

КОЛЕКТИВНА МОНОГРАФІЯ

МІЖДИСЦИПЛІНАРНІ ВИМІРИ ІННОВАЦІЙ: ВІД ТЕОРІЇ ДО ПРАКТИКИ СОЦІАЛЬНО-ЕКОНОМІЧНОГО РОЗВИТКУ



МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
МУКАЧІВСЬКИЙ ДЕРЖАВНИЙ УНІВЕРСИТЕТ
СПІЛКА НАУКОВЦІВ УКРАЇНИ



Колективна монографія

**МІЖДИСЦИПЛІНАРНІ
ВИМІРИ ІННОВАЦІЙ:
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ЕКОНОМІЧНОГО РОЗВИТКУ**

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У монографії розглянуто теоретичні та практичні питання інноваційних процесів у контексті сучасного соціально-економічного розвитку. Акцентовано увагу на проблемах цифрової трансформації бізнесу, впровадження соціальних інновацій задля сталого розвитку, а також на широкому спектрі інновацій в освітній галузі – від стратегічного управління закладами до підготовки фахівців та застосування новітніх технологій. Відображено погляди вітчизняних дослідників на вирішення актуальних завдань у сферах економіки, соціальної політики та педагогіки в контексті побудови інноваційного суспільства.

Адресується фахівцям-практикам, науковим і науково-педагогічним працівникам, докторантам, аспірантам та студентам; усім, хто цікавиться актуальними проблемами інноваційного розвитку суспільства.

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DOI: <https://doi.org/10.31339/978-617-7495-93-1/352.2025/263-274>**4.3. Virtual Reality Resources in Learning a Foreign Language****4.3. Ресурси з використанням віртуальної реальності у вивченні іноземної****МОВИ****Nadiia YURKO²³****Olha ROMANCHUK²⁴****Mariia VOROBEL²⁵**

Abstract. Article deals with the issue of virtual reality resources in learning a foreign language. Despite many scholars' attention being paid to various aspects of the topic, virtual reality resources in learning a foreign language require more detailed consideration, thus becoming aim of the research. Tasks of the research imply distinguishing and analysing the peculiarities of educational resources with virtual reality in the field of foreign language learning. The research object is the tools for learning a foreign language, and the subject concerns the virtual reality resources for this domain, being examined due to the methods of monitoring and comparative analysis of internet sources. Further research suggests the study of other advanced resources for learning a foreign language.

Keywords: foreign language, educational resources, virtual reality.

Анотація. Публікація розглядає використання ресурсів віртуальної реальності у вивченні іноземної мови. Незважаючи на увагу багатьох науковців до різних аспектів цієї теми, ресурси з використанням віртуальної реальності у вивченні іноземної мови потребують більш детального розгляду, що й стало метою даного дослідження. Завдання дослідження полягають у визначенні та аналізі особливостей навчальних ресурсів з віртуальною реальністю у сфері вивчення іноземної мови. Об'єктом дослідження є засоби вивчення іноземної мови, а предметом дослідження – ресурси з використанням віртуальної

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реальності у цій галузі, розглянуті за допомогою методів моніторингу та порівняльного аналізу інтернет-джерел. Подальші дослідження передбачають аналіз інших сучасних ресурсів для вивчення іноземної мови.

Ключові слова: іноземна мова, навчальні ресурси, віртуальна реальність.

Introduction. Advanced technologies are increasingly becoming an integral part of various fields in modern society, using virtual reality as one of the most exciting innovations in contemporary world. Numerous industries and sectors already widely practice virtual reality for training, and many of its facets make it equally beneficial for the field of education. Virtual reality makes things more motivating by altering learning into an interactive adventure, encouraging students to stay more engaged and better remember the material. Virtual reality allows teachers to see how students are progressing and make alterations to make certain everyone is keeping pace, due to the real-time feedback. This customized approach allows for different learning styles and speeds, making education more available.

Virtual Reality (VR) refers to a three-dimensional (3D) environment generated by computer technology, which can provide a context similar to visual simulation and other senses. The dramatic reduction in the cost of devices and technology has driven a rapid growth of VR applications in educational fields such as medicine, science, and mathematics in recent years that has been proven to be positive. Learners feel the actual situation through sensory organs, which can help them improve their motivation, participation, and learning ability. Moreover, VR has also been applied to language learning and has shown the importance and potential of applications to support language learning (Wang, 2022).

Foreign languages learning is constantly gaining significance in the modern globally interconnected world, effectively utilizing the internet and other technological advancements of the current society. The technologies have greatly enhanced language learning, as the students are no longer merely dependent on traditional classes and taking usual tests. The practice is becoming more engaging and interactive, with the integration of apps, virtual reality, and other AI-powered tools. Learners can now reap benefits of numerous language exchange platforms, engaging in various immersive

simulations, and get immediate feedback on their language practice. Virtual reality can perfectly enable to improve the language skills through realistic and immersive learning experience from anywhere in the world.

