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Creating XR toolkits to foster an inclusive environment for foreign language learning (FLL) to empower refugee women in new settings

Abstract

The purpose of this paper is to identify the optimal XR tools for cultivating inclusion in a second language classroom that Polish language teachers know and successfully use and which female refugees from Ukraine would like to use. The article is grounded in a project aimed at bridging the substantial gap between refugee women and women with fewer opportunities within the realm of language education. It is acknowledged that women with fewer opportunities (such as migrants, refugees, and asylum seekers) have already coped with significant challenges related to relocation and other traumatic experiences.

The project posits that XR tools can be employed to assist these women in acquiring new language skills. The central objective is to establish an XR environment that alleviates additional anxieties associated with Foreign Language Learning (FLL). By offering a broader array of realistic and engaging scenarios, these XR learning environments can facilitate practical activities. Such environments enable students to familiarize themselves with the nuances of language use and develop proficiency beyond the confines of a classroom setting. This approach emphasizes language application rather than rote memorization of closed-system rules.

Moreover, the work focuses on standardizing terminology and methodologies through comprehensive literature and Internet research. Finally, the report highlights the latest advancements in Poland concerning the discussed issue.

Keywords: extended reality, language teaching tools, foreign language teaching, virtual reality, augmented reality, inclusiveness in teaching, digitalization

Introduction

Recent years have witnessed a significant expansion in digital technologies and their rapid integration into everyday life and learning, to the extent that scholars might encounter difficulties in understanding what Extended Reality (XR) technologies are and how they can be applied in language education. With substantial investments in immersive technologies and Zuckerberg's 2021 push for the Metaverse (Rospigliosi, 2022), scholars anticipate a further surge in XR technology adoption in the 2020s. The challenge of defining immersive technologies, like extended reality (XR), is not unique.

For the purpose of this article, extended reality (XR) refers to three distinct realities: virtual reality (VR), augmented reality (AR), and mixed reality (MR). Additionally, Mobile-Assisted Language Learning (MALL) has rapidly expanded due to the advancement of new technologies and the prevalence of smartphones. Educators and researchers have conducted empirical MALL research (e.g., Rosell-Aguilar, 2017) and advocated for the utilization of mobile tools in English Language Education (ELE), such as instant messaging apps. However, it is Extended Reality (XR) technologies that seamlessly blend the physical and digital worlds, making them increasingly accessible and available to the general public.

The most frequently cited definition of AR is presented in Azuma's work (1997), where "Augmented reality is a field in which 3D virtual objects are integrated into a 3D real environment in real-time." AR is categorized into two types: location-based AR and vision-based AR. Location-based AR employs GPS-enabled mobile devices to track distances between locations. Location data can be combined with information from GPS, gyroscope, compass, or camera to provide insights into the physical environment.

Regarding VR, it immerses users in a fully simulated environment that substitutes the actual physical world. Furthermore, 360-degree media, including images and videos, can be experienced in VR and is frequently used by developers to deliver immersive content. On the other hand, MR allows the integration of real and virtual environments through the use of tools.

XR technologies offer three types of immersion: fully immersive, semi-immersive, and non-immersive. Fully immersive content requires specialized devices like VR HMDs (Head-Mounted Displays) to immerse users in virtual environments by blocking external information. Non-immersive content, however, does not require special devices; it utilizes mobile and desktop screens and represents the lowest level of immersion. Semi-immersive content falls between the two, using a real environment or equipment connected to a desktop screen to enhance immersion without excluding external information.

A primary advantage of XR tools is their capacity to provide immersive experiences that enable users to naturally and intuitively interact with virtual objects. VR facilitates complete immersion in virtually any environment. In contrast, AR overlays digital information onto the real world, enabling the creation of interactive experiences that

enhance real-life situations. For instance, a mechanic could use AR glasses to view digital overlays of an engine, highlighting components and offering repair instructions. In education, AR could animate textbooks by enabling students to explore 3D models of complex concepts interactively. As the term suggests, MR combines VR and AR elements for a more immersive experience. MR allows users to seamlessly interact with virtual objects integrated into the real world, a level of interaction unattainable with traditional screen-based interfaces.

