A SYSTEMATIC REVIEW OF VIRTUAL REALITY (VR) AND AUGUMENTES REALITY (AR) IN ENHANCING IMMERSIVE ENGLISH LANGUAGE LEARNING EXPERIENCES

*[1]IMELDA MAHARANI IMELDAMAHARANI369@GMAIL.COM
[2]NURAINI, AININUR1419@GMAIL.COM
*[1]UIN SULTAN THAHA SAIFUDDIN JAMBI, MUARO JAMBI, JAMBI, INDONESIA
[2]UIN SULTAN THAHA SAIFUDDIN JAMBI, MUARO JAMBI, JAMBI, INDONESIA

1st ICOERESS
(October 16th, 2024)

Submission:
(18-11-2024)
Published:
(30-12-2024)

ABSTRACT

The systematic review examines the rapidly evolving technological advancements that enable immersive learning environment that enhance student engagement ang motivation. This systematic literature review explores the use of Virtual Reality (VR) and Augumented Reality (AR) in immersive English language learning experiences. Using the PRISMA 2020 guidelines, 30 journal articles from 2024 were Systematically analyzed in four phases : identification, screening , eligibility , and exclusion. The study highlights the potential of VR to create a simulated environment to practice language skills, while AR enruches real - world contexts with digital elements , fostering interactive and collaborative learning experiences. The findings reveal that VR and AR , when combined provide unique opportunities to enhance languange learning abilities for immersive learners as well as enhance student motivation. The review emphasizes the effectiveness of AR and VR in reducing learning enxiety , increasing motivation , and facilitating active learning for students at various levela of education. The study offers insights into leveraging VR and AR tecchnologies to create more comprehensive ang engaging language learning experiences.

Keywords: *Virtual reality (VR) , Augumented reality (AR), language learning , English education.*

BACKGROUND

Technologies like virtual reality (VR) and augmented reality (AR) are revolutionizing how we engage with the digital world. Virtual Reality (VR) creates an immersive three-dimensional environment for user interaction, used in architecture, education, and entertainment. Augmented Reality (AR) adds digital elements to the real world, often used in mobile applications and games to provide additional information about nearby objects (Pratowo, 2022). Both technologies are always changing as technology progresses and have enormous potential in training, education, entertainment, and many other fields.

Students and virtual reality (VR) and augmented reality (AR) have a significant relationship, particularly when it comes to education and learning. Through immersive simulations, such as visiting historical locations or participating in scientific experiments, virtual reality (VR) in education improves student engagement and aids in their understanding and retention of material (Lin et al., 2024). Through immersive simulations, such as visiting historical locations or participating in scientific experiments, virtual reality (VR) in education improves student engagement and aids in their understanding and retention of material.

Researchers highlight the use of Virtual Reality (VR) and Augmented Reality (AR) technology in language learning has several advantages. For example, a study by Hua and Wang (2023) showed that VR can create an immersive learning environment and support deeper student engagement, which can improve speaking skills and reduce learning anxiety. In addition, AR can be applied in various

collaborative activities that motivate students while enriching their language skills with situations that are directly related to the real world.

The collaboration between Virtual Reality (VR) and Augmented Reality (AR) in language learning experiences creates a more comprehensive and interactive approach. The combination of VR and AR allows students to learn in an immersive environment while connecting with the real world. In language learning, VR can be used to create simulated scenarios that resemble the target language's living environment, where students can practice speaking, listening, and interacting skills in realistic situations. For example, they can ‘walk’ around a foreign city while talking to virtual residents, enhancing their understanding of cultural context and language use (a follow-up review). AR also complements the experience by adding digital elements to the real world. With AR, students can point their devices at physical objects such as posters or scenery and see additional information in the form of text, video or animations that help with vocabulary and pronunciation. This enhances collaborative learning where students work together on task-based or project-based activities, such as creating a virtual tour (Euan Bonner , 2018). In addition Euan Bonner (2018) also said that this VR and AR collaboration supports interactive learning, increases motivation, and facilitates active learning with more real and engaging contextual experiences.

Finally, this systematic literature review (SLR) was conducted to understand Using Virtual Reality (VR) and Augmented Reality (AR) for Immersive Language Learning Experience for Students and As mentioned earlier, this paper will highlight the effectiveness of Virtual reality (VR) and Augmented reality (AR) especially in language learning.

Because the development and advancement of technology is getting faster and faster, it allows users to interact with digital environments that are created virtually or enhanced with digital information. This can make it easier for educators especially in language learning and this can present great opportunities for students to expand their abilities in learning languages o that they can explore more knowledge. Therefore, the purpose of this paper is to examine the use of Virtual Reality (VR) and Augmented Reality (AR) for Immersive Language Learning Experience for students in learning English. The main research question is as follows "How can Virtual Reality (VR) and Augmented Reality (AR) enhance the immersive English learning experience for students?".

RESEARCH METHOD

This study used the Control List Preferred Items for Systematic Reviews and Meta-Analyses 2020 to conduct a systematic literature review. The PRISMA Checklist includes 27 criteria designed to ensure transparency and reliability of systematic reviews, allowing researchers to organize research in a structured and systematic manner. This study used a descriptive comparative approach (Check & Schutt, 2012; Creswell, 2014; Sharp, 2003) to compare the results of relevant previous studies. This approach was chosen because the main purpose of this study is to describe and explain the use of Virtual Reality (VR) and Augmented Reality (AR) in enhancing immersive language learning experiences for students. Because this study aims to provide readers with a better understanding of the role of VR and AR technologies in language learning, especially in English, and how these technologies can enrich students' learning experiences by creating a more immersive and interactive environment.

