistic context for effective acquisition and, on the other hand, the dominant role of motivation in the acquisition of a language. Consequently, the construction of brand-new motivational settings for language learning, such as virtual reality and 3D environments, and the utilization of learning materials that are meaningful, engaging, culturally and professionally focused are essential learning process components. The development of virtual reality technology promotes the extension of the frontiers of scientific research and the assimilation of advancements into all facets of human effort [11].

The comprehensive use of information technology is currently widespread in all sorts of educational institutions and enterprises [12]. Schools in the United States, China, and Japan are already utilizing virtual technologies and environments extensively, and virtual education is gaining popularity in these nations. The technologies of augmented reality and virtual reality are only utilized by a small number of Russian institutions and universities. Despite the fact that this is not yet part of the mandated education curriculum, the following examples have previously been implemented: In order to utilize the augmented reality approach to teaching, interactive content is added to traditional textbooks. When aiming a camera phone or tablet at an image in a textbook, a student may see, for instance, the 3D shape of a medieval castle. They may also watch it from a number of angles on the device's display. One may observe a video of a chemical reaction and conduct a virtual experiment by mixing virtual components of a chemical compound [11].

According to Rheingold, the problem with the current higher education system is that teaching and learning methodologies have become obsolete and useless. Rather than lecture halls with rows of seats being the predominant physical learning space for learning and teaching in higher education, the researcher suggests that learning spaces should include physical/virtual, formal/informal, blended, mobile, personal, and professional learning spaces that take into account flexibility, adaptability, and time. Physical/virtual, formal/informal, blended, personal, and professional learning environments must be accounted for in terms of flexibility, adaptation, and time. They must adopt contemporary learning and teaching approaches, which emphasize self-directed and collaborative peer learning in both physical and digital learning contexts [13]. Virtual reality technology have been deployed in Russian institutes of higher education for a number of years, albeit in a limited capacity.

Instead of teaching through the more conventional mediums of print, video, and audio, the goal of immersive learning is to appeal to a wider range of students by creating a setting that engages as many of our five senses as is physically feasible, with a special emphasis on sight, sound, and touch [14]. In the past,

to create an immersive learning experience at the tertiary level, the instructor may have told a story to the students or had them act out a situation together [15]. Instructional films or online learning games provide a sort of immersion by focusing on simulations of real-world situations and allowing for real-time practice. This form of immersion is suitable for university and college instructors with better access to resources and time. In reality, studies have demonstrated that knowledge obtained through learning simulations may be stored in our minds just as successfully as if it had been acquired in the real world [16]. However, there are a number of limitations connected with these various strategies [17]. Students are immersed in virtual environments through the use of immersive technology, which allows them to not only obtain academic information but also practice abilities such as problem-solving, critical thinking, as well as technical and creative talents, both independently and in collaboration with other students. Immersive learning empowers students to strategize and make independent decisions, allowing them to learn from their successes and setbacks [14].

These individualized experiences and authentic simulation environments increase student engagement. Engagement levels can be determined by the amount of time and frequency with which learners interact with a learning system or game, which is an important indicator of the application's interest and appeal [14].

Traditional 2D video clips and online learning games, for instance, have their limits in terms of how much one can learn. Moreover, even if there is some degree of participation, the experience is not immersive in any sense. Worse than that, some learners may complete seeing or playing them in a short length of time, minimizing the exposure time that is crucial for poorer learners to acquire and relearn potentially difficult skills. 'Genuine' immersion, on the other hand, blends the finest of e-Learning with intriguing simulations. Due to the difficulty of producing this level of immersion, the related expense will be much higher. This is true not only in poor nations, but also in prosperous nations.

Rapid scientific and technological advancements in Industry 4.0 production have resulted in the introduction of a new generation of immersive learning tools that can be fully leveraged by university and college instructors [18]. Virtual reality, augmented reality, and mixed reality are examples of these technologies. These technologies include the interactive 360-degree video technology, virtual reality (VR) experiences, augmented reality (AR) overlays, and mixed reality (MR) or extended reality (XR) simulations. When combined, these technological tools have the potential to create an immersive and learner-driven learning environment inside the boundaries of a traditional classroom.