Creating interactive educational content has always posed challenges. An essential concern is adaptive or intelligent learning systems. Many teachers are hindered by limited access to instructional designs. This refers to the scarcity of VR/AR materials, with no guarantee that these materials align with students' learning objectives. Additionally, ensuring VR content interoperability across platforms is challenging, often leading to proprietary solutions owned by organizations or individuals. Another challenge is that while many studies and reviews of educational XR technology use exist in the literature, few, if any, elucidate the various approaches available to average teachers for crafting XR educational materials.

One study investigated the VR market for educational and training applications across domains from 2019 to 2021 using the online store of a major VR HMD player, Oculus. Results revealed that over half of the available applications were free, with most being in English. The top-rated applications spanned nature, space, medicine, art, and history domains. From a language teaching perspective, the authors of this article conducted research into the most popular XR solutions and sought to identify those most suitable for Foreign Language Learning (FLL).

Establishing XR solutions and their application in the Polish context

Using XR solutions in Foreign Language Learning (FLL) has been actively promoted by scholars and app developers across Europe, Asia, and North America. Since the onset of the COVID-19 pandemic, educational institutions, among others, have been compelled to transition to an online environment. This shift has facilitated the development of alternative educational methods beyond traditional classrooms. While some dissenting voices exist, many content creators have praised XR solutions for their numerous advantages, including:

a. Improved retention rates;
b. Enhanced Learner Engagement (ELE)
c. Boosted confidence.

According to the popular English language and culture blog FluentU, the four most popular VR tools are VirtualSpeech, AltspaceVR, Immersive VR Education, and ClassVR. The blog also recognizes Mondly, a leading online language learning platform that enables over 100 million students from 190 countries to learn 41 languages, as one of the top solutions. Launched in 2014, Mondly has quickly gained recognition as a prominent brand in the mobile space, securing the top spot in education, according to the company's

marketing material. Further research uncovered other apps and solutions that appear in search engine results from Poland. Google Trends™ highlights the following top searches:

a. Mondly AR
b. Babbel
c. Duolingo
d. Polyglot
e. Quizlet
f. Kahoot
g. Wordwall
h. Babadum.

This appears promising, at least in theory. Teaching experts also refer to Polish state educational laws that define education as:

– Nurturing children's development toward full maturity in physical, emotional, intellectual, spiritual, and social aspects, reinforced and complemented by preventative measures for children and youth issues (Art. 1. pt. 3);
– Disseminating knowledge and skills essential for active engagement in national and global culture and arts among children and adolescents (Art. 1. pt. 13);
– Adapting education direction and content to labor market demands (Art. 1 pt. 17);
– Instilling entrepreneurial and creative attitudes in students to foster active participation in economic life, including innovative curricular, organizational, or methodological approaches in education (Art. 1 item 18).

It could be argued that XR technologies could efficiently facilitate these goals. However, the authors of the article believe that the main hurdle in achieving these objectives is financing. Firstly, professionals may decline to teach at technical schools unless they receive adequate compensation. Secondly, there are issues related to qualifications. To be authorized to teach students, one must undergo a lengthy, complex, and daunting certification process. Thirdly, research has shown that XR technology is perceived as too expensive. Additionally, there is a lack of appropriate training materials and developed methodologies. Common themes emerging from search engine queries include the high cost of providing equipment for each student, the challenge of producing 3D digital content due to financial constraints, difficulty in creating valuable usage scenarios with didactic value, inadequate methodological support for teachers, and complaints from XR solution users about dizziness and motion sickness, which can lead to exclusion.

