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# Exploring Teachers' and Learners' Perceptions of the Use of Virtual Reality for Teaching Culture in EFL Classrooms

## A case study of third-year EFL students at M'SILA University

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## **Dedication**

I dedicate this work to my late father, Farid, whose soul I pray rests in eternal peace, whose memory continues to guide my steps, whose absence I deeply feel, yet whose love and memory reside within me.

To my dear mother, Mounira, for her unwavering love, endless sacrifices, and the prayers that light my path.

To my beloved sisters and brother, thank you for your steadfast support and constant encouragement. And to my precious nephew and niece, may your lives be filled with light, knowledge, and divine guidance.

With deep gratitude to the Almighty, who carried me through every step of this journey.

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## **Abstract**

Today, in this fast-paced digital era, EFL teaching drastically shifts focus from accumulating linguistic knowledge to developing intercultural communicative competence to develop what is called a global citizen who functions effectively across diverse cultures. With technological advancements, Virtual Reality (VR) has emerged as a promising tool that can revolutionize teaching culture in the EFL context. This study explores teachers' and learners' perceptions on the use of Virtual Reality (VR) for teaching culture in English as a Foreign Language (EFL) classrooms, as both teachers and learners often struggle to gain exposure to cultural contexts and authentic materials due to financial, geographical, and social constraints that inhibit their immersion in the culture of English-speaking communities. Therefore, this study aims to explore EFL teachers' and learners' perceptions of the integration of VR to teach and learn culture. This quantitative research employed two questionnaires, involving 15 teachers and 40 learners. Findings reveal that both teachers and learners hold high perceptions of VR's affordances in teaching culture, as they recognize the importance of incorporating cultural elements into their EFL classes. Key findings highlight the role of Virtual reality in educational settings for providing immersive cultural scenarios, enhancing cultural understanding, fostering empathy, and delivering realistic experiences. Moreover, the study highlights potential challenges that may arise in VR implementation for teaching culture, such as a lack of access to VR technology, limited time in class for VR activities, insufficient technical knowledge, and high implementation costs. The researcher recommends technical training for teachers, resource allocation strategies, research into educational policies for the effective implementation of VR, and interdisciplinary collaborations to promote VR's potential. This study contributes to the understanding of technology-mediated intercultural learning in EFL contexts and provides baseline data for future experimental studies.

**Key Words:** Virtual Reality, Teaching Culture, English as a Foreign Language (EFL)

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## **List of abbreviations**

- EFL** English as a Foreign Language
- VR** Virtual Reality
- MML** Multi-model learning
- IDC** Intercultural Development Continuum
- IE** Immersive environments
- AR** Augmented Reality
- XR** Extended Reality
- MR** Mixed Reality
- ICC** Intercultural communicative competence
- MKO** More knowledgeable other
- HMD** head-mounted display

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## **General introduction**

### **1. Background of the study**

Nowadays, we live in a globalized digital world where education has undergone a drastic shift from regular classrooms to technology-integrated classrooms. Employing technology in education has become a global trend, particularly among students belonging to generation Z. They are considered digital natives who utilize technology in education, both generally and during the language acquisition process. Technologies used in education include artificial intelligence, digital games, immersive environments, interactive whiteboards, and online software. In this fast-paced and interconnected digital era, traditional methods of acquiring, processing, and sharing information have experienced significant changes. Our global society is now immersed in an endless ocean of data and information, with digital technology serving as the primary means of facilitating our interaction with the world (Castells, 2011).

In the context of education, EFL teaching and learning have shifted their focus from accumulating linguistic knowledge to fostering intercultural communication, driven by socioeconomic factors and technological advancements. Consequently, traditional teaching and learning methods, which struggle to fully address the complexities of these processes in this digital world, have been replaced by new approaches. With the integration of technology in all aspects of life, a global society has emerged, immersed in a vast ocean of digital data and information. (Lee et al., 2012)

As educational technologies evolve, Virtual Reality has emerged as a promising tool that can greatly enhance how language and culture are taught, offering a dynamic and engaging avenue for information acquisition. VR refers to the realm of computing that aims to create a virtual world, allowing individuals to immerse themselves in it and interact within this artificial

environment. This involves using specialized devices to simulate surroundings and provide feedback to enhance the experience, striving to make it as realistic as possible (Boas, 2013).

Immersive environments (IE) such as augmented reality (AR), virtual reality (VR), extended reality (XR), and mixed reality (MR). These technologies revolutionized the educational landscape by providing immersive and interactive environments that augment innovative approaches to teaching and learning. The educational potential of IE derives from its ability to create lifelike simulations, allowing learners to immerse themselves in virtual scenarios that closely resemble real-world settings. The intended effect on users is to help them transcend the boundaries between the physical and real worlds, simultaneously experiencing a sense of immersion (Lee et al., 2012).

The study focuses on virtual reality, which is defined as a computer-generated three-dimensional simulation of a real-world situation. Users perceive this simulated environment emotionally with the help of special devices, such as HMD headsets and joysticks (A.N. Zulkifli et al., 2016). VR technologies are increasingly recognized for their potential to enrich educational settings, particularly in the EFL context, by providing students with a sense of inclusion and enabling them to interact, communicate, and solve problems in authentic scenarios.

## **2. Statement of the Problem**

Research on teaching serves two purposes: enhancing instructional methods and fostering student learning (Gola et al., 2022; Carmona-Medeiro & Cardeñoso Domingo, 2021). In the context of EFL higher education, learners often struggle to gain exposure to cultural contexts and authentic materials due to financial, geographical, and social constraints that inhibit their immersion in English-speaking communities. (Mekheimer et al.2024).

Authenticity is a cornerstone of learning. Authentic materials enrich the learning process by exposing learners to the complexities of real-life language use (Gilmore, A., 2007). Thus, VR acts as a facilitator; immersion, presence, interactivity, and conceptivity are considered the core characteristics of VR technologies (Ryan, 2015; Walsh & Pawlowski, 2002).

According to Lan (2014), the elements of successful foreign language learning are (1) the learner's active involvement, (2) authentic contexts, and (3) meaningful and social interaction. For many educators, creating such an environment can be quite challenging. Therefore, VR can effectively address these challenges, but there is still a lack of literature regarding teachers' and learners' perceptions of using virtual reality to teach and learn about culture in EFL classrooms. Previous studies have assessed VR affordances in general language acquisition (Chen, 2020); however, their application in cultural learning in English as a Foreign Language (EFL) remains unexamined. Additionally, there is limited empirical evidence concerning teachers' and learners' perceptions of the effectiveness of VR, their willingness to adopt it, and potential barriers to its implementation.

Despite the growing interest in VR, little is known about its effectiveness and acceptability in cultural learning within the EFL classroom. This study seeks to explore teachers' and learners' perceptions regarding the use of virtual reality to teach and learn about culture in EFL classrooms.

### **3. Research Questions**

This study will address the following key research questions:

1. What perceptions do EFL teachers hold about the use of virtual reality in teaching culture in the EFL classrooms?

- 1.1 What do teachers perceive as the potential benefits of using VR to teach culture?
- 1.2 What challenges do teachers anticipate in integrating VR into teaching culture?
- 1.3 How do teachers perceive the future role of VR in EFL education?
2. What perceptions do EFL learners hold about the use of virtual reality in teaching and learning about culture in the EFL classroom?
  - 2.1 How do learners perceive the benefits of VR in learning culture?
  - 2.2 What challenges or barriers do learners associate with using VR for cultural learning?
  - 2.3 How do learners envision the future of VR in their EFL learning experience?

#### **4. Research hypotheses**

- EFL Teachers hold high perceptions of the use of virtual reality in teaching culture in the EFL classrooms
- EFL Learners hold high perceptions of the use of virtual reality in learning culture in the EFL classrooms

#### **5. Objectives of the study**

This research aims to :

- Explore EFL teachers' and learners' perceptions of cultural learning.
- Examine their perception of integrating VR to teach and learn about culture.
- Identify the advantages and potential barriers of using VR in teaching culture.
- Investigate their willingness to utilize VR and their perspective on its future role in EFL education.

#### **6. Rationale and Significance of the Study**

This study is significant as it addresses a gap in the literature by focusing on virtual reality as a promising tool that may revolutionize the educational landscape, specifically cultural learning in which most educators and learners struggle to effectively address it. This study's outcomes have the potential to contribute to the improvement of language and teaching strategies in the EFL context, inform EFL curriculum designers, and provide insights for policy makers and educators considering the affordance of VR.

## **7. Methodology**

This study employs a descriptive research design as a methodological framework to systematically investigate and explore the perceptions of both teachers and learners regarding the integration of virtual reality (VR) technologies for teaching culture within English as a Foreign Language (EFL) classrooms. To gather data, the researcher selected two self-administered questionnaires, each consisting of five sections and featuring multiple types of Likert scales: one for learners and another for teachers. The surveys were conducted using Google Forms and distributed online via email and the Telegram application, employing a random sampling technique to choose the forty learners and fifteen teachers. The quantitative findings were analysed statistically using SPSS software version 25 to gain comprehensive insights.

## **8 . Research structure**

The structure of this dissertation comprises a general introduction, two chapters, and a general conclusion. The introduction provides an overview of the research background, the problem, the research questions, and the methodology used. Chapter one discusses the theoretical perspectives that align with and support the integration of VR in teaching culture, and it also gives an overview of the affordances of this tool. For chapter two, it delves into the methodology, then presents and discusses the main findings. As for the general conclusion, it sums up the findings and provides pedagogical implications and limitations.

**Chapter one**  
**Exploring Theoretical and Pedagogical Foundations for VR and  
Culture in EFL**

## **Introduction**

To understand how VR can transform EFL learning and teaching, the next chapter is devoted to giving an overview of the theoretical perspectives that align with and support the integration of VR in teaching culture, along with the features and benefits of VR. Moreover, it delves into the crucial role of culture in EFL learning, as well as its key concepts and teaching strategies that acknowledge technological and emotional factors. Lastly, the review presents gaps in the literature concerning the integration of VR and cultural teaching, paving the way for exploratory research.

### **1. Constructivism**

Constructivism is a learning theory that equates learning with creating meaning from experience. Learning is more meaningful to students when they can interact with a certain concept or a problem.

According to Jonassen (1994), constructivism is often misconstrued as a learning theory that compels students to "reinvent the wheel." Constructivism taps into and triggers the student's innate curiosity about the world and how things work. Students do not reinvent the wheel, but they seek to understand its mechanisms and functions. They become engaged by applying their existing knowledge and real-world experience, learning to hypothesize, testing their theories, and ultimately drawing conclusions from their findings.

Constructivism encourages students to construct their knowledge actively through dynamic interactions with external inputs. Thus, the naturally participatory environment of virtual reality has become a magnificent medium for experiential learning. A study by Lim et al (2009) using a hybrid course instructional application of online synchronous (chat) interaction in virtual tutorials, designed based on sociocultural constructivist principles, suggests that constructivism, which emphasizes active learning and knowledge construction, aligns well with digital tools that encourage collaboration. These dynamics enhance their

essence and provide authentic backgrounds where candidates can learn, practice, and absorb new vocabulary and linguistic patterns. (Lim et al, 2009)

## **2. Social Constructivism**

It is a theory proposed by the psychologist Lev Vygotsky, comprising three key concepts: the zone of proximal development, culturally specific tools, and private speech. The ZPD is the difference between what a learner can achieve independently and what they can achieve with guidance from an MKO. Vygotsky perceived the zone of proximal development as the area where the most sensitive instruction or guidance should occur, enabling learners to develop skills they will later use independently, thus fostering their mental functions. Lev referred to the instructions the MKO provided as cooperative dialogues. (Saul McLeod,2025)

James V. Wertsch, a prominent scholar in sociocultural theory, states, “The zone of proximal development is the distance between the actual developmental level as determined by independent problem-solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers. (pp. 7–18).

Vygotsky suggested that cognitive development is influenced by symbols specific to a learner's culture, such as language, art, and counting systems. He believed that “children develop cultural values, beliefs, and problem-solving skills in collaboration with a more knowledgeable other. Michael Cole (1996), an influential theorist in cultural psychology, emphasized the role of cultural tools in cognitive development: Cultural artifacts, including language and number systems, play a crucial role in the development of higher psychological processes.”

Vygotsky was the first psychologist to document the importance of private speech, which is Overt and audible speech directed to the self and serves an intellectual function. Private speech is typically defined, in contrast to social speech, as speech addressed to the self

(not to others) for self-regulation (rather than communication) Additionally, private speech is seen as A revolution in development which is triggered when preverbal thought and preintellectual language come together to create fundamentally new forms of mental functioning. ( Diaz,1992. p.62).(Fernyhough & Fradley, 2005. p. 1) as cited in( Saul McLeod ,2025).

Laura E. Berk ( 1994), a developmental psychologist known for her research on private speech, highlighted that “Private speech, or self-directed speech, is used by children to plan and guide their behavior; it represents a critical transition from social communication to internal thought.” (P.78–83)

Vygotsky states that one's cognitive development is influenced by cultural and social factors. He highlighted that social interaction plays an important role in cognitive development, where learners acquire cultural values and problem-solving abilities via interaction with an MKO more knowledgeable other. Moreover, this theory promotes collaborative learning, allowing for scaffolding to be effective, and emphasizes the interplay between innate abilities, cultural tools, and social interactions. (Saul McLeod,2025)

Although VR technologies are the newest approach in education, they can be explored through Vygotsky’s theory as it aligns with the key concepts. First, the ZPD, VR serves as a scaffold that sustains learning through the use of Prompts. Second, the culturally specific tools, VR provides a culturally rich experience to learners as it presents real-life-like settings. With VR, a learner can sit and have coffee in one of London's local cafes, or they can participate in cultural festivals where they can explore and interact freely. Additionally, these authentic contexts promote situated learning rather than traditional drills. Third, Vygotsky emphasizes the role of social interaction in the learning process. VR enables users to interact with AI-driven avatars, ask questions, and benefit from phonetic correction. Moreover, learners can interact

with other users to solve a certain task, allowing for peer interaction and collaborative learning, which are essential for cognitive development. (Song et al. 2023)

This theory emphasizes social interaction as a key mechanism for learning and posits that cultural tools, including technological artifacts, facilitate cognitive development. Studies such as Hall (2007) and Kim (2013) have extended Vygotsky's framework to elucidate how technology-mediated interactions can cultivate cultural awareness and inclusivity among students of diverse backgrounds.