This study has a main component on how Virtual Reality (VR) and Augmented Reality (AR) in enhancing immersive English learning experiences for students. The information accessed for review consists of electronic journals. This study is based on a systematic analysis of articles from the main database, namely ERIC. Literature processing was carried out on journals published between 2024. Therefore, in this study the researcher used stages in conducting his analysis. These stages include the Identification Stage, the Feasibility Stage and finally the Inclusion Stage.

Phase 1: Identification Step

This systematic review step consists of identifying the relevant ones. This step includes two main processes. The first step involves collecting relevant articles and selecting the appropriate ones based on the so-called exclusion criteria. Such studies can show the limitations of publication bias. This research process does not involve analyzing information from sources other than journal databases, such as book chapters, books, and technical reports.

Therefore, the study focused on analyzing peer-reviewed journals as sources. The main database used for this study is Google Scholar, as shown in Table 1. Furthermore, the papers used in this systematic review were published between 2024. There are various keywords used in this process. namely Virtual Reality (VR) and Augmented Reality (AR), Virtual Reality (VR) and Augmented Reality (AR) in education, and Virtual Reality (VR) and Augmented Reality (AR) in Language Learning.

Table 1. Source of journal

Journal Source	Quantity	Keyword
Google Scholar	30 Article	Virtual Reality (VR) and Augmented Reality (AR), Virtual Reality (VR) and Augmented Reality (AR) in education, and Virtual Reality (VR) and Augmented Reality (AR) in Language Learning.

Phase 2: Screening Step

Appropriate papers in Google Scholar were selected. The papers were then re-examined. and all duplicates were removed leaving articles that met the criteria to be retained.

Phase 3: Eligibility Step

At this stage, all articles are collected and checked for eligibility and whether the articles found meet the criteria set by the researcher. This involves checking the quality of the articles and their suitability to the research objectives. The remaining articles will be further checked to ensure that they are relevant, of high quality, and meet the required standards.

Table.2 Inclusion Criteria

Inclusion
Virtual Reality (VR) and Augmented Reality (AR) for Language Learning Experiences
Research methodology: quantitative, qualitative, and mixed methods
Samples or respondents from various levels of education
implementation in teaching and learning activities
Journal Articles published in 2024

The selected articles focused on the use of Virtual Reality (VR) and Augmented Reality (AR) for Immersive Language Learning Experiences. These articles were then examined based on the criteria described in Figure 1.

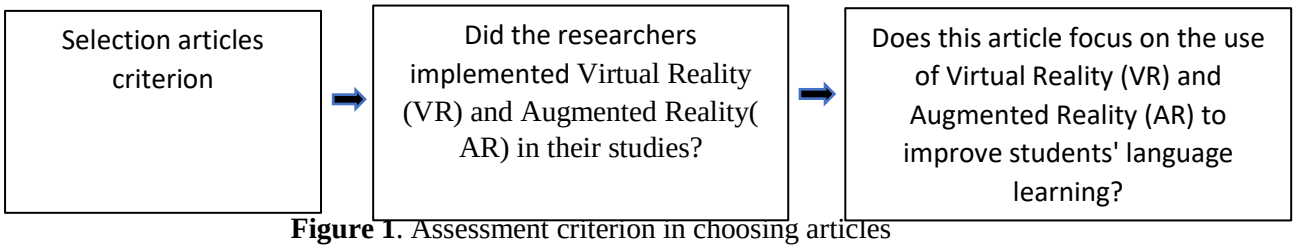


Figure 1. Assessment criterion in choosing articles

Phase 4: Exclusion Phase

After checking the articles who eligibility in the third pahse, the remaining articles were exclude from this systematic literature review. The criteria of the exclude articles are stated in Table 3. The exclusion step, like the eligibility step, was crucial in ensuring that the researchers collected high-quality data.