Due to the adaptability of 360-degree movies, students may view a scene from any vantage point they prefer. Consequently, users may visually explore a fictitious environment or examine a recording of the real world captured by 360-degree video cameras. Both alternatives provide them with the same amount of immersion. However smartphones, learners' visuals move in perfect synchronicity as they tilt and rotate their devices left, right, or up; on laptops, desktops, and desktop PCs, learners may navigate spherical 360-degree videos by clicking and dragging navigation buttons. For instance, 360-degree videos are gaining popularity on YouTube, and not simply for entertainment purposes. Additionally, these movies are utilized for educational and instructive reasons. On more contemporary platforms such as VeeR (which bills itself as "YouTube for VR") and by using more complex software that is commercially accessible, it is feasible to

render and post-process 360-degree movies in order to create independent "virtual reality experiences." VR experiences are at the forefront of technologically improved teaching and learning, and they may be driven by standalone VR headsets that can immerse and expose learners to novel learning experiences and surroundings [19]. Virtual reality experiences are also the future of education.

Even though the initial setup will require investments to defray high costs, virtual reality (VR) experiences, regardless of whether they are fully computer-generated environments or built upon 360-degree videos from real-life situations, lead to immersive learning and longer exposure time for learners without the challenges of real life. Learners are able to get valuable first-hand experience via the use of virtual reality (VR) activities. Additionally, it enables a longer exposure to learning materials as well as additional practice time, which is especially beneficial for less capable students who may have difficulty acquiring certain skills and information from the time spent in the classroom alone. It is extremely beneficial for training and developing soft skills, second language, and even third language abilities to immerse learners in real-life settings through interactive VR experiences [20]. Other skills, such as customer service or people management, as well as formal meetings or negotiations, are great examples of situations in which learners can be placed in positions that have the potential to be stressful, but in which they are able to "see" how certain decisions will lead to certain outcomes, without running the risk of adverse consequences.

The learners will be able to develop appropriate workplace-related skills to resolve conflicts, dilemmas, and problems in an appropriate manner if they learn about workplace-related scenarios in an interactive virtual reality environment, for example. This will allow the learners to learn about workplace-related scenarios. In other words, this is learning by doing in its purest form and according to the most accepted definition of the phrase. This is as a result of the fact that we have reached an exciting point in the rise of immersive learning technologies, as several factors converge to transform the future landscape of learning [21].

This becomes the case is because it has reached an exciting point in the rise of immersive learning technologies. The virtual reality technology has progressed to the point that it can now be easily accessible through mobile devices e.g., smartphones and tablets. Previously, the technology required a personal computer to function. At this point in history, it is possible to have an immersive virtual reality experience by only making use of the devices that it already carry about with its in our pockets and backpacks. In addition, because there are now virtual reality platforms available such as Veer, users do not need to install any specialized programs on their smartphones. When it add to the increased availability of low-cost and simple-to-operate VR headsets that are powered by smartphones (in comparison to 5-10 years ago). The financial outlay that students at all levels of formal education needs to make in order to gain access to immersive VR experiences is continuously decreasing [21]. The relevant research literature to the empirical inquiry were covered in this paper. The detailed analysis of the notion of immersive learning is followed by a discussion of virtual reality (VR) experiences in the context of education. The discussion takes place within the context of Industry Education 4.0, a global movement.

This can be regarded as the gaps from previous literatures that need to be fulfilled in this present study. In a nutshell, this study aim to investigate the attitudes of EFL learners toward virtual reality

technology in language learning, and the significant differences between the pre-test and post-test about the attitudes toward VR technology in language learning activities. Moreover, This research investigates the attitudes of language learners towards the ways in which virtual reality (VR) might improve learning activities in language acquisition via the use of virtual experiences. Through having a grasp of how the many components of the application interact together to form their learning results. Practitioners of virtual reality and educators may benefit from gaining a better understanding of the potential of this technology to enhance educational results through its use. In light of this, the potential restrictions and implications of our results for the ongoing research on VRLEs may be investigated.