### **3. Embodied Cognition**

Embodied cognition is a theory that posits that the body is integrated in cognition; it emphasizes the body and its interaction with the environment. In here, the role of the mind is a bit diminished. Embodied cognition encompasses a wide range of topics: learning, perception, attention, memory, and language comprehension. Consequently, a broad range of disciplines are involved, including computer science, robotics, artificial intelligence, psychology, and philosophy. (Shapiro, 2011)

According to Shapiro, embodied cognition is categorized into three prominent agendas. The conceptualization hypothesis, The Replacement hypothesis, and the Constitution hypothesis. The conceptualization hypothesis of how the body restricts the ways that you think about the world seeks to demonstrate that the individual's understanding of the environment is influenced to some extent by the properties of their sensory organs or their body. This necessitates abandoning the notion of an objective world, as Varela et al. perceived the latter as an issue that needs consideration (P.70) . The Replacement hypothesis, rather than relying on computational processes to perform certain tasks, can be replaced by body-environment interactions(P.114). The constitution hypothesis the body and pieces of the world might be constituents in the cognitive process itself, and the mind may include objects and properties

beyond those found in the head; hence, mental activity consists of the brain, the body, and the world (interactions). (P.158)

Wilson (2002) introduced six views of embodied cognition.: (1) cognition is situated; (2) cognition is time-pressured (3) we off-load cognitive work onto the environment; (4) the environment is part of the cognitive system; (5) cognition is for action; (6) offline cognition is body based. Wilson illustrated that the first three and the fifth effectiveness are best evaluated in terms of the scope of their applicability. The fourth one is challenging, and the sixth received little attention in the literature; however, it is the most significant claim.

Embodied cognition theory stressed that cognition depends upon the learner's physical body; they need to perform an action and sense to develop a complete thought; otherwise, thoughts would be empty, and the mental processes would not exhibit properties. Thus, meaning is highly bound to physical experiences. FMRI-based studies showed that when we read, see, or hear, the brain gets activated. Hence, body and cognition share a causal relationship. (Macrine et al, 2020)

Barsalou introduced the perceptual symbol system (PSS) theory. According to this theory, thinking about a certain action generates the same stimuli from the external world, whether it is visual, motor, or tactile. After capturing the process by perceptual and sensory systems, it can be used later to recreate the same experience without the need for the real input. Multiple simulations are crucial to fully understand a concept, as no single simulation can provide a complete picture. Perceptual symbols are retrieved from entities or events and merged into a frame with symbols from preceding category members. (Barsalou,1999 as cited in Macrine et al, 2020)

Embodiment theories help us better comprehend the role of action in early learning stages and use it to scaffold learning later in formal education. Researchers in developmental

psychology, biology, language, neuroscience, and philosophy are rethinking and incorporating the role of the body in their disciplines. (Macrine et al, 2020)

Abrahamson and Lindgren (2014) used a specialized application, METEOR, an interactive virtual reality simulation that uses laser and floor-projected imagery. In here, learner are required to use their bodies to emulate an orbit around a virtual planet to learn a formal concept like gravity. This app fosters learners' performance by 76%. « New embodied technologies are being developed that use natural human physicality and gestures as input, which merges the digital with the physical » (Lindgren & Johnson-Glenberg, 2013 as cited in Macrine et al,2020)

#### **4. Connectivism**

In today's digital era, technological advancements are shaping societal and educational landscapes, leading to a shift from traditional approaches to new ones. Hence, there is an urgent need to explore how Connectivism might evolve in the upcoming days. Emerging technologies like artificial intelligence, augmented reality, and virtual reality hold great interest for educators and students alike. These technologies can revolutionize education, and Connectivism, with its fresh modern perspective on learning and emphasis on digital networked connections, plays a vital role in this transformation. (Siemens 2005)

Introduced by George Siemens and Stephen Downes, connectivism presents a modern framework for understanding learning in the digital era. It emphasizes social and technological networks. Here, learning is creating connections and developing networks; hence, the latter is a network-forming process, and knowledge is a networked product. In a connectivist approach, knowledge is distributed in a network of nodes, individuals, digital resources, and communities. Thus, learning is crafting a meaningful connection from these nodes. (H.Mukhlis et al. 2024)

Connectivists believe that knowledge is not only inside an individual's head but is also distributed across various technological and social systems they utilize. Learning is the active process where the learner crafts, maintains, and navigates these knowledge networks, rather than accumulating them (Siemens, 2005). Connectivism provides a new perspective on how learning theories are beginning to shift toward the digital era by integrating technology and making connections with it. In this way, the perspective of Connectivism rose as a reaction to address the limitations of behaviorist, cognitive, humanistic, and constructivist learning theories. Downes (2008) notes that learning, in the view of connectivism, is a participatory and collaborative process in creating and navigating these knowledge networks.

According to Siemens, learning happens at three levels. First is the biological level, where learning is a network-forming process and neural connections. Second, the formation of conceptual connections, in other words, connecting the new ideas and concepts to what is already known. Finally, the networked learning through external social spaces like mobile phones, social media, etc., thus technology is a part of human knowledge and humans' overall capacity to know. (Siemens, 2005)

A study by Siemens (2020) found that students who engaged in networked learning through online platforms and collaborative tools showed greater critical thinking, adaptability, and problem-solving skills compared to those in traditional learning environments. A concrete example of connectivism theory application is Massive Open Online Courses (MOOCs), which are free web-based learning programs designed for a large number of learners from diverse geographical areas. With a focus on participatory learning, this web is characterized by flexible time frames, a large number of students, and opportunities for designers to implement new learning activities. It fosters self-directed learning and peer-to-peer knowledge sharing.

Connectivism is characterized by a set of principles. Firstly, it rests on the diversity of opinions, making knowledge dynamic and evolving through culture and social processes. Secondly, learning involves the connections between individuals and external sources of knowledge. Thirdly, knowledge resides in social networks rather than individuals. Fourthly, the capacity to learn—including critical thinking, lifelong learning, and problem-solving—is more important than knowledge itself. Fifth, nurturing connections with others is key to knowledge and growth. Sixth, critical learning skills include detecting and understanding connections across various fields and concepts. Seventh, learning in connectivism should be oriented toward current trends. Eighth, learning determines what is learned and how it is applied and perceived. ( H. Mukhlis et al. 2024)

Technology holds a vital stance in the application of this approach, as it promotes autonomy in learning with its accessibility and wide range of sources. Also, it highlights collaborative work and knowledge exchange. It authentically contextualizes learning, where students relate the acquired knowledge in real-life-like settings. In a study by Kop and Hill (2008), the application of connectivism in an online course was explored, where learners had freedom to choose knowledge sources, collaborate, and generate new concepts based on their experiences. The experiment resulted in learners promoting their deeper understanding and critical thinking skills. Hence, VR technology aligns perfectly with the connectivist view as VR can craft immersive simulations that enable learners to comprehend and explore complex concepts realistically. ( Kop and Hill 2008) as cited in( Mukhlis et al.)

### **5. Multimodal Learning Theory MML**

Nowadays, learners are considered digital natives of the shift that happened in the educational and technological landscapes; hence, there is an urgent call for teachers to withdraw from traditional ways of teaching and learning and explore new directions that accommodate these changes. Multimodal learning (MML) can be defined as “learning

environments that allow instructional elements to be presented in more than one sensory mode (visual, aural, written)” (Sankey et al., 2010, P. 853). MML calls for sensemaking where learners take in information, process, and make personal sense of ideas to form deep learning patterns (Moreno and Mayer 2007).MML highlights a wide range of choices available for learners in their learning environment so they can co-construct learning according to their preferred mode.

MML takes full advantage of today's technological world, digital tools, and networks to address universal learning design (UDL). The latter offers three principles to promote the creation of supportive learning environments. The first is representation; flexibility in presenting the target knowledge. Second, Action and expression; flexible options in how we learn and express what we know, and third, engagement; generating and sustaining motivation to learn (Rose and Meyer 2002) as cited in (Bouchev et al, 2021)

Mayer and Moreno’s (1999) Cognitive Theory of Multimedia Learning posits that effective learning occurs when information is presented in text and graphics rather than by a single mode. This theory revolves around the assumption that there are two channels for learning: auditory and visual, both used to process information into working memory.

The Multimedia Theory of Learning has seven principles as defined by Clark and Mayer (2003):

- Multimedia Principle: Words and Graphics are Better Than Words Alone
- Contiguity Principle: Align Words to Corresponding Graphics
- Modality Principle: Present Words as Audio Narration, Rather Than On-Screen Text
- Redundancy Principle: Explain Visuals with Words in Audio or Text, Not Both

- Coherence Principle: Adding Interesting Material Can Hurt Learning
- Personalization Principle: Use Conversational Style and Virtual Coaches
- Segmenting and Pretraining Principle: Managing Complexity by Breaking a Lesson into Parts. (Mayer, R. et al, 2014).

A multimodal approach will help keep learners engaged, as they can tailor their learning to their individual needs. Multimodal learning sustains retention since learners will be exposed to a message multiple times at once, through multiple senses. For instance, an educational video portrays visual simulation, auditory content through voice, textual information via subtitles, and kinesthetic engagement by inviting the viewer to try it themselves. This gives everyone multiple opportunities to learn and retain information, rather than just one, leading to improved retention and engagement. (Bouchev et al, 2021)

According to the previous theoretical foundations, it is apparent that virtual reality is a potent tool that aligns with the key principles of constructivism, embodied cognition, and multimodal learning. The next section delves into the intricate features of VR and its practices in education.

## **VR in Language Learning**

### **1. Definition and Features of VR**

Virtual reality technology (VR) is a computer simulation system that crafts and Experience virtual worlds. It utilizes computers to generate a simulated environment, allowing users to immerse themselves in the environment. VR simulates the presence of the user in an artificially generated environment. It creates visual effects through a head-mounted display (HMD) system. An HMD might be a gadget worn on the pinnacle or as a part of a helmet with a built-in display and lens, allowing the person to see the virtual world with the help of a giant

viewing angle, head and hand move monitoring, as well as objects interacting with the aid of controllers. (Alfarsi et al,2020)

VR provides the advantage of experiencing reality because its system combines VR technology and human-computer interaction. It is distinguished from other adjacent technologies by features like immersion, interaction, conceptualization, and presence, allowing for an experience that feels real through the use of sensory devices that enhance immersion. Moreover, this technology presents multiple interactive modes, including head displays and handles, enabling users to enter information via voice, gestures, and buttons. Also, it allows the conceptuality of complex ideas and concepts that can not exist in concepts and things through its immersive simulations. Additionally, one of the key advantages of VR is that no physical participation is required. Since it uses VR equipment to create virtual scenes that mimic the impact of real-life surroundings, it simulates physical objects to achieve intended results, minimizing expenses. ( Lan, 2020).

One of VR's standout features is its ability to provide full sensory immersion. **Immersion** is the extent to which the user exists in the simulated environment. It happens through the use of specialized devices like the head-mounted display HMD and the joysticks, where users can communicate with objects through actions and language. Immersion is mostly affected by multiperception. It simulates the various human senses, providing more sensory input that enhances a user's immersion and initiative in virtual environments. Theoretically, immersion is based on the concept of "flow," which is considered an Extreme version of immersion; in here, participants lose sight of their bodies and get fully immersed to absorb the information. (Baxter et al, 2023)

Another key characteristic of VR is the level of interactivity. Interactivity refers to the realization of efficient human-computer interaction through hardware and software and the

interaction between learners and learning simulations, learning resources, and learning content. Users can explore and manipulate digital objects, interact with virtual avatars, and make decisions during the virtual experience. ( Zhong, Xing. 2025).

Additionally, conceptualization, conceptivity, is like the scaffold provided by VR; it refers to the results VR presents to the users that ameliorate the plan. Also, some concepts or complex things cannot be provided at hand easily or even exist, like extinct organisms and dinosaurs. With the use of VR, researchers can display them and satisfy their curiosity and imagination. VR's ability to conceptualize provides accessible knowledge that benefits all humans. ( Wu, Xingrui, 2024).

Lastly, presence refers to being here by a VR simulation rather than being present in a physical setting. A study by Lei Gao et al indicates that presence in VR can promote learners' interaction and participation. When learners feel engaged, they take initiatives and participate in intercultural communication; hence, presence in VR transcends physical boundaries, giving the learners the freedom to choose new identities or even new species, which promotes their confidence. Another prominent idea in presence is transportation, where participants transport to virtual spaces and environments. Lombard and Ditton (1997) highlighted three types of transportation :

“You are there,” meaning that the user is transported to another place;

“It is here”, where a different environment and its associated assets are transported to the user; and “We are together,” in which two or more individuals are transported together to an environment that they share. (Lombard and Ditton 1997) as cited in Baxter et al( 2023)

## **2. Application of VR in Different Fields**

In this technological era, VR is used in diverse domains and fields, such as architecture, medicine, and education (Lin, 2024). In architecture, VR is primarily utilized for building

safety education, architectural design, and construction simulations. First, in building safety education, since many construction settings are not completely safe, VR simulations can be integrated to allow workers to safely experience incidents and rescues, raising their awareness and helping them avoid tragic events like falls from heights, fires, or object strikes. A real example is China Construction Fifth Engineering Co. Ltd., which provided a VR safety education hall for all their construction workers to ensure the safety and successful progress of their projects. Second, in architectural design, architects can use software and VR equipment to experience functional spaces and create designs in a virtual environment, allowing them to examine the fundamental components of architectural designs, including the environment, indoor and outdoor spaces, light and shadow relationships, sense of scale, colors, and adjust and modify their plans. Third, in construction simulations, designers can use VR to enhance interior design effects or complete decorations. Additionally, architectural students can engage in construction simulation exercises to better understand the process and the basic components of an engineering structure. In the medical field, VR is commonly employed for virtual surgeries, medical diagnosis, and medical teaching. (Lin, Zizhi. 2024).