Table 3. Exclusion Criteria

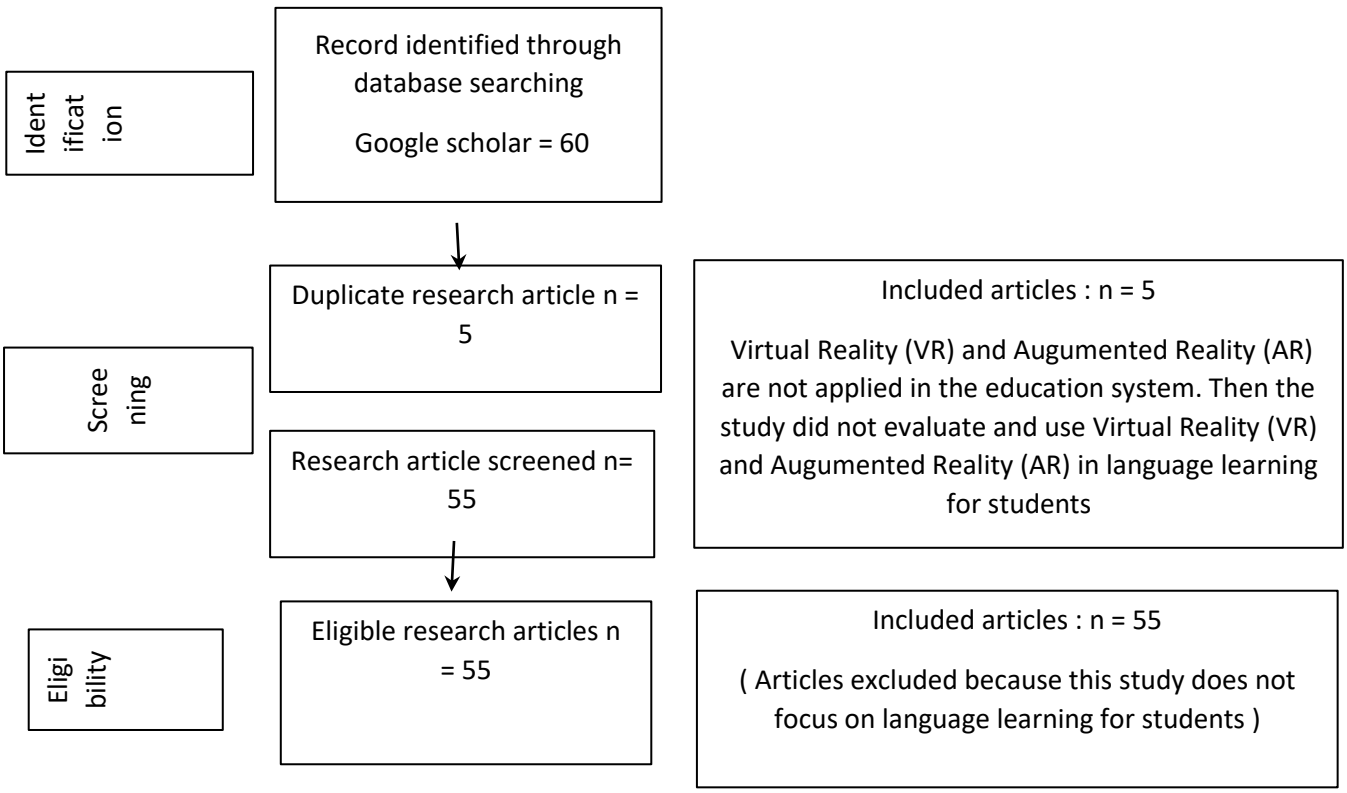
Exclusion
Artificial Intelligence was not implemented in Writing skill
Gthe studies did not access and evaluate artificial intelligence
Teaching and learning which did not used artificial intelligence
Articles not published in 2024

There were 30 articles provided information about the use of Virtual Reality (VR) and Augmented Reality (AR) for Immersive Language Learning Experiences. Most of the analysed articles showed the combination of quantitative, qualitative, and mixed-method type studies as depicted in Table 4. The respondents from all of the studies included all levels of education from primary until university level.

Table 4. Quantity of journals based on research design

Research Design	**Quantity**
Quantitative Design	8
Qualitative Design	6
Mixed-Method Design	9
Review of Literature	7

Figure 2 shows the complete procedure from Phase 1 to Phase 4 in more detail, following the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) checklist in conducting tis systematic literature review



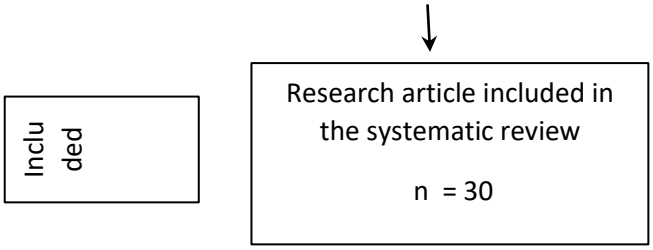


Figure 2. Stream chart of the research article selection process

RESEARCH FINDINGS

The findings of the research papers will be reviewed in-depth in this section. Due to the nature of investigations, 10 articles were chosen to be appropriate in this systematic review after four phases of choosing eligible articles for evaluation. Many different researchers have presented research on the use of Virtual Reality (VR) and Augmented Reality (AR) for Immersive Language Learning Experiences, and the best and most seminal of these research papers are described in Table 5 below

Table 5. Main Characteristics, Perspectives and perception of the use of Virtual Reality (VR) and Augmented Reality (AR) for Immersive Language Learning Experiences

