

**UNIVERSITY OF TARTU
DEPARTMENT OF ENGLISH STUDIES**

**USING THE VIRTUALSPEECH PLATFORM TO DEVELOP ORAL
INTERACTION SKILLS IN THE EFL CLASSROOM IN AN ESTONIAN UPPER
SECONDARY SCHOOL: AN ACTION RESEARCH PROJECT**

MA thesis

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ABSTRACT

English is taught as a foreign language in Estonia, and thus, students face challenges accessing English-speaking environments. This thesis explores the potential of virtual reality (VR) for providing immersive language learning experiences, thereby enhancing language acquisition and motivation. Specifically, it investigates the use of conversation with ChatGPT on the VirtualSpeech platform to improve oral interaction skills among upper secondary school students.

According to the purpose of the study, an action research project was conducted, and qualitative methods were applied to analyse the gathered data. 22 upper-secondary-school students participated in a four-week intervention. First, the students were provided with input in the form of texts, words with collocations and example sentences, followed by exercises, and discussion about a topic. Later, they were led to interact with ChatGPT on the VirtualSpeech platform. The intervention took place from October to November 2023 in an upper-secondary school in Estonia. Two feedback questionnaires were filled in during and after the intervention.

The thesis consists of an introduction, two main chapters, a conclusion, a list of references and six appendices. The introduction identifies the research gap based on previous research, presents the research questions and outlines the structure of the paper. The literature review focuses on applying VR and chatbots in the EFL context. The methodology section describes the action research, presents the results, the analyses of the students' feedback questionnaires and provides suggestions for future practice. The conclusion summarises the thesis.

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LIST OF ABBREVIATIONS

- AI - artificial intelligence
- AR - Action research
- EFL - English as a Foreign Language
- HMD - head mounted display
- MUVE - a multi-user virtual environment
- SL - Second Life, a multi-user virtual environment
- VR - virtual reality

INTRODUCTION

The arrival of the 21st century and its technological advancements have presented educators with fresh opportunities and equipped them with novel instruments to bolster language learners' motivation and refine their communicative abilities. However, most teachers in English as a Foreign Language (EFL) classrooms are still using traditional textbooks and workbooks to teach English on a large scale. While better coursebooks provide activating communicative tasks and a clear structure for teachers and students to rely on, modern students' motivation might still be boosted by using a particular technological tool.

Another reason for using technology in language classes is to provide individual students with enough opportunities for input and interaction. Gass (2003) has defined input as furnishing language-specific details that engage with the inherent linguistic framework that individuals (whether children or adults) bring to their language-learning situations. Interaction has been defined as learners engaging with language input, producing their own language, and receiving feedback on their production; within this interaction, learners strive to understand messages and reciprocate with responses to their language partner (Gass & Mackey 2015; cited in DeMil & Kozikowski 2022). Research has shown that conversational interaction supports second language learning (Mackey 2012). Mackey also suggested that interaction offers second language learners chances to learn while engaging in important communication that includes crucial linguistic information. A study by DeMil and Kozikowski (2022) found that interaction is not confined to face-to-face lessons; online classes can include the necessary interaction for learning to occur.

One of the technology-based, engaging language learning methods could be conversing with a chatbot empowered with artificial intelligence in a virtual reality environment. The author of the present thesis works as an English teacher in an Estonian school where thirteen sets of

Meta Quest virtual reality head-mounted displays are available. After the preliminary literature review in the spring of 2023, the author had a chance to use Meta Quest in the summer and found a platform called VirtualSpeech, where a person can speak directly with ChatGPT on any topic. Since ChatGPT is a large generative language model, its potential to help students with speaking is vast. Therefore, these VR headsets, together with VirtualSpeech, provided an opportunity to engage students who sometimes are shy while speaking in class in the conversation with ChatGPT.

Shen and Shimohammadi (2008) have defined virtual reality (VR) as the technology that offers simulated or virtual experiences that closely mimic reality, creating an immersive and convincing environment. They distinguish three kinds of VR, according to the intensity of immersion: Desktop VR, Augmented Reality and Immersive VR. As Desktop VR utilises a computer monitor as a display to offer users a graphical interface, the result is not thoroughly immersive. Augmented Reality (AR), on the other hand, blends reality with computer-generated information. The aim of AR is to enrich real-world experiences with enhanced information processing capabilities (Shen & Shimohammadi 2008). To experience AR, users need to wear head-mounted displays (HMDs) to encounter both the virtual and real world around them, or they can see how virtual objects are superimposed on the real ones using the cameras of a smartphone or a computer. Immersive VR consists of wearing an HMD or a headset where a smartphone is placed inside (smartphone VR). This allows users to be fully immersed in a computer-generated 3-D reality and completely forget the physical reality around them. As the users can handle their virtual surroundings with hand controls and sense them by seeing, hearing and touching, they are able to interact with different virtual worlds and simulate different real-world scenes. Meta Quest is one of the most affordable immersive HMDs.

According to the online Oxford English Dictionary, the term Virtual Reality (VR) was first mentioned in the 1970s, whereas the first proof of it dates back to 1979. Before that, *Sensorama* was an invention dating back to 1961 where the person could sit in a simulator that gave multi-sensory stimuli, like smelling, hearing, the wind blowing on the viewer's face and the feeling of motion while watching a coloured movie through the lenses in front of their eyes.

The recent progress in computer technology has led to the development of sophisticated gadgets, such as VR headsets, glasses, gloves, and handsets, that enable VR to be taken into use to enhance people's acquisition of cognitive skills, psychomotor skills, as well as affective skills (Berns & Reyes-Sánchez 2021). 2012 stands out as a turning point when different kinds of affordable immersive VR sets by Oculus (now known as Meta), HTC, Sony, and others started to appear, catching consumers' and academics' broader attention (Marougkas et al 2023).

Besides input and interaction, frequent exposure to a foreign language environment as a complete immersion is considered one of the effective preconditions for learning a new language by many language learners and educators (Tanaka & Ellis 2003). While VR sets are costly, travelling to a foreign country to learn the target language is even more time-consuming and expensive (Cheng et al 2017). Therefore, as people owning VR headsets can choose the time and duration of being in the immersive target language environment, that could be preferable and efficient. Besides the expensive VR HMDs, several affordable headsets can be used with people's smartphones to provide an immersive VR experience called smartphone VR. Whereas previously widespread Google Cardboard has been discontinued, VR Shinecon (n.d.), Feebz (n.d.), and others have replaced it. Considering the presence and development of AI, instant translation programs, and expected lower prices of VR headsets, this new technology will likely be used more in the near future of education.

Virtual Reality Learning Environments are immersive digital settings that stimulate real-world experiences to facilitate learning and provide engaging, interactive, and immersive educational experiences. VR has been applied across various disciplines in education, such as medical sciences (Gao et al 2022; Maersky et al 2018), architecture (Sanchez-Sepulveda et al 2019), astronomy (Monita & Ikhsan 2020), biology (García-Bonete et al 2018), chemistry (Barrett & Hegarty 2016), engineering (Brown et al 2019), history (Calvert & Abadia 2020), mathematics (Akman & Çakır 2019), physics (Pirker et al 2019), psychology (Hadjipanayi & Michael-Grigoriou 2022) and others. Maroungkas et al (2023) concluded that the combination of virtual reality, gamified elements, and adaptive methodologies holds promise for delivering impactful educational experiences that not only draw in learners but also inspire them and cater to their individual needs, incorporating factors such as skills, areas for improvement, personal inclinations, cognitive attributes, existing knowledge, and additional relevant considerations.

Having analysed a large number of studies about learning different foreign languages from various countries, Peixoto et al (2021) concluded that immersive VR had a positive influence on students' language learning with significantly higher perceived enjoyment and effectiveness than was the case with traditional language classes. Besides students' improved linguistic abilities, Chen (2016) found that their cognitive skills were also enhanced. These findings concord with Parmaxi's study (2020), which found that VR offers an extensive array of valuable instructional opportunities for facilitating language acquisition. Thus, there seem to be several good reasons for using VR in foreign language classes.

The appearance of AI chatbots has made it possible for language learners to engage in interaction without another human being needed. Chatbots are defined as software applications that engage users in natural, conversational interactions through both text and voice, focusing on

a particular topic or within a certain domain (Smutny & Schreiberova 2020). One of the most widely used chatbots nowadays is OpenAI's ChatGPT. OpenAI, founded in 2015, is an artificial intelligence research organisation in the USA. GPT in the chatbot's name means Generative Pre-trained Transformer, which was trained using Reinforcement Learning from Human Feedback (RLHF). 'Chat' means that it interacts with the user through dialogue, where the user can enter the prompt and get an answer. ChatGPT's appropriateness in the EFL context has been shown, for example, by Young and Shishido (2023), who used ChatGPT to generate dialogues for EFL learners.

To be able to converse in virtual reality, a platform is necessary. VirtualSpeech is a platform designed to stimulate real-life speaking scenarios in virtual environments combined with artificial intelligence. It aims to assist users in overcoming public speaking anxiety and improving their presentation skills by providing a platform to practise in interactive, realistic settings. Besides the virtual environments with simulated audiences and speech analysis tools for premium users, the platform also offers free interaction with ChatGPT for Meta Quest VR headset users. The avatars in VirtualSpeech interact in a conversational style; they have human-like voices and use human-like gestures, which are key principles, according to Mayer (2017), for people to learn better in electronic environments.

In Estonia, virtual reality (VR) has found its use in natural sciences for making virtual experiments. Still, literature has proven that VR has much potential for being used in EFL classes, too. This thesis aims to determine whether immersive VR headsets, together with VirtualSpeech, could be used to enhance secondary-school students' oral interaction skills. The Common European Framework of Reference for Languages (CEFR 2020) defines interaction skills as skills that entail two or more parties collaboratively constructing discourse. For

successful interaction to take place, a person needs the ability to communicate effectively in a spoken language. It encompasses various aspects such as pronunciation, vocabulary usage, language, grammatical accuracy, and the ability to convey ideas clearly and coherently in verbal interactions.

The Estonian National Curriculum also highlights the significance of verbal communication (Riigi teataja 2011, appendix 2: 11). It outlines communicative competence as the ability to articulate oneself clearly and appropriately, taking into account the context and the interlocutor, and to present and justify one's viewpoints (Riigi Teataja 2011). By the end of the fourth stage of education (12th grade), students are expected to have attained a proficiency level of B2 in speaking proficiency (Riigi teataja 2011, appendix 2: 8). Consequently, English as a Foreign Language (EFL) instructors should closely monitor students who are hesitant to speak, offering them additional chances within and beyond the classroom to improve their conversational and interactional abilities.

Proceeding from the aim of this thesis, the research questions are as follows:

1. How useful is a virtual reality environment for developing foreign language oral interaction skills of Estonian secondary school students?
2. What are Estonian secondary school students' attitudes towards speaking with ChatGPT in virtual reality?
3. What should the teachers consider when implementing VR sets in the EFL classroom?

Action research as a self-reflective, critical and systematic method for investigating one's teaching situations (Burns 2010:10) was chosen as the method for this study. Action research offers several advantages. Firstly, it allows the practitioner to actively engage in their teaching

context, promoting a deeper understanding of the methods and their results. Secondly, it encourages self-reflection and critical thinking, fostering continuous improvement in the teaching practices. Additionally, it provides a systematic approach for addressing specific challenges or areas for development within teaching, leading to meaningful and practical outcomes (Dana 2013).

The present thesis consists of a literature review, an overview of the current action research, a discussion of the results, and a conclusion based on the results. The literature review focuses on applying VR and chatbots in the EFL context. The empirical chapter gives an overview of the present action research. The conclusion features the main points and the findings of the thesis. Examples of the lesson plans used in the study are provided in the appendices.

1. VR AND CHATBOTS IN FOREIGN LANGUAGE EDUCATION

This chapter gives an overview of the different virtual environments and chatbots that have been used to teach foreign languages. The chapter also provides an overview of the literature on what benefits have been found the VR to have on EFL learners. The last part of the chapter deals with the overview of chatbots and their use in the EFL classroom.

1.1 Using VR in Foreign Language Teaching and Learning

Several studies have explored the possibilities of using VR to study a foreign language. An overview of the relevant research has been provided by Qiu et al (2023). Out of 222 studies conducted using VR in an EFL context, the authors selected 14 which corresponded to the following criteria: 1) they were written in English, 2) the study compared VR-based EFL learning with traditional methods, 3) the research design was either a randomised control trial or quasi-experimental study. The articles were excluded if they 1) focused on rehabilitation, 2) lacked quantitative data necessary for calculating effect size, or 3) utilised a single-group pretest and posttest design. The authors concluded that VR can benefit students' vocabulary acquisition, oral production, listening skills, and learning motivation while not affecting their English language anxiety, reading, and writing skills. In this meta-analysis, the area most positively affected was, according to the analysis, vocabulary acquisition. The other findings revealed that non-immersive VR has seen more remarkable development, while there is also value in promoting immersive VR. The survey suggests that VR is more effective in improving EFL learning among middle- and elementary-school students compared to their high-school and

college counterparts. It is also notable that all the authors of the studies created their own materials, but there was no difference in success among them.