In the context of foreign language learning in Poland, like many other European countries, companies and startups are offering XR FLL solutions. For instance, Monika Mitoray (2021) from 3WAY conducted research and development as a result of a grant from the Kuyavia-Pomerania Innovation Agency's Research and Implementation Fund program. The goal was to create a method for conducting language classes in the VR/AR domain, along with necessary system prototypes. 3WAY developed the first language teaching tool in the VR space for the Polish and European markets, enabling real-time interactions between teachers and students or groups of students. Tests confirmed the viability of the chosen approach for future work and development. The company created a prototype that garnered significant interest. Tools integrated into the application, including 3D models,

a whiteboard, the ability to draw in 3D, and posted graphics, facilitate contextualized classes and provide a unique novelty for users, adding value to specific space-based classes.

During the pandemic, a Polish company developed *Englibot*, a Messenger chatbot that utilizes artificial intelligence to teach English. The monthly fee is approximately 12 Euros, targeting adults aged 25 to 55. *Englibot* prepares lessons using AI, tailoring them to individual abilities and interests while teaching practical language for everyday life. Other companies such as *GiantLazer* have collaborated with the University of Rzeszów to create products enriching this diverse market. *GiantLazer's* previous project focused on a specific tool – a speech recognition system programmed to capture accurate sentences related to specific phases of situations occurring in distinct locations, like airports, homes, or university campuses.

In the context of refugees, research has unveiled intriguing insights. Kornijchuk (2016) reveals that despite the availability of Polish language integration classes and the legal requirement to attend such classes, refugees often fail to perceive the benefits of participating in language learning programs. This is due to shortcomings in class organization (unsuitable study levels for attendees, inconvenient study locations) and the motivations of refugees prioritizing work and decent living conditions during the Individual Integration Program. However, Plutzar & Ritter (2008) argue that learning a foreign language is a pivotal strategy for refugee integration into society. Recommendations on integration policy and concepts can be found in the document „Polish Policy of integration of Foreigners: assumptions and guidelines."

Notably, the non-governmental sector primarily fulfills this statutory obligation with assistance from EU funds. Regrettably, few county family assistance centers allocate subsidies available for Polish language learning despite opportunities. However, with the refugee context shifting dynamically, Poland has seen an influx of refugees since the 2022 Ukraine invasion. As a result, language training has become a priority for many communities.

Similarly, the issue of exclusion has affected many Polish women in recent years, especially due to the COVID-19 pandemic. Kowalczyk and Zamorska (2022) substantiate the hypothesis that women at risk of social exclusion have felt the effects of the current health crisis. The auxiliary hypothesis confirms that previously developed survival strategies and adaptive skills effectively aided these women during the pandemic. Consequently, the health crisis has spotlighted unresolved issues, particularly for women who already struggled with various situations before the pandemic. This is due to factors such as age, single motherhood, disability, labor market instability, low education and income, and immigrant status, which limited their participation in social life.

These issues likely resonate in many European countries. As technology advances and the XR market grows, innovations with far-reaching implications are anticipated. XR technology will play a pivotal role in reshaping education to address challenges faced by schools, teachers, and students. However, individuals with fewer opportunities might encounter obstacles due to the cost of these new solutions. In the case of the presented report, immigrants and women facing challenges will need to adapt to a new environment to improve their situations.

Research

The conducted research was two-stage and incorporated an online questionnaire for foreign language teachers and a focus group interview with female refugees from Ukraine.

To properly assess the familiarity with XR solutions an online questionnaire was prepared to elicit information from foreign language trainers. The questionnaire asked a series of questions related to user preferences for a particular product or service in IT, AI, and XR. The research questions could be identified as:

- What are the problems female refugees and women with fewer opportunities encounter?
- What is the awareness of the existence of programmes that aim to help those women in terms of FLL?
- Can digital solutions help those women develop their skills?
- What electronic devices do female refugees and women with fewer opportunities possess?
- What digital skills do Polish language teachers possess?
- How long have Polish teachers used digital tools to enhance the teaching process?
- How do Polish language teachers use the Internet in their work?
- Do Polish teachers attend courses on digital teaching tools?
- What digital tools do Polish language teachers use at work?
- What is the Polish language teachers' experience with Oculus?
- What XR tools are Polish language teachers familiar with?
- Do Polish language teachers believe that digital tools can be useful when teaching and learning a foreign language?
- What XR/VR tools are usually used in Poland?
- What digital tools would Polish language teachers recommend using to enhance language learning?
- What digital tools would enhance language acquisition among female refugees and women with fewer opportunities in Poland?
- What are the benefits of taking advantage of XR tools when teaching a foreign language?
- What open source materials that can help female refugees and women with fewer opportunities are Polish teachers familiar with?