The medical field can significantly benefit from VR technologies: "Virtual reality surgical simulation can be defined as the use of computer-based mathematical models to generate surgical-relevant environments, and humans can interact with mathematical models by using physical representations of surgical instruments" (Lin, 2024). Doctors can practice performing complex surgeries in a VR simulation, a 3D model virtual environment that captures the incision angle and position precisely. When previewing the operation, surgeons can predict potential future problems and avoid them, thereby decreasing injuries, effectively locating lesions, and making reasonable decisions about the overall operation. Moreover, doctors can use VR software to provide accurate, personalized diagnoses and treatments, predicting body reactions to plan the treatment process. Additionally, medical university

instructors can use VR to enhance lesson delivery and provide more practical training for learners, allowing them to practice according to their needs, which helps reduce financial burdens and costs. In education, VR serves as an engaging tool that supports both learning and teaching. The power of virtual reality to create experiential learning is the foundation of its appeal in education. Here, learners become active participants in the subject matter rather than passive observers. Such immersion fosters critical thinking and problem-solving skills. Additionally, in the embrace of virtual reality, scholars can explore comfortably, free from physical repercussions, allowed to make mistakes while being enlightened by new discoveries. Moreover, VR can simulate laboratories or complex scenes where learners can interact, helping them develop experimental skills and principles. The use of VR has the potential to revolutionize the educational landscape; however, when applying it, educators need to be cautious. (Lin, Zizhi,2024).

### **3. Advantages of VR in Education**

VR plays a significant role in motivating and engaging students far more effectively than traditional methods due to its transformative potential. It introduces an element of novelty and excitement, making learning interactive, immersive, and interesting for learners. VR tool is effectively used in industries that require hands-on skills; for instance, medicine, the arts, and engineering. For medical students, they can practice complex surgeries and explore the human body; engineers can explore physical models, and artists can transform their imaginations realistically. (Al Musawi,2024)

The power of VR in education is its ability to emulate real-world situations that are dangerous, difficult, or impossible to create in normal classrooms. For instance, a medical student can practice performing a surgery in a virtual hospital. VR-based learning enhances students' curiosity and self-motivation as they delve into the enjoyable immersive experience, encouraging them to explore topics more deeply, take initiatives, and become open to

experiences beyond their curriculum, as they feel like they are on an adventure. This technology enables learning by doing with its magical ability to create an environment where learners explore, interact, and immerse themselves in virtual simulations; it allows students to understand complex concepts in unique ways that textbooks cannot offer, consequently improving their understanding and retention. (Al Musawi,2024)

Another benefit is that VR technologies bridge the gap between traditional teaching methods and learners' digital preferences, as they are digital natives who are open to diverse media resources. Additionally, VR helps in crafting autonomous learners, as they take responsibility for their learning process when using technology. With the ongoing supervision of the educator, students can examine subjects, discover, and actively engage in the learning process. This approach aligns well with the constructivist view that emphasizes the importance of learners' autonomy and the creation of their own knowledge. VR is a powerful tool that enhances the teaching and learning experience. It allows learners to participate in cultural festivals, visit landmarks, explore the human body, or navigate planets and stars, all without leaving the classroom. Moreover, VR supports experiential learning as it creates a safe and controlled environment where learners can practice real-world skills, hence they learn how to discover on their own. This inquiry-based learning promotes their critical thinking and problem-solving skills. These 3D simulations boost learners' understanding and exploration of complex concepts in a comfortable, engaging atmosphere. (Zhong, Xing. 2025).

VR addition to education is not merely about technology and innovation; it is about using a potent tool to improve the teaching and learning experiences for its ability to simplify complex concepts to learners, and for its potential in creating engaging learning experiences.

#### **4 VR in EFL Contexts**

Virtual reality is also promising in EFL learning due to its innovative, facilitating nature. Traditional approaches lack interactive, dynamic elements, which causes them to fail

in contextualizing language; as a result, learners often face hurdles when attempting to apply the language they have learned. Conversely, VR, with its simulations, offers several benefits, including the ability to promote language learning and enhance learners' academic outcomes, provide situated learning, offer instant feedback, increase immersion and engagement, provide greater opportunities for interaction and collaboration, expose learners to diverse cultures, and support personalized learning.. (Sinthiya,2013).

The application of VR in the EFL classroom has the potential to facilitate students' EFL learning. It can improve EFL learners' listening and reading comprehension, enhance speaking development, reduce EFL anxiety, strengthen cultural competence, and improve long-term retention and learning enthusiasm. The adoption of the metaverse and VR in EFL classrooms promotes learners' academic performance and language retention by offering varied and repeated practice opportunities in a virtual environment. VR plays a crucial role in improving writing skills; for instance, a study by Y. Chen et al. (2019) on the impact of Google Earth VR on expository writing found that EFL learners demonstrated significant improvement after using VR. This highlights VR's ability to promote language retention and comprehension. Similarly, students can enhance their reflective capacity, speaking skills, and critical thinking abilities through the use of VR and its interactive features like peer assessment. When learners receive assessments or corrections from a peer, they perceive it as non-threatening, which can lower their anxiety levels and sustain their confidence in speaking. Moreover, the gamified nature of VR, which encompasses elements like challenge, reward, and competition, encourages learners to participate and effectively retain knowledge.

Incorporating VR in EFL classrooms enables situated learning by creating an engaging and immersive environment that simulates real-world scenarios where students can practice their language skills in culturally authentic contexts. For instance, with VR, learners can be placed in a British local café where they can order and chat with native speakers. Another

example is a student in environmental science who might develop a deeper concern for deforestation after witnessing a forest being destroyed in a virtual simulation. A vital strength of VR is its instant feedback; as learners receive quick feedback and see the results of their actions, they can develop a sense of achievement that boosts their motivation. (Zhong, Xing,2025).

This immersive environment provides a realistic and authentic learning experience due to its ability to simulate real-world situations, such as ordering food or purchasing products. It allows students to practice and absorb new language patterns in a realistic context. This approach helps learners acquire language naturally and contextually, such as through a virtual tour of historical sites or museums. Another advantage of VR is that it fosters opportunities for interaction and collaboration, enhancing learners' listening and speaking skills. Through this medium, they can engage with native English speakers, improving their teamwork abilities. Group work, such as students running an experiment in a virtual lab or role-playing characters in a simulation, can enrich learners' communication, teamwork, and appreciation of diverse viewpoints. VR allows learners to create a global classroom where they are exposed to diverse cultures, perspectives, and perceptions, promoting their cross-cultural understanding and empathy. Additionally, the integration of VR in EFL classrooms supports personalized learning by accommodating students' preferences and pace. Since learners come from different backgrounds and progress at different rates, it is crucial to craft knowledge that matches their level and learning style. Adopting this tool can enhance their learning experience and outcomes. (Sinthiya,2013).

### **5. Studies on VR in EFL**

A study by Kussainova A.Z et al(2024) assessed the impact of the Mondly VR program on foreign language learning and student motivation in various cultural contexts. The results showed a significant enhancement in vocabulary compared with traditional teaching methods.

The study highlights the potential of virtual reality as an effective tool in language teaching, as well as the need to consider cultural factors to optimize educational methods. Similarly, B. Sinthiya et al. examined English Language Learning in the Metaverse, exploring the potential of AR and VR; the study stresses that VR creates fully immersive virtual environments that transport learners to target language settings, providing authentic language exposure and opportunities for real-time communication.

A Research by Chuanxiang Song et al. (2023) titled "Optimizing Foreign Language Learning in Virtual Reality: A Comprehensive Theoretical Framework Based on Constructivism and Cognitive Load Theory (VR-CCL)". *Applied Sciences*, 13(23), 12557, introduced a comprehensive theoretical framework to enhance foreign language learning in VR. They explored the applications of VR in education, detailing the three main components of the VR-CCL framework, and validating its effectiveness through two case studies: Duolingo VR and Rosetta Stone VR.

Yuliia Rudnik (2023) examined the use of virtual reality and augmented reality in teaching foreign languages. The study analyzed the advantages and drawbacks of VR and AR technologies in EFL teaching. The results indicate that these technologies increased motivation, interaction, and retention. The article highlights the influence on multiple language skills, vocabulary acquisition, pronunciation, comprehension, writing, reading, and speaking. However, the data received demonstrates the suitability and benefits of implementing current AR technologies in the professional training of future teachers and language teaching in general, as opposed to VR technologies, which are limited. (Yuliia Rudnik,2023)

## **6. Challenges of VR in Education**

The adoption of VR in education faces several constraints; for instance, lack of time, technological barriers, financial concerns, and the need for professional training. Using VR in the classroom can be time-consuming because teachers require significant time for lesson

preparation, and students also need time to understand how this technology works. Hence, it is challenging to integrate VR into the curriculum due to the lack of time. Technical issues present a barrier for VR adaptation; for instance, the Wi-Fi signal needs to be very strong, along with the difficulty and complexity of VR systems and software updates. Financial constraints are also a major challenge since VR equipment is expensive, and the software and maintenance costs are high, making this integration require deliberate planning or funding. Another hurdle is teachers' training; educators need to possess the technical skills to use this tool effectively, thus they may need official training on the effective use of VR. (Cheng, H. J,2021)

VR is indeed a promising tool in language education; however, language and culture are inseparable, as the latter contextualize the language and give meaning to it. The next section will explore the realm of culture and its role in the EFL context.

## **Culture**

### **1. Defining Culture**

The New Encyclopedia Britannica, Micropaedia defines culture as: The integrated pattern of human knowledge, belief, and behaviour. Culture, as defined here, consists of language, ideas, beliefs, customs, taboos, codes, institutions, tools, techniques, works of art, rituals, ceremonies, and other related components; and the development of culture depends upon man's capacity to learn and to transmit knowledge to succeeding generations. (p. 784)

According to Lado (1957, 111), "cultures are structured systems of patterned behaviour." This indicates that culture is a system that patterns the behaviours of individuals. Veronica has defined culture from the anthropological perspective as a "product of what man believes and does. It is very rich, very variable, very malleable and very large," as cited and translated in Ryan (1998: 144).

Culture, in its essence, is a dynamic, multifaceted entity, intricately woven by a broad array of historical, socio-political, and individual factors. It permeates all aspects of human existence, from macro-level societal norms and values to the micro-level nuances of everyday interactions. Culture has been discussed—critically and pragmatically—regarding target language using communities, learners’ home cultures and languages, communicative and symbolic competence, global and local cultures, languaculture, interculturality, critical pedagogy and conscientisation, nationalism and language ideology, as well as notions of microcultures, cultural identities, multiculturalism, and hybridity (Gurney & Demuro 2025).

According to Çalışkan (2009) as cited in Belli, S. A. (2018), there are three main aspects of the culture-language relation: a) culture as contained in the socio-pragmatics and semantics of language, b) culture as a macro context for language use, and c) culture as thematic content in the discourse of language teaching. Language and culture are inseparable, as Kramsch points out in the dyad “language and culture”; language is not merely a collection of arbitrary linguistic forms applied to a cultural reality existing outside of language in the real world. Without language and other symbolic systems, the habits, beliefs, institutions, and monuments that we call culture would be merely observable realities, not cultural phenomena. To become a culture, they must have meaning. It’s the meaning we assign to foods, gardens, and ways of life that constitute culture (Kramsch 2013: 62).

Mohammed (2020), in his study about the impact of culture on the English foreign language, concluded that “mastering a language requires learners' mastery of the cultural contexts in which important social acts occur because it conveys warm feelings and solidarity among speakers and is categorized in the 'social' use of language” (p.26). Furthermore, he stated that since language and culture depend on each other, they cannot be taught separately.

Hofstede (1980) and other cultural theorists have identified several dimensions of culture that impact education, including: Power Distance: The degree to which hierarchical structures are accepted in a society. In high power-distance cultures, education tends to be authoritative, with teachers serving as unquestioned knowledge holders. In low power-distance cultures, students are encouraged to challenge authority and participate actively in learning. Individualism vs. Collectivism: Individualistic societies, such as the United States, emphasize personal achievement and self-expression in education, while collectivist cultures, such as Japan and China, focus on group harmony and collective progress. Uncertainty Avoidance: Societies with high uncertainty avoidance prefer structured, rule-based educational approaches, whereas those with low uncertainty avoidance may embrace flexibility and innovation in teaching. Long-Term vs. Short-Term Orientation: Some cultures emphasize long-term educational planning and perseverance, while others focus on immediate practical applications of knowledge. These cultural dimensions help explain why teaching methodologies and learning experiences vary widely across different societies. For instance, in Scandinavian countries with low power distance and a strong emphasis on student autonomy, education is structured to promote critical thinking and independent learning. In contrast, countries such as South Korea and India, which have higher power distance and collectivist orientations, often adopt more structured and hierarchical educational models.

## **2. Key Concepts of Culture**

### **2.1 The big C and the small c culture**

KOVÁCS (2017) highlighted that before 1989, language teaching used to be influenced by political ideologies, while innovative ideas, developments, or new materials were inaccessible. After a decade, there was a change from a grammar-translational teaching style concentrating on some carefully chosen *big C* culture content to a more open interpretation and

understanding of culture and the admission of more *little c* culture into the curriculum, followed by an even wider approach, the acceptance of the concept of interculturality.