While studying a foreign language, the importance of students' motivation cannot be underestimated. Wehner et al (2011) showed the positive effect of using VR on students' motivation to study foreign languages. They examined the impact of incorporating the virtual platform Second Life into Spanish classes on the motivation levels of undergraduate students enrolled in a Spanish course. A comparison was drawn between students' responses to feedback questionnaires from two sections of the introductory Spanish course, with one section integrating Second Life into its teaching method and the other following a conventional curriculum. The findings suggested that virtual environments have the potential to reduce student anxiety and enhance their motivation to learn a new language. Several studies (Ibrahim et al 2018; Lee et al 2017; Wen 2018; Yang et al 2007; Garcia et al 2019) have shown that when students are motivated and interested in using the systems, their foreign language learning results are also impacted in a positive way.

Some studies have undertaken to compare the effectiveness of virtual reality tools to that of traditional methods. By integrating augmented reality into English classes for first and third-grade students, Castañeda et al (2018) studied the effectiveness of this tool compared to traditional methods. They divided students into two groups: receiving instructions traditionally and using an AR tool called Leap Motion Controller. The analysis of the results revealed that the use of technology positively influenced educational performance and learning outcomes, surpassing those achieved through traditional methods. Additionally, students displayed considerable engagement with the AR tool. Likewise, Barreira et al (2012) showed that

augmented virtual reality technology can be more effective than traditional learning methods when using a vocabulary matching game with elementary school children in AR.

Regarding the influence that VR has on cognitive processes, the research by Chen (2016) employed an internet-based 3D virtual reality platform for learning English. The researcher carried out a study to assess how well students learned, considering the cognitive complexity levels outlined in Bloom's revised taxonomy. The study involved 448 students from a science and technology university in Taiwan. Findings revealed enhancements in the students' understanding of phonology, morphology, grammar, and syntax. Engagement with the virtual environment also contributed to the cultivation of deeper and more intricate cognitive processes. The statistical analysis further revealed that the virtual learning setting, characterised by immersive features and a user-friendly interface, along with encouragement for seeking assistance, had a beneficial impact on students' language cognition.

Using the virtual world to enhance EFL students' oral proficiency has been researchers' focus for about two decades. Wang et al (2012) completed a unique study where twenty Chinese EFL students had opportunities to synchronously interact with twenty American students through Second Life (SL), a 3D Multi-User Virtual Environment, to see its effect on their oral proficiency/communication skills. For five weeks, the students had to participate for one hour in SL courses and had different tasks every time. The students also had to complete the necessary task preparations and write blog posts about their experiences. There was a control group in the study that did not have access to SL and gained fewer benefits from the course. The pre- and post-tests evaluated students' pronunciation, capacity to comprehend an English descriptive spoken passage, reiterate it, respond to questions, the ability to communicate in English with articulate pronunciation, intonation and coherent expression of thoughts, and the ability to use

correct words, phrases and grammatical structures. In addition, information about the effectiveness was gathered from the blog posts, interviews and survey analysis. The participating students whose post-tests revealed significant progress were enthusiastic about the course and would have taken another one if provided. Even the counterparts from the American university admitted that the course had been culturally appealing to them. The researchers concluded that, as a platform for learning English as a foreign language, Second Life can connect universities and students regardless of physical, temporal, or cultural constraints.

Researchers have used the same language learning applications in different mediums to determine which one was more effective for knowledge retention. Pinto et al. (2019), comparing two kinds of simulations, found that the sense of presence felt and the satisfaction of the students was higher using VR sets than desktop displays, even though knowledge retention was the same in these modes. Similar findings were revealed by Nicolaidou et al. (2023), who compared two versions of the language learning application, in mobile and VR, and concluded that even though the VR application is effective for vocabulary acquisition, it is not significantly better than the mobile application of the same course. Meanwhile, the participants using VR were actively involved in the application, displayed a sense of emotional connection, focused their attention on the application and felt deeply immersed in terms of presence and flow. This kind of engagement with virtual objects enhances participants' learning effectiveness compared to traditional "studying" (Cristopoulos et al. 2018), and therefore, Pinto et al. (2019) suggest that utilising such tools in VR environments could significantly improve knowledge retention outcomes.

Another aspect that has been studied in virtual environments is the effect anonymity has on students. Melchol-Cuoto (2018) and Chen and Kent (2020) found that using avatars has worked like a "shield" that increased the participants' confidence to the degree where the fear of

making mistakes did not keep them back. However, Melcho-Cuoto (2016) argues that this “shielded” feeling would probably diminish over time when the conversation partners get to know each other, which is good as speaking in VR provides a ‘soft landing’ in that case. Interestingly, Melchor-Cuoto (2018) concludes her research with a statement that the reason for the lower foreign language anxiety (FLA) in VR is not the anonymity it provides, as she found no correlation between the two, but something else, for example, invisibility. While using the avatars in VR offers anonymity, it also prevents users from being seen face-to-face; therefore, they are invisible. York et al (2021) agree with these findings, as they discovered that anonymity or the “avatar effect” did not seem to play an essential role in improving participants’ positive perceptions.

If the anonymity provided by the avatar may not benefit everyone, it is probably beneficial to the students at risk, who were the target group of Chen and Kent (2020). Their thirteen participants were at the level of 5 or below according to the IELTS (International English Language Testing System) scale and were not motivated by the traditional presentation-practice-production course. The study examined how they completed a real-life simulation task-oriented program in Second Life. Qualitative data were gathered from students’ weekly blogs, reflective essays and a focus-group interview, and analysed thematically. Despite technical challenges affecting virtual class management and communication, the students generally viewed the task-based design in SL positively. The distinctive features of SL, like real-world simulation, avatar interaction, adaptability, multimodality, creativity and 3D immersion, were found to enhance task completion and involvement, promote authentic and cross-cultural communication, boost confidence and motivation, and empower learners through

avatar anonymity. Additionally, the gamification aspect transformed the traditional English class into an enjoyable virtual learning environment.

While many young people experience anxiety when they have to speak in front of a group of people (Van Niekerk et al 2017), the situation for them is even worse when they have to talk in a foreign language that they are still studying. Comparing video, voice, and VR interaction among university students, York et al (2021) found that all three successfully reduce anxiety and are effective language learning environments for students. While all three modes were evenly successful in lowering students' FLA, the learner perceptions questionnaire indicated that VR was the most convenient platform for communication, the most enjoyable, and the most conducive environment for language acquisition.

Besides the effects that practising in VR has on FLA, there are also studies that have been concerned with using VR technology to reduce public speaking anxiety (PSA). Considering the problem of PSA among students in primary school and in an attempt to prevent it from developing, Sülter et al (2022) used training in front of a virtual audience. They had positive results, as participants expressed less anxiety during the actual presentation. The study used a virtual audience. That was similar to the VirtualSpeech platform.

The VirtualSpeech platform has been studied primarily in the fields it was aimed at - public speaking, for example, where it was shown to diminish PSA among university students enrolled in English for Academic Purposes courses (Alsafar 2021). In the clinical field, its effectiveness as exposure therapy has been proven by Linder et al (2019). Several participants in that study felt nervous or very nervous at the beginning of the presentation but got used to the simulation and felt more relaxed during the presentation. Chen (2022) found no statistical significance between the levels of PSA in three separately trained groups - traditional

lecture-based, mobile-assisted and VR-facilitated. However, participants in the VR-facilitated group, using the VirtualSpeech platform, exhibited a noteworthy reduction in anxiety levels from the pretest to the posttest, indicating that they derived more significant benefits from the instruction.

Besides PSA, the VirtualSpeech platform has also been researched regarding its influence on participants' oral presentation skills. Alsafar's (2021) qualitative study revealed that students taking the course Academic English Program approved of its benefits in preparing for oral presentations. Asafar (2021) concluded, which supports the findings by Melchol-Cuoto (2018) and Chen and Kent (2020) above, that speaking in VR provided a safe environment where the participants were not afraid to make mistakes and, while being less hindered by fear of embarrassment, could be more talkative. Also, the results of the study conducted with university students by Guzel and Aydin (2016) indicate that the participants who used the Second Life environment for their speaking activities had better results than the ones who participated in traditional classroom activities.

Despite all these positive findings, using VR in EFL education has its challenges. While being in VR and hiding behind an avatar seems encouraging, it might be counterproductive, as the participants do not see the body language and other non-verbal clues of the conversation partner in detail (Melchor-Cuoto 2018). Some participants may report eye tiredness, sickness or dizziness while using VR sets for some time (Alsafar 2021; Cheng et al 2020). In different situations, the researchers have also encountered different technical issues during VR sessions, such as connection interruptions, unexpected computer freezing (Chen 2022), or interactions with the user interface in the environment, such as struggling to read words located in the inventory section towards the lower part of the user interface plane (Cheng et al 2017).

In conclusion, the research has found that studying EFL in the virtual environment is at least as beneficial as learning in the classroom while the students' satisfaction and motivation are higher. Besides, VR has the potential to provide an environment where participants have less foreign language anxiety and are not afraid to make mistakes. As a result, there is more chance that they practise their oral fluency.

1.2 Chatbots in EFL Learning

Using natural language processing and speech recognition technology, AI-driven chatbots can mimic everyday spoken language. This functionality has positioned them as significant contributors to educational processes, as highlighted by Hise et al (2023). According to Deng and Yu (2023), chatbots generally fulfil three critical roles in education: serving as teaching assistants, aiding students by offering support on online platforms, providing necessary information, and delivering immediate feedback. Moreover, as learning partners, chatbots engage with learners through written and spoken interactions. Lastly, chatbots offer tutorial assistance as personal tutors, including providing learners with questions and answers (Deng & Yu 2023).

To be more specific, several factors drive the interest in integrating chatbots into education. These include facilitating self-paced learning (Deng & Yu 2023), enhancing speaking skills (Han 2020), supporting shy learners through anonymous interaction (Pereira et al 2019), promoting long-term retention of information through repetitive exposure (Deng & Yu 2023), providing immediate feedback to learners (Huang et al 2022), enabling learners to ask questions and receive answers at their convenience, unrestricted by time and place (Fryer & Carpenter

2006), contributing to language learning success (Deng & Yu 2023; Lee & Hwang 2022), and facilitating synchronous interaction (Huang et al 2022).

Comparing two types of chatbots, voice-based and text-based, Kim (2017) studied their impact on the speaking competence and perceptions of 80 Korean EFL learners. Over a sixteen-week period, participants interacted with both chatbots during ten chat sessions. The findings revealed that both types of chatbots significantly enhanced speaking competence among EFL learners, with the voice-based one being equally as effective as the text-based one. The analysis of the survey responses indicated a positive shift in perception towards chatbot-assisted language learning over time. Notably, most participants expressed a preference for the voice-based chatbot over the text-based version.

Another study with 47 Korean college students found that the participants who chatted ten minutes a week for eight weeks with a chatbot improved their vocabulary skills compared to the control group (Kim 2018). Besides improving students' English vocabulary in terms of adjectives, verbs, and nouns, an increase in their interest, motivation and confidence in English was found. Similar kinds of studies conducted by Hsu et al (2021) and Yang et al (2022), who both created different kinds of chatbots for that purpose, reached the conclusion that the chatbot can be very effective in enhancing students' speaking skills.

In their study, Ali and Ghareeb (2020) investigated how employing an AI chatbot (specifically, Google Assistant AI) impacts the enhancement of oral skills. The research used a quasi-experimental design, comprising both an experimental and a control group, with pre- and post-tests. The results indicated notable statistical effects associated with the incorporation of artificial intelligence in improving oral skills. The authors proposed that AI chatbots have the potential to enhance language learning experiences, suggesting that various learning activities

could be seamlessly integrated with AI applications for teaching and learning within an EFL speaking class.

Kim et al (2021) examined the impact of different interaction modes, namely face-to-face chatting and chatting with AI chatbots, on speaking skills. 110 participants were divided into three groups: face-to-face chatting, AI chatting and AI voice chatting. The participants took speaking tests before and after the experiment. The results showed that both AI groups improved their speaking performance, while results from face-to-face interactions varied. Face-to-face interactions led to significant improvement in responding to questions and expressing opinions, but not in describing a picture, which were the three categories for the tests. The use of AI chatbots did not show significant differences in performance between groups when describing a picture or responding to questions. However, AI voice-chatting outperformed face-to-face and AI text-chatting groups in expressing opinions. Fathi et al (2024) conducted a similar study with a control group, each group with at least 32 participants. Considering speaking fluency and coherence, lexicon, grammatical range and accuracy, pronunciation and willingness to communicate, AI-facilitated interactive speaking exercises proved to be more efficient in enhancing the speaking abilities of EFL learners. Additionally, the students expressed favourable attitudes and views regarding AI-facilitated speaking instruction.

In conclusion, chatbots can play vital roles in education, serving as teaching assistants, learning partners and personal tutors. They can offer support, feedback, and information to students, facilitating self-paced learning. They can enhance speaking skills and provide immediate feedback. Studies demonstrate their effectiveness in improving language skills, particularly in speaking and vocabulary acquisition, with voice-based chatbots often preferred.

2. USING VR TO ENHANCE EFL STUDENTS' ORAL INTERACTION SKILLS

This chapter provides an overview of the action research (AR) study conducted in an upper-secondary school in Estonia using the interaction with ChatGPT on the VirtualSpeech platform together with Oculus head-mounted displays (HMD) to practise oral interaction skills of the 12th-grade students. First, the description and process of the study are outlined. Second, the results of the study are provided, followed by a discussion of the results.