Virtual Reality (VR) in education enhances learning through immersive experiences. It enables virtual field trips, simulations for practical training, and anatomy studies. Language learning benefits from realistic conversations with virtual speakers. History classes use VR for historical re-creations, while collaborative learning and skill development thrive in virtual environments (*Virtual Reality in Education: All You Need To Know in 2024*, n. d.).

The magic of VR is that it brings different places throughout the world right into the classroom. These new perspectives can result in fostering empathy and cultural competence because they take students outside of their normal daily experience. Teachers can use VR applications to enhance language teaching by exposing students to the cultures of the people who speak the language. Using technology to build culturally responsive environments helps students respect cultures different from their own (*Benefits of Virtual Reality in Education: Tools & Resources | American University*, n. d.).

Recent research studies suggested VR as a learning environment with benefits on students' learning performance through experience. It especially has various benefits for language learners. Learning a new language requires interaction and an immersive learning experience (*Implementation of VR Technologies in Language Learning Settings: A Systematic Literature Review*, n. d.).

The analysis of recent research and publications provides evidence that modern learning tools have been the focus of scientific consideration on a regular basis. The researchers concerned the fields of medicine (Wilcha, 2020), physics (Antonio & Castro, 2023), mathematics (Dabingaya, 2022), economics (Yurko et al., 2024), music (Gagica Rexhepi et al., 2024), higher education (Alenezi, 2023), etc. Much attention has also been paid to numerous aspects of language learning (Hiver et al., 2021; Kalymon et al., 2022; Koval et al., 2023; Lai et al., 2023; Mohebbi, 2024; Son et al., 2023; Storonska et al., 2023; Yurko et al., 2025).

Notwithstanding the clear evidence of many scholars attention being paid to various aspects of the topic, virtual reality resources in learning a foreign language require more detailed consideration and investigation.

Results. Considering the actuality of using advanced technologies in contemporary education environment and the growing emphasis of modern society on foreign language learning, the *aim* of the research is to examine the virtual reality resources in this field. *Tasks* of the research imply distinguishing and analysing the peculiarities of educational resources with virtual reality in the field of foreign language learning. Thus, the *object* of research is the educational tools for learning a foreign language, and the *subject* concerns the current virtual reality resources for this domain.

Due to the *methods* of monitoring and comparative analysis of the internet sources (*Great VR English Learning Apps | FluentU English Blog*, n. d.; Nguyen, 2021; *Resources*, n. d.; *Virtual Reality Language Learning*, n. d.), the contemporary educational resources with virtual reality for the significantly growing field of foreign language learning appear to be characterised as follows.

Free VR resources

Language Lab. This is a free-to-play VR game, although it emphasizes the language learning aspect more than the social one. If you are at the beginner to lower intermediate level, you can take advantage of its five- to 10-minute language lessons. The lessons will not only consist of teachers talking at you, you will be going through a 3D environment where you will be chatting with virtual characters, opening doors and doing other things you would do in real life. In case you need a little more help, you have the option to turn on subtitles to help you identify objects and more. Language Lab is regularly updated with new content that provides a virtual reality environment that immerses you in language acquisition you are trying to learn from the comfort of your own home. Key features: 5 to 10 minute total-physical-response language lessons in VR, lessons cover practical topics for A1-B1 levels, optional subtitles to help with reading and word identification, new lessons and content added regularly. Languages:

English, Spanish, Arabic, Chinese, French, German, Hebrew, Italian, Japanese, Korean, Portuguese, Ukrainian, and Dutch.

VRChat. This is an online virtual world platform that allows users to interact with others with user-created 3D avatars and worlds. It is also playable without a virtual reality device in a desktop mode designed for a mouse and keyboard, gamepad, or mobile app for touchscreen devices. Despite its name, VRChat is not just a virtual reality version of chatting: it is a fun, massively multiplayer game. Its functionality allows users to access user-developed worlds where they can interact with each other using virtual avatars. Worlds can vary, with some taking the form of social spaces, performance venues, and games. Though you can always just chat with other players, talk to them about the virtual worlds you have created within the game and practice your English. You may even pick up some gaming slang along the way and sound even more like a native speaker. Key features: user-generated content, extensive hardware support, single-player and multiplayer modes, gaming slang, language practice. Languages: English.