2. Research Questions

1) What are the attitudes of EFL learners toward virtual reality technology in language learning?

2) Are there any significant differences between the pre-test and post-test about the attitudes toward VR technology in language learning activities?

3. Research Methodology

3.1 Participants and Data Collection

Forty five individuals were recruited for this mixed-methods investigation (purposive sampling technique). They are EFL undergraduates from diverse study disciplines at some university in the northern part of Thailand who enrolled in an English language course (General Education course) at state and private institutions that are categorized as public and private. The people who took part in this study were told about the purposes of the research and filled out the consent forms. The data were obtained via surveys and interviews with focus groups.

3.2 Data Analysis and Instrument

The instruments used in this study were a five-point Likert scale questionnaire and VR headset (Oculus Quest 2) as a trial learning material by applying Mondly VR application. To obtain quantitative data, a five-point Likert scale questionnaire adapted from Likert (1932) was be issued. The data were be analyzed by using SPSS to obtain the mean score and frequency analysis. Participants were asked to rank each item or strategy according to its significance in attitudes toward VR technology in language acquisition. The questionnaires were taken on a pilot test to find the internal validity before they were distributed to the participants. As for the semi-structure interviews, the Item Objective Congruence (IOC) index was evaluated by three experts to find the quality of all questions. Finally, the paired sample t-test was also used in this study to investigate the differences of the pre-test and post-test about the attitudes toward VR technology in language learning activities.

A Likert scale five potential responses to a statement or question, allowing respondents to show their positive-to-negative level of agreement or sentiment about the question or statement. The Likert Scale-based questionnaire was distributed to the students, 45 of whom were female and 4 of whom were male. The poll was designed to determine the extent to which English as Foreign Language students were willing to adopt virtual reality technology in their language study. The paired t-test was conducted on a single sample using SPSS, which was also utilized for all calculations. The test is for the group of participants who have to fill out the same poll again after they learn about VR learning and its topics. A paired t-test shows how the mean changed between when people didn't know about VR learning and when they did.

Each questionnaire contained 10 items, and participants were asked to rank each item or strategy. Also, they were required to pick one of five potential choices, each of which was given a numerical value between one and five and a mean range from Likert (1932), as described below:

Scale	Mean Range	Result Interpretation
1	1.00 – 1.80	Inefficient
2	1.81 – 2.60	Somewhat effective
3	2.61 – 3.40	Moderately Effective
4	3.41 – 4.20	Effective
5	4.21 – 5.00	Highly effective

During their time spent taking VR trial, the students participated in features of Mondly's application which is a language learning application that was developed for the Oculus Quest 2 and provides participants with immersive virtual reality experiences to assist them in learning languages. The participants learned conversations using a virtual reality by imitating natural communication in English language. They also experienced English pronunciations with the application's speech recognition technology in daily lessons that garnered a variety of dynamic surroundings. They received immediate feedback on their pronunciation that is the guideline to improve the vocabulary. As for the research, they all participated in same lesson of realistic talks that are inspired by real-world occurrences in a scenes of taking taxi to the hotel. They can make conversations with a taxi driver from the beginning to the destination. This took time about five to ten minutes of imitating the conversation throughout the lesson.

After they completed the process of VR trial, ten participants were randomly interviewed by conduct semi-structured interviews to collect more in-depth qualitative data. In order to prevent misinterpretation, the surveys and interviews will be conducted in Thai. Prior to their distribution to participants, the questionnaires will undergo a pilot test to determine their internal consistency and reliability. As with the semi-structured interviews, three experts will assess the Item Objective Congruence (IOC) index to determine the quality of each item. When conducting in-depth interviews, there are a few things that must be kept in mind in order for the talks that result to be important, rich, and engaging. First, according to Bryman and Bell, researchers have to make certain that the interviewee has no barriers in their ability to convey their ideas and emotions by external variables. The environment need to be one in which the interviewee as well as the person being interviewed may feel at ease and secure. For the purpose of bolstering the significance of this factor, it may be advisable for the responder to choose the location of the interview. In accordance with the guidelines given by Bryman and Bell, we made it a priority to carry out the interviews in settings in which the aforementioned criteria were satisfied [22].