2.1. Aims of the study

The study aimed to determine whether immersive VR headsets, together with VirtualSpeech, could be used to enhance secondary school students' oral interaction skills.

The following research questions were posited: 1) How useful is the virtual reality environment for developing foreign language oral interaction skills of Estonian secondary school students? 2) What are Estonian secondary school students' attitudes towards speaking with ChatGPT in virtual reality? 3) What should the teachers consider when implementing VR sets in the EFL classroom? The method chosen to examine the proposed research questions was action research.

2.2. Participants

The participants of the study were twenty-two twelfth-grade students in the school where the researcher works as an English teacher. The students studied in two mixed-proficiency English language groups, though they all had been learning English for nine years. Their level of proficiency in English had been tested using the Cambridge English Placement Test in

September 2023. The test results showed that eight participants were at the C1 level, three at the B2 level, six at the B1 level, and five at the A2 level. The students at lower levels (A2-B1) formed the first group (12 students), and the students at levels B2-C1 (10 students) formed the second group. Nine out of twenty-two were boys, and thirteen were girls.

After a short introduction to the study and the confirmation that their anonymity was ensured, all the students agreed to participate in the study by signing the participation form that can be seen in Appendix 1. In order to ensure anonymity, the participants were given numbers: St1, St2, St3, etc.

2.3. Materials

This section gives an overview of VirtualSpeech, explains the reasons for choosing it as a platform, and explains the process of the study materials creation as well as the content of these materials.

2.3.1. VirtualSpeech

For this research, the Meta Quest HMDs were used to give the students access to the VirtualSpeech platform. Inside the VirtualSpeech platform, there are several virtual verbalisation training courses, but the only free room was the roleplay with a ChatGPT-powered AI avatar. It is called 'roleplay' because ChatGPT can play different roles for premium users, but it only provides conversation practice for basic users.

This platform was chosen because it enables participants to have a free conversation with artificial intelligence on any topic. The participants had to enter the platform and choose between manual and free-flowing conversation modes. The suggested conversation mode was manual, as it enabled the student to formulate their statements or questions at their own speed, after which

they had to press the button ‘*Submit.*’ In the free-flowing conversation mode, the avatar takes over the conversation turn after about four seconds of silence, which might be too short a period for some students to be able to formulate their turn.

As for the venue, the students could choose between the meeting room and the cafeteria. The meeting room looked like an office, while the cafeteria looked like one and had some background noise common to coffee shops. To prevent students from hearing other speakers in the hall, they were advised to choose the cafeteria venue. In both rooms, the avatar was sitting opposite the student, seemingly listening and looking at them while they were speaking, and using rather natural hand gestures and facial expressions while speaking themselves. The avatar gave appropriate answers as this platform is meant to practise spoken English. Also, it was programmed to give the conversation politely back to the participants soon, asking some further questions about the topic, modelling the language and helping students with their interaction skills.

VirtualSpeech was only accessible through Meta Quest HMDs, and participants could not take them home; therefore, their practice time was limited to class time only. Still, as the roleplay with ChatGPT is set in the cafeteria and there is an avatar in front of the students to talk to and it provides an immersive experience, VirtualSpeech was chosen as the suitable and motivating environment. One of the avatars in the roleplay with ChatGPT in the office on the VirtualSpeech platform can be seen in Figure 1.

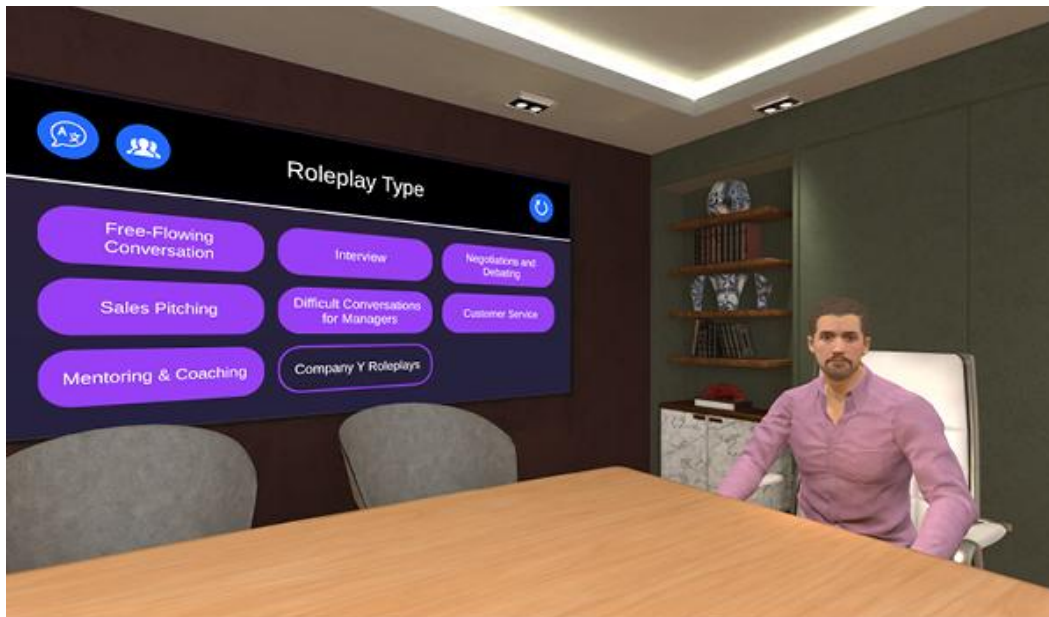


Fig. 1. A screenshot from VirtualSpeech (<https://virtualspeech.com/courses/impromptu-speaking>)

2.3.2. Study materials

For authentic interaction to take place in VR sessions, the students had to be prepared by providing them with some input materials and activities to practise them. The materials were based on C1-level words in the four upper-secondary foreign language curriculum topic areas: the natural world, human relations, education, and work and career. The words were selected from the word lists on the Langeek learning platform (Langeek, n.d.). The website provides several example sentences and descriptions of the words the students could use for independent study.

ChatGPT free version 3.5 was used to create the study materials. The effectiveness of ChatGPT in composing relevant and engaging materials has been shown by Koraishi (2023) and Meniado (2023). Koraishi suggests that the efficient incorporation of such technology into EFL

education might provide a solution to the problem of finding suitable study materials and might assist teachers in assessing their students, leaving more time for performing other tasks.

Based on the chosen words, ChatGPT was given prompts to create definitions and example sentences and to find collocations for these words. Then, usually, two texts from different genres, such as adventure stories, thrillers and dystopias, were composed and chosen. Next, a gap-fill exercise and ten discussion questions or statements were created. And last, ChatGPT was asked to find synonyms and antonyms used to compose word quizzes.

All the prompts given to ChatGPT and some example study materials can be seen in Appendix 2 and Appendix 3, respectively.

2.4. Methods and procedure

This section gives an overview of the phases of action research in general and the present action research phases. Then, the data collection methods are described.

2.4.1. Action Research

Action research (AR) was chosen as a method for the study as it is a tool for practising teachers who wish to get a deeper insight into their practice. According to Burns (2010), AR consists of four phases: planning, action, observation, and reflection. After this cycle, another cycle can be used, if necessary, as depicted in Figure 2.

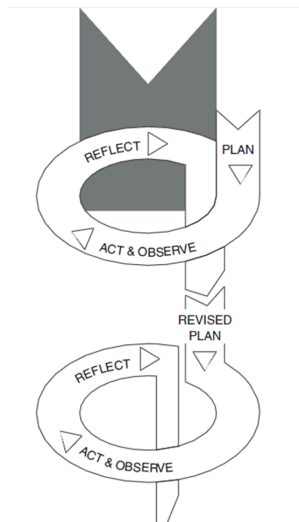


Fig 2. The cyclical AR model based on Kemmis and McTaggart (1988) (Kemmis and McTaggart 1988, cited in Burns 2010: 9).

Kemmis and McTaggart (1988) describe the phases of AR as follows:

1. **Planning:** During this initial phase, a plan of action is developed to address a specific area of the research context by identifying a problem or issue. This phase involves forward-looking consideration, assessing what type of investigation is feasible within the realities and constraints of the particular teaching situation and contemplating potential improvements.
2. **Action:** A carefully considered plan involving deliberate interventions in the particular teaching situation is put into action over an agreed period of time. These interventions are implemented critically by questioning assumptions about the current situation and planning new alternative ways of doing things.
3. **Observation:** This phase engages the researcher in systematically observing the effects of the action and documenting the context, actions, and opinions of those involved. It serves as a data collection phase where information about ongoing developments is gathered using open-eyed and open-minded tools.

4. Reflection: At this phase, the effects of the action are reflected on, evaluated, and described to make sense of what has happened and to understand the explored issue more clearly. The researcher may decide to undertake further cycles of action research to improve the situation further or to share the ‘story’ of their research with others as part of their ongoing professional development (cited in Burns 2010: 8).

In the study, four AR cycles were undertaken, each of them lasting for a week. Each cycle consists of four lessons. In the first lesson, the students read a text with new words, read out the new words with example sentences, completed a gap-fill exercise and discussed the questions or statements about the topic of the week. The second lesson usually had a similar structure, only with the new words. In the third lesson, students took the word quiz, and after that, they had a discussion about some controversial statements about the topic of the week. After that, they created their own statements or questions to use in the VR session. In the fourth lesson of the week, the students reviewed their statements or questions, interacted with ChatGPT on the VirtualSpeech platform, and had a feedback circle at the end.

Each cycle started with the planning phase, where I chose the topic, the number of words to be taught, designed the lesson plans (some examples can be found in Appendix 4) and created all the materials for the week with ChatGPT. The topics of the cycles were natural world, human relations, education, work and career. In the action phase, I presented the materials to the students, conducted the various activities during the first three classes of the week and led them to an interaction with ChatGPT in VirtualSpeech on every fourth lesson of the week. As for the third phase, I observed the students' progress in the first three classes but, most importantly, how they managed with the VirtualSpeech platform in the fourth class. I took notes about the sessions

at the end of the school day. In the fourth phase, I reflected on the proceedings and outcomes of the previous plan and started composing the new one.

The detailed descriptions of the cycles are provided in Appendix 5. To be more concise, in the descriptions, the researcher adopted the version where taking action and observing were united into one phase, and reflecting and planning were combined into another phase.

2.4.2. Data collection

To determine the usefulness of the VR sessions, four kinds of data were collected: the students' responses to two feedback questionnaires, the teacher's observations and written notes, the students' performance in pre- and post-intervention monologues, and some oral feedback from the students.

To gain insights into the students' attitude towards using VR conversation, they were asked to complete two questionnaires, the first (Appendix 6) at the end of the second cycle and the second (Appendix 7) after the whole four-week intervention. The first questionnaire consisted of six open-ended questions, and the second questionnaire consisted of fifteen open-ended questions asking the participants about their experiences and opinions about the program. The students were asked to respond to the questionnaires in English during an English class the week after, but they could use their smartphones to access online dictionaries. The time gap before they were asked to provide written feedback enabled the students to reflect on the sessions, created a certain level of distance from the experience and, thus, provided feedback with greater objectivity.

The author wrote notes at the end of the schooldays about the observations during the VR session and the students' feedback about it. These notes were important for planning the work of the next week's cycle, for example, as to where the girls or boys should locate during the next

VR session. The teacher's notes about observations and written notes can be seen together with the action research phases in the journal (Appendix 5).

To assess the participants' oral proficiency, monologue topic cards of the previous National Examinations in English were used. On both occasions - before the intervention and when it had been completed, the students had to choose one of the ten monologue cards, had two minutes for preparation and then had to speak for two minutes about that topic using the questions provided as prompts. The monologues were recorded and assessed later according to the criteria used in the National Examination. Some example examination prompts can be seen in Appendix 8. However, it has to be mentioned that, as students had been interacting with ChatGPT, but the monologues required them to produce oral texts, the results of the two tests in themselves cannot be regarded as evidence for or against using such conversations for improving students' competence in English.

2.5. Findings

The time of the project happened to be the period of the flu; therefore, several students were absent. This is the main reason why not all the students did both pre- and post-intervention monologues, and the two questionnaires and could not participate in all the lessons during the intervention.

The total number of participants who completed the second questionnaire was 17. Some answers have been edited by the author to make the meaning comprehensible for the reader. These answers can be seen in Appendix 9.

The first feedback questionnaire was filled in after the second cycle. It was a short, six-question questionnaire aimed at determining the students' initial reactions to talking to

ChatGPT in the VR environment. The responses showed that half of the students considered the experience beneficial, and half of them did not. The boys had a more positive attitude, as only two girls and six boys considered it useful, while one boy and seven girls did not see it to be helpful. By then, most participants still had not got used to the platform. Six students had got used to it, and nine had not. Among these nine participants, seven girls and two boys, four were optimistic about the possibility of getting used to it after using it more times. Ten students out of seventeen answered that they had understood the language of ChatGPT, five answered that they had mostly understood it, and one student could not hear because of technical difficulties. Altogether, three students reported having technical difficulties during the VR sessions. The results of the first questionnaire can be seen in Table 1.

Table 1. The results of the first feedback questionnaire.