Kramsh outlined the big C culture as a humanistic concept, a characteristic of the educated middle class. It results from the study of literature, history, and arts, together with the target language, which is embedded in “the reassuring continuity of a national community that gives it meaning and value. While the little c culture has a more pragmatic approach, referring to the daily behaviors and beliefs, values, eating, dwelling, and talking habits. (C. Kramsch, 2013).

Alptekin (2002) points to the utopianism of *little c* culture – the concept referring to characteristic ways of thinking and behaving of a target language community and their everyday customs –, highlighting its monolithic perception of culture and language.

## **2.2 Intercultural Communicative Competence**

It is the foundation that has to be built to become a global citizen. It is common to find students from diverse cultural backgrounds and norms, each one bringing with them unique attitudes, beliefs, and perspectives. Thus, understanding the intrinsic link is essential since ICC is the key that enables foreign language students to function meaningfully with individuals from various cultural backgrounds by developing its goals: the attitudes, knowledge, and skills required for successful intercultural communication (Byram, 1997; Deardorff, 2006; Fantini, 2007, as cited in Viktoriya Konstantinova & Idriss Garba Musa, 2024 ). Deardorff (2006) defined communicative competence as “the ability to communicate effectively and appropriately in intercultural situations based on one’s intercultural knowledge, skills, and attitudes” (p. 247).

In addition to the linguistic competence learners develop during their learning process, they need to develop communicative competence, which, according to Saville-Troike (2003),

involves the “social and cultural knowledge speakers are presumed to have which enables them to use and interpret linguistic forms” (p.18).

According to *Byram (1997)*, there is a significant difference between intercultural competence and intercultural communicative competence, since intercultural competence is the ability of individuals to interact with other people from different countries or cultures using their language, overcoming any cultural differences. On the other hand, intercultural communicative competence is when individuals interact with people from another country and culture using a foreign language. These interactions can be assured with sufficient cultural knowledge. Spitzberg and Changnon (2009) noted that intercultural competence refers to how appropriately and effectively people can manage their interaction with others since it implies different orientations to the world from an affective, cognitive, and behavioral perspective.

As Xue asserted, “a foreign language can hardly be acquired or learned without addressing the culture of the community in which it is spoken”.(Xue, J. 2014). *Language Studies*, 4(7).

### ***Byram’s Model of Intercultural Communicative Competence***

In 1997, Byram introduced the ICC as a reaction to the communicative competence CC that was relevant in FL at that time (Hoff, 2020). He introduced a model that demonstrates the qualities of an intercultural speaker, which are :

- Savoir: knowledge of self and other; of how social groups and identities function.
- Savoir être: attitudes; relativizing self, valuing others
- Savoir comprendre: skills of interpreting and relating.
- Savoir apprendre/faire: skills of discovering and/or interacting.

➤ *Savoir s'engager*: political education, critical cultural awareness (Byram, 1997, p. 34, as cited in Viktoriya Konstantinova & Idriss Garba Musa, 2024 )

Byram identified five core factors of ICC: knowledge, attitude, skills of discovery and interaction, skills of interpretation and relating, and critical cultural awareness. Byram (2020) found that “knowledge and attitude factors are preconditions, although he argues that they are also modified by the processes of intercultural communication. The nature of the process is a function of the skills that a person brings to the interaction. These can be divided into two main and related categories: first, skills of interpretation and establishing relationships between aspects of two different cultures; second, skills of discovery and interaction. The main idea here focuses on the ability to analyze the information from one's own country and another country and identify potential relationships that both these countries may have. (Byram 2020, p. 33)

### **2.3 The Intercultural Development Continuum (IDC)**

Proposed by Bennett (1993), provides a framework for understanding the stages of intercultural sensitivity. This model has been integrated into technology-based educational approaches to enhance cultural competence. Research by Khrisnan et al. (2022) highlights the IDC's tool or application in virtual exchange programs and online collaborations, demonstrating how technology facilitates interactions that aid in developing intercultural competence. (Bennett, 1993).

### **3 The Role of Culture in Language Teaching and learning**

Many scholars consider culture to be the “fifth skill,” alongside the four basic skills, for its pivotal role in foreign language learning, as the linguistic system only is not sufficient for foreign language learner to function effectively in the target language cultural settings. Cultural awareness makes an important contribution to foreign language learning programs. Learners can only enhance their communication skills after becoming familiar with the cultural patterns

of the target language. The recent reports by the Common European Framework of Reference (CEFR; Council of Europe 2001) and the Modern Language Association (MLA) Ad Hoc Committee on Foreign Language Learning (2007), entitled “Foreign Languages and Higher Education: New Structures for a Changed World” (Byrnes, 2010), clearly highlight the reshaped approach of teaching culture as a major focus of language learning and teaching. It also promotes the cultural behavior and attitudes of learners in response to the demands of communicating in English as a foreign language. Moreover, using communicative strategies develops social skills by demonstrating behavior in cross-cultural communication. Finally, students in interactive classroom activities can communicate meaning, build vocabulary, enhance grammatical accuracy, and develop communicative competence.

In a study conducted by Özdil & Debreli (2021), teachers associated the incorporation of cultural elements into language learning with improving communicative skills, enhancing motivation toward learning English, broadening learners’ horizons, embracing diversity by diminishing biases, fostering tolerance toward differences, and creating unity in the classroom.

Learning about the target language culture sustains better communication skills since norms of politeness and modes of behavior change according to the country. Hence, the incorporation of culture is a significant tool for effective intercultural communication. It is also known that learning about culture enhances learners' engagement and motivation due to its power in grabbing their attention by making them feel immersed in the language. Additionally, the study mentioned building tolerance and empathy and broadening learners’ horizons.(Özdil & Debreli,2021)

Culture holds a pivotal role in the English language learning journey, shaping learners’ motivation, perception, and communication strategies (Byram et al., 2002). Culture is viewed

as a lens through which learners understand the language's context, pragmatics, and sociolinguistic appropriateness.

The importance of culture extends beyond mere linguistic competence; it enables learners to navigate global contexts while promoting empathy and open-mindedness. Culture acts as a guiding tool, empowering cross-cultural understanding and allowing individuals to adapt their language to diverse settings. Moreover, a sufficient knowledge of cultural quirks facilitates successful and meaningful communication, making learners more attuned to the cultural context of their interactions (Özdil & Debreli,2021)

Kazi Imran Hossain (2024) argues that being culturally attuned promotes learners' language learning strategies, allowing them to shape their communication styles according to diverse contexts and audiences. The integration of culture enhances communicative competence and promotes inclusivity and respect in language learning environments. It calls for educators to be architects of inclusivity, deliberately crafting learning experiences that broaden learners' perspectives on language and culture. Cultural competence training for educators is crucial in recognizing and challenging language stereotypes.

A study by Gonen (2012) demonstrated the interest among both English Language Teaching (ELT) and non-ELT graduates in the significance of implementing an intercultural approach in language teaching. Culture is deeply intertwined with language learning, shaping communication styles, social norms, and pragmatic competence (Byram, 1997)

#### **4. Approaches to Teaching Culture**

Cultural competence within educational frameworks has emerged as an indispensable facet of contemporary pedagogy.

Prior to the 1970s, culture was perceived as literacy or humanities part of language study and linked to the grammar-translation method of teaching foreign languages. However,

during the 1970s and 1980s, alongside the communicative shift in language education, culture evolved to represent the lifestyles and daily behaviors of members within speech communities, unified by shared experiences, memories, and hopes. Kramersch (2013)

As a humanistic aspect, Culture is a general knowledge of literature and the arts. Also called 'big C' culture, it is a feature of the cultivated middle class. Culture was traditionally taught in standard national languages. Teaching about the history, institutions, literature, and arts of the target country embeds the target language only when the continuity of a national community is ensured, which gives it meaning and value. (Kramersch,2013) The emergence of communicative language education resulted in the shift from a humanistic concept of culture to a pragmatic one.

With the rise of the communicative approach, the most relevant concept of culture since the 80s has been that of 'little c' culture, also called 'small cultures'. Here, Research on the cultural aspect of language learning has shifted focus to cross-cultural pragmatics and the sociolinguistic appropriateness of language usage within its cultural context. Culture in this viewpoint is Stable, inherited, and community-bound. Learners are seen as **autonomous individuals** navigating structured social groups; they are social agents interacting with other agents in a common task to realize a common goal (Pavlenko & Lantolf, 2000) as cited in Kramersch (2013). In today's globalized era, with the spread of computer-mediated technology, a new approach to teaching culture emerged: a post-modernist or ecological approach.

The ecological approach to teaching culture by Giddens 1991 stresses interconnectedness, reflexivity, and the idea that culture is a **decentered fluid** construction. Here, culture is evolving, and it is now still constructed in the ongoing discourse; moreover, the interconnectedness of self with others is across multiple timescales. In this perspective, learners are encouraged to critically examine how cultural meanings are produced, contested,

and reinterpreted. But this does not interfere with their identity; however, it might lead to a change in their subject position. Learners do create their own and others' subject positions by the topics they are interested in and the ones they avoid; these subject positions create a discursive practice, which we call culture. Hence, in a postmodernist view, culture is a social semiotic construction; learners of foreign languages are likely to see their cultural beliefs modified and displaced in an attempt to understand others. (Giddens, A.,1991).

Culture, then, is the meaning a social group assigns to the discursive practices they share in a given space. Learning about a foreign culture without awareness of one's discursive practices can result in a historical or anachronistic understanding of others, hence, a limited knowledge of the Self. ( Kramersch,2013)

Different strategies have been used to teach cultures, such as drama, social media, and games. Krashen (1999) promoted observations through movies and other authentic materials that are used to. In addition to its visible effect in changing our social life, the use of technology has a significant influence on the ways of teaching and learning. Technology allows teachers the opportunity to create more effective teaching materials for learning the language and language culture. One of the alluring benefits of technology is that it provides authentic communication in an interactive environment that facilitates the teaching of culture (Lee, 2009).

### **5 Strategies for Teaching Culture**

Cultural aspects of a language include knowledge, clothing, and habits of people living in a particular society in which the language is spoken. Culture is fundamental to language development and communication. Culture is inextricably linked to language, which affects cultural norms, values, and identities. For effective communication, language learners must negotiate the target language's culture. Thus, EFL training commonly includes cultural

elements to improve intercultural competency. Many strategies have been adopted by teachers to teach culture, traditional approaches like textbooks, lectures, and innovative methods like integrating technology. ( Aldawood, A. A., Almeshari, F., 2019).

Krashen 1999 highlighted the importance of the use of movies and authentic materials in teaching. Kovacs (2017) also mentioned the integration of authentic TV shows, broadcasts, and films. Dema & Möller (2012) discussed the presentation and role-play activities that follow the traditions of the target culture norms as a strategy. The use of authentic materials requires scaffolding and may marginalize some cultures over others. Moreover, we can note the use of textbooks focusing on linguistic aspects of learning an additional language; however, this strategy promotes teacher-centeredness and stereotyping. Some teachers tend to use comparative analysis, where learners contrast L1 and L2 cultures, which may lead to the oversimplification of complex cultural dynamics. Additionally, the use of technology plays a greater role in the effectiveness of language and culture teaching. ( Aldawood, A. A., Almeshari, F. (2019).

## **6 Emotional Factor Recognition in Cultural Teaching Supported by Artificial Intelligence**

A study done by Xiaochen Yu introduced an Emotion recognition application as a new solution for promoting cultural teaching. Emotion recognition technology is a branch of artificial intelligence aimed at accurately identifying an individual's emotional state through the analysis of multimodal information. It involves the following key technologies: 1. *Speech Emotion Recognition*, which detects features of speech signals, such as intonation, speed, intensity, and rhythm. 2. *Facial Expression Recognition* analyzes facial muscle changes through image processing and computer vision algorithms, for instance, raised eyebrows. 3. *Text Sentiment Analysis* Text is based on natural language processing (NLP), which uses semantic analysis of language content to determine the emotional tendencies expressed in text.

.4 *Physiological Signal Analysis*, which perceives emotional fluctuations by collecting physiological data such as heart rate, electrodermal response (EDA), and electroencephalography (EEG). (Xiaochen Yu SHS Web Conf., 213,2025)

In teaching culture this technology collects learners' facial expressions, speech features, and physiological signals, then these data will be analyzed using deep learning algorithms to provide accurate feedback, for instance, after the collection and the analysis of the data, if the system detects a student with emotional anxiety, teacher will receive an advisory notification to adjust his teaching pace and methods. By applying emotion recognition technology, teachers can grasp students' emotional needs, thereby optimizing the teaching process and enhancing cultural teaching effectiveness. (Xiaochen,2025)

## **7 The Role of Technology in Cultural Teaching**

The integration of technology is a potent force that promises to revolutionize educational practices. Technology offers opportunities such as *personalized learning* experiences through AI-driven tools, *immersive cultural experiences* via Virtual Reality (VR), *global connectivity* fostering cross-cultural collaboration, and *Multimodal Learning Resources and Accessibility*. (Muqarramah Sulaiman Kurdi,2023).

### **7.1. Immersive Cultural Experiences through VR**

VR can foster cultural competence by creating immersive learning environments with realistic scenarios that transcend traditional classrooms. It enables learners to engage culturally and explore various cultural contexts firsthand. For instance, VR simulations can transfer learners to historical landmarks or cultural festivals, where they can engage, interact, and explore in a highly authentic experience. This approach enhances their empathy, cultural awareness, and helps them obtain a greater grasp of cultural customs. (Kurdi,(2023).