Authors	Territory	Study Purpose	Participants	Discussion
Lampropoulos, Pablo Fernández-Arias , Álvaro Antón-Sancho and Diego Vergara)	Unspecified, but applicable to various educational contexts.	Affective Computing in Augmented Reality, Virtual Reality, and Immersive Learning Environments	students employing immersive learning environments, virtual reality, and augmented reality.	the use of virtual reality (VR), augmented reality (AR), and immersive learning environments in the classroom to use affective computing, and how these technologies might enhance learning outcomes and experiences by identifying students' emotions.
Palamar, Kateryna Brovko and Sergey Semerikov)	Ukraina	Enhancing Foreign Language Learning in Ukraine: Immersive Technologies as Catalysts for Cognitive Interest and Achievement.	students enrolled in Borys Grinchenko University of Kyiv's Faculty of Pedagogical Education's specialization 013: "Primary Education."	integration of immersive technology, such virtual reality and augmented reality, in foreign language instruction, as well as how these tools improve the educational process, inspire learners, and foster communication abilities.
Hoai et, Pham Ngoc Son, Nguyen Mau Duc, Ta Thi Thao, Pham Thi Kim Giang, Pham Tien Huu, Nguyen Thi Kim Thuong, and Pham Gia Bach)	Vietnam	The Current State of Virtual Reality and Augmented Reality Adoption in Vietnamese Education: A Teacher's Perspective on Teaching Natural Science	To determine how widely VR and AR technologies are being used to enhance instruction, 427 natural science instructors in Vietnam were polled.	the integration of augmented reality (AR) and virtual reality (VR) into the Vietnamese educational system. The main focus is on the elements that affect how these technologies are incorporated into instruction, their function in the Vietnamese educational system, and how VR and AR can improve student learning in comparison to more conventional teaching techniques.
Al Shawabkeh & Arar)	unspecified, but applicable to various educational context	The Role of Virtual Reality in Enhancing Experiential Learning: A Comparative Study of Traditional and Immersive Learning Environments.	students participated in both traditional classroom instruction and virtual reality (VR)-based learning environments, while teachers taught in both settings.	both professors and students participated in traditional instruction and virtual reality (VR)-based learning settings.By contrasting immersive and conventional learning contexts, virtual reality (VR) can improve experience learning. The emphasis is on how VR affects student comprehension and engagement, as well as the difficulties in implementing it. Additionally, suggestions for curriculum design and teacher professional development are given.
Khamis, Moh. Khairudin, Azrul	unspecified, but applicable	A Systematic Review of Adapting Immersive Technology in	professors and students participated in traditional	incorporation of immersive technologies, including virtual reality and augmented reality, in the

Hazri Jantan, Nuur Alifah Roslan, Lili Nurliyana Abdullah)	to various educational context	Enhancing Teaching and Learning for Students in Higher Education	instruction and virtual reality (VR)-based learning settings.scholars, educators, and researchers who investigate and use immersive technologies in learning environments. Information was gathered from pertinent reviews, research, and papers in the Web of Science (WoS) and Scopus databases.	classroom, with an emphasis on the theoretical underpinnings of how they might be used to improve instruction. A thorough analysis of the literature highlights the significance of theoretical underpinnings and best practices in the application of these technologies while also identifying new themes and trends.
Zhubanova Sh.A., Beissenov R.Ye.,)	Kazakhstan	INTEGRATING MIXED (AR & VR) REALITY INTO EFL TEACHING IN KAZAKHSTANI SECONDARY SCHOOL	English as a foreign language teachers and seventh-grade pupils at a high school in Kazakhstan.	the application of mixed reality, which blends virtual reality (VR) and augmented reality (AR), in Kazakhstani secondary schools to teach English as a foreign language. The advantages of this technology in fostering an immersive learning environment, raising student interest, and enhancing vocabulary acquisition were highlighted. Along with comparing the learning outcomes of students who used immersive technology with those who used traditional teaching techniques, the study also emphasized the need for more research and training for teachers on how to use these technologies.
Ravshanovna)	institutions that have complete technology	ENHANCING FOREIGN LANGUAGE EDUCATION THROUGH INTEGRATION OF DIGITAL TECHNOLOGIES	both teachers who use these technology in the classroom and students who use a variety of digital resources to learn foreign languages.	cross-cultural cooperation, the use of multimedia resources to accommodate various learning styles, the integration of digital tools, their effects on learning, and student interaction through interactive exercises and immediate feedback are all aspects of the role of digital technology in foreign language instruction.
Mokodompit, Sary D.E. Paturusi, Virginia Tulenan)	Indonesia	Aplikasi Augmented Reality Untuk Pembelajaran Bahasa Inggris Pada Anak Sekolah Dasar	English language learners in elementary school who utilize augmented reality applications.	the creation of an augmented reality software that emphasizes the utilization of 3D objects, text, and sound to enhance language understanding in elementary school English language instruction. The process of creating an app and its interactive