Student	Level	VS is helpful	Can understand	Got used to VS	Had problems
Student 1	C1	Yes	Yes	Yes	
Student 2	C1	No	Yes	Could get used	
Student 3	C1	No	Yes	Difficult to follow	
Student 5	C1	Yes	Yes	Getting there	
Student 6	C1	Yes	Yes	Getting there	
Student 18	C1	No	Mostly yes	No	
Student 19	C1	No	Didn't hear	Can't say	Problems
Student 7	B2	Yes	Yes	Yes	
Student 8	B2	Yes	Mostly yes	Yes	
Student 10	B1	No	Yes	Still difficult	
Student 11	B1	No	Mostly yes	A bit difficult	
Student 12	B1	Yes	Yes	Yes	Problems
Student 13	B1	No	Yes	No	Problems
Student 14	B1	Yes	Mostly yes	Getting there	
Student 15	A2	No	Yes	Yes	
Student 16	A2	Yes	Mostly yes	Yes	

The second feedback questionnaire at the end of the intervention had 15 questions, and the participants were expected to answer the questions in their own words but thoroughly in class. All the longer answers given by students can be seen in Appendix 9.

At the end of the project, eleven students out of seventeen considered the VirtualSpeech sessions to be beneficial to their speaking ability. Eight of them were boys, and three were girls. Five participants, who were all girls, did not consider VirtualSpeech sessions beneficial for them. One participant was unsure about the benefits of the platform. Ten students reported that they had got used to the VirtualSpeech sessions, while four had not got used to them. Eight students out of ten who had got used to the VirtualSpeech sessions had the English proficiency at the level B2 or C1, while only two lower-level students, one at the level of B1 and one at A2, had got used to the VirtualSpeech sessions. Considering their understanding of the language they heard ChatGPT speak, only six reported to have understood about 90 per cent or more, seven reported to have understood 70 to 85 per cent of the language, and three students understood about 50 to 65 per cent.

Out of seventeen students, nine reported playing computer games regularly at home, and the others did not. All the students reported hearing ChatGPT giving long answers to them most of the time. When asked at the end of the intervention how often VirtualSpeech could be used at school, the students' answers were very positive, as ten answered that this could be used quite often, every day, every week or every month, while four students thought that it should not be used so often.

Speaking about the problems, six participants expressed the opinion that ChatGPT gives too long answers; four students reported having technical problems during the sessions, three

students reported experiencing health issues like headaches, and two students reported that the ChatGPT had not answered their questions or responded to their statements.

The results of the second feedback questionnaire can be seen in Table 2.

Table 2. The answers to the second feedback questionnaire

Name	Level	Plays games	VS was helpful	Understood %	Long answers %	I got used to VS	How often VS could be used	AI speaks too long	Technical problems	Head/eyes hurt	AI didn't answer
Student 1	C1	Yes	Yes	99	90	Yes	2x a month				
Student 2	C1	No	Yes	95	80	Yes		1		1	
Student 3	C1	Yes	No	80	90	Yes	Not so much	1			
Student 4	C1	No	No	90	60	Yes	Daily	1			
Student 5	C1	Yes	Yes	100	95	Yes	Often				
Student 6	C1	Yes	Yes	99		Yes	Not often				
Student 7	B2	No	So-so	80	70	Yes	Daily		1		
Student 8	B2	Yes	Yes	80	99	Yes	1x a month	1			
Student 9	B2	Yes	Yes	70	70	No					
Student 10	B1	Yes	No	70	100	No	As less as possible			1	
Student 11	B1	No	Yes	50	75	So-so	2 x a week		1		
Student 12	B1	No	Yes	85	95	Yes	1x a week		1		1
Student 13	B1	No	No		70	No		1	1		1
Student 14	B1	No	Yes	65	90	So-so	Quite often			1	
Student 15	A2	Yes	Yes	90	90	Yes	2x a week				
Student 16	A2	Yes	Yes	75	65	So-so	1x a week				
Student 17	A2	No	No	50	80	No	2-3x a year	1			

The usefulness of the pre-intervention and post-intervention monologue tasks was undermined by the fact that many students were absent at the time of the post-test. The other issue was with the task itself, as the two-minute-long National Examination monologue only

tests students' ability to produce a short logically structured and coherent monologue. It does not test students' ability to interact orally. This is tested in some other tasks of the National Examination. Thus, the task did not actually measure what the students had been practising - interacting orally. Nevertheless, the scores the students were awarded give some indication of the students' oral skills in general. The results of the pre- and post-intervention oral monologue scores can be seen in Table 3.

Table 3. The results of the pre- and post-test oral speaking monologue scores

Name	Level	Monologue 1 score	Monologue 2 score
Student 2	C1	17	19
Student 3	C1	15	18
Student 5	C1	16	
Student 4	C1	18	18
Student 7	B2	15	16
Student 20	B2	18	19
Student 10	B1	17	20
Student 12	B1	12	16
Student 13	B1	14	16
Student 15	A2	10	10
Student 16	A2	8	7
Student 21	C1	19	

It can be seen that of the ten students who took the post-test, seven had slightly higher scores compared to the pre-test. The increase in the scores can also be attributed to the fact that the students had had other types of language practice in between the tests and had become more accustomed to the format and settings of the monologue.

Taking the notes into the journal about the observations and some oral feedback from the students helped me organise both the VR sessions and the classes in general. Due to these notes I made changes in the number of words I taught next cycle and the way to organise the VR sessions better. During the observation I also paid close attention to the students' attitudes, because they could differ significantly. Some students needed more support in the VR sessions and some were quite independent.

2.6. Discussion of the findings

Most of the researchers have composed virtual materials or modified different platforms for their studies, but neither was done for this research. Therefore, it is difficult to draw comparisons between the current study and those reported on in the literature. Nevertheless, some comparisons could be drawn as the participants' environments were virtual.

Considering the answers to the first feedback questionnaire, the negative feedback can be partially explained by the fact that, while the students had more words to study in the first two weeks, they had less experience with using VR HMDs. Additionally, the students of the first group, whose English level was also lower, needed more help accessing the platform. I was not aware yet that the newer Meta Quest headsets could not be used simultaneously, as these HMDs access the applications and platforms through the same account. The problem with the second cycle was that the participants did not have enough time to formulate their statements, as one of their lessons was cancelled, and they had to take the word quiz and have the VR session during the same class.

Considering the responses to the second feedback questionnaire in general, it appears that nine participants, who were all at B2 level or above, had got used to speaking on the

VirtualSpeech platform, and most participants who had a lower language level did not get fully used to it. The only person whose English was at the B2 level and who did not get used to the platform participated only once, but he still considered the session beneficial for him. However, among the lower-level participants (A2-B1), five considered the sessions to be beneficial for them, and three did not.

One of the reasons for some positive feedback at the end of the intervention was that the students had had an extraordinary setting to practise their speaking in. St8, a boy, wrote: *“I liked that I got a chance to say my statements, be more outside regular classroom and do something different;”* and St14, a girl, commented: *“I liked the experience and that we also did practice on top of regular studies.”* Besides, the students were relatively free to speak about other topics besides the one studied during that week. As St4, a girl, wrote: *“I liked that I got to speak English more and ask random questions I wanted;”* and St7, a girl, wrote: *“I liked that it was possible to do it in a relatively free form.”*

Besides the external settings, several participants commented on being impressed by the virtual environment, similarly to the participants in Chen's (2022) and Wang et al (2012) studies. As St5, a boy, wrote: *“Everything was new and interesting, so I was amazed and wanted to try everything. I basically liked everything.”* And St9, a boy wrote: *“I felt like I was talking to a real person.”*

In accordance with previous studies (Fryer & Carpenter, 2006; Kim, 2017), the findings of the present study showed the positive impact of integrating AI chatbots into the classes focused on developing EFL students' speaking skills. 11 students out of 17 expressed this opinion in their responses. For example, St14 wrote: *“I learned to express myself better;”* and St9, a boy, wrote: *“I learnt to talk better and keep [up] the conversation.”* St5, a boy wrote: *“My*

speaking got better. It gave me confidence to speak with someone.” Some students reported that they had started speaking more clearly, presumably to be understood by ChatGPT; therefore, this method could probably be used to practise oral interaction skills.

As the settings while speaking with a ChatGPT avatar in VirtualSpeech are rather convincing and the students do not feel like speaking to their friends, it has the potential to provide a ‘soft landing’, as suggested by Melchor-Cuoto (2016), before speaking to a real foreigner in real life and might help the students deal with foreign language anxiety. Therefore, this method might have the potential to develop the students’ oral interaction skills.

The fact that the students report hearing long answers from ChatGPT is not surprising, as they did not have the background knowledge of what kind of statements to provide in order to get more compact answers until the last cycle. Several students acclaimed AI for giving long and thorough answers, and only five students mentioned having too long answers when asked what they disliked about the sessions. However, even when long answers provided the students with an opportunity to listen to authentic English that was not the purpose of the study, which was to develop the students’ oral interaction skills. Many students reported hearing long answers most of the time, and while they did not underestimate the benefits of such input, this actually impeded their chances to participate in meaningful interactions.

Another question is whether the students consider such sessions beneficial or not. After two cycles, only half of the participants saw the benefits of this kind of speaking session for different reasons. However, after the fourth cycle, ten considered the sessions useful, one was hesitant, and five did not approve of them. In Table 2, we can see that all the boys found the method useful, but five girls out of eight did not. Out of these five girls, three did not get used to this method. Two girls, who also have good English language skills, had no problem with the

platform but still did not find this method beneficial. Therefore, it can be concluded that this method does not suit everybody, even if their language level is sufficient.

Nevertheless, the participants' language level might play an important role in such an intervention. The results of the second questionnaire reveal that seven students still have not got fully used to the platform. According to their own approximate estimations, these six students report that they understood about fifty to eighty percent of the language they heard on the platform. The real reason seems to be that they might have had a language barrier, as their language level was lower than B2. Therefore, this kind of intervention could be more suitable for higher level students, starting from the B2 level.

The question about how often the students think VirtualSpeech could be used in EFL classes was included to get further information about their attitudes towards the VirtualSpeech platform. For example, St4, and St7, both girls, did not consider the intervention beneficial, but they still thought that this platform could be used often. They probably saw the possible benefits that might emerge from this kind of practice with more time. While three students had misinterpreted or overlooked this question, and four students wrote that the platform should not be used often, more than half of the participants would have liked to use this method quite often.

It was initially assumed that playing computer games at home might make it easier for the students to get used to the VR platform as the students who engage in this activity would probably be more familiar with the digital environment. However, the questionnaire responses showed that the experience of playing computer games does not necessarily have a positive correlation with the positive experience in the VR session. Three students who do not play computer games regularly at home got used to the VR sessions and three students at the level B1

level or lower who play computer games did not get used to the VR sessions. The latter, however, suffered from another problem - the language barrier.

While several students reported having got used to the VirtualSpeech from the beginning, the other participants expressed a favourable change in attitude toward the use of VR to assist in language learning as time progressed, similar to the findings by Kim (2017). Student: St12, a boy, wrote: *“It was kind of strange in the beginning, but it became comfortable soon. It wasn’t difficult;”* St8, a boy, wrote: *“I got used to it eventually,”* and St4, a girl, wrote: *“I got used to it on the third time.”*

In a similar manner to students in Wang et al. study (2012), some students expressed being at ease in the virtual world while communicating in English, and they believed that this method could significantly improve their English. For instance, St5, a boy wrote: *“I felt super relaxed and calm when I spoke with ChatGPT. I liked it all. Everything was new and interesting, so I was amazed and wanted to try everything.”*

Chen and Kent (2020) that VR sessions can benefit at-risk participants. The researcher's observations in the current study noticed something similar: two students out of four previously shy ones became more confident during speaking activities in class sometime after the study intervention. Even five months later, during the interview for the National Examination, only one of these shy students lost points because she got so nervous that she could not answer some questions. She was the student who got a headache the first time they had to start the HMDs and platforms themselves. The results could be influenced by the fact that she was missing during the second and third VR sessions, and only the fourth session was successful for her.

The safe environment that the VR can provide for the students (Chen & Kent, 2020) can be undermined by the physical closeness of the other students, which was sometimes still an

issue. As St4, a girl, wrote: *“I didn’t like that everyone around me could hear what we were talking about;”* or St 9, a boy, wrote: *“Maybe talking to it in small room and with no one distracting it would have been much better.”* Unfortunately, providing each student with a separate room at school was impossible, and I am still certain that the assembly hall with the surrounding rooms as a venue was the best possible location at our school. Overall, most students still found this organisation satisfactory. For instance, St17, a girl, wrote: *“Nothing could be different from the organisational side.”*

Similarly to several other studies (Chen, 2021; Cheng, 2017) dealing with VR technology, technical difficulties were encountered in this study, as well. During the first cycle, two HMDs had some kind of update problem, and sometimes, the avatar did not answer the student’s questions for some unknown reasons.

Another problem that sometimes occurred was that ChatGPT took over the student’s turn. Unfortunately, I do not have detailed information about how often or in what kinds of situations it was more likely to happen. In some cases, the problem occurred with several boys who were not shy or too quiet; therefore, it cannot be assumed that ChatGPT took over the conversation when the students were too shy or had a voice that was too low. However, as I have never encountered a situation when the ChatGPT interrupted me in the ‘Manual’ conversation mode, even when waiting without saying anything for some time, I must infer that some students who reported that they had been interrupted by ChatGPT during their conversation must have chosen the ‘Free-flowing’ conversation style, where ChatGPT takes over the speaking turn when there is a pause for three to four seconds. I should have checked whether they really were in the ‘Manual’ conversation mode.