In terms of the responses, the following demographics were identified. The age range of respondents was 18–65, with an average age of 33.2. 51.7% of respondents identified themselves as male, 47.8% as female, and 0.5% as other. The majority of respondents (76.9%) had a master's degree, while 23.1% had a bachelor's degree.

The three most common answers to the identification of problems surrounding refugee women and those of lower status were: language barrier, unequal treatment, and financial instability. The respondents were not familiar with the programmes that help refugee women or women with fewer opportunities to master a foreign language (95%), 5% of the respondents answered: maybe. However, over 60% of them declared that the use of XR tools may prove to be a valid assistant in learning foreign languages. The question concerning access to technology also showed that trainers usually work with people limited

to the use of smartphones or laptops; to a lower degree participants also identified other tools, yet the VR component was missing. Please note the following:

On the other hand, Polish language teachers possess beginner knowledge (55%) in terms of digital tools or basic knowledge (30%), only 15% of the respondents declared they possess advanced knowledge of such tools. It is so despite the fact, that 78,9% of the respondents used digital tools already before the pandemic, whereas only 21,1% have used them since the pandemic when everybody was forced to do so. Polish language teachers have used digital tools to enhance the teaching process for no longer than 4 years. 35% of the respondents have used them for 3–4 years and 65% of them have used them for two years or less, which could lead to the conclusion that Polish language teachers have little experience in using digital tools, which is reflected in their answers concerning the XR tools they use:

In terms of how Polish language teachers use the Internet in their work, 90% of respondents answered that they use it to engage students in the learning process, 65% to look for ways to individualize the teaching process, 50% to look for exercises that require the usage of the Internet, 45% to individualize the teaching process, 30% to look for new materials.

When asked, the group could not provide a coherent list of tools that prove to be useful in language training. Refer to the following array of answers:

a. Kahoot
b. Wordwall
c. Padlet
d. Quizlet
e. Learningapps
f. Canva.

Other tools and applications mentioned include Baamboozle, Flippity, Vocaroo, Edpuzzle, Quizizz, Answergarden, Kreator krzyżówek, DeepL, Memrise, Pearson English panel, MEL, MS Office, MS Teams, Jamboard, Genially, answergarden, YouTube, and e-books.

Most respondents have no experience with Oculus (89,5%), and only 5,3% claim to be familiar with it in an advanced manner. The array of XR/VR tools that are used in Poland is highly limited, the respondents mentioned Duolingo and VR/HR headsets. For that reason, Polish language trainers who took part in the questionnaire could not recommend any such tools. They are also unfamiliar with any OpenSource materials that can help female refugees and women with fewer opportunities. However, they believe that the benefit of taking advantage of XR tools when teaching a foreign language is that such tools are available around the clock. 68,4% of the responders claim that they attend courses on digital teaching tools, which makes the authors hopeful about the usage of XR tools in education in the future.

It is unclear from the responses how frequently each tool or application is used or for what specific educational purposes they are used. However, the list may provide some insight into the tools and applications that are commonly known and used by the respondents for educational purposes.

Further investigation was done into the needs of female refugees. It was a focus group interview that took place on the 18th of April, 2023 at Dom Uchodźcy (Refugee House)

in Łódź run by the Lena Grochowska Foundation. The house is located at Okoniowa 16 in Łódź.

The Lena Grochowska Foundation was established in 2014 from within the Arche Group to help Poles displaced beyond the country's eastern borders return to their homeland. Since then, they have brought 25 families from Kazakhstan, Uzbekistan, Turkmenistan, and Ukraine to Poland. In this regard, they cooperate with the Ministry of Foreign Affairs, the Polish Senate, the Red Cross, and other Polish organizations. Over the years, their activities have expanded to include projects that oscillate around culture, art, and tradition in the broadest sense.