### **7.2. Personalized Learning and AI-Driven Adaptations**

With the power of technology, it is now possible to access AI-driven tools that allow for personalized learning experiences that align with the individual's cultural backgrounds and learning styles. Examples of these tools are adaptive learning systems and language learning applications. The latter makes use of AI algorithms to personalize the educational resource depending on diverse cultures. For instance, an adaptive learning app would customize the curriculum and embed cultural aspects. These tools help in gaining a deeper understanding and appreciation of diverse cultures among students in an engaging learning environment. (Cheng,2022)

### ***7.3. Global Connectivity and Cross-Cultural Collaboration***

In this globally interconnected world, online platforms and collaborative digital spaces play a profound role in promoting cross-cultural interactions and global connectivity. In this vein, we can mention social media networks, discussion forums, and online communities. These digital spaces allow learners to interact with peers from diverse cultures, foster cross-cultural understanding, exchange knowledge, and enable intercultural dialogue, transcending geographical limits. Virtual platforms provide opportunities for learners from varied cultural backgrounds to collaborate on projects, research, and exchange programs. These collaborations enable learners to communicate effectively, develop respect for others' perspectives, and enhance skills such as teamwork. This approach encourages learners to confront their cultural beliefs and gain insights from diverse perspectives. (O'Dowd, 2016),

### ***7.4 Multimodal Learning Resources and Accessibility***

Technology has made it possible for educators to access multimodal learning resources. Such classrooms address all learners with diverse abilities and preferences. These resources offer learners more engaging opportunities to explore cultural learning experiences. For instance, presentations, videos, images, and audio simulate all senses, contributing to a more

immersive understanding of cultural diversity that enhances learners' cultural sensitivity. The technology integration also examines how technology facilitates language practice, cultural exchange, and personalized learning experiences. Revolutionizing language learning, technology integration provides learners with access to a wealth of online resources and language learning platforms. Digital tools and applications facilitate autonomous language learning, allowing learners to tailor their experiences to their unique needs and interests. In embracing technology, educators not only open doors to vast linguistic resources but also empower students to take control of their learning journey, promoting a sense of autonomy and responsibility. (Kurdi,2023).

Technology integration stands as a potent tool to enrich the interconnection of culture and language. Through online language exchanges, virtual cultural immersion programs, and multimedia content, learners can actively engage with a broad spectrum of culturally diverse resources. Technology becomes not just a convenience but a bridge, connecting learners with real-world cultural experiences and fostering a global perspective.

### **8. Challenges in Teaching Culture**

Challenges faced by educators. .1. Limited cultural content in course materials. .2. Language stereotypes. 3. Cultural misunderstandings 4. Addressing diverse learner backgrounds ( K.I. Hossain,2024)

One of the notable impediments faced by learners and teachers is the limited cultural content in the course material. This lack influences learners' exposure to authentic language use and cultural diversity; hence, they may miss vital insights into the traditions, customs, and beliefs of the target language community. Since most learning resources focus on grammar and vocabulary while neglecting cultural aspects, this dearth of cultural content hinders learners' cultural competence, which is essential in today's world. This barrier can reinforce stereotypes

and cultural biases in the language materials, altering learners' understanding of others' nuanced cultural dynamics. (Norton,2019)

Language stereotypes, some language learning materials reinforce stereotypes and biases, and they mislead and hinder learners' openness to the diversity of the target language communities. For instance, prejudice related to language accents and dialects. Certain dialects may be associated as prestigious and superior, while others are inferior. This can limit the appreciation of linguistic diversity. Moreover gender gender-related language stereotypes, some form of language and communication styles are associated with a certain gender, which gives space for bias. We can also note the perceptions of native and non-native English speakers. Non native speakers are portrayed as less proficient and less competent, which diminishes their confidence and linguistic identity. (Pennycook, 2007).

Cultural misunderstandings can lead to miscommunication and cross-cultural conflicts. This may arise from the diverse styles of indirect communication that exist across cultures. Metaphors and idiomatic expressions serve as sources of cultural misconceptions, as many expressions conceal hidden cultural layers. Stereotypes that arise from non-authentic language materials result in students' unawareness of cultural nuances, hence the misinterpretation of others. Implicit and non-verbal communication can also be interpreted correctly for the fact that they change across cultures according to the social norms. Additionally, the misinterpretation of sarcasm and humor plays a vital role in communication, which highlights the significance of cultural sensitivity and context within language use. Misunderstanding may also result from cultural differences in greetings and politeness, since cultural appropriateness needs more focus by teachers to guide their learners. Cultural misunderstanding impedes effective cross-cultural communication; it is the responsibility of educators to address this serious problem. (K.I. Hossain,2024)

Addressing diverse learner backgrounds, students from different linguistic and cultural backgrounds are relevant in EFL classrooms. This can present both opportunities and obstacles for teachers. Learners may bring diverse cultural perspectives and linguistic richness that promote the creation of an inclusive and effective learning atmosphere.

Finally, one of the relevant debates about culture is which culture should be taught: the specific lifestyle of specific speakers of the language? Or a more general humanistic fund of wisdom as transmitted through literature and the arts? This debate is rooted within the influence of the new communicative approach that emphasizes communicative competence and conversational skills, the small c culture, the latter contrasting with literature pedagogy that focuses on analysis, interpretation, and translation of texts, the big C culture. ( K.I. Hossain,2024)

Although VR and intercultural competence are holding great interest among researchers, there remain significant gaps to investigate.

### **Gaps in Literature**

The VR tool shows promise for the educational landscape. The existing research underscores VR's potential in the EFL context. The traditional learning environment has been overshadowed by VR's immersive, three-dimensional spaces. In these environments, the connection between the learner and the material is not only enhanced; it undergoes a transformation. However, a critical gaps exist in current research in understanding how teachers and learners perceive the integration of VR to teach culture. Previous studies focused more on VR affordance and its role in improving speaking skills and general language acquisition; however, the use of VR to sustain cultural awareness and sensitivity has not been explored yet.

This study aims to address this gap by exploring how teachers and learners perceive VR and its integration in the EFL context to teach culture, as well as its challenges and benefits.

### **Conclusion**

The previous chapter examined the way multiple theories fit with the nature of virtual reality and support its integration in EFL and teaching culture. In the modern age of rapidly developing digital technology, there exists a significant demand to create authentic learning contexts, VR with its characteristics aligns well with the new demands as well as the previous theoretical frameworks, offering an accessible gateway for teachers as well as learners to improve learning process and foster the intercultural awareness that becomes a crucial skill to possess. However, while VR potentials are a trending hotspot that interests researchers, only a few studies have investigated the use of this tool in the EFL context. Addressing this gap is crucial for educational development as well as the effectiveness of cultural teaching.

## **Chapter Two**

### **Methodology and Data Analysis of the Perceptions on Integration of Virtual Reality for Teaching Culture in EFL Classrooms**

## **Introduction**

This chapter is dedicated to the practical aspect of this study to address the research questions regarding teachers' and learners' perceptions of integrating virtual reality in EFL classrooms for teaching and learning culture. The chapter outlines the research and provides an overview of the entire process. It examines the research design, setting, and population, data collection instruments, data collection procedures, data analysis methods, validity and reliability, data interpretation, and finally transitions to the discussion of the results.

### **1. Research Design**

This study is descriptive in nature as it explores teachers' and learners' perceptions of using Virtual Reality (VR) to teach culture within English as a Foreign Language (EFL) settings. Since perceptions can be quantified through a Likert scale, a quantitative approach is employed to gather data systematically and perform statistical analysis to highlight trends and patterns. The researcher aims to uncover preliminary perceptions rather than manipulating variables, as the application of VR in teaching culture in EFL is still an emerging area of inquiry.

### **2. Setting and participants**

The target population comprises EFL teachers and students at the Department of Letters and English Language at Mohamed Boudiaf University, M'sila. The researcher dealt with 15 participants among the teachers randomly selected. For the learners, the researcher randomly selected third-year students from groups five and six; the number of participants was 40, representing the entire population of 130. The third-year students were selected for their developed language proficiency and enough exposure to cultural content in their EFL classroom.

### **3. Data Collection Instrument**

A comprehensive multiple-type Likert-scale questionnaire using a 5-point system was created to gather data regarding teachers' and learners' perceptions on integrating virtual reality to teach culture in the EFL classroom.

. As noted by Bolarinwa (2015), validating an adapted questionnaire is crucial before drawing any conclusions.

**For the teachers' questionnaire**, there were five sections

Section one: Background information includes three items about teachers' rank, teachers' area of specialization, and the number of years of teaching experience.

Section Two: Teacher Perceptions on Teaching Culture in EFL Classrooms

Section three: Teacher Perceptions on Virtual Reality (VR) in EFL Classrooms

Section four: Perceptions on the Role of VR in Teaching Culture in EFL Classrooms

Section Five: Practices and Future Perspectives on Using VR to Teach Culture in EFL Contexts.

**The learners' questionnaire** also comprises five sections

Section one: demographic information including level of English proficiency, years of studying English, and prior encounter with Virtual reality.

Section Two: Students' Perceptions on Learning Culture in EFL Classrooms

Section three: Students' Perceptions on Virtual Reality (VR) in EFL Classrooms

Section four: Perceptions on the Role of VR in Learning Culture in EFL Classrooms

Section Five: Students' Experiences and Future Perspectives on VR in Language Learning

#### **4. Data Collection Procedures**

The data for this study were collected using a self-administered questionnaire developed via Google Forms. Google Forms is chosen for its user-friendly and accessibility. For teachers, the questionnaire was distributed via email, while for learners it was distributed through social media (Telegram application). Participation was voluntary, and anonymity and confidentiality were ensured.

#### **5. Data Analysis Methods**

The data collected were analyzed using SPSS software version 25. The researcher employed descriptive statistics (means, medians, modes, standard deviations) for Likert scale closed-ended questions and frequency distributions for open-ended items. The statistical analysis was utilized to draw conclusions about summarizing teachers' and learners' perceptions of the subject matter.

#### **6. Validity and Reliability**

Validity is the extent to which the research instrument measures exactly what is intended to measure, while reliability is the extent to which the results are consistent when the experiment is repeated more than once.« The Validity and Reliability of the scales used in research are essential factors that enable the research to yield beneficial results ( Sürücü et al, 2020). Hence, in quantitative research, validity and reliability are essential factors in determining the quality of the research.

**Reliability:** The reliability of both teachers' and students' questionnaires was assessed via Cronbach's Alpha. Cronbach's reliability coefficient was calculated with the use of SPSS for the whole sections.

## Students questionnaire

Table 1: Reliability of students' questionnaire

<b>Reliability Statistics</b>	
Cronbach's Alpha	N of Items
,932	25

It is clear that Cronbach's alpha is  $0,932 > 0.7$

The internal consistency of the students' questionnaire yielded a coefficient of 0,932, which is greater than the acceptable number of 0.7. This reflects a high level of internal consistency, suggesting that the questionnaire is reliable.

## Teachers questionnaire :

Table 2: Reliability of teachers' questionnaire

<b>Reliability Statistics</b>	
Cronbach's Alpha	N of Items
,845	25

$0.845 > 0.7$

The internal consistency of the teachers' questionnaire resulted in a coefficient of 0,845, which is greater than the acceptable number of 0.7. This indicates a high level of internal consistency, suggesting that the questionnaire is reliable

## Validity

To ensure the quality of the study, both content and face validity were assessed.

Face validity refers to the degree to which a test appears to measure what it claims to measure. Face validity was confirmed by a group of five third-year students who reviewed the entire questionnaire and provided positive feedback. For the teacher's questionnaire, it was confirmed by a specialist in the field, my academic supervisor.

Content validity is the extent to which the questions on the instrument and the scores from these questions represent all possible questions that could be asked about the content or skill. The content validity of both questionnaires was evaluated with the review of two specialists in applied linguistics, including Dr. Hamoudi and Dr. Berkani. The experts provided positive feedback confirming that the items in the questionnaires align with the research objectives and represent the key dimensions of the research variables: culture and virtual reality. Minor modifications were made based on the experts' feedback to ensure clarity.

## 7. Data Analysis :

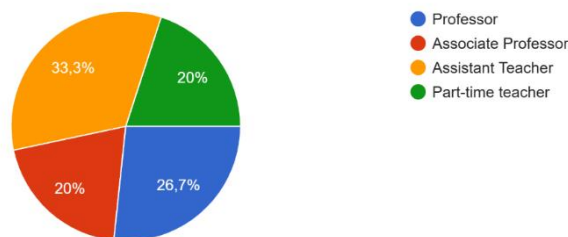
### 7.1 Teachers' Perceptions on Integrating Virtual Reality in EFL Classrooms to Teach Culture

#### 7.1.1 Section 1: Demographic information

The first section *explores information to help the researcher understand the teachers' background and teaching context.*

#### Item 1

What is your current teaching rank?  
15 réponses



Graph 1: Teachers' rank

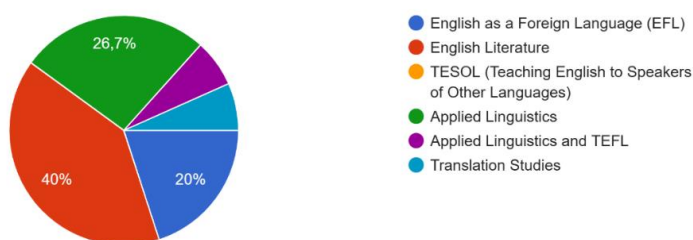
Table 3: Teachers' Ranks

		Frequency	Percent
Valid	Part-time teacher	3	20,0
	Assistant teacher	5	33,3
	Associate professor	3	20,0
	Profesor	4	26,7
		15	100,0

From graph 1 and table 4 above, we note that the majority of teachers are holding a rank of Assistant teacher with 33,3%. Teachers with professor rank were 4, which means 26,7%, 3 teachers, 20% were associate professors, while another 3 were part-time teachers, 20%

## ITEM 2

What is your area of specialization?  
15 réponses



Graph 2: Teachers' specialization

Table 4: Teachers' specialization

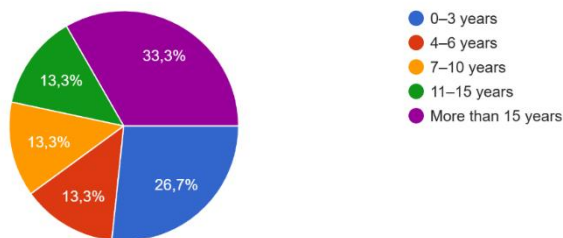
		Frequency	Percent
Valid	English as a Foreign Language (EFL)	3	20,0

<i>English Literature</i>	6	40,0
<i>Applied Linguistics</i>	4	33,3
<i>Other</i>	2	13,4
<i>Total</i>	15	100,0

Table 5 and Graph 2 present teachers' areas of specialization. We notice that only 20% of teachers chose English as a foreign language EFL while 26,7% were specialized in Applied Linguistics. 40% of teachers were from the English literature stream. 6,7% chose translation. 6,7% chose applied linguistics and TEFL.