The problem with some students was that they did not ask for help during the lesson while they seemed to try to participate in the conversation. Some may not have wanted to be helped, as they did not like the VR sessions from the beginning. One girl wrote: “[I felt myself] *very uncomfortable, because I don't trust ChatGPT.*” Another problem was that I was assisting all the students around the big area, and if they did not show that they had a real problem, I might not have paid enough attention to them. Therefore, the author of the thesis agrees with the suggestion by Melcho-Cuoto (2018) that teaching practitioners should consider conducting an initial evaluation of the students’ preferences and remain flexible regarding the students’ choice of digital tools.

Similar to Alsafar's (2021) and Cheng et al. (2020) findings, some participants reported eye tiredness, sickness and/or dizziness while using the VR sets. Considering the question of whether they got used to VR, one student mentioned that she got used to it, but she did not like that it made her eyes and head hurt (St2, a girl). Two girls even had to take painkillers in the first VR session because of the headache. This happened during the first session when they were expected to become independent users of the Meta Quest; therefore, their time spent in VR was longer than during the following sessions. During the next cycles, I prepared the HMDs for them, and this problem did not occur.

While answering the open-ended questions, some participants expressed the idea that it would be great to communicate with each other or other people, not just with the AI avatars in front of them, similar to the views expressed by the participants in Alsafar’s study (2021).

Probably the most significant change I would make next time is giving more support to the students when they are composing their own statements and later using these statements as entrance tickets to access the Meta Quest HMDs. This time, the students were relatively free, and

the sessions were mostly based on trust; in a way, it worked out well, as can be seen in elaborate feedback answers. The method relied on extensive input, providing students with different ideas, questions, and pairwork discussions to activate the topic of the week. As I felt under time pressure and wished them to have a positive experience from the sessions, I did not always check the presence of all their statements or questions. Nevertheless, next time, I would give them more knowledge on how to write the statements so that they would be opinions, not facts. I would also give clear instructions that they should write statements and not questions because if they approach ChatGPT with questions, it will give answers that can be quite long sometimes, which inhibits interaction. On the other hand, if the students introduce their statements, ChatGPT will interact with them in a more meaningful way and have a kind of debate with them. Thus, I would use their own written statements as entrance tickets to get into the class. Provided that everybody has their own not-too-broad and not-too-specific statements ready, it would guarantee a more positive experience while speaking with ChatGPT, and then maybe even those who were sceptical about this method would become more positive about it because they would also have better experiences.

The original idea was to tell the students to take notes during the virtual sessions, but for taking notes, they should have taken the VR HMDs off all the time and put them on again; that might cause an even higher probability that some students will develop motion sickness because the eyes have to adjust to the surroundings all the time. Probably occasionally, the students had to take off the HMDs to check their prepared notes or statements, but they should have taken them off even more often, and I wanted to prevent that.

Despite the problems and mistakes, the experience was more positive than negative, and I am encouraged to try it again with the next students.

2.7. Recommendations

ChatGPT performs well as a conversational partner for advanced-level English speakers and might suit upper-secondary students well. However, there has to be an input and a clear purpose for the session in VirtualSpeech. It is possible that conversational ChatGPT can also be downgraded to speaking at a lower language level as the platform is meant for adults, but this has to be confirmed yet. Bearing in mind that ChatGPT can be programmed to give lower level responses in the written form it might be able to do the same in oral conversation.

When schools have VR sessions, it is usual to have them in the hallways so that the participants have enough space to move around. Still, for speaking activities in VirtualSpeech, the students need even more space to enable the security that the VR session is meant to provide. The idea of organising this kind of speaking event in the assembly hall or in the big hallway, depending on the school, would be appropriate.

The VR sets should always be set up for the students to optimise the time spent using the right platform and diminish the chance of students developing any negative physical side effects, like dizziness, motion sickness, or headaches. The exception here is when you know that your students do not have that problem and they are already familiar with the procedure of how to start the VR set and find the platform. To be sure that the students choose the manual mode in VirtualSpeech, the teachers are suggested to choose that option for the students so that there is no chance that ChatGPT is going to interrupt their questions or statements that they are currently making. Teachers should make sure that all the students can handle the situation and they feel well during the activity.

Generally, it is advisable to try out the chosen platforms or applications by the teachers themselves before adopting them in class to familiarise oneself with their advantages and

disadvantages. Nevertheless, if the teacher does not feel very confident using the VR HMDs, it should not discourage them from using them as the school IT technicians could probably help them.

Most of the studies available have been conducted with university students. However, as shown by Wehner et al (2011) and Garcia et al (2019), this method is especially effective for improving participants' motivation; the logical conclusion would be to use VR methods in middle school, especially in the 7th and 8th grades, when motivation is the lowest among the students.

CONCLUSION

English is studied in Estonia as a foreign language, and it might be difficult for students to get into an English-speaking environment. Virtual reality can provide an immersive experience for foreign language learners where they can be surrounded by the target language. As previous research has shown, this could enhance their foreign language acquisition and motivation to study it.

However, finding a meaningful foreign language partner might be difficult, even in VR. One of the solutions to practise oral interaction skills is to use a conversation with ChatGPT on the VirtualSpeech platform that is available in Meta Quest HMDs.

The present thesis focuses on using interaction with ChatGPT on the VirtualSpeech platform in virtual reality to enhance the oral interaction skills of upper secondary school students in Estonia. A concrete topic with vocabulary and a clear purpose was generated for the interaction using ChatGPT 3.5 software.

The study aimed to find answers to the following questions:

- 1) How useful is the virtual reality environment for developing foreign language oral interaction skills of Estonian secondary school students?
- 2) What are Estonian secondary school students' attitudes towards speaking with ChatGPT in virtual reality?
- 3) What should the teachers consider when implementing VR sets in the EFL classroom?

The first chapter, after discussing previous research into using VR and chatbots, concludes that studying EFL in the virtual environment is at least as beneficial as learning in the classroom while the students' satisfaction and motivation are higher. It also concludes that

chatbots can play a vital role in education, serving as teaching assistants, learning partners and personal tutors.

The action research study conducted with the 12th-graders in the school where the researcher works as a teacher of English went through four AR cycles, each lasting for a week and consisting of three input and practice lessons and one lesson where the students used HMDs to have an oral interaction with ChatGPT on the VirtualSpeech platform. The usefulness of those interactions were mostly evaluated through the students' feedback.

The responses to the first feedback questionnaire revealed that most students had not got used to the VirtualSpeech platform yet, and only half of them considered the sessions beneficial for the development of their speaking skills. Nevertheless, after the fourth cycle, the second feedback questionnaire revealed that about two-thirds of the students considered the intervention beneficial for them and thought that this method could be used in classes quite often.

The responses to the questionnaires also show that most students got long answers while being in the interaction with ChatGPT. This means that the development of their interaction was impeded by the long answers given by ChatGPT. The reason for this problem was the inappropriacy of the statements that the students gave to ChatGPT. Therefore, the results of the analysis show that in order to have proper benefits of using ChatGPT on the VirtualSpeech platform, the students need a good understanding of how to compose proper statements to have a debate-style conversation with ChatGPT. The input in the form of questions should be avoided. Therefore, answering the first research question, one can conclude that this method might have the potential for developing students' oral interaction skills if they know how to compose appropriate statements.

The results also show that the students whose competence in English is at a higher level, starting from B2, are more inclined to get used to the VirtualSpeech platform. However, even though it can be difficult for the lower level students, several of them still consider VirtualSpeech beneficial for the development of their speaking skills, and would be willing to practise there quite often. Nevertheless, this method may not fit everybody, even if their language level is sufficient. The students' opinions exhibited a considerable degree of variance. Therefore, answering the second research question, most of the students have a rather positive attitude towards speaking with ChatGPT in VR.

In answering the third research question, it should be emphasised that, when considering implementing VR sets in the EFL classroom, teachers should spend considerable time on preparation: they should try out the platforms first to find out their advantages and disadvantages, find a large enough venue for the activity and make sure that all the students can handle the situation and feel well during the activity.

It must be noted that even though this study found that VirtualSpeech can benefit the oral interaction skills of most of the students and they would be willing to take this method into use, the sample was small and these results cannot be generalised to other similar EFL groups. Further research with a larger experiment sample, with a control group and mixed design, where both qualitative and quantitative data are collected, would be recommended.

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APPENDICES

APPENDIX 1 Participation form

STUDENT (name and class) participates in the study “Using VirtualSpeech platform to develop the speaking skill in the EFL classroom” that is carried out in (the name of the school) by Lauri Niilisk (an English teacher) in October-November 2023.

All the data collected are for the teacher only to see and he has no right to share them with anyone.

The student

The teacher

Date

APPENDIX 2 The prompts given to ChatGPT each week.

Week 1

- could you generate a thriller-adventure story for B2 level teenagers with these words: palm, habitat, ecology, settle, reserve, soil, carbon monoxide, harvest,
- could you generate 10 comprehension questions about this text for teenagers containing the same vocabulary: palm, habitat, ecology, settle, reserve, soil, carbon monoxide, harvest?
- could you generate three collocations and an example sentence for each word
- could you generate three collocations and one example sentence for each word
- could you generate seven different quiz exercises for these words for B2 level students
- could you generate two gap-fill quiz exercises, each has 8 sentences
- could you provide answers to these?
- could you generate 10 questions that include these words for teenagers
- could do generate more personal questions containing these words for teenagers
- could you provide definitions to these words?
- please provide one synonym and one antonym for each word here

- could you generate a 300 words thriller for teens containing these words: suburb, tide, visibility, downpour, torrent, vapor, dense, misty
- generate three collocations, one example sentence and an Estonian translation for each word
- generate three collocations and one example sentence for these words: suburb, tide, visibility, downpour, torrent, vapor, dense, misty
- could you generate 8 quiz exercises for C1 level students with these words
- could you generate a gap-fill quiz exercise with ten sentences for C1 level students with these words
- could you generate 10 questions for C1 level teenagers using these words
- could you generate best definitions or descriptions for these words
- please provide synonyms and antonyms for these words: suburb, tide, visibility, downpour, torrent, vapor, dense, misty
- could you generate one more gap-fill exercise for these words with different sentence

Week 2

- could you generate an interesting story for teenagers on B2 level with these words: to bond, ally, acquaintance, companion, heir, descendant, elder
- generate a definition, three collocations and an example sentence for every word: To bond, ally, acquaintance, companion, heir, descendant, elder,
- generate three different gap-fill sentences for each of these words
- Could you generate 10 a bit personal questions to B2 level teenagers using these words?
- generate two synonyms and two antonyms for each of these words

- could you generate a thriller story for teenagers at B2 level for about 350 words, using these words: intimate, ancestry, tight-knit, heritage, inheritance, devotion, rapport, maturity.
- generate a definition, three collocations and an example sentence for every word
- generate a definition, three collocations and an example sentence for every word: intimate, ancestry, tight-knit, heritage, inheritance, devotion, rapport, maturity
- generate three gap-fill sentences for each word
- generate two synonyms and two antonyms for each of these words
- Could you generate 10 a bit personal questions to B2 level teenagers using these words?

Week 3

- generate an education story to high school students on C1 level how good education can influence the path of life for good, using these words: Admission, dropout, cognitive, intensive, literate, prestigious, vocational, accomplishment, aspiration, to flourish, to strive
- generate a definition, three collocations, and an example sentence for each word: Admission, dropout, cognitive, intensive, literate, prestigious, vocational, accomplishment, aspiration, to flourish, to strive
- generate three gap-fill sentences for each word: Admission, dropout, cognitive, intensive, literate, prestigious, vocational, accomplishment, aspiration, to flourish, to strive
- generate 10 debate topics for young adults on C1 level about this topic
- generate 10 debate topics for the same level using each of these word in one topic. the topics should be statements, not questions
- generate more 15 controversial statements about education for C1 students
- generate two synonyms and two antonyms for each word: Admission, dropout, cognitive, intensive, literate, prestigious, vocational, accomplishment, aspiration, to flourish, to strive

Week 4

- generate a 350 words dystopian story for young adults at B2 level with these words, like you were their teacher in their high school: Deficit, accomplished, commodity, expenditure, acquisition, turnover, enterprise, franchise, start-up, venture, compatible, competent.
- generate a definition, three collocations and one example sentence per each word of these: Deficit, accomplished, commodity, expenditure, acquisition, turnover, enterprise
- generate a definition, three collocations and one example sentence for these: franchise, start-up, venture, compatible, competent
- generate three gap-fill sentences for B2 level young adults for each of these words: Deficit, accomplished, commodity, expenditure, acquisition, turnover, enterprise, franchise, start-up, venture, compatible, competent.
- could you generate an example sentence for every collocation phrase you mentioned earlier
- generate 12 a bit personal questions including these 12 words for young adults about working life and career and about their future plans
- generate 10 comprehension questions about the last dystopian story you generated here

- generate controversial statements for young adults about the work and career using these words: Deficit, accomplished, commodity, expenditure, acquisition, turnover, enterprise, franchise, start-up, venture, compatible, competent.
- generate 10 general B2 level questions about work and career to the high school students who do not work yet
- Could you generate similar kinds of questions for high school students but using the twelve vocabulary words used in earlier exercises?
- generate controversial statements for high school students about work and career using these twelve vocabulary words
- generate ten possible gymnasium students opinions about their working life and career in the future using B2 level English

APPENDIX 3 Some example materials created by ChatGPT

Topic: Natural world

The Mysterious Palm Grove

In a peaceful habitat surrounded by lush palm trees, a group of adventurous teenagers embarked on an exciting ecology-themed adventure. They were determined to settle into the heart of nature and explore the secrets of a nearby wildlife reserve.