In addition, we briefed the respondents in advance on the general format of the interviews that they would be participating in. We provided specific information on the logistical components of the interviews, such as the approximate amount of time that was required. In addition, we let all of the respondents know that the information they provided would be kept confidential and that the interview may be ended or cancelled at any time if they so desired. Every interview was conducted in Thai, which was something that was double-checked with the respondents before hand. After we had completed the transcription of each interview, we made it a point to offer sending it to the individuals who had participated in the interviews so that we could verify that the material had been accurately interpreted. Ethical consideration during the academic year 2022, respondents will be asked for permission to answer the questionnaire and participate in the semi-structured interview.

4. Findings

All students enrolled were included in this particular research study's population. This study's sample included 45 students from a range of academic fields. These persons were chosen in a way that was both practical and convenient. The Likert scale (1932), a five-point scale, is used in this research to enable individuals to express how much they concur or disagree with a specific statement.

This section reports the total post-test results for attitudes toward VR technology in language acquisition were significantly more significant ($p < 0.05$) than the pre-test results presented in Tables 1 and 2. For further discussion, means and standard deviations were calculated.

The questionnaire's item values reflect the attitudes of students toward VR technology in language learning. Less than 1.80 is considered "Inefficient"; between 1.81 and 2.60 is considered "Somewhat Effective"; between 2.61 and 3.40 is considered "Moderately Effective"; between 3.41 and 4.20 is considered "Effective"; and greater than 4.21 is considered "Highly effective."

The average score was 2.98 on a 5-point Likert scale based on all participants' pre-test attitudes, with question items 1, 2, 3, 4, 6, 9, and 10 being moderately effective and 5, 7, and 8 being effective. After learning about the benefits of VR learning activities, participants were asked to complete this questionnaire again as part of the post-test. The average score is 4.57, with query items 1 through 10 rated as Highly effective. The average pre- and post-test scores were 2.98 and 4.57 points respectively.

Table 1 : Students' pre-test and post-test attitudes toward VR technology in language learning (n = 45)

Items	Pre-test		Post-test	
	Means	Std. Deviation	Means	Std. Deviation
Q1	2.89	0.32	4.49	0.59
Q2	2.98	0.26	4.56	0.55
Q3	2.93	0.33	4.56	0.59
Q4	2.98	0.34	4.62	0.49
Q5	3.07	0.33	4.56	0.55
Q6	2.96	0.30	4.47	0.59
Q7	3.04	0.37	4.62	0.49
Q8	3.02	0.34	4.62	0.49
Q9	2.96	0.37	4.69	0.47
Q10	2.98	0.34	4.53	0.55
Average	2.98		4.57	

Q1. You think that using VR as part of their teaching and learning is beneficial to improve their communication in English in the classroom.

Q2. You think that seeing virtual images through VR helps you learn English better.

Q3. You think that virtual situations learning is necessary for effective English learning.

Q4. You think that seeing virtual objects and places such as works of art in the LOUVRE museum or tourist attractions in foreign countries possibly help you to memorize English words better.

Q5. You think that using VR technology reduces shyness and increases confidence in speaking English.

Q6. You think that the use of virtual images from VR technology can develop the skills of telling stories in English from what they can see.

Q7. You think that using the training simulator technique (simulating training situations) through VR technology increase your confidence.

Q8. You think that using VR technology to interact or touch virtual objects through AI makes students feel more involved and enjoy learning English.

Q9. You think that using VR technology to interact with native speakers through games or conditional situations make students use more authentic English.

Q10. You think that using VR technology can help them learn English in activities that require processing in other disciplines such as art, science, music, home economics, design, architecture, etc.