### ITEM 3

How many years of teaching experience do you have?  
15 réponses



Graph 3: Teaching experience

Table 5: Teaching Experience

How many years of teaching experience do you have?			
		Frequency	Percent
Valid	0-3 years	4	26,7
	4-6 years	2	13,3

	7–10 years	2	13,3
	11–15 years	2	13,3
	More than 15 years	5	33,3
	Total	15	100,0

Table 6 and Graph 3 above explore teachers' years of experience. The responses varied across ranges. Four teachers responded with 0 to 3 years, two teachers responded with 4 to 6 years, another two teachers answered with 7 to 10 years, and two teachers had experience ranging from 11 to 15 years. Five teachers had teaching experience for more than 15 years.

### **7.1.2 SECTION 2: Teacher Perceptions on Teaching Culture in EFL Classrooms**

*This section focuses on teachers' current approaches and views regarding teaching culture in the English as a Foreign Language (EFL) classroom.*

*Table 6: Teachers' perceptions on teaching culture in EFL classrooms*

<b>Statistics</b>		Q4	Q5	Q7
N	Valid	15	15	15
Mean		4,93	4,07	4,13
Median		5,00	4,00	4,00
Mode		5	4	4
Std. Deviation		,258	,704	,516
Minimum		4	3	3
Maximum		5	5	5
Total mean		4,37		
Level of perception		Very high	High	High

Table Seven summarizes the three items that delve into teachers' perceptions of cultural teaching EFL classroom. Overall, it reflects a very high level of perception with a total Mean score of 4,37

**Item 4:** How important do you think teaching culture is for EFL learners in becoming proficient in the language?

*For the importance of teaching culture, the mean score was 4,93, which indicates A very high level of perceptions among teachers regarding the importance of cultural teaching in EFL classrooms. The standard deviation of 0,258 reflects high consistency in responses and low variability. The mode of answers was 5, which means that the most selected answer is Very important.*

**Item 5:** How frequently do you incorporate cultural elements into your EFL lessons?

*For the frequency of incorporating culture in EFL lessons, the mean score was 4,07, reflecting A high level of incorporation in EFL classrooms. The standard deviation of 0,704 suggests a moderate variability in responses. The mode of answers was 4, which means that the most selected answer was Frequently.*

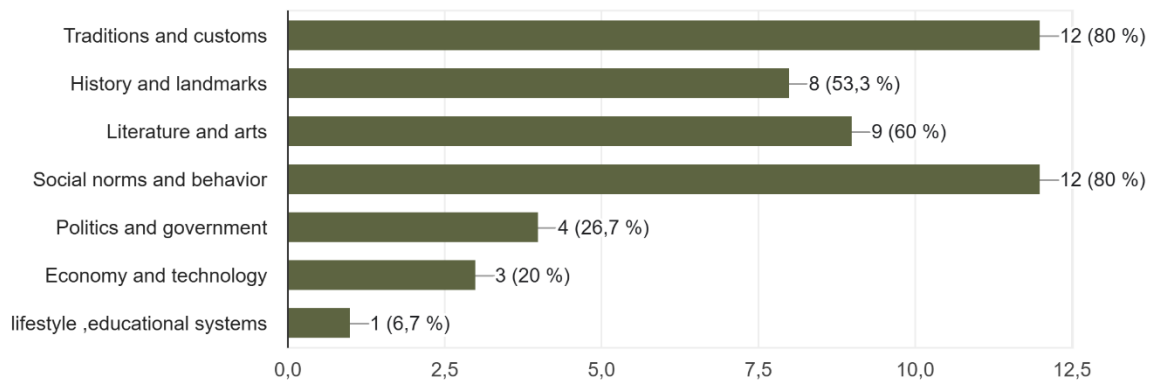
**Item 7:** How comfortable are you with integrating cultural content into your language lessons?

*For the level of comfort in integrating cultural content, the mean score was 4,13, suggesting A very high level of comfort among teachers when integrating cultural content in EFL classrooms. The standard deviation of 0.516 indicates a high level of consistency in responses. The mode of answers was 4, which means that the most selected answer is Comfortable.*

**Item 6**

Which aspects of culture do you focus on when teaching English to foreign learners? (Select all that apply)

15 réponses



Graph 4 Cultural aspects that teachers focus on

Table 7 Cultural aspects that teachers focus on

***Traditions and customs***

	Frequency	Precent
<b>Not selected</b>	3	20,0
<b>Selected</b>	12	80,0

***History and landmarks***

<b>Not selected</b>	7	46,7
<b>selected</b>	8	53,3

***Literature and the arts***

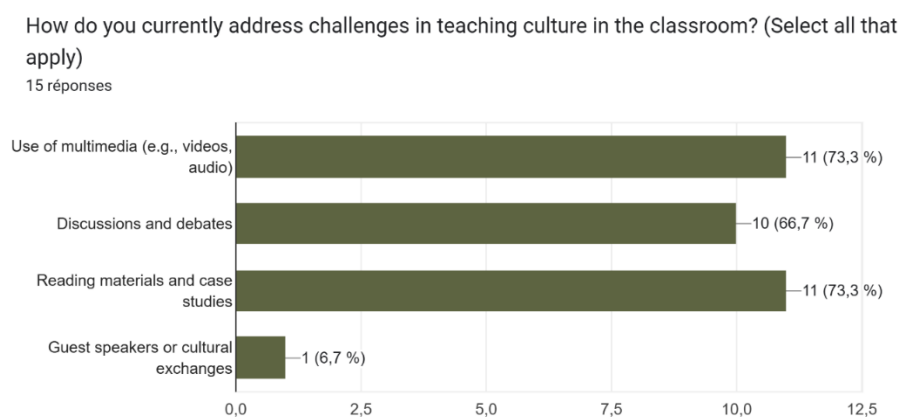
<b>Not selected</b>	6	40,0
<b>Selected</b>	9	60,0

***Social norms and behavior***

<b>Not selected</b>	3	20,0
<b>Selected</b>	12	80,0

<i>Politics and government</i>		
<b>Not selected</b>	11	73,3
<b>selected</b>	4	26,7
<i>Economy and technology</i>		
<b>Not selected</b>	12	80,0
<b>selected</b>	3	20,0

Table 8 and Graph 4 demonstrate the responses to the sixth item that explores the cultural aspects that teachers focus on when teaching EFL. Social norms and behaviour received a selection of 80%, which means that the majority find this aspect engaging. With an equal selection, traditions and customs also received 80 %, which reflects their importance. Next, literature and art, with 60%, are also quite interesting to the majority. History and landmarks were selected by slightly over half of the respondents, 53,3%. Politics and government, with 26,7 %, received lower interest. Economy and technology received 20 %. One of the respondents provided another aspect, which is Lifestyle and educational systems.



## ITEM 8

*Graph 5: Methods to address cultural challenges*

*Table 8: Methods to address cultural challenges*

*Use of multimedia (e.g., videos, audio)*

	Frequency	Percent
<b>Not selected</b>	4	26,7
<b>Selected</b>	11	73,3

*Discussions and debates*

<b>Not selected</b>	5	33,3
<b>selected</b>	10	66,7

*Reading materials and case studies*

<b>Not selected</b>	4	26,7
<b>Selected</b>	11	73,3

*Guest speakers or cultural exchanges*

<b>Not selected</b>	14	93,3
<b>Selected</b>	1	6,7

Graph 5 and Table 9 present teachers' responses to the eighth item that explores the methods they use to address challenges in cultural teaching. « Videos and multimedia » and « Reading materials and case studies » were the most used methods, with equal selection of 73,3%. Discussions and debate also received a significantly large number of selections, which is 66,7%, which is still a very useful method. Guest speakers or cultural exchanges were selected by 6,7%, therefore, it's the least useful method used to overcome challenges in teaching culture.

**7.1.3 Section 3: Teacher Perceptions on Virtual Reality (VR) in EFL Classrooms**

*The section focuses on teachers' familiarity and perceptions of using virtual reality (VR) in English as a foreign language (EFL) education.*

Table 9: Teachers' perceptions on VR in EFL classrooms

Statistics							
		Q9	Q10	Q11	Q12	Q13	Q14
N	Valid	15	15	15	15	15	15
Mean		2,87	2,07	3,93	3,53	4,00	4,00
Median		3,00	2,00	4,00	4,00	4,00	4,00
Mode		4	2	4	4	4	4
Std. Deviation		1,125	,458	,704	,743	,655	,926
Minimum		1	1	3	2	3	2
Maximum		4	3	5	5	5	5
Total mean		3,4					
Level of perception		Medium	low	High	high	high	high

**Item 9:** How familiar are you with Virtual Reality (VR) as a tool for language learning?

For familiarity with VR as a tool for language learning, the mean score was 2,87, suggesting a medium level of familiarity. The standard deviation of 1,125 indicates diversity in responses. The mode of answers was 4, meaning that the most selected answer is " Somewhat familiar.

**Item 10:** Have you ever used VR technology in your teaching?

For VR use in teaching, the mean score was 2,07, indicating a low level of use. The standard deviation of 458 reflects consistency in responses. The mode of answers was 2, meaning that the most selected answer is " No, but I am interested in using it. "

**Item 11:** How effective do you believe VR technology is in enhancing language learning in the EFL classroom?

For the effectiveness of VR , the mean score was 3,93 , demonstrating a high level of agreement . The standard deviation of 0.704 reflects moderate variability in responses. The mode of answers was 4, meaning that the most selected answer is " Effective. "

**Item 12:** How confident are you in using VR technology for teaching purposes?

The mean score for confidence in using VR was 3,53, suggesting a high level of confidence. The standard deviation of 0.743 indicates moderate diversity in responses. The mode of answers was 4, meaning that the most selected answer is Confident.

**Item 13:** Do you think VR can effectively simulate real-life cultural experiences for EFL learners?

The mean score for VR simulating real-life culture was 4,00, suggesting a high level of agreement. The standard deviation of 0,655 reflects consistency in responses and a strong shared belief in the value of VR. The mode of answers was 4, indicating that the most selected answer is Agree.

**Item 14:** To what extent do you think VR could engage students more effectively compared to traditional methods of teaching culture?

For the effectiveness of VR compared to traditional methods, the mean score was 4,00, suggesting a high level of agreement. The standard deviation of 0,926 indicates high variability in responses. The mode of answers was 4, which means that the most selected answer is To a large extent.

#### ***7.1.4 Section 4: Perceptions on the Role of VR in Teaching Culture in EFL Classrooms***

**The section** *explores how teachers perceive VR's potential role in teaching cultural knowledge and experiences in the EFL classroom.*

Table 10: Teachers' perceptions on the role of VR in teaching culture

Statistics						
		Q15	Q16	Q17	Q18	Q19
N	Valid	15	15	15	15	15
Mean		4,33	4,27	4,13	4,33	4,40
Median		4,00	4,00	4,00	4,00	4,00
Mode		4	4	4	4	4
Std. Deviation		,488	,458	,516	,488	,507
Minimum		4	4	3	4	4
Maximum		5	5	5	5	5
Total mean		4,29				
Level of perception		Very high	High	high	Very high	Very high

The table above outlines the responses of the fourth section, which is entitled Perceptions on the Role of VR in Teaching Culture in EFL Classrooms. With a total mean of 4,29, indicating a High to a very high level of perception.

**Item 15:** How helpful do you think VR could be for exposing EFL learners to different cultural environments and contexts?

For the VR's helpfulness in experiencing diverse cultural environments, the mean score was 4.33, demonstrating a very high level of agreement. The standard deviation of 0.488 reflects that the responses are very consistent. The mode of answers was 4, indicating that the most selected answer is Helpful.

**Item 16:** Do you believe VR can improve students' understanding of cultural practices and traditions?

For the VRs' potential to improve learners' understanding of cultural practices and traditions , the mean score was 4.27, demonstrating a high level of agreement . The standard deviation of 0,458. 458 reflects consistency in responses. The mode of answers was 4, indicating that the most selected answer is Agree.

**Item 17:** How useful do you think VR could be in enhancing learners' empathy and cross-cultural awareness?

Regarding increasing empathy and awareness, the mean score was 4.13, suggesting a high level of usefulness. The standard deviation of 0,516. 516 indicates consistency in responses. The mode of answers was 3, meaning that the most selected answer is Very useful.

**Item 18:** To what extent do you think VR technology can help students visualize and experience cultural settings they might not have access to otherwise?

For VR's role in helping students visualize and experience cultural settings, the mean score was 4.33, demonstrating a very high level of agreement. The standard deviation of 0,488. 488 reflects very consistent responses. The mode of answers was 4, indicating that the most selected answer is To a large extent.