As they wandered deeper into the reserve, the teenagers discovered something unusual - the soil had a peculiar, rich color. It was unlike any soil they had seen before. Intrigued by this, they decided to dig deeper, both literally and figuratively.

While examining the soil, they stumbled upon a hidden danger. A sudden burst of carbon monoxide escaped from the ground. This was a cause for concern, as it could harm the local flora and fauna. The teens realized they needed to investigate further to understand the source of this gas and how it might be affecting the habitat.

Armed with knowledge and curiosity, the teenagers began a comprehensive investigation. They took samples of the soil and collected data about the local wildlife. Their journey led them to discover that the soil was rich in nutrients, but certain plant roots were releasing carbon monoxide as part of their natural life cycle.

As they continued their research, the teenagers learned that the local community celebrated a unique harvest festival to honor the rich soil and its contribution to their habitat. This festival was a way of recognizing the balance between ecology and human life in their area.

Inspired by their adventure, the teenagers decided to become guardians of the habitat. They organized educational programs for the community, explaining how the soil's properties contributed to the ecology of the area. They encouraged sustainable practices, such as composting, to enrich the soil further without releasing harmful gases.

In the end, the teenagers understood the delicate balance between human activity and the environment. Their adventure taught them that it was essential to protect and preserve their habitat, ensuring that future generations could continue to enjoy the beauty of the palm grove and the surrounding ecology.

Enigmatic – mõistatuslik; lush – lopsakas, külluslik; peculiar – kummaline, veider; literally – sõna otses mõttes, täht-tähelt; figuratively – kujundlikult, piltlikult, ülekantud tähenduses;

stumble upon – otsa komistama; unravel – lahti/üles harutama; nutrient – toitaine; sustainable – jätkusuutlik, säästev;

Palm: collocations: palm tree, palm oil, palm frond (a large, divided leaf)

Example: The tropical beach was lined with swaying palm trees, casting shade on the golden sands.

Habitat: collocations: natural habitat, wildlife habitat, provide a habitat for ...

Example Sentence: Conservation efforts are essential to protect the natural habitat of endangered species.

Ecology: environmental ecology, marine ecology; damage ecology

Example Sentence: Marine ecology examines the interactions between oceanic life forms and their environment.

Settle: asustama, paiknema. Collocations: Settle down, Settle in, Settle a dispute (klaarima, lahendada)

Example: After years of travel, they decided to settle down in a small coastal town and raise their family.

Reserve: reserv, varu: nature reserve, in reserve (varuks), food reserve

Example: The nature reserve offers a sanctuary (varjupaik) for various bird species, making it a popular destination for birdwatchers.

Soil: rich soil, soil erosion (erosioon, kulumine), cultivate the soil (maad harima)

Example: The farmer enriched the fertile soil with organic compost to ensure a successful crop.

Carbon Monoxide: Carbon monoxide poisoning, Carbon monoxide detector, Carbon monoxide emissions

Example: It's crucial to install a carbon monoxide detector in your home to protect against the silent danger of carbon monoxide poisoning.

Harvest: reap the harvest, harvest season, abundant harvest

Example Sentence: The bountiful harvest in the autumn marked the end of a year of hard work for the farmers in the region.

Quiz Exercise: Gap-Fill Exercise

soil palm habitat settle reserve carbon monoxide harvest ecology

1. Conservationists work tirelessly to protect the natural _____ of endangered species.
2. The autumn marks the _____ season when farmers gather their crops after a year of arduous work.
3. _____ is the study of the relationships between living organisms and their environment.
4. The national park serves as a _____ for various bird species, offering a safe haven for them.
5. Farmers need fertile _____ to grow healthy crops and ensure a bountiful harvest.
6. The _____ is known for its tall and graceful appearance, often seen on tropical beaches.
7. It's essential to install a _____ detector in your home to guard against a dangerous gas.
8. After years of travel, they decided to _____ down in a quiet countryside village.

Answer the questions in pairs or groups. Try to use the learnt words also in your answers.

1. Have you ever had the opportunity to relax under the shade of palm trees? If so, where was it, and what was your experience like?
2. Do you have a favorite natural habitat that you like to visit or explore? What makes it special to you?

3. How would you describe your understanding of ecology, and why do you think it's important to learn about the environment?
4. If you could settle down in any place in the world, where would it be, and why?
5. Have you ever volunteered at a local wildlife reserve or participated in any ecological conservation efforts? Share your experience if yes.
6. Do you have any personal tips for maintaining healthy soil in a garden or for potted plants?
7. Are you aware of the dangers of carbon monoxide exposure, and what steps have you or your family taken to prevent it at home?
8. Are there any traditions or celebrations associated with the harvest season in your community?
9. How do you think urban development affects the local habitat and ecology in your area? Are there any specific changes you've noticed?
10. Can you think of a time when you or someone you know adapted to a new environment or habitat? What challenges and rewards did this adaptation bring?

Natural world 2

In the quiet suburban town of Crestwood, nestled beside a dense forest, a group of curious teens found themselves in the midst of an unexpected adventure. One misty evening, as the setting sun painted the sky with hues of pink and orange, they gathered near the edge of the forest to watch the tide rise in a nearby creek. It was a serene moment, but it wouldn't last.

As the sky darkened, the mist thickened, reducing their visibility to mere feet. They were about to head home when a sudden downpour drenched them. But this was no ordinary rain; it was a torrential downpour of vapor that left them shivering.

"Something's not right," Sarah said, her voice trembling. Her instincts were rarely wrong.

With their flashlights, they ventured into the forest, the mist growing denser around them. Unnerving sounds echoed through the trees, and the adolescents couldn't shake the feeling of being watched. It was as if the very forest held its secrets close.

They stumbled upon an old, dilapidated cabin, its windows broken and its door slightly ajar. Against their better judgment, they pushed the door open. Inside, they discovered a room filled with strange, steaming vats. The air was heavy with a peculiar vapor that made their heads spin.

Mia approached a table covered in dusty documents. "This place, it's been experimenting with the mist – maybe even creating it," she whispered.

As the teens delved deeper into their discovery, they realized they had unearthed a conspiracy hidden within their seemingly idyllic suburb. The mist, the strange tides, and the downpour of vapor were all connected to a sinister secret that had been lurking in Crestwood, waiting for someone to uncover it. Their adventure was just beginning, and the true mystery was yet to be unraveled.

Dilapidated – hooletusse jäetud, lagunev

Sinister – halvaendeline, kuri

Vocabulary

Suburb: a residential area located on the outskirts of a city, characterized by a mix of housing, green spaces, and a generally quieter atmosphere. quiet suburb; residential suburb; sprawling suburb

Example sentence: The suburban tranquility of their neighborhood provided a welcome escape from the city's hustle and bustle.

Tide: the regular rising and falling of sea levels caused by gravitational forces from the moon and the sun, occurring along coastlines. rising tide; high tide; low tide

Example sentence: The rising tide lapped at the shore, leaving behind seashells and seaweed as it inched closer to the beach houses.

Visibility: the degree to which objects can be seen or observed, influenced by factors such as weather conditions, light, and obstructions. poor visibility; limited visibility; clear visibility

Example sentence: The heavy fog reduced visibility on the road to only a few meters, making driving extremely hazardous.

Downpour: a heavy and sudden rainfall characterized by a rapid and substantial amount of precipitation within a short period. sudden downpour; heavy downpour; torrential downpour

Example sentence: The sudden downpour caught them off guard, and they sought refuge under a tree until the rain subsided.

Torrent: a fast and powerful flow of water, often used to describe a swiftly moving river, typically after heavy rainfall. raging torrent; swift torrent; violent torrent

Example sentence: Peach's dam burst, and then came the torrent of tears.

Vapor: gaseous matter in the atmosphere that is typically invisible, such as water vapor, which can become visible as mist or fog when it condenses. [gæs i əs]; invisible vapor; water vapor

Example sentence: As they ventured deeper into the ancient forest, a mystical vapor seemed to hang in the air, creating an otherworldly atmosphere.

Dense: refers to something that is closely packed together, often implying a high concentration or a thick consistency dense forest; dense population; dense fog

Example sentence: As they ventured deeper into the ancient forest, a mystical vapor seemed to hang in the air, creating an otherworldly atmosphere.

Misty: describes weather conditions when the air is filled with tiny water droplets, creating a hazy or foggy atmosphere that can limit visibility. misty morning; hazy and misty; slightly misty

Example sentence: The dense fog blanketed the harbor, delaying the ships' departure and shrouding the waterfront in an eerie veil.

Veil – loor, eesriie, looritama, varjama; subside – vaibuma; shroud – surilina, mähkima; sprawling – laiali sirutuv;

Complete the sentences with the appropriate word from the list (suburb, tide, visibility, downpour, torrent, vapor, dense, misty):

1. The _____ of the city is known for its peaceful streets and green parks.
2. As the moon's gravitational pull affects the big masses of water, we experience high and low _____ each day.
3. The heavy fog reduced _____ on the highway, causing traffic delays.
4. The sudden _____ caught us by surprise, and we got drenched in a matter of minutes.
5. After the heavy rain, the river turned into a raging _____, making it unsafe for swimming.

6. The thick _____ from the factory's chimney covered the town, creating an eerie atmosphere.
7. The hiker ventured into the _____ forest, guided only by a dim flashlight.
8. The _____ of the waterfall created a beautiful spectacle, with water droplets hanging in the air.
9. The weather report warned of a _____ downpour later in the afternoon.
10. They set out early in the morning on their hike, enjoying the serene and _____ landscape.

Discuss the questions in pairs or groups of three.

1. Have you ever explored a suburb? What was your experience like?
2. Do you enjoy spending time by the sea? How do you feel when the tide is high?
3. Have you ever been in a situation where low visibility affected your plans or activities? What happened?
4. How do you feel about heavy rain or a downpour? Do you prefer staying indoors or getting out in the rain?
5. Have you ever experienced a torrent of emotions? Can you describe how you felt?
6. Do you know the difference between mist and vapor? Can you give examples of when you've encountered them?
7. Have you ever been in a dense forest? How did it make you feel?
8. Do you enjoy misty mornings or evenings? Why or why not?
9. Have you ever seen fog so dense that it was hard to see ahead? How did you navigate through it?
10. Can you recall a time when you were surprised by a sudden change in weather, such as mist or fog rolling in unexpectedly? How did you react?

Natural world words' quiz.

I Unscramble the words to fill the gaps: looygec, tharsev, baonrcxeidoomn, eersver, eletst, ihabtat, lamp, ilos

1. The _____ trees swayed gently in the breeze, creating a tropical ambiance on the beach.
2. The rare bird species found their ideal _____ in the lush rainforest.
3. _____ is vital for maintaining the balance of ecosystems and preserving biodiversity.
4. When you _____ in a new place, it's important to adapt to the local customs and culture.
5. The wildlife _____ offers guided tours to explore the natural wonders of the region.
6. To promote healthy plant growth, it's crucial to nurture the quality of the _____.
7. _____ is a colorless, odorless gas that can be harmful if it accumulates indoors.
8. The _____ festival is a time of joy and gratitude, celebrating the year's agricultural achievements.

II Write the word under the synonym and antonym

Synonym	Environment	Synonym	Environmental science	Synonym	Establish
Antonym	Uninhabitable	Antonym	desctruction	Antonym	depart
Word:		Word:		Word:	
Synonym	Earth	Synonym	Gather		
Antonym	concrete	Antonym	sow		
Word:		Word:			

III Unscramble the words to fill in: busbru, diet, bliiisvyt, pnwdruoo, tntreo, prvoa, ndsee, tsmyi

1. Living in a quiet _____ has its advantages, such as easy access to green spaces and a lower crime rate.

2. During a full moon, the gravitational pull intensifies, resulting in higher _____ levels, which are ideal for beachgoers.
3. When driving through a mountainous region, reduced _____ due to thick fog can make the journey treacherous.
4. The sudden _____ caught everyone by surprise, drenching us as we rushed to find shelter.
5. After days of heavy rainfall, the once calm river transformed into a raging _____, sweeping away everything in its path.
6. The factory emitted a thick _____ into the air, causing concern about its environmental impact.
7. The _____ forest was a world of its own, with sunlight struggling to penetrate the canopy of trees.
8. As they reached the mountaintop, the breathtaking view was obscured by the _____ morning haze.
9. Weather forecasts predict a heavy _____ later in the day, so be prepared with umbrellas and raincoats.
10. The _____ of mist hung in the air, lending an air of mystery to the ancient ruins.

IV Write the word under the synonym and antonym

Synonym	Outlying area	Synonym	Ocean current	Synonym	Clarity
Antonym	City center, downtown	Antonym	stillness	Antonym	Obscurity
Word		Word		Word	
Synonym	Steam	Synonym	Thick, compact	Synonyms	Foggy, hazy
Antonym	solid	Antonym	Thin, sparse, dispersed	Antonym	Clear, unclouded
Word		Word		Word	

APPENDIX 4 Some example lesson plans created for the intervention

LESSON PLAN 1

Topic: Natural world

Language skills: reading, listening, speaking, listening.