				potential to aid in children's learning are also covered in the study.
Saepuloh & Salsabila)	Indonesia	VIRTUAL REALITY IN TEACHING ENGLISH VOCABULARY OF THINGS AROUND MATERIAL	At SD Negeri Cipanas 2, instructors and students participated in training and practice sessions utilizing virtual reality (VR) to teach English vocabulary.	This study also emphasizes how eager and involved students are in the learning process, as well as how using virtual reality (VR) can enhance teacher effectiveness and make learning English at SD Negeri Cipanas 2 more engaging, effective, and enjoyable.
Sari, Al-Khowarizmi, Mandra Saragih, Al Hamidy Hazidar, Asrar Aspia Manurung)	Indonesia	Perancangan Sistem Aplikasi Pembelajaran Bahasa Inggris Berbasis Virtual Reality dan Augmented Realit	English language learners in elementary school who utilize augmented reality applications, as well as educators that use the apps to assist in the teaching process.	the integration of augmented reality technology with learning and quiz features in an English language learning software for elementary school pupils. According to the research, students found this application to be both entertaining and helpful when learning English.
Endah Wulansari, TM Zaini, Bobby Bahri)	Indonesia	PENERAPAN TEKNOLOGI AUGMENTED REALITY PADA MEDIA PEMBELAJARAN	both educators and learners who make use of this technology.	the use of Augmented Reality as an innovative interactive learning medium in contrast to traditional techniques. The emphasis is on the "waterfall method" of application development and testing, as well as the use of computer graphics to display 3D animations and pictures that improve user comprehension.
Rahimah)	Indonesia	DAKWAH MELALUI TEKNOLOGI VR DAN AR: TRANSFORMASI MEDIA DALAM MENYAMPAIKAN PESAN ISLAM	academics, researchers, and professionals working on the creation and use of augmented reality (AR) and virtual reality (VR) technologies in the framework of contemporary da'wah.	the possible application of augmented reality (AR) and virtual reality (VR) technology in contemporary da'wah, including their incorporation into media like storybooks, game cards, and Islamic history museums, in order to expand the audience and boost the efficacy of religious teachings.
Putra, Iqmal Khafi, Ahmad Jafar Shiddiq, Bagas)	elementary schools that have access to immersive technology	The Integration of Immersive Learning Technologi in Elementary School Education	Primary school pupils who make use of interactive learning tools like virtual reality (VR) and augmented reality (AR)	the efficiency of interactive technology, such virtual reality (VR) and augmented reality (AR), in raising primary school students' comprehension and involvement. Increasing motivation, conceptual knowledge, and critical thinking abilities—as well as

				the difficulties in applying them—are the main goals.
Endah Wulansari, TM Zaini, Bobby Bahri)	Indonesia	PENERAPAN TEKNOLOGI AUGMENTED REALITY PADA MEDIA PEMBELAJARAN	Teachers and students who use this technology to enhance their comprehension of the course materials.	the use of augmented reality technology as a more engaging learning media innovation than traditional techniques. The application creation and testing process, as well as the usage of computer graphics to display 3D animations and pictures that improve user comprehension, are the main topics.
Zhang, Wan Ahmad Jaafar Wan Yahaya and Mageswaran Sanmugan)	unspecified but still in academic environment	The Impact of Immersive Technologies on Cultural Heritage: A Bibliometric Study of VR, AR, and MR Applications	Researchers and professionals involved in immersive technologies, including augmented reality (AR) and virtual reality (VR)	bibliometric evaluation of works in cultural heritage that discuss virtual reality (VR), augmented reality (AR), and mixed reality (MR). It offers insights for researchers and practitioners in the use of immersive technologies and focuses on data from 1214 publications, including the quantity of articles, citations, prolific authors, and subject areas.
Azzquera)	unspecified, but applicable to various educational context	Virtual Reality in English Education: Immersive Learning for the 21st Century	Students, instructors, educational institutions, content creators, researchers, and technology suppliers all participate in the use of virtual reality (VR) in English instruction.	the benefits of virtual reality (VR) in raising student engagement, the instructional strategies employed, the implementation problems, the learning results that result, and the availability of VR in English language instruction.
Al-Ansi, Mohammed Jaboob, Askar Garad, Ahmed Al-Ansi)	conducted in several educational institutions or research centers that have access to AR and VR technology.	Analyzing augmented reality (AR) and virtual reality (VR) recent development in education	technology developers, academic institutions, students, researchers, and teachers.	advantages of AR and VR in improving the educational process, how they can be used in the curriculum, implementation difficulties, current development trends, and research results on their efficacy.
Rahimah)	Indonesia	DAKWAH MELALUI TEKNOLOGI VR DAN AR: TRANSFORMASI MEDIA DALAM MENYAMPAIKAN PESAN ISLAM	Researchers, teachers, students, IT developers, and places of worship are among them.	the potential of VR and AR to spread religious messages, application models, worshipper benefits, implementation hurdles, and creative da'wah instances.

Sugiharti, Ana Yuniasti Retno Wulandari, Eva Ari Wahyuni, Badrud Tamam, Nur Qomaria)	Indonesia	PENGEMBANGAN VIRTUAL REALITY BERBASIS SMARTPHONE SEBAGAI MEDIA PENUNJANG MATERI PENCEMARAN LINGKUNGAN	UPT SMPN 14 Gresik's VII-C students, instructors, educators, and tech developers.	the use of the ADDIE paradigm, student reactions, media validity, the efficiency of smartphone-based virtual reality in comprehending environmental pollution content, and the possibility of VR in raising student involvement.
Dumayanti & Kusumawati)	Indonesia	PENERAPAN MEDIA BERBASIS VIRTUAL REALITY UNTUK MENUMBUHKAN KREATIVITAS PESERTA DIDIK DALAM PEMBELAJARAN BAHASA INDONESIA	Research participants include outstanding class III students at MIN 1 Medan, homeroom teachers who assist with the learning process, Indonesian language instructors who use virtual reality media, and parents who encourage their children's creativity at home.	the effects of virtual reality media on student creativity, the study's data gathering methods, student reactions, learning strategies, and markers of how well curiosity and self-assurance are fostered.
Saepuloh & Salsabila,)	Indoesia	VIRTUAL REALITY IN TEACHING ENGLISH VOCABULARY OF THINGS AROUND MATERIAL	Teachers, students, parents, and members of the local community at SD Negeri Cipanas 2.	the value of early vocabulary acquisition, the difficulties in integrating VR in the classroom, the efficacy of using VR in vocabulary acquisition, teacher preparation techniques, and students' excitement during the learning process.
Sulaiman Kurdi,)	Indonesia	Realitas Virtual Dan Penelitian Pendidikan Dasar: Tren Saat Ini dan Arah Masa Depan	researchers, teachers, students, schools, policymakers, and technology developers.	advantages of virtual reality (VR) in raising student engagement, immersive learning opportunities, implementation issues like cost and accessibility, the need for more study to maximize VR's application, and how to incorporate VR into the curriculum.
Zhao, YuRen , and Kenny S. L. Cheah)	Unspecified but higher education institutions, research centers, and educational institutions involved in	Leading Virtual Reality (VR) and Augmented Reality (AR) in Education: Bibliometric and Content Analysis From the Web of Science (2018–2022)	echnology developers, researchers, educators who assess the technology, students who use it, educational institutions that facilitate its usage, and policymakers who create relevant regulations.	study trends from 2018 to 2022, the potential of VR and AR to transform education, the significance of assessing technology before implementing it, the application of VR and AR in a variety of fields, as well as the educational ramifications after COVID-19.