**Item 19:** Do you think VR can enhance learners' engagement and motivation when learning about culture?

For the VRs' potential in enhancing learners' engagement, the mean score was 4, 4,40, demonstrating a very high level of agreement. The standard deviation of 0,507. 507 reflects consistency in responses. The mode of answers was 4, indicating that the most selected answer is Agree.

***7.1.5 Section 5: Practices and Future Perspectives on Using VR to Teach Culture in EFL Contexts***

**This section** explores their practices and future perspectives regarding VR integration in teaching culture.

Table 11: Teachers' practices and future perspectives on using VR to teach culture

Statistics		Q20	Q21	Q24	Q25
N	Valid	15	15	15	15
	Missing	0	0	0	0
Mean		3,73	4,20	4,07	4,73
Median		4,00	4,00	4,00	5,00
Mode		4	4	4	5
Std. Deviation		,704	,676	,704	,458
Minimum		3	3	3	4
Maximum		5	5	5	5
Total mean		4,18			
Level of perception		High	High	High	Very high

The table above summarizes four items from the fifth section, which is entitled " Practices and Future Perspectives on Using VR to Teach Culture in EFL Contexts, " with a total mean of 4,18, suggesting a high level of perception.

**Item 20:** How often would you be willing to use VR to teach culture in your EFL classroom?

For the willingness to use VR in cultural teaching, the mean score was 3,73, suggesting a high level of willingness. The standard deviation of 0,704 reflects moderate variability in responses.

The mode of answers was 4, indicating that the most selected answer is " Frequently."

**Item 21:** How likely are you to incorporate VR into your future lessons on culture?

For the willingness to incorporate VR in lessons , the mean score was 4,20 , demonstrating a high level of willingness. The standard deviation of 0,676 reflects consistency in responses. The mode of answers was 4, indicating that the most selected answer is " Likely. "

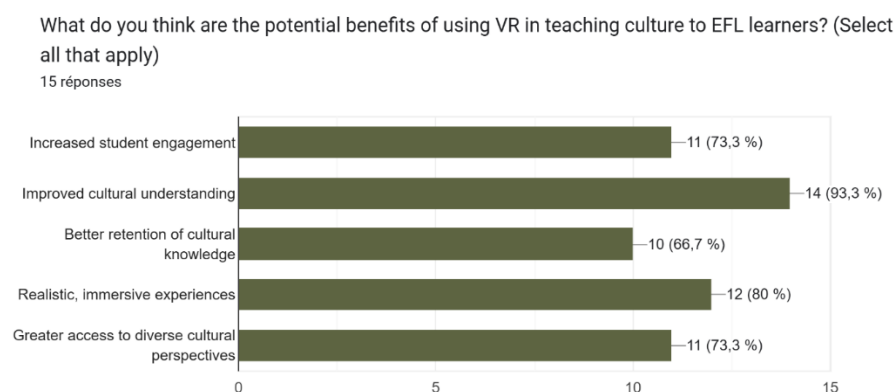
**Item 24:** How do you envision the role of VR in the future of EFL culture teaching?

For the vision of the future role of VR in teaching culture, the mean score was 4,07, demonstrating a highly positive vision. The standard deviation of 0,704 reflects moderate variability in responses. The mode of answers was 4, indicating that the most selected answer is " Positively ."

**Item 25:** Would you be interested in receiving professional development or training on how to effectively integrate VR into your teaching of culture?

For the interest in professional training on VR, the mean score was 4,73 , indicating a very high level of interest . The standard deviation of 0,458 reflects high consistency in responses. The mode of answers was 5, indicating that the most selected answer is " Yes, definitely. "

**Item 22 :**



*Graph 6: Benefits of VR in teaching culture*

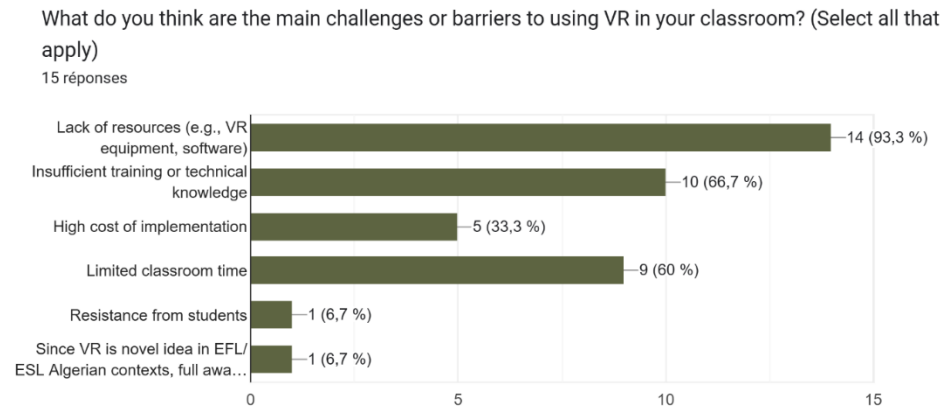
Table 12: Benefits of VR in teaching culture

<b>Increased student engagement</b>		
	<b>Frequency</b>	<b>Percent</b>
<b>Not selected</b>	4	26,7
<b>Selected</b>	11	73,3
<b>Improved cultural understanding</b>		
<b>Not selected</b>	1	6,7
<b>Selected</b>	14	93,3
<b>Better retention of cultural knowledge</b>		
<b>Not selected</b>	5	33,3
<b>Selected</b>	10	66,7
<b>Realistic, immersive experiences</b>		
<b>Not selected</b>	3	20,0
<b>Selected</b>	12	80,0
<b>Greater access to diverse cultural perspectives</b>		
<b>Not selected</b>	4	26,7
<b>Selected</b>	11	73,3

The Table and the graph above demonstrate teachers' responses to the twenty-second item that explores the benefits that VR could bring to cultural teaching. Improved cultural understanding was the most selected with 93,3%. Realistic immersive experiences received a significantly high number of selections, 80 %. Another prominent item is increased student engagement,

which received 73,3% selection, with a similar percentage of selection, Greater. Better retention of cultural knowledge was the least selected by 66,7 %

### Item 23



Graph 7: Barriers to using VR

Table 13: Barriers to using VR

#### Lack of resources (e.g., VR equipment, software)

	Frequency	Precent
<b>Not selected</b>	1	6,7
<b>Selected</b>	14	93,3

#### Insufficient training or technical knowledge

<b>Not selected</b>	5	33,3
<b>Selected</b>	10	66,7

#### High cost of implementation

<b>Not selected</b>	10	66,7
<b>Selected</b>	5	33,3

#### Limited classroom time

<b>Not selected</b>	6	40,0
<b>Selected</b>	9	60,0
<b>Resistance from students</b>		
<b>Not selected</b>	14	93,3
<b>Selected</b>	1	6,7

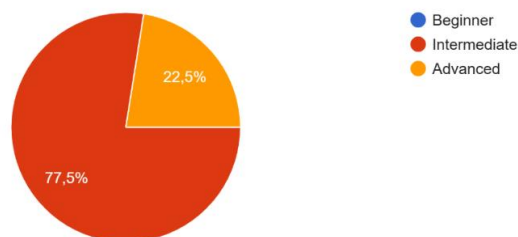
The table and the graph above summarize responses to the twenty-third item that explores the challenges that might exist in using VR in the classroom. Lack of resources received the highest selection, 93,3%. Insufficient training or technical knowledge was selected by 66,7%. Limited classroom time also received 60% of the selection. High cost of implementation was selected by 53,3%. The least selected was resistance from students, which was selected by 6,7%. One respondent provided more challenges like « VR is a novel idea in EFL/ESL Algerian contexts, full awareness of its merits and demerits should exist. New experiences can be attempted on a small scale. »

## 7.2 Students' Perceptions on Integrating Virtual Reality in EFL Classrooms to Learn Culture

### 7.2.1 Section 1: demographic information

The first section, consisting of three Items, was dedicated to demographic Information that sought to understand learners' background and learning context better.

What is your current level of English proficiency?  
40 réponses

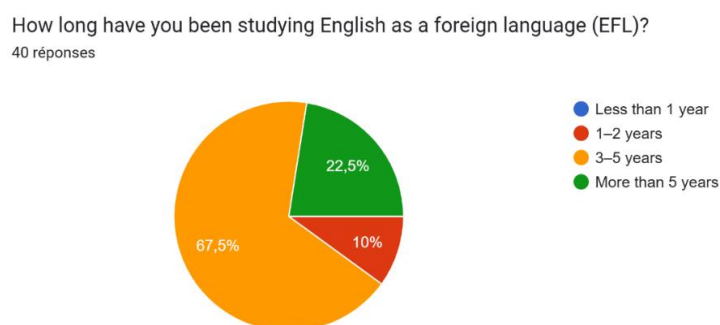


Graph 8: Students level of English proficiency

Table 14: Students' level of English proficiency

		Frequency	Percent
Valid	Advanced	9	22,5
	Intermediate	31	77,5
	Total	40	100,0
Total		40	100,0

From the table and graph above, learners' answers fall into two options: 9 students claimed that their English proficiency is Advanced, while 31 answered by intermediate. Therefore, most of third third-year learners perceive their level as intermediate with 77,5 %



## Item2

Graph 8: Years of studying English

Table 15: Years of studying English

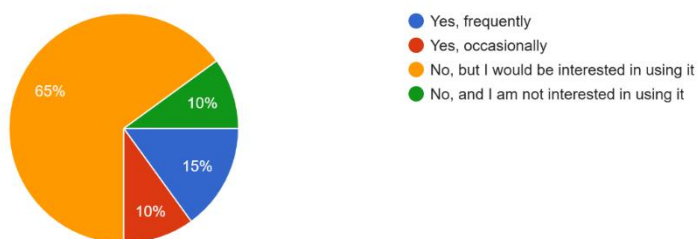
		Frequency	Percent
Valid	1-2 years	4	10,0
	3-5 years	27	67,5
	More than 5 years	9	22,5

	Total	40	1000
Total		40	100,0

The second item seeks to explore the duration of learners' English language study; the answers fell into 3 options only. Most students answered in a range from 3 to 5 years, with a percentage of 67,5%, 22,5% of the students responded by More than 5 years, while 10% answered from 1 to 2 years.

### Item 3

Have you ever used Virtual Reality (VR) for language learning?  
40 réponses



Graph 9: Learners' familiarity with VR

Table 16: Learners' familiarity with VR

		Frequency	Percent
Valid	No, and I am not interested in using it	4	10,0
	No, but I would be interested in using it	19	47,5
	Yes, occasionally	11	27,5
	Yes, frequently	6	15,0
	Total	40	100,0
Total		40	100,0

The last item probes into students' learning contexts and their prior familiarity with the use of VR. 65% of learners responded with no, but I will be interested in using it, 15% of them indicated that they use VR frequently, 10% of learners answered by using VR occasionally, while another 10% responded with NO, I am not interested in using it. Therefore, most of the learners have never used VR before, but they are interested in using it.

### 7.2.2 Section 2: Students' Perceptions on Learning Culture in EFL Classrooms

The section focused on students' experiences and views regarding learning about culture in their EFL lessons.

Table 17: Students' perceptions on learning culture

Statistics		Item4	Item 5	Item7
N	Valid	40	40	40
Mean		4,23	3,63	3,85
Median		4,50	4,00	4,00
Mode		5	4	4
Std. Deviation		,947	,868	,949
Minimum		2	1	1
Maximum		5	5	5
Total mean		3,90		
Level of perception		Very high	High	High

The above table summarizes the three items that delve into learners' perceptions of cultural learning. Overall, it indicates a high level of perception with a total Mean score of 3,90.

**Item 4:** *"How important do you think it is to learn about culture when studying a foreign language like English? "*

*For the importance of culture, the mean score was 4,23, which indicates A very high level of perceptions among students regarding the importance of cultural learning in EFL classrooms. The standard deviation of 0.947, reflecting a Moderate spread in responses. The mode of answers was 5, which means that the most selected answer is « very important.»*

**Item 5:** « How often do you learn about culture in your EFL lessons? » Frequency of learning culture : the mean score of 3,63 , suggesting a High level of perception . The standard deviation of 0.868 indicates a Moderate variation in the answers. While many students reported that they often learn about culture, some stated that it less frequently. The mode of answers was 4, which means that most of the answers were « Frequently ».

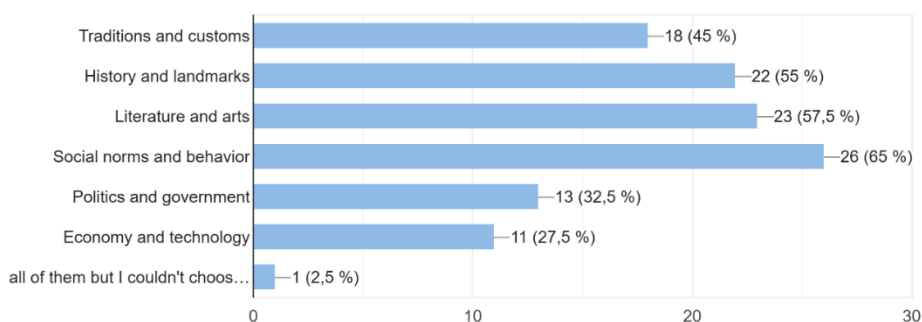
**Item 7:** « How comfortable do you feel learning about culture in English classes? » The comfort level: The mean score was 3,85, demonstrating a high level of perception. The standard deviation was 0.949, suggesting a Moderate level of comfort. Some students felt very comfortable, while others felt less so. The mode of 4 highlights the most selected answer, which was « Comfortable .»