Learning objectives: Students get accustomed to the new topic, new words, and their collocations

Vocabulary for the lesson: palm, habitat, ecology, settle, reserve, soil, carbon monoxide, harvest.

Materials: the copies of a mystery story created by ChatGPT, worksheets and discussion questions

Lead-in:

- ❖ General questions about the students' knowledge about the natural world and its characteristics. (3 minutes)

Activities

- ❖ Students read the mystery story. The students get the first contact with the new words in a meaningful, hopefully interesting context. (7 minutes)
- ❖ A few comprehension questions about the text. Considering the fact that this text was created by ChatGPT, did you find any illogical details in the text? Are you good at chemistry? Can you smell carbon monoxide? (No) Anything else? (5 minutes)
- ❖ Students read out the new words with collocations and example sentences in a circular manner. (8 minutes)
- ❖ Students complete the gap-fill exercise. Faster students can compare their answers. (8 minutes)
- ❖ Open-class check of the answers. Students read out the full sentences and check their answers. (6 minutes)
- ❖ Pair work. Discussion of the given questions. Teacher walk around the class, checking and helping where needed. (8 minutes)
- ❖ Homework assignment: Learn the new words by heart by Wednesday.

LESSON PLAN 2

Topic: Natural world

Language skills: reading, listening, speaking, listening.

Learning objectives: Students get accustomed to the new topic, new words, and their collocations

Vocabulary for the lesson: suburb, tide, visibility, downpour, torrent, vapor, dense, misty.

Materials: the copies of another mystery story created by ChatGPT, worksheets and discussion questions

Lead-in:

- ❖ A few questions to recollect what we had read about yesterday. (3 minutes)

Activities

- ❖ Students read another mystery story. The students get the first contact with the new words in a meaningful and interesting context. (7 minutes)
- ❖ A few comprehension questions about the text. Where does the story take place? What were the teens doing near the forest when the unexpected adventure began? Describe the weather conditions that added to the eerie atmosphere of the forest. What did Sarah notice that made her realize something was wrong? What did Mia speculate about the purpose of the old cabin they stumbled upon? (5 minutes)
 - ❖ Students read out the new words with collocations and example sentences in a circular manner. (8 minutes)
 - ❖ Students complete the gap-fill exercise. Faster students can compare their answers. (8 minutes)
 - ❖ Open-class check of the answers. Students read out the full sentences and check their answers. (6 minutes)
 - ❖ Pair work. Discussion of the given questions. The teacher walks around the class, checking and helping where needed. (8 minutes)
- ❖ Homework assignment: Learn the new words by heart by Wednesday.

LESSON PLAN 3

Topic: Natural world

Language skills: Reading, writing, speaking, listening.

Learning objectives: Students show their knowledge of the new words; students have more input about the topic of the week and compose their own statements for the upcoming VR session

Vocabulary for the lesson: palm, habitat, ecology, settle, reserve, soil, carbon monoxide, harvest, suburb, tide, visibility, downpour, torrent, vapor, dense, misty.

Materials: the copies of the quizzes and worksheets created by ChatGPT

Lead-in: A few questions to recollect what we had read about yesterday (3 minutes)

Activities

- ❖ Students take the word quiz (13 minutes)
- ❖ Teacher hands out the questions to be discussed in pairs. The first question is discussed in open class to model the format and so that the students understand what is expected from them.
- ❖ After every two minutes teacher chooses a person, using the name sticks to give his or her opinion about the next question given. If the student does not have his or her own viewpoint, he or she is expected to describe at least what did they discuss about this question or what did his or her partner say. (15 minutes)
- ❖ Students compose their own statements or questions about the given topic for the upcoming VR session. They are expected to use the given words in some of their questions, and compose the questions or statements relevant to the topic. (14 minutes)
- ❖ Homework: finish your questions or statements.

LESSON PLAN 4

Topic: Natural world

Language skills: Speaking, listening.

Learning objectives: Students use the new words and composed questions or statements in the oral interaction with ChatGPT, improving their oral interaction skills.

Vocabulary for the lesson: palm, habitat, ecology, settle, reserve, soil, carbon monoxide, harvest, suburb, tide, visibility, downpour, torrent, vapor, dense, misty.

Materials: Meta Quest head mounted displays (HMDs), students' notes.

Note: The lesson takes place in the assembly hall. All the Meta Quest HMDs are already turned on and in different locations in the assembly hall and its nearby rooms.

Lead-in:

- ❖ Teacher introduces the usages of the Meta Quest HMDs and where to find the VirtualSpeech platform, to be able to converse with ChatGPT. (7 minutes)

Activities

- ❖ Teacher appoints students to different Meta Quest HMDs. Teacher appoints the time when everybody should finish, turn off the HMDs and gather in the same location where they started in the assembly hall. (4 minutes)
- ❖ Students open the VirtualSpeech platform themselves and start interacting with ChatGPT, using their taken notes in the previous class. Teacher provides assistance where necessary. (23 minutes)
- ❖ Students turn off their HMDs and bring them back to the original gathering location in the assembly hall. (3 minutes)
- ❖ Students gather in the oral feedback circle and share their experiences, new pieces of knowledge, speak about the advantages and disadvantages of the method. Every student is expected to speak out. If somebody does not want to speak in front of others, teacher speaks with her later individually. (7 minutes)

APPENDIX 5 The journal: description of the cycles

This part describes the four cycles and phases of each action research cycle in more detail together with the teacher's observations and written notes.

1.1. Cycle One: The planning phase

I chose the topic, the words to be learned, generated the texts, word collocations and example sentences, gap-fill exercises, quizzes and questions for the pairwork with ChatGPT. I created the lesson plans for each lesson. After choosing the words of the selected topic, ChatGPT was asked to generate a text for the students. In the description of my inquiry, I described my students, their level and age, and provided the chosen words I asked to generate a motivating story for B2 level students. As for the genres, I asked ChatGPT to create a thriller, a treasure hunt or a dystopian short story. In creating those stories, the ChatGPT placed the students' contemporaries as protagonists.

In the next step, gap-fill exercises using ChatGPT were generated. Usually, I asked it to generate three sentences per word so that I could choose one for the exercise and the other for the quiz, which I composed simultaneously.

The following step was to ask ChatGPT to generate questions or statements for the discussions among the pairs or small groups. These questions were also meant as a stepping stone for creating their own statements to prepare them for the conversation with the ChatGPT. The aim of this part was for the students to formulate their viewpoints or find exciting questions about this topic. At last, I asked ChatGPT to generate synonyms and antonyms for each word, which I also used in the word quiz.

Each week's cycle included four forty-five-minute classes on four days: on the first day, students would read a text with the new vocabulary and learn more thoroughly about these words, like descriptions, main collocations and example sentences. On the second day, the students would use words in the gap-fill exercise and discuss the given questions with these words in pairs or small groups. On the third day, they would take a gradable quiz about these words and formulate statements about what to use in the VR sessions. On the fourth day, the students spoke with ChatGPT using VR headsets in VirtualSpeech and had a feedback circle together. The students could use the notes they had taken in the previous class. The statements or

questions the participants composed were mainly their own responsibility, but they were given help if asked.

The aims for the first VR session were: 1) to get students accustomed to the VR HMDs, 2) to find and use the VirtualSpeech independently, 3) to try out if the location – the big assembly hall works for this purpose, 3) to find out how many students can simultaneously use the platform. 4) to get the first feedback from the students about the usefulness of this program in general. The first cycle was planned to be completed before the vacation week and having more time to contemplate about it, this way could be considered as a pilot cycle.

I left the Meta Quest HMDs charging every Wednesday afternoon so they can be fully charged for Thursday.

1.2. Cycle One: taking action and observing

In the first lesson of the first week, the students read a mystery story, learned eight new words, filled in a gap-fill exercise and discussed the questions given. In the second lesson, they read a short thriller, learned eight words, filled in the gaps and discussed the questions provided. In the third class, they had a quiz and formulated their statements or questions for the VR sessions. The fourth lesson of the week was their first meeting with the VirtualSpeech platform and a short oral feedback circle.

The first three classes were held in the regular classrooms, but as I wanted to provide assistance to the students during the VR sessions, the assembly hall was chosen as the venue for them. The assembly hall was perfect for that, as there was a separate wifi router, which was necessary for the excellent wifi connection we needed for all these VR sessions. It was also perfect because, besides the big space in the hall where the students could be dispersed so as not to interrupt each other, it also had several small rooms next to it, including the backstage room and two sound technician's rooms, where more shy students could find a more private place to speak. The students were told to keep their voices down as the platform might get confused by too much noise around it, even when they were quite far from each other. As the students were wearing headsets and could not see their surroundings, they were advised to sit down but could stand if they wanted. According to my observation the maximum number that the Meta Quest HMDs could be used was five.

My first virtual session was planned for the students to get accustomed to using the VR sets independently. I explained the steps they need to follow to get to the point where they can start chatting with ChatGPT in the VirtualSpeech platform. I did it orally for the first group, but as they still had many questions during the practice, I made a PowerPoint presentation for the second group and asked them to take pictures of these steps with their smartphones, too. Therefore, the independence of the second group while using VR sets was much higher. I had asked the first group to take notes while chatting with ChatGPT, but as they were not successful in having much contact with the avatar there at all, I did not set that goal for the second group.

2.1. Reflecting and planning the second cycle

The first group, which is also a bit weaker, could only benefit a little from the first VirtualSpeech session. It was probably because they were not familiar with the headsets and did not see the instructions visually in PowerPoint slides on how to use VirtualSpeech platform. Most importantly, the second group of students, who had seen the instructions on PowerPoint slides, where most could access the platform and talk to ChatGPT, approved the usefulness of the platform and were ready to do it again. Some students said that ChatGPT still talks too much, and some said it interrupted their speaking turn. In the manual conversation mode, ChatGPT should wait patiently till they have pressed the button '*submit your answer,*' and the students should have been able to express themselves freely as long as they wanted.

One student was not at school while the oral exam monologues were recorded, but the same student could not stand the VR set. She and one more student had to take painkillers and drink water after dizziness while using VR goggles. Next time, I will set the VR sets for them so that they don't have to look through the VR set, but while having them a bit higher on their head, they look into the app only when they need to submit their answer.

The following steps will be to fill the time of other students while five students are chatting and tell them to prove that they are learning something by showing the notes after chatting. Next time, I will organise these changes: 1) the students will come directly to the assembly hall for the VR session, 2) the five sets are set for them readily, and 3) they will be instructed to take notes while and after chatting with ChatGPT.

Also, next week, I will post the words of the week on my classroom wall as a technique to help them memorise them better. It would be great to organise an activity to go together with

the reading text, for example, matching the paragraphs with the subtitles. The new words in the texts will also be bold-typed to catch the students' attention more easily.

After the first session came the school vacation, which gave me more time to think about the project. I also met a digital technician who told me that the problem with the newer Meta Quest version was that two of them could not access any program simultaneously. However, there was no such problem with the older Meta Quest VR sets. That was excellent news, as the school had ten sets of older Meta Quest HMDs that could all be used simultaneously. Therefore, I knew where the barrier was, and next time, I could arrange for more students to practice speaking in VirtualSpeech simultaneously.

2.2. Cycle Two: taking action and observing

In the first lesson of the second week, the students read a treasure hunt story, learned seven new words, filled in a gap-fill exercise and discussed a little the questions given. In the second lesson, they read another treasure hunt story, learned eight new words, filled in the gaps and discussed the questions given. In the third class, they had a quiz and formulated their statements for the VR sessions and had a VR session.

The problem with the lesson schedule was that the two groups had the first lesson together each Monday, so if the classes missed a lesson during the week, we still had to manage to end the cycle in three lessons because it was not possible to use VR sets during this lesson when two groups were together on Monday. That happened during the second week when both groups missed a lesson because of some other activities at school. Therefore, both groups had to have their word quiz and VR session during the same last lesson of the week. I split the group into halves so that one group could have a quiz at the same time as the other was in VR and the other way around.

Unfortunately, two girls had technical difficulties and had no positive experience at all. It was because their VR sets had technical issues that I could not solve.

3.1. Reflecting and planning the third cycle

Most importantly, I learned that the girls were too shy to speak in the main assembly hall, where others might hear, and they could also hear others a bit. So if, until then, I had randomly appointed students to go to the small rooms around the hall, next time, I will let the boys stay in

the main assembly hall as they seem to be more confident speakers who do not let themselves be disturbed by the sounds around them. Besides, I found out that some of the boys might get distracted by the other games available in VR, like boxing or shooting, which was one more reason to keep them together in the big assembly hall and not in the small rooms around it.

3.2. Cycle Three: taking action and observing

In the first lesson of the third week, the students read the mystery story, learned ten new words, filled in a gap-fill exercise and discussed the questions given. In the second lesson, they read an educational story, learned ten new words, filled in the gaps and discussed the questions given. In the third class, they had a quiz and formulated their statements for the VR sessions. In the fourth lesson, they had a VR session and a discussion circle afterwards.

The third week went according to the procedure plan described above, except for one student who had to take the quiz during the same lesson as the VR session. The decision to place girls into the smaller rooms and boys in the big hall worked well for both sides, as during the oral feedback at the end of the lesson, most students said they had had a good experience during the VR session and considered it beneficial. Several students said that the situation was more familiar already, and several students admitted that they made an effort to express themselves more clearly and concretely. Only a few students had a negative or indifferent attitude towards the program. One student still had a technical problem with the VR set.