Table 2 : Paired t-tests analysis results comparing pre-test and post-test mean scores of students' attitudes toward VR technology in language learning (n = 45)

	Variable 1	**Variable 2**
Mean	*2.89000000*	*4.49000000*
Variance	2.9911111111111	4.5811111111111
Observations	0.0019361111111	0.0040861111111
Pearson Correlation	9.0000000000000	9.0000000000000
Hypothesized Mean Difference	0.1372751967519	
df	0.0000000000000	
t Stat	8.0000000000000	
P(T<=t) one-tail	-65.832254361262	
t Critical one-tail	0.0000000000016	
P(T<=t) two-tail	2.8964594477096	
t Critical two-tail	0.0000000000032	

Table 2 displays the results of a Paired sample t-test analysis of the students' perspectives on the use of VR technology in language acquisition. The results indicated that the post-test had higher mean scores than the pre-test. There is a statistically significant difference between the pre-test and post-test mean values, which are 2.89 and 4.49, respectively. The p-value is significantly less than .05, indicating that it has a significant effect on the identification of attitudes after the implementation of valuable content in VR learning activities. The p-value in Table 2 is significantly less than .05, indicating that the incorporation of content utility in VR learning activities has a significant effect on students' attitudes toward VR technology in language learning. The results indicate that the positive attitudes toward VR learning improved substantially after providing information about VR activities following the pre-test. These findings correspond to Hu-Au and Lee's [23] and Bogusevschi et al [24] 's findings that the use of virtual reality in the classroom has enormous potential and several educational advantages. Virtual reality (VR) delivers a realistic 3D multimedia simulation, fosters engagement in the simulated world, and enables users to interact with the simulated elements.

As a result of the limitations caused by the available equipment, in order to collect in-depth qualitative data from the interviews, 10 participants were chosen at random and asked whether they would like to take part in the VR experience activity. The instructor then provided a brief summary of the activity. About five to ten minutes of virtual reality (VR) time was allotted to each student. Following the event, each participant was questioned for a period of ten minutes afterwards. Regarding the students, their responses to VR trial and the open-ended question regarding their readiness for VR learning were categorized as follows:

Participant A1: Beneficial for English communication in the classroom: “Virtual reality (VR) makes learning an engaging experience. It will pique the curiosity of young people in particular. For example, even in subjects like English speaking or grammar, which many people find tedious, students might benefit by engaging with a simulation conversation with 3D speakers rather than just writing it out on paper.”

Participant A2: VR images helps you learn English in classroom: “Compared to the classroom, I feel very focused. The main reason is that I don't get distracted by my surroundings and can just concentrate on what I need to do."

Participant A3: Virtual situations learning is necessary for effective English learning: “"I feel like I'm in an English as Foreign Language environment instead of just reading about it in a book."

Participant A4: Seeing virtual objects help you memorize English words better: “When I look at the virtual objects, I probably get a better idea of how they look than when I just look at pictures or read text. I already feel like I'm in a virtual world.”

Participant A5: Reduces shyness and increases confidence: “"I've never utilized virtual reality, but I'd want to learn more about language learning now. I'd be daring to have a virtual discussion to learn. It needs audio and sound.”

Participant A6: Develop skills of telling stories in English from what they can see: “For a subject like English, which may be tedious for me, the immersive nature of virtual reality makes learning a breeze. I felt like I was there in the middle of it.”

Participant A7: Increase confidence by using VR training simulator technique: “While using virtual reality (VR), "you acquire a new knowledge of the subject, especially in training simulations you don't need a book to read but you need to watch the situation and learn from it.”

Participant A8: Feel more involved and enjoy learning English by interacting with virtual objects: "I'd like it better if the school gave us these kinds of tools. We'd learn more and have more fun at the same time."

Participant A9: Use more authentic English with native speakers through games or conditional situations: “It's satisfying to me if my interactions with native speakers in virtual reality environments and games seem natural. When you engage with a system, it feels genuine.”

Participant A10: Learn English in activities that require processing in other disciplines: “I think VR is a terrific method to experience topics you couldn't otherwise, like astronomy or other sciences.”