	technological innovation			
Dumayanti & Kusumawati,)	Indonesia	PENERAPAN MEDIA BERBASIS VIRTUAL REALITY UNTUK MENUMBUHKAN KREATIVITAS PESERTA DIDIK DALAM PEMBELAJARAN BAHASA INDONESIA	parents, homeroom teachers, Indonesian language instructors, and third-grade superior pupils at MIN 1 Medan.	the effects of virtual reality (VR) media on enhancing student creativity, learning strategies for hearing fairy tales and short stories, student reactions and excitement during the learning process, markers of success in promoting curiosity and self-assurance, and the study's data collection methods.
Azmi, Hamsi Mansur, Agus Hadi Utama)	Indonesia	Potensi Pemanfaatan Virtual Reality Sebagai Media Pembelajaran Di Era Digital	technology developers who make VR apps, educators who employ the study findings, and students as users.	the ability of virtual reality (VR) to visualize abstract ideas, the immersive experience it provides, how it affects student motivation and engagement, how it may be used for self-directed learning, and the difficulties and solutions for its deployment.
Sulaiman Kurdi)	Indonesia	Realitas Virtual Dan Penelitian Pendidikan Dasar: Tren Saat Ini dan Arah Masa Depan	researchers, teachers, students, educational institutions, policymakers, and technology developers.	the effects of virtual reality (VR) on student engagement, immersive learning environments, implementation issues like cost and accessibility, educational innovation potential, and VR's contribution to the development of critical thinking and problem-solving abilities.
Schorr, David A. Plecher, Christian Eichhorn and Gudrun Klinker)	unspecified, but applicable to various educational context	Foreign language learning using augmented reality environments: a systematic review	Researchers who review the literature, designers of educational resources, teachers who utilize augmented reality, students who use it, and tech developers who make AR apps.	advantages of augmented reality (AR) for vocabulary learning, developments in marker-based technology usage, research design principles, the significance of combining AR with conventional techniques, and difficulties in implementing AR in language classrooms.
Bonner & Reinders)	Eropa	AUGMENTED AND VIRTUAL REALITY IN THE LANGUAGE CLASSROOM: PRACTICAL IDEAS	authors who write papers, educators who utilize the technology, students who use it, developers of AR and VR apps, and research educators who assess how beneficial they are.	The potential of AR/VR to improve language learning, learning exercises that educators can use, difficulties in using AR/VR in the classroom, privacy concerns that must be taken into account, and new advancements in AR/VR technology for language instruction.
Wijayanti)	Indonesia	Indonesian Students' Reading Literacy	307 students served as research subjects, along	the impact of parents' reading habits, elements that affect pupils' reading motivation, library use, reading

			with library managers, reading competition organizers, and parents who have an impact on their kids' reading habits.	time, and the effect of technology use on reading habits.
Li et al, Peng Xirui, Jintong Song, Bo Hon,Jin Wang)	carried out in various institutions that utilize AR technology	The application of Augmented Reality (AR) in Remote Work and Education	Researchers who carry out analyses, instructors who use augmented reality, staff members who use the technology, makers of AR applications, and organizations that support its use.	AR's potential to increase productivity, real-world applications in both work and education, implementation benefits and difficulties, required technology support, and upcoming developments in AR.

DISCUSSION

There are several significant advantages to using virtual reality (VR) and augmented reality (AR) in the classroom. These technologies not only improve student learning but also transform the teaching process by making it more dynamic and interesting. By engaging students on several sensory levels, virtual reality (VR) offers a distinctive and immersive learning environment that improves learning outcomes and retention. With the use of this technology, teachers may create a more dynamic and engaging learning environment by going beyond conventional approaches (Lampropoulos et al., 2024). The availability of augmented reality (VR) and virtual reality (AR) media can facilitate learning.

Particularly enhancing vocabulary and raising student motivation, but it hasn't been embraced because of the new and altered teaching methods (Schorr et al., 2024). Through total immersion techniques, virtual reality and augmented reality produce immersive learning experiences that improve foreign language acquisition, making education more interesting and approachable than with conventional methods.