Operating in many other Polish cities, the 6 Refugee houses offered 190,000 free person-nights with food for Ukrainian refugees.[1] An author of this report – Adam Bednarek – contacted the coordinator of the House, Róża Szadziuk, and following an email exchange and direct phone contact, a date was selected for the interview. On April 18th, 2023 the author arrived at the site.

The interview aimed to determine:

– What are the most common problems that refugee women and women with fewer opportunities encounter in the respondents' community?
– Do the respondents have easy access to technology? If so, what is the most commonly used one?
– Do the responders agree with the statement that learning a foreign language will improve your position in the local labor market?
– Have the responders experienced second language learning through technology?
– Do the respondents perceive any disadvantages or complications associated with language learning through technology?
– What kinds of technology have the respondents used regarding second language learning?
– If offered, would the respondents consider pursuing learning a second language in an Extended Reality setting?
– Is there any software or hardware that the respondents would like to use more often during language learning?

Ten refugee women took part in the interview. The demographics are as follows:

– Age 20–29 – 2 participants, 30–39 – 5 participants, 40–49 – 3 participants;
– Education level: high school education – 2 (currently studying in Poland), higher education – 8;
– Time spent in Poland as a refugee: since the beginning of the war – 10 participants.

All the participants had an asylum status. The following is a summary of data gathered from the interviews:

Q1: What are the most common problems that refugee women and women with fewer opportunities encounter in your community?

[1] Further information may be found at: https://fundacjalenygrochowskiej.pl/; https://fundacjalenygrochowskiej.pl/Podstrony/Pomoc-dla-Ukrainy,412.

The common answer given by all respondents involved 3 key elements:

– Language barrier, which does not allow them to take up occupations in their respective fields. This is in line with institutions not recognizing their University Diplomas. This causes the participants to take up any available job the market has to offer.
– Inability to find employment, which ties in with the mentioned language barrier and lack of credentials.
– Lack of sufficient funds to provide for themselves and their children, leaving very little or none for furthering their language training.

These elements form a circle of three factors, which complement themselves and do not prevent the respondents from furthering themselves in the job market.

Q2: Do you have easy access to technology? If so, what is the most commonly used one?

All participants have smart devices including tablets, smartphones, and laptop access. The Refugee House provides Wi-Fi, which gives them internet access. All three are used for:

a. Entertainment
b. Communication
c. Learning.

Q3: Do you agree with the statement that learning a foreign language will improve your position in the local labor market? Please rate on a scale of 1 (not at all) – 5 (very much)

All participants pointed to 5 on the provided scale.

Q4: Have you experienced second language learning through technology?

All participants have had contact with language learning apps, that are downloadable from *Google Play*. For the most part, these are apps that are free to use. When presented with XR solutions, ANNs, and Chat GPT-4, only one participant was familiar with *Mondly* and *GPT-4*.

Q5: Do you perceive any disadvantages or complications associated with language learning through technology?

Two participants had nothing to say in the matter. Five participants stated that the complication may arise due to a lack of discipline, that a regular classroom provides, that is being forced to have a deadline and present results. Three participants claimed that they would feel less anxious in such a setting. In comparison, the 20–29 age group participants claimed that they would not accept such settings, as they need contact with a real environment and not an XR environment. The 40–49 participants also noted that, if encouraged to work with technology, they would prefer to use a laptop and not a smartphone as this was more familiar to them.

Q6: What kinds of technology have you used regarding second language learning?

All participants pointed to simple apps that they could use on their mobile devices. XR was not familiar to them.

Q7: If offered, would you consider pursuing learning a second language in an Extended Reality setting? Please answer on a scale of 1 (definitely no) to 5 (absolutely yes).

Five participants answered 5 on the scale, however, they mentioned that this cannot be in by itself, but must be accompanied by meetings face-to-face. Three participants declared 3, while two participants provided a 1. The 5 scale respondents indicated that this was a good way to reach out to women with small children as it could allow them to not keep to a schedule and decide when and where they could focus on their language learning.