According to the post-test results, the attitudes of EFL learners towards VR technology in language learning is at a high level, with a mean score of 4.57. Furthermore, the majority points of views from the interviewed results were categorized in 3 main issues: 1) interaction 2) concentration and 3) memorization. As for interaction, the participant A1, A8, and A9 talked about the communication with virtual people or objects through various kinds of situations. They thought that VR technology could help them to persuade themselves to learn language by curiosity and challenge through the conditions in the games or lessons. The second is concentration, it referred to the results from participants A2, A3 A5, A6, A7 and A10 that they could focus on learning more on the confront virtual situations and training simulations without distraction from surrounding classroom environment and also insidious awkward feeling. They could explain the circumstances and the objects that they visualized at that time they equipped VR instrument. The last issue from the interpreted interview is memorization. The participants A4 and A8 talked about the ability of memorizing the vocabularies from the objects in VR environment. They thought that they could learn English words more enjoyably than looking just only pictures on textbook. It seems that the issue that encourage EFL learners to learn language by using VR technology the most is concentration, the participants discussed

their experiences communicating with simulated persons or objects while navigating a variety of different scenarios. They believed that virtual reality technology could assist them in convincing themselves to learn a language by appealing to their sense of adventure and competition within the context of the activities or classes.

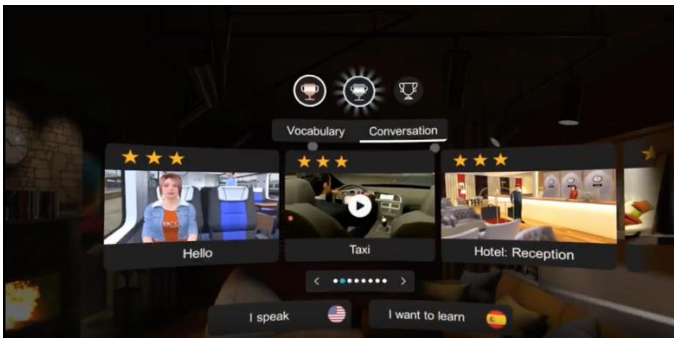

Figure 1 : Screen from menu of Mondly VR application (Mondly, 2022)

Figure 2 : Screen from “Mondly VR”, in the taxi situation (Mondly, 2022)

5. Conclusion and Discussion

The number of people studying English through virtual reality technology is growing all the time. Virtual reality technology is ready for use, and almost all students are aware of the educational benefits that may be acquired from using this sort of technology. It will be less effective if they do not use virtual reality technologies. Students' English language abilities, particularly those linked to communication, have improved as a result of the application of innovation. They also engage in the development of English vocabulary and language abilities via the use of virtual reality technology.

Virtual reality is a potent technology that can improve language learning experiences. More VR applications that are specifically focused on teaching are still clearly needed. Even though there aren't any specifically designed applications, there are plenty of commercially accessible experiences that may be used in the meantime until more specialized instructional material becomes available. It can be time-consuming and challenging to locate and modify these programs to meet the educational requirements of instructors.

In consideration of this, it is acceptable to identify which components of an application need to be scaffolded for the language classroom by using the VR application. It is practical to build resources and activities to make VR accessible in any classroom by examining an application using VR technology. In the

future, instructors will be able to use VR in the classroom with confidence rather than waiting for appropriate instructional content to be developed. This will add to the corpus of research that helps to establish VR as a standard tool for language learning as more teachers look to VR to rethink their classroom activities for language acquisition.

The variety of uses for virtual reality (VR) technology to help in language acquisition should be expanded upon by further study. Virtual reality (VR) technology that is aimed to increase the efficiency of language teaching and learning techniques is at the heart of the concept of VR-assisted language learning. The scope of the study that has been done so far should extend beyond higher education and instead concentrate more on elementary and secondary schooling. For instance, using virtual reality (VR) to aid in language acquisition may be used to help preschoolers practice their pronunciation of fundamental English words. When compared to more conventional teaching approaches, the use of virtual reality (VR) in language instruction may have a substantial influence on children's motivation and lead to improvements in their performance. In addition, the majority of the research concentrated on information connected to vocabulary (such as vocabulary and writing), while ignoring a lack of understanding about grammar and reading abilities. Few studies have concentrated on learning other languages as a second or foreign language, and there has been very little study connected to the teaching of native languages. The majority of language learning programs focus on English as a foreign language. As a result, future research has to take into account a variety of languages and ability levels in order to broaden the scope of virtual reality-assisted language acquisition.

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