Gamification, which introduces game aspects to boost student motivation and engagement, is one tactic to overcome the difficulties of employing virtual reality and augmented reality in language instruction. When paired with gamified learning techniques, immersive technology serve as a stimulant to raise students' cognitive interest and involvement in learning foreign languages. By incorporating an entertaining element that makes language learning an engaging and joyful experience, gamification inspires pupils (Palamar et al., 2023). As a result, using virtual reality and reality in language instruction can boost student interest, enable contextualized learning, enhance language proficiency, and lessen nervousness during hands-on instruction.

By boosting student interest and offering interactive practice and real-world context, virtual reality and augmented reality are powerful tools for language acquisition. These tools boost motivation, lessen practice anxiety, and speed up language learning. Through virtual object interaction, an English language learning program that combines augmented and virtual reality successfully engages students and aids in their understanding of new vocabulary; tests have shown encouraging results (Sari et al., 2023).

Additionally, by offering an immersive experience outside of the classroom, virtual reality revolutionizes the teaching of English. Through stories and simulations, virtual reality enables students to engage with the language in real-world situations, enhancing their proficiency (Azzquera, 2023). This study examines 40 studies conducted between 2016 and 2023, illustrating the trends, advantages, difficulties, and achievements of utilizing augmented reality in education. The findings demonstrate the effectiveness of augmented reality in improving motivation and vocabulary acquisition (Schorr et al., 2024).

CONCLUSION

Virtual reality and augmented reality technologies show great potential to enhance the learning process, in the context of language learning. The use of virtual reality and augmented reality allows for the creation of a more immersive learning experience and not only makes learning more interesting, but also allows students to better understand the material. For example, students enter an environment that is similar to a real atmosphere, such as a visit to a historical location or a foreign city. then indirectly this can increase students' understanding of the language and its cultural context.

This is very useful for students who are learning a foreign language where they can practice to improve their listening, speaking and interaction skills in real situations. The application of AR and VR in education not only has an impact on understanding the material, but can also play an important role in students' lives and can increase student motivation. With the gamification that can be applied in VR and AR, students can become more motivated and involved in learning. Previous research has shown that gamification can add game elements to language learning. and this can stimulate students' interests and talents. of course this is

very important in language learning that requires perseverance and repeated practice. Gamification in VR and AR creates a very enjoyable and memorable learning experience that can ultimately help reduce students' anxiety when practicing the language.

However, the application of AR and VR technology in learning still faces challenges because of inadequate access to devices, teacher skills in operating this technology and the potential or impact on physical health are still obstacles and this needs to be overcome. For many educational institutions, investment in this technology can be very expensive, and results in its availability and use still being limited. In addition, training for teachers in using VR and AR is also something that must be considered because with the development of adequate infrastructure and training, this challenge can be overcome to maximize the potential of AR and VR in language learning.

In the context of English learning, VR and AR can help students understand new vocabulary better. By using virtual objects, text, images, or videos. This can enrich the learning experience and help students understand the meaning of words more concretely. And ultimately this can improve students' vocabulary acquisition and deepen their understanding of language learning.

So, overall VR and AR have opened up a new way in education by creating an immersive and interactive learning environment. with the presence of these two technologies can provide an interesting learning experience and help students to focus and engage in language learning. Although there are still obstacles in its implementation, but with the right solution VR and AR can be a very effective tool in improving language skills in education and this has the potential to change the way language teaching has so far depended on traditional methods to be dynamic, fun and interactives.

REFERENCES

Al-Ansi, A. M., Jaboob, M., Garad, A., & Al-Ansi, A. (2023). Analyzing augmented reality (AR) and virtual reality (VR) recent development in education. *Social Sciences and Humanities Open*, *8*(1), 100532. https://doi.org/10.1016/j.ssaho.2023.100532

Al Shawabkeh, R., & Arar, M. (2024). The role of virtual reality in improving neighborhood park design: A comparative study of virtual reality and traditional approaches. *International Journal of Geoheritage and Parks*, *12*(1), 75–97. https://doi.org/10.1016/j.ijgeop.2024.02.001

Azmi, M. N., Mansur, H., & Utama, A. H. (2024). Potensi Pemanfaatan Virtual Reality Sebagai Media Pembelajaran Di Era Digita. *Jurnal Dimensi Pendidikan Dan Pembelajaran*, *12*(1), 211–226. http://journal.umpo.ac.id/index.php/dimensi/index

Azzquera, S. A. (2023). *Virtual Reality in English Education : Immersive Learning for the 21st Century*. *3*(5), 1–19.

Bonner, E., & Reinders, H. (2018). Augmented And Virtual Reality in The Language Classroom: Practical Ideas. *Teaching English with Technology*, *18*(3), 33–53. http://www.tewtjournal.org

Dumayanti, A. P., & Kusumawati, T. I. (2024). Penerapan Media Berbasis Virtual Reality Untuk Menumbuhkan Kreativitas Peserta Didik Dalam Pembelajaran Bahasa Indonesia. *Research and Development Journal of Education*, *10*(1), 628. https://doi.org/10.30998/rdje.v10i1.23369

Endah Wulansari, O. D., Zaini, T., & Bahri, B. (2013). Penerapan Teknologi Augmented Reality Pada Media Pembelajaran. *Jurnal Informatika Darmajaya*, *13*(2), 169–179.