Fulldive. This is a social all-in-one VR platform. It is a user-generated virtual reality content and navigation platform. It is also a social platform that allows you to follow what your friends watch, react, and comment on, and share your favourite reacted videos. Fulldive allows you to browse and view a new generation of media, such as watching 3D and 360 photos and videos. Search over one million videos and play over 500 games, the content is exponentially growing. Fulldive does not allow you to interact with virtual characters. Instead, it transforms select videos into immersive 3D environments to make them feel more alive and real to you. If you are using this for language learning purposes, you can play a clip of an easy English video you are studying, imagine yourself as one of the characters speaking in the video and shadow them. Key features: stream all YouTube videos in VR, stream 3D YouTube videos in VR, stream 360 YouTube videos in VR, store and access your pictures and videos in VR, store and access your 360 photos. Languages: English.

Bodyswaps. This is a virtual reality training app for improving soft skills like communication, leadership, and empathy. Though it is not designed for language

learning purposes, it immerses users in real-life situations that enable them to practice speaking foreign language. It gives responses that relate to the context and the individual user's growth within such contexts. It is meant specifically for educational institutions to assist learners in gaining practical experience in communication, leading, and cooperating with others. The app provides real-life scenarios where students can exercise soft skills with AI-enhanced virtual humans. In these simulations, the learner can assume different positions or perspectives, making it an engaging learning experience. In this regard, Bodyswaps enables self-reflection through swapping perspectives within virtual simulations. Key features: state-of-the-art generative AI technology, users' personalized feedback on performance in minute detail, a comprehensive insight into development of essential soft skills. Languages: English.

Engage VR. This is an educational platform that brings people together from all over the world to hold classes, private lessons, meetings and presentations in a virtual space with multiple users. It is a pioneering platform offering immersive virtual reality, mixed reality and solutions for enterprises and educational institutions. With a focus on enabling seamless virtual collaboration, learning, and training, the platform utilizes the latest in generative AI and digital twin technologies. It serves over 200+ global clients, providing secure, scalable experiences for virtual events, educational courses, and training simulations. You can also learn English from educators, communicate with other learners and explore a rich and interesting world of language. Key features: corporate training, remote collaboration, and customized immersive experiences designed to boost productivity, engagement, and retention in digital settings for both corporate employees and students. Languages: English.

House of Languages VR. This is a new way to master foreign languages. It is a highly-effective way for learning new vocabulary using several channels of perception in VR: see the object and its corresponding name, hear the name of the object, repeat the name of the object. Learn live with top educators, chat with teachers and other attendees, and get your doubts cleared. The curriculum is designed by experts to make sure you get the best learning experience. Interact and network with like-minded folks

from various backgrounds in exclusive chat groups. Discuss the issues with your peers and the instructors in the inbuilt chat groups. With the quizzes and live tests practice what you learned, and track your class performance. Flaunt your skills with course certificates. You can showcase the certificates on LinkedIn with a click. Key features: live learning, structured learning, community networking, learn with the best, practice tests, get certified. Languages: English, German, French, Spanish.

VR4LL. This app provides language teachers with an exciting new tool designed to help their learners improve their language skills, working together as a group. The materials consist of four separate virtual worlds: space station, desert island, ancient Rome and ice world. In each of these worlds students are given different tasks to complete. One student wears the headset, while other students in the group provide instructions and guidance – with help from their teacher where necessary. This means that effective communication between students in the language they are studying is absolutely necessary for the task to be completed successfully. Key features: a detailed set of Teacher Notes' that include the instructions for each task, suggestions for which language items to focus on during the task, and ideas for both pre and post-task activities. All these suggestions are level specific and cross referenced to the CEFR. VR4LL has been co-funded by an Erasmus+ grant. Languages: English.

Virtual Speech. The course is aimed at intermediate to advanced English learners who want to improve business-specific communication skills for the workplace. A unique feature of this course is that you get the opportunity to practice everything you have learned. Practice leading a meeting, presenting on video, giving a speech at a conference, and more. If you are preparing for a conference in English, working with English speaking clients, presenting and holding meetings virtually, or moving country, this course gives you the skills you need to grow. Complete a series of videos, quizzes, and case studies at your own pace – available to access at any time. Receive instant feedback on your performance to help identify your strengths and weaknesses. Practice your public speaking with interactive and engaging exercises. At key points during the course, you will practice what you have learned. Key features: impromptu speaking, active listening exercises, meeting presentations, keynote speech, flexible,

self-led format, quizzes and assessment, updated content, digital course certificate. Languages: English. The app is free, but the English course is paid.

Paid VR resources

Mondly VR. This is the first language learning experience with chatbot and speech recognition in the world. Try it and discover the power of immersion, travel the world and learn new languages, practice real-life conversations in 30 languages. You can go through their virtual world and practical real-life conversations with VR characters. Experience the most advanced way to speak new languages without having to travel. Step into a new, virtual world and practice conversations in realistic scenarios. Get instant feedback on your pronunciation in virtual reality and build the confidence to speak new languages in real life. Explore new worlds and learn new languages from the comfort of your couch. Just put your headset on and enjoy the experience. You will never struggle for the right words ever again. Key features: immersive, innovative, fun and easy-to-use. Languages: English, Spanish, German, French, Italian, Portuguese, Dutch, Japanese, Chinese, etc.