Q8: Is there any software or hardware that you would like to use more often during language learning?

Only the 5 participants insisted on using a laptop, while all the rest were fine with using accessible technology, providing that it would be free to use or accessible through acceptable funds. Here they mentioned the elements discussed in Q1.

The interview participants do use technology, however a need for actual contact with the language is needed. XR solutions may only be an addition to conventional teaching. These are the main points that the authors took from the focus group.

Conclusions

Extended Reality (XR) technologies, encompassing Virtual Reality (VR), Augmented Reality (AR), and Mixed Reality (MR), have the potential to create inclusive and immersive language learning environments, especially for refugee women and women with fewer opportunities who encounter various difficulties. Language barriers, unequal treatment, and financial instability are among the key challenges faced by these women in Poland. The XR environments can provide interactive and engaging language learning experiences that help improve language skills and enhance confidence, ultimately leading to improved job prospects and integration into society.

Results of a questionnaire addressed to Polish language teachers indicate that there is a growing interest among them in the use of XR technologies. Nevertheless, Polish teachers claim to have limited experience with XR tools and that there is a need for more training to take full advantage of such technologies.

Refugee women and women with fewer opportunities have access to technology mainly through smartphones and laptops, which can be useful tools for learning and communication, however, some problems could be encountered in terms of the availability of hardware and access to the Internet. Moreover, the focus group revealed that XR tools should be seen as complementary to conventional methods, as the participants value face-to-face interaction and traditional classroom settings. Other issues connected with the usage of XR technologies in education would include problems with financing and a lack of standardized methodologies and training materials for language teachers.

The article underlines the potential of XR technologies to create inclusive and immersive language learning environments, particularly for refugee women and women with fewer opportunities. However, it also highlights the importance of addressing various issues

such as financial constraints, lack of training, and the need for balanced approaches that combine XR technologies with traditional teaching methods.

References

Alalwan N., Cheng L., Al-Samarraie H., Yousef R., Alzahrani A.I., Sarsam S. (2020), *Challenges and prospects of virtual reality and augmented reality utilization among primary school teachers: A developing country perspective*, "Stud. Educ. Eval.", no. 66, 100876.

Alqahtani A.S., Daghestani L.F., Ibrahim L.F. (2017), *Environments and system types of virtual reality technology in STEM: A survey*, "Int. J. Adv. Comput. Sci. Appl." IJACSA, no. 8, pp. 77–89.

Azuma R. (1997), *A survey of augmented reality*, "Presence: Teleoperators & Virtual Environment", vol. 6(4), pp. 355–385.

Brooks L. (2023), *8 VR English Learning Apps for the Learners of Tomorrow*, https://www.fluentu.com/blog/english/virtual-reality-english-learning/ [accessed: 10.06.2023].

Giant Lazer blog. *Nowe słowa, inna rzeczywistość*, https://giantlazer.com/pl/lekcje-jezykow-obcych-w-vr/ [accessed: 10.06.2023].

Godwin-Jones R. (2016), *Augmented reality and language learning: From annotated vocabulary to place-based mobile games*, "Language Learning and Technology", vol. 20(3), pp. 9–19, https://doi.org/10125/44475

Kaplan-Rakowski R., Papin K., Hartwick P. (2023), Language teachers' perceptions and use of extended reality, "CALICO Journal", vol. 40(1), pp. 1–23.

Kornijchuk A. (2016) *Nauka Języka w Integracji Uchodźców*, Warszawa.

Kowalczyk O., Zamorska A. (2022), *Społeczno-ekonomiczne funkcjonowanie kobiet zagrożonych wykluczeniem społecznym w trakcie pandemii COVID-19*, „Atheneum", vol. 74(2), pp. 151–165, https://doi.org/10.15804/athena.2022.74.09

Meccawy M. (2022), *Creating an Immersive XR Learning Experience: A Roadmap for Educators*, "Electronics", no. 11, 3547, https://doi.org/10.3390/electronics11213547

Mitoraj M. (2021), *VR/AR: Nowoczesne metody nauczania języków obcych*, https://123way.pl/vr-ar-nowoczesne-metody-nauczania-jezykow-obcych/ [accessed: 10.06.2023].