4.1. Reflecting and planning the fourth cycle

I had to consider that as my main focus during the previous weeks had been to teach the topics and vocabulary, and at the same time, I did not have a very good overview of how good statements or questions they had composed before entering the VR session. As my supervisor pointed out, because many students said to have too long responses by the ChatGPT, the problem might be that they do not know well which kind of statements to formulate. My mentor suggested teaching them the difference between facts and opinions because there is no point in speaking or asking about facts with ChatGPT. The actual conversation can only be about opinions, and that was what I had to make them explicit.

One of the changes to implement was to teach fewer words so that there would be more time to discuss the topics thoroughly and formulate their statement or opinions to use in the

conversation with ChatGPT. If they have not found any good ideas themselves and the statements have not inspired any ideas that they wish to speak about in the VR session, then their peers could give some ideas that would be interesting to them. And definitely, there should not be a word quiz in the same lesson as the VR session.

4.2. Cycle Four: taking action and observing

The topic for the fourth week was Work and Career, and it proceeded according to the plan. In the first lesson, the students had a dystopian story to read and twelve new words to study. After that, they read through the definition, collocations and example sentences. In the second lesson, the students practised the words learned, filled in the gaps and discussed the questions given. In the third lesson, the students had a word quiz, learned about the difference between fact and opinion, had some practice on how to differentiate them, and after that, formulated their own statements or questions to be used in their VR session. Besides teaching the students the difference between facts and opinions, I also provided the students with several questions and statements for further discussion. These statements, being formulated similarly to the oral exam questions, included the instruction: Why would some people think that way? Do you agree with them? Why or why not?

As it was the last session of the intervention, we had a short discussion circle at the end of the lesson. The participants filled in the second feedback questionnaire the next week, the results of which are displayed in the next part. The final reflections are described in the discussion section.

APPENDIX 6 Feedback questionnaire 1

1. Is speaking on the VirtualSpeech platform beneficial for you? Why or why not?
2. What could be different? Elaborate.
3. How often should this app be used on a regular basis?
4. Have you got used to the VirtualSpeech platform or using it is still a bit difficult for you?
5. Has ChatGPT given you long or short answers?
6. Can you understand the language you hear on the platform?

APPENDIX 7 Feedback questionnaire 2

1. How did you feel yourself while speaking English with ChatGPT?
2. Was speaking in VirtualSpeech beneficial for you? Why or why not?
3. What could have been different? Elaborate.
4. How often could this app be used on a regular basis?
5. Did you get used to the VirtualSpeech platform, or was it still a bit difficult for you?
6. Did ChatGPT give you long answers? About _____%
7. Could you provide some examples of which sentence the ChatGPT answer was long?
8. Did ChatGPT give you short answers? To what extent? _____%
9. Could you provide some examples of which sentence the ChatGPT answer was short?
10. Could you understand the language you heard in the application? About how many percent? _____%
11. What aspects of speaking in VR did you like?
12. What aspects of speaking in VR didn't you like?
13. What did you learn from the VR sessions?
14. Do you play video or computer games? Yes/No. If yes, how often?
15. In general, do you think the VR roleplay was beneficial for your speaking ability?

APPENDIX 8 Examples of two monologue topic cards

B1

MONOLOGUE

Read the topic below and prepare to speak about it. Use the questions given to help to plan your monologue.

**Some people say that studying alone is much better
than studying in a group.**

Why do you think they say that? Do you agree or disagree? Why might some people have a different opinion? Give reasons.

B2

MONOLOGUE

Read the topic below and prepare to speak about it. Use the questions given to help to plan your monologue.

**Some people say that English is easier to learn outside
the classroom than in the classroom.**

Why do you think they say that? Do you agree or disagree? Why might some people have a different opinion? Give reasons.

APPENDIX 9 All the students' relevant answers by categories

Positive feedback	<p>St8, boy: <i>"I liked that I got the chance to say my statements, be outside of the regular classroom and do something different."</i> St4, girl: <i>"I liked that I got to speak English more and ask random questions I wanted."</i> St7, girl: <i>"I liked that it was possible to do it in a relatively free form;"</i> St14, girl: <i>"I liked the experience and that we also did practice on top of regular studies. I liked that I got thorough answers to my questions."</i> St2, girl: <i>"I got new ideas how to look at some situations and learned some new aspects about the world."</i> St12, boy: <i>"I liked the information I got."</i> St11, girl: <i>"I liked that most of the answers were long and thorough. I definitely learned more vocabulary."</i> St8, boy: <i>"I liked that I got a chance to say my statements, be more outside regular classroom and do something different."</i> St5, boy: <i>"I felt super relaxed and calm when I spoke with ChatGPT. I liked it all. Everything was new and interesting so I was amazed and wanted to try everything."</i> St2, girl: <i>"New ideas how to look at some situations. Many new aspect of the world."</i> St1: <i>"It was quite the experience!"</i> St17, girl: <i>"I liked when it always answered me, even if it didn't understand you."</i> St16, boy: <i>"Speaking calmly."</i> St13, girl: <i>"I liked that I didnt' feel like I was alone, because he was sitting in front of me."</i> St15, boy: <i>"I liked that ChatGPT answered my difficult questions."</i> St9, boy: <i>"I got to speak only I time, but it was a cool and new experience. I felt like i was talking to real person."</i></p>
Neutral feedback	<p>St3, girl: <i>"I think I could have learnt speaking with a person also."</i> St7, girl <i>"I'm still a bit confused, and I'm not really sure if it was helpful or not. Maybe with longer use, you'll see results."</i> St2, girl: <i>"I still like talking to real people, but I really like to get inspiration from ChatGPT. Whatever speaking we do is beneficial for my speaking ability."</i></p>
Suggestions from students	<p>St12, boy <i>"Maybe the programm was too short to become good at speaking";</i> St5, boy: <i>"Maybe the answers should be little shorter and more summerised. I would like if he talked about specific subject and only necessary information."</i> St3, girl <i>"ChatGPT didn't answer my easy-to-answer questions or statements. Maybe update it to answer the questions with an understandable answer, and keep it short. And maybe add text to the bottom of the screen to follow it's answers better."</i> St15, boy: <i>"There could have been more time."</i> St9, boy: <i>"Maybe talking to it in small room and with no one distracting it would have been much better."</i></p>
About getting used to the format	<p>St12, boy: <i>"It was kind of strange in the beginning but it became comfortable soon. It wasn't difficult."</i> St11, girl <i>"I felt a little unsure but overall fine fine."</i> St10, girl: <i>"I felt very uncomfortable, because I dont't trust ChatGPT."</i> St8, boy: <i>"I got used to it eventually."</i> St7, girl: <i>"I got</i></p>

	<p><i>used to it but it was still quite weird.” St5, boy: “It was easy. I got used to it like the first time basically.” St4, girl “I felt alright. I didn’t like it at first but it was okey later. I got used to it on the third time.” St3, girl: “It was fine.” St2, girl: “I got used to it, but I don’t like that it makes my eyes and head hurt. I like writing to ChatGPT more.” St1, boy: “It was easy to use.” St14, girl: “It was a little bit difficult, but I felt pretty confident.” St13, girl: “It was a bit difficult for me.” St15, boy: “I felt comfortable while I spoke English with ChatGPT.”</i></p>
<p>The negative feedback</p>	<p><i>St3, girl: “ChatGPT didn’t answer to my easy questions or statements”;</i> <i>St10, girl: “ChatGPT speaks to fast, so it’s hard to understand. It also makes my head go dizzy after using some time. It was not beneficial to me because ChatGPT speaks too long and I’m just saying one sentence.”</i> <i>St11, girl: “Answers were given quite quickly and there was not enough time to talk at length.” St8, boy: “I didn’t like that sometimes it didn’t let me finish my statement and sometimes I didn’t hear or understand what it said (because of echoing noise) and it gave me long answers.” St7, girl: “Sometimes the technology didn’t want to cooperate.” St4, girl : “I didn’t like that everyone around me could hear what we were talking about. Sometimes it was talking too long.” St2, girl: “ChatGPT spoke too fast.”</i> <i>St1, boy: “It didn’t have its own viewpoints, only the knowledge of the internet.” St17, girl: “I felt that I might do it, but it gives me nothing (nothing could be different from the organisational side). It wasn’t beneficial because when it spoke too much text in a short time, then I couldn’t memorize and learn it.” St13, girl: “It wasn’t very helpful to me because he didn’t hear me or just didn’t answer. He could have answered me or it could have been quieter to listen to me. I didn’t like anything.”</i> <i>St15, boy: “ChatGPT gave me too long answers.”</i></p>
<p>Was the program beneficial to your speaking ability?</p>	<p>Positive feedback <i>St1, boy: “Yes, it helped me to talk more and for longer if needed.”</i> <i>St5, boy: “Yes, sure it was. My speaking got better. It gave me confidence to speak with someone.”</i> <i>St8, boy: “I think it was; maybe there should have been more time.”</i> <i>St11, girl: “The program was beneficial, because I was able to develop a little conversation, but at the same time I spoke rather little myself.”</i> <i>St12, boy: “It was beneficial, because ChatGPT improved my speaking ability.”</i> <i>St14, girl: “I learned how to express myself better.”</i> <i>St9, boy: “I learnt to talk better and keep the conversation.”</i></p> <p>Negative feedback <i>St3, girl: “It really wasn’t that much. It gave me too long answers, so it was difficult to follow.” St4, girl: “I don’t think it was beneficial because I didn’t learn anything new, and I still speak broken English.”</i></p>

Learnings from the VR sessions	<p>St8, boy: <i>“I learned how to do questions, statements, and [improved my] listening skills.”</i> St7, girl: <i>“How to chat in a free form.”</i> St16, boy: <i>“How to learn with ChatGPT.”</i> St14, girl: <i>“It was useful because I learned new words and how to speak more confidently.”</i></p> <p>St15, boy: <i>“It was beneficial for me because I gained new knowledge.”</i></p>
Some examples that the students composed that got long answers	<p>St10, girl: <i>“What are the most important skills for your good career and how to exercise those skills? It did not give me any short answers.”</i> St8, boy: <i>“Everything I asked got long answers. For example, I said that schools must have more outside classroom activities.”</i> St2, girl: <i>“How to make an enterprise.”</i> St14, girl: <i>“Thoroughly answered whether education determines the importance of the workplace.”</i></p> <p>St9, boy: <i>“I asked him about economics and it kept going and going.”</i></p>

RESÜMEE

TARTU ÜLIKOOL

ANGLISTIKA OSAKOND

Lauri Niilisk

ENG: Using the VirtualSpeech platform to develop oral interaction skills in the EFL classroom in an Estonian upper secondary school: an action research project.

EST: VirtualSpeech platvormi kasutamine suulise suhtlusoskuse arendamiseks Eesti gümnaasiumi inglise keele tundides: tegevusuuringus.

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Käesoleva töö eesmärgiks oli jõuda arusaamiseni kas VirtualSpeech platvormil oleva ChatGPT avatariga vestluse abil saab parandada kaheteistkümnenda klassi õpilaste suhtlusoskusi. Uurimistöö eesmärgiks on saada vastuseid järgmistele küsimustele 1) kui kasulik on VirtualSpeech Eesti gümnaasiumiõpilaste võõrkeelte suulise suhtlusoskuse arendamisel? 2) Kuidas suhtuvad Eesti gümnaasiumiõpilased Chat-GPT-ga kõnelemisse virtuaalreaalsuses? 3) Mida peaksid õpetajad arvestama VirtualSpeech platvormi rakendamisel inglise keele klassis?

Tegevusuuringus osales 22 kaheteistkümnenda klassi õpilast, kes pidi uuringu käigus täitma kaks küsimustikku, üks uuringu keskel ja teine uuringu lõpus. Lisaks läbisid õpilased eel- ja järeltesti, mille raames pidid nad esitama monoloogi kahe minuti jooksul. Küsimustikkude eesmärgiks oli saada ülevaade õpilaste kogemustest ja suhtumisest antud meetodisse. Uuringu järeldusteni jõudmiseks kasutati kvalitatiivseid uurimismeetodeid.

Töö esimeses peatükis antakse ülevaade erinevatest virtuaalsetest keskkondadest ja vestlusrobotitest, mida on kasutatud võõrkeelte õpetamisel. Kirjandusest tuuakse ka välja, milliseid eeliseid on leitud virtuaalreaalsusel inglise keele kui võõrkeele õppijatele. Peatüki viimane osa käsitleb vestlusrobotite kasutamist võõrkeeleõppeks.

Teises peatükis kirjeldatakse uurimistöö eesmärgi, osalejaid, materjale ja meetodeid üksikasjalikult. Antakse ka ülevaade tegevusuuringust ja andmete kogumise meetoditest.

Tulemused näitavad algseid väljakutseid VirtualSpeech platvormi kasutamisel, kuid aja jooksul kasvavat aktsepteerimist ja tajutud kasu, eriti kõrgema keeletasemega õpilaste hulgas. Siiski andis ChatGPT tõenäoliselt liiga tihti pikki vastuseid, mis pärssisid õpilaste suhtlusoskuste arengut. Selle vältimiseks peaksid õpilased oskama esitada konkreetsemaid väiteid ning mitte esitada küsimusi.

Märksõnad: virtuaalreaalsus, tegevusuuring, ChatGPT, VirtualSpeech, suhtlusoskus

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