ImmerseMe. This is an online language learning tool. It enables learners to virtually step into an authentic location to learn a language and gives the opportunity to improve fluency and accuracy in a real-life like scenario. It is used by language teachers from all over the world. You can choose from one of three levels – beginner, intermediate and advanced – and go through hundreds of interactive scenarios. You can also participate in their annual games and see your name on the ImmerseMe Hall of Fame. ImmerseMe is designed to develop the learners' target language skills through the authentic use of language in a contextualised virtual setting. It combines 360-degree videos in real-life situations with voice recognition to allow learners to reproduce interactions with native speakers. All the scenarios are broken down into bitesize learning modes which build up students' fluency and autonomy. Key features: pronunciation, dictation, translation, immersion. Languages: German, Spanish, French, English, Japanese, Chinese, Italian, Greek and Indonesian.

Noun Town. It offers a unique approach to language learning in VR. Focusing

specifically on vocabulary acquisition, Noun Town transforms language learning into an immersive experience where learners are transported to a grayscale island that progressively transforms into a vibrant, colorized environment as they complete various language learning tasks. This visual transformation adds an element of motivation and achievement, creating a sense of progress and accomplishment as users advance through their language learning journey. Noun Town is a language learning program that helps students build their vocabulary and practise speaking in a safe environment. Students are encouraged to explore and interact, with learning just happening as they play. Retention is maximised with the automated spaced-repetition revision system. Fun mini-games make practice and revision enjoyable. Key features: pedagogically advanced, designed to engage, built-in oversight, accessibility features for learners, user-friendly interface. Languages: English.

Immerse. This is a virtual reality language learning platform designed to transport users into real-world scenarios in different countries. Its goal is not just to provide a completely realistic environment for practice but also to make it engaging and fun to talk and learn in a new language, building up users' confidence and fluency in their studies until the way they talk and interact in the language will not seem foreign to them. The app is really about teaching people not just to speak a language but also to learn how to navigate meaningful, personal interactions with real people in different languages. The app's function allows users to be fully immersed in virtual reality experiences set in real-life scenarios from locations worldwide. Users can navigate through these settings, thereby experiencing language as an authentic and immersive means of communication. Immerse also creates a highly dynamic and interactive language learning experience. Key features: real-world scenarios in different countries, personal interactions with real people in different languages, highly dynamic and interactive language learning experience. Languages: English, German, Spanish, French, etc.

ClassVR. This is an educational VR platform with hundreds of immersive lessons about culture and language. These include English language lessons, as well as topics that are relevant to daily life in English-speaking countries. The platform represents an

innovative and recognized VR solution crafted to enhance student engagement and improve retention of knowledge across all age groups. It includes not just the hardware and software but also content and resources aligned with curricula, offering educators a comprehensive package to seamlessly integrate virtual reality into their classrooms. Integrating technology in a bustling classroom setting can often be more challenging than anticipated. However, with ClassVR's interface and teacher portal, the necessary tools are readily available to ensure that this innovative and captivating technology offers a robust and enriching experience for both teachers and students. Key features: suitable for students of all ages, a wide range of content, 360-degree images and videos, explorable scenes and tangible 3D augmented reality models. Languages: English.

Unimersiv. This is a platform for VR educational experiences. It has a large library of VR educational experiences, offering a wide range of immersive learning opportunities. By simply downloading the app, you gain access to a multitude of experiences that delve into captivating subjects. Educational systems across Europe continue to be primarily based on routine activities with few outlets for creativity and imagination. Unimersiv aims to change that by allowing students to engage in learning-by-doing virtually. The app includes multiple educational experiences that offer users learning experiences using a virtual reality headset to easily access multiple educational scenarios in one space. The product has been downloaded by a substantial number of VR enthusiasts, indicating that VR is not only great for gaming, but also for educational purposes. Key features: graphically well done, digital versions of real places, people or objects, other free content – math VR, language room and 2D video player, user friendly. Languages: English, French, Spanish, Portuguese-Brazil.

Conclusions. Based on the findings above, it can be concluded as follows. Virtual reality is a very active form of education, and students may easily experience the content through interaction. The result is very high engagement with learning materials, and increased retention. Many students achieve better results when they can access knowledge by means of experiential learning. With virtual reality, students can gain access to their practical experiences, being unlimited by time and resources.

Virtual reality opens up new ways in language learning. It offers an immersive environment where language learners can practice speaking, listening, and interacting with others at numerous platforms and resources. Virtual reality resources mentioned above open up new avenues for much easier and more engaging immersion in foreign language learning. Further **research prospects** suggest the study and comparative analysis of other advanced educational resources for learning a foreign language in modern educational environment.

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