Obeidat H., Meccawy M., Blanchfield P., (2009), *Authoring for Adaptive Web-Based Learning Systems: A Case Study; International Journal of Emerging Technology in Learning*, Kassel, Germany.

Plutzar V., Ritter M. (2008), *Language Learning in the Context of Migration and Integration*, Vienna, Austria.

Rosell-Aguilar F. (2017), *State of the app: a taxonomy and framework for evaluating language learning mobile applications*, "CALICO Journal", vol. 34(2), pp. 243–258.

Rospigliosi P.A. (2022), *Metaverse or Simulacra? Roblox, Minecraft, Meta, and the turn to virtual reality for education, socialization and work*, "Interactive Learning Environments", vol. 30(1), pp. 1–3.

Smutny P. (2022), *Learning with virtual reality: A market analysis of educational and training applications*, "Interactive Learning Environments," vol. 31(10), pp. 6133–6146.

Velev D., Zlateva P. (2017), *Virtual reality challenges in education and training*, "Int. J. Learn. Teach.", no. 3, pp. 33–37.

Wesoła B. (2022), *Edukacja w Polsce wymaga zmian*, https://strefaedukacji.pl/edukacja-w-polsce-wymaga-zmian-ekspert-proponuje-rozwiazania-sama-zdawalnosc-to-za-malo-nie-kazdy-uczen-musi-miec-wyzsze/ar/c5-16953779 [accessed: 20.05.2023].

XR Guru blog (2022), *Virtual Reality is the Next Step in Language Learning*, https://www.xrguru.com/blog/2022/01/virtual-reality-is-the-next-step-in-language-learning [accessed: 20.05.2023].

Zhang D., Wang M., Wu J.G. (2020), *Design and Implementation of Augmented Reality for English Language Education; in Augmented Reality in Education*, Cham, China.

Streszczenie

Tworzenie zestawów narzędzi XR w celu wspierania włączającego środowiska do nauki języków obcych (FLL) w celu wzmocnienia pozycji uchodźczyń w nowych warunkach

Celem niniejszego artykułu jest zidentyfikowanie optymalnych narzędzi XR do kultywowania integracji w klasie drugiego języka, które znają i z powodzeniem stosują polscy nauczyciele języka i z których chciałyby korzystać uchodźczynie z Ukrainy. Raport opiera się na projekcie mającym na celu zniwelowanie znacznej przepaści między uchodźczyniami oraz kobietami z mniejszymi szansami w zakresie edukacji językowej. Uznaje się, że kobiety stojące przed mniejszymi szansami (takie jak: migrantki, uchodźczynie i osoby ubiegające się o azyl) już poradziły sobie z poważnymi wyzwaniami związanymi z relokacją i innymi traumatycznymi doświadczeniami. Projekt zakłada, że narzędzia XR mogą być wykorzystane do pomocy tym kobietom w zdobywaniu nowych umiejętności językowych. Głównym celem jest stworzenie środowiska XR, które łagodzi dodatkowe obawy związane z nauką języków obcych (FLL). Oferując szerszy wachlarz realistycznych i angażujących scenariuszy, te środowiska edukacyjne XR mogą ułatwić praktyczne działania. Takie środowiska umożliwiają uczniom zapoznanie się z niuansami użycia języka i rozwijanie biegłości poza salą lekcyjną. Podejście to kładzie nacisk na zastosowanie języka, a nie rutynowe zapamiętywanie reguł zamkniętego systemu.
Co więcej, praca koncentruje się na standaryzacji terminologii i metodologii poprzez kompleksowe badania literatury i internetu. Wreszcie, raport podkreśla najnowsze osiągnięcia w Polsce dotyczące omawianego zagadnienia.

Słowa kluczowe: nauczanie języków obcych, dydaktyka języków obcych, wirtualna rzeczywistość, augmentowana rzeczywistość, inkluzywność w nauczaniu, cyfryzacja