Hoai, V. T. T., Son, P. N., Duc, N. M., Thao, T. T., Giang, P. T. K., Huu, P. T., Thuong, N. T. K., & Bach, P. G. (2024). The Current State of Virtual Reality and Augmented Reality Adoption in Vietnamese Education: A Teacher's Perspective on Teaching Natural Sciences. *International Journal of Information and Education Technology*, *14*(3), 476–485. https://doi.org/10.18178/ijiet.2024.14.3.2068

Khamis, H., Khairudin, M., Jantan, A. H., Roslan, N. A., & Nurliyana, L. (1943). *A Systematic Review of Adapting Immersive Technology in Enhancing Teaching and Learning for Students in Higher*

Education. *1*(1), 130–145.

Lampropoulos, G., Fernández-Arias, P., Antón-Sancho, Á., & Vergara, D. (2024). Affective Computing in Augmented Reality, Virtual Reality, and Immersive Learning Environments. *Electronics (Switzerland)*, *13*(15). https://doi.org/10.3390/electronics13152917

Li, K., Xirui, P., Song, J., Hong, B., & Wang, J. (2024). The Application of Augmented Reality (AR) in Remote Work and Education. *Journal of Computer Technology and Applied Mathematics*, *1*(1), 33–39.

Mokodompit, M. F., Paturusi, S. D. E., & Tulenan, V. (2021). Aplikasi Augmented Reality Untuk Pembelajaran Bahasa Inggris Pada Anak Sekolah Dasar. *Jurnal Teknik Informatika*, *16*(2), 121–128. https://ejournal.unsrat.ac.id/v3/index.php/informatika/article/view/33197/32388

Palamar, S., Brovko, K., & Semerikov, S. (2023). Enhancing Foreign Language Learning in Ukraine: Immersive Technologies as Catalysts for Cognitive Interest and Achievement. *CEUR Workshop Proceedings*, *3624*, 69–81.

Putra, D., Khafi, I., Shiddiq, A. J., Nugroho, B., & Dahlan, U. A. (2024). *Integrasi Teknologi Immersive Learning dalam Pembelajaran Sekolah Dasar The Integration of Immersive Learning Technologi in Elementary School Education*. *4*(2), 218–230.

Rahimah. (2024). *DAKWAH MELALUI TEKNOLOGI VR DAN AR : TRANSFORMASI*. *4*(2), 68–81.

Ravshanovna. (2024). ENHANCING FOREIGN LANGUAGE EDUCATION THROUGH INTEGRATION OF DIGITAL TECHNOLOGIES. *Αγαη*, *15*(1), 37–48. https://doi.org/10.48371/PEDS.2024.72.1.027%0AINTEGRATING

Saepuloh, A., & Salsabila, V. A. (2022). Virtual Reality Dalam Pengajaran Kosakata Bahasa Inggris Materi Things Around. *Journal of Empowerment*, *3*(1), 93. https://doi.org/10.35194/je.v3i1.2387

Sari, I. P., Al-Khowarizmi, A.-K., Saragih, M., Hazidar, A. H., & Manurung, A. A. (2023). Perancangan Sistem Aplikasi Pembelajaran Bahasa Inggris Berbasis Virtual Reality dan Augmented Reality. *Sudo Jurnal Teknik Informatika*, *2*(2), 61–67. https://doi.org/10.56211/sudo.v2i2.249

Schorr, I., Plecher, D. A., Eichhorn, C., & Klinker, G. (2024). Foreign language learning using augmented reality environments: a systematic review. *Frontiers in Virtual Reality*, *5*(February), 1–15. https://doi.org/10.3389/frvir.2024.1288824

Sugiharti, I., Wulandari, A. Y. R., Wahyuni, E. A., Tamam, B., & Qomaria, N. (2022). Pengembangan Virtual Reality Berbasis Smartphone Sebagai Media Penunjang Materi Pencemaran Lingkungan. *Jurnal IPA Terpadu*, *6*(3), 77. https://doi.org/10.35580/ipaterpadu.v6i3.35535

Sulaiman Kurdi, M. (2021). Realitas Virtual Dan Penelitian Pendidikan Dasar: Tren Saat Ini dan Arah Masa Depan. *CENDEKIA: Jurnal Ilmu Sosial, Bahasa Dan Pendidikan*, *1*(4), 60–85. https://doi.org/10.55606/cendikia.v1i4.1317

Wijayanti, S. (2020). *Indonesian Students' Reading Literacy*. *390*(Icracos 2019), 61–65. https://doi.org/10.2991/icracos-19.2020.13

Zhang, J., Wan Yahaya, W. A. J., & Sanmugam, M. (2024). The Impact of Immersive Technologies on Cultural Heritage: A Bibliometric Study of VR, AR, and MR Applications. *Sustainability (Switzerland)*, *16*(15). https://doi.org/10.3390/su16156446

Zhao, X., Ren, Y., & Cheah, K. S. L. (2023). Leading Virtual Reality (VR) and Augmented Reality (AR) in Education: Bibliometric and Content Analysis From the Web of Science (2018–2022). *SAGE Open*, *13*(3), 1–23. https://doi.org/10.1177/21582440231190821

Zhubanova Sh.A., Beissenov R.Ye., D. D. . (2024). *INTEGRATING MIXED (AR & VR) REALITY INTO EFL TEACHING IN KAZAKHSTANI SECONDARY SCHOOL*. https://doi.org/10.48371/PEDS.2024.72.1.027%0AINTEGRATING