**Item 6**

**Which aspects of culture are most interesting to you in your language lessons?**

Which aspects of culture are most interesting to you in your language lessons? (Select all that apply)

40 réponses



Graph 10: Aspects of culture that learners find interesting

Table 18: Aspects of Culture That Learners Find Interesting

***Traditions and customs***

	Frequency	Percent
Not selected	22	55,0
Selected	18	45,0

***History and landmarks***

Not selected	18	45,0
Selected	22	55,0

***Literature and the arts***

Not selected	17	42,5
Selected	23	57,5

***Social norms and behaviour***

Not selected	14	35,0
Selected	26	65,0

***Politics and government***

<b>Not selected</b>	27	67,5
<b>Selected</b>	13	32,5

***Economy and technology***

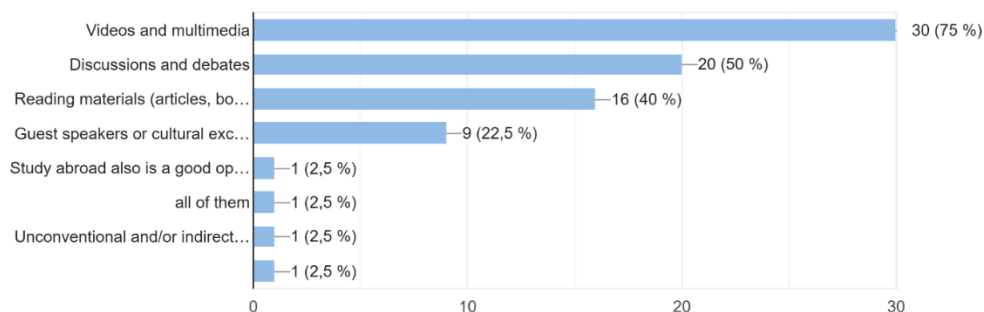
<b>Not selected</b>	29	72,5
<b>Selected</b>	11	27,5

The table and the graph demonstrate the responses to the sixth item that explores the cultural aspects that are most interesting to learners. Social norms and behaviour received a selection of 65%, which means that the majority find this aspect engaging. Next literature and art with 57,5% is also quite interesting to a majority. History and landmarks were slightly over half of the respondents, selecting it 55%. Traditions and costumes received less interest than the above three, but are still relevant, with 45%. Politics and government, with 32,5% of selection demonstrated lower interest, and for the Economy and technology item, it received 27,5%, which is the least interesting choice that most students do not find appealing.

**Item 8**

What methods do you find most useful for learning about culture in your English lessons? (Select all that apply)

40 réponses



*Graph 11: Useful methods to learn about culture*

Table 18: Methods that learners find useful to learn about culture

<b>Videos and multimedia</b>		
	<b>Frequency</b>	<b>Valid percent</b>
<b>Not selected</b>	10	25
<b>Selected</b>	30	75
<b>Discussions and debates</b>		
<b>Not selected</b>	20	50
<b>Selected</b>	20	50
<b>Reading materials (articles, books)</b>		
<b>Not selected</b>	24	60
<b>Selected</b>	16	40
<b>Guest speakers or cultural exchanges</b>		
<b>Not selected</b>	31	77.5
<b>Selected</b>	9	22.5

The graph and table above highlight students' responses to the eighth item that explores methods that learners find useful for learning about culture. Videos and multimedia were the most selected option with 75%. Discussions and debate also received a significantly large number of selections, which is 50%, which is still a very useful method. Reading materials selection was a little less than the previous ones, but still a relevant and useful method, with 40%. Guest speakers or cultural exchanges were selected by 22,5%, therefore, it's the least useful method to learn about culture according to learners' responses. Some respondents

provided other methods, for instance, studying abroad and imitating the culture in speech, bringing objects/souvenirs from the target culture's country.

### 7.2.3 Section 3: Students' Perceptions on Virtual Reality (VR) in EFL Classrooms

*This section focuses on learners' awareness and opinions about using VR in language learning.*

*Table 19: Students' perceptions on VR in EFL classrooms*

		Item 9	Item10	Item11	Item12	Item13	Item14
N	Valid	40	40	40	40	40	40
Mean		3,45	4,03	3,90	4,08	4,15	4,10
Median		4,00	4,00	4,00	4,00	4,00	4,00
Mode		4	4	4	4	4	4
Std. Deviation		1,260	,733	,709	,616	,700	,778
Minimum		1	3	3	3	2	2
Maximum		5	5	5	5	5	5
Total mean		3,95					
LEVEL of perception		high	High	high	high	high	High

The table above summarizes responses of the third section that is devoted to students' perceptions on virtual reality in EFL classrooms with a total mean of 3,95, suggesting a high general perception.

**Item 9**, which concerns familiarity with VR, the mean score was 3,45, reflecting a high perception and familiarity with VR despite the diversity in responses. The standard deviation of 1,26 indicates a high variability, which means that learners have very different levels of

familiarity. The mode of responses was 4, which is Somewhat familiar, was the most selected answer.

**Item 10**, the effectiveness of VR in language learning, the mean score of 4,03 demonstrates a high agreement on the role in enhancing language learning. The standard deviation of 0,73 reflects a moderate consistency since most learners agree, but variations in responses do exist. The mode of 4 indicates that the most selected response was Effective.

**Item 11** Confidence in using VR, the mean score was 3,90 reflects high confidence of students. The standard deviation of 0,709 indicates a moderate consistency, meaning that confidence levels are similar. The mode was 4, which means the most selected answer was confident.

**Item 12**, VR helps in learning about the culture of English-speaking countries. The mean score of 4,08 highlights a strong agreement. The standard deviation of 0,616 reflects a high consistency among learners' responses. The mode was 4, that is, Agree was mostly selected.

**Item 13**, Engagement of VR compared to traditional methods, the mean score is 4,15, suggesting a high engagement. The standard deviation of 0,700 indicates a moderate consistency with few variations in responses. The mode was 4, hence most learners responded by engaging.

**Item 14** motivation to learn about culture if VR is integrated, the mean score was 4,10, reflecting a strong motivation. The standard deviation was 0,778, demonstrating a moderate variability since some students are motivated while others are less convinced. The mode of answers was 4, hence most of the respondents selected Agree.

#### ***7.2.4 Section 4: Perceptions on the Role of VR in Learning Culture in EFL Classrooms***

*This section explores how learners think VR can be useful in helping them understand and experience cultural aspects of the language.*

*Table 20: Students' perceptions on the role of VR in learning culture*

Statistics						
		Item 15	Item16	Item17	Item18	Item19
N	Valid	40	40	40	40	40
Mean		4,25	3,95	3,60	3,95	4,15
Median		4,00	4,00	4,00	4,00	4,00
Mode		4	4	4	4	4
Std. Deviation		,588	,749	,955	,749	,736
Minimum		3	2	1	2	2
Maximum		5	5	5	5	5
Total mean		3,98				
Level of perception		Very high	high	high	high	high

The table above outlines the responses of the fourth section, which is entitled Perceptions on the role of VR in learning culture in EFL classrooms. With a total mean of 3,98, indicating a High to a very high level of perception.

**Item 15** VR helpfulness for experiencing different cultural environments, the mean score was 4,25, reflecting a very high agreement. The standard deviation was 0,588, demonstrating very consistent answers among students; the mode of answers was 4, so the most selected answer was Helpful.

**Item 16:** Improve understanding of traditions , behaviours , and customs , the mean score was 3,95, indicating a high level of agreement . The standard deviation was 0,749, reflecting a moderate agreement with some variations. The mode of answers was 4, hence Agree is mostly selected.

**Item 17:** Increase empathy and awareness, the mean score was 3,60, suggesting a high level of usefulness. The standard deviation was 0,955, hence there exists more variation in learners' responses. The mode of answers was 4, the one with the highest selection is Very useful.

**Item 18,** making culture learning more realistic and immersive, the mean score was 3,95, which suggests a high level of agreement. The standard deviation was 0,749, demonstrating moderate agreement. The mode of answers was 4, which means that to a large extent was highly selected.

**Item 19** helped experience difficult and inaccessible scenarios, the mean score was 4,15, which is a high level of agreement. The standard deviation was 0,736, indicating a moderate consistency. The mode was 4, suggesting that Agree was the most selected choice.

### ***7.2.5 Section 5: Students' Experiences and Future Perspectives on VR in Language Learning***

The section *explores learners' experiences with VR and their outlook on its future role in language learning.*

*Table 21: Students' experiences and future perspective on VR in language learning*

<b>Statistics</b>					
		Item20	Item21	item23	Item24
N	Valid	40	40	40	40
Mean		3,43	4,33	4,05	4,45
Median		4,00	4,50	4,00	5,00

Mode	4	5	4	5
Std. Deviation	,903	,888	,846	,846
Minimum	1	1	2	2
Maximum	5	5	5	5
Total mean	4,06			
Level of perception	high	high	high	Very high

**Item 20:** frequency of using VR to learn about culture in EFL class, the mean score was 3,43, which suggests a high motivation to use VR. The standard deviation was 0,903, demonstrating a moderate variability in responses. The mode of answers was 4, which means that frequently was the most selected.

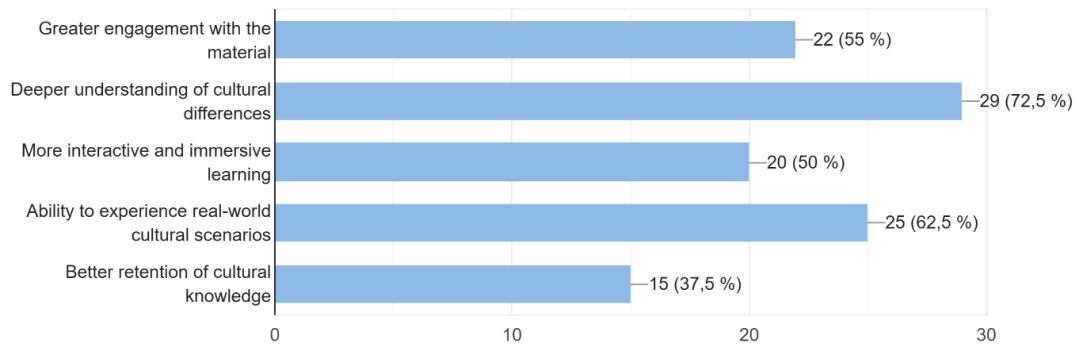
**Item 21:** willingness to use VR for cultural learning outside the classroom, the mean score was 4,33, indicating high willingness. The standard deviation was 0,888, demonstrating a moderate variability. The mode of answers was 5; therefore was very likely the most selected.

**Item 24:** Vision of the future role of VR in learning culture. The mean score was 4,05 shows a highly positive vision. The standard deviation was 0,846, demonstrating moderate variability in responses; the mode of answers was 4, which means that the most selected choice was Positively.

**Item 25** interest in increased access to VR for cultural learning, the mean score was 4, 45 reflecting a very high interest. The standard deviation was 0,846, indicating moderate variations. The mode of answers was 5, which means that Yes, definitely was highly selected.

What benefits do you think VR could bring to your cultural learning in English? (Select all that apply)

40 réponses



Graph 12: The Benefits VR could bring to cultural learning

Table 22: Benefits VR could bring to cultural learning

**Greater engagement with the material**

	Frequency	Valid percent
<b>Not selected</b>	18	45,0
<b>Selected</b>	22	55,0

**A deeper understanding of cultural differences**

<b>Not selected</b>	11	27,5
<b>Selected</b>	29	72,5

**More interactive and immersive learning**

<b>Not selected</b>	20	50,0
<b>Selected</b>	20	50,0

**Ability to experience real-world cultural scenarios**

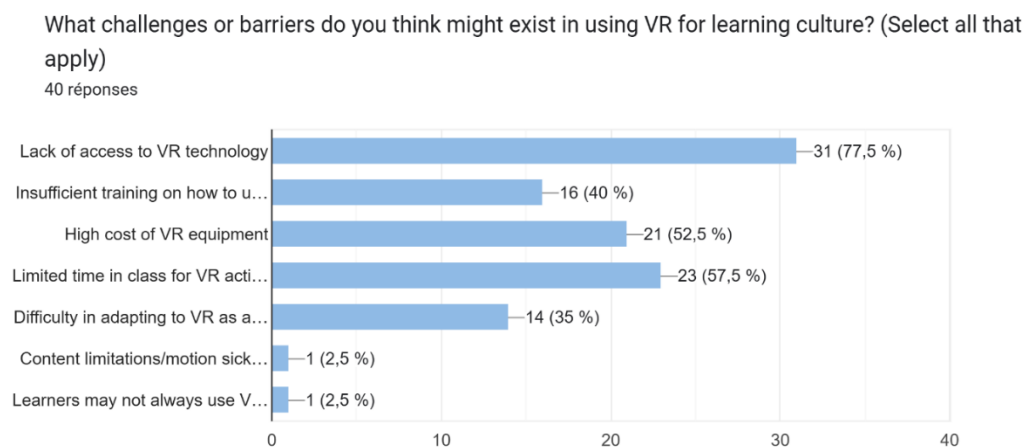
<b>Not selected</b>	15	37,5
<b>Selected</b>	25	62,5

**Better retention of cultural knowledge**

<b>Not selected</b>	25	62,5
<b>Selected</b>	15	37,5

Table 23 and Graph 13 demonstrate learners' responses to the twenty-second item that explores the benefits that VR could bring to cultural learning. A deeper understanding of cultural differences was the most selected with 72,5%. The ability to experience real-world cultural scenarios received a high number of selections, 62,5%. Another prominent item is Greater engagement with the material, which received 55% selection. More interactive and immersive learning received the selection by Half of the respondents, 50 %. Better retention of cultural knowledge was the least selected by 37,5%.

### What challenges or barriers do you think might exist in using VR for learning culture?



Graph 13: Barriers to using VR for learning culture

Table 23: Barriers to using VR for learning culture

#### Lack of access to VR technology

	Frequency	Valid percent

<b>Not selected</b>	9	22,5
<b>Selected</b>	31	77,5
<b>Insufficient training on how to use VR</b>		
<b>Not selected</b>	24	60,0
<b>Selected</b>	16	40,0
<b>High cost of VR equipment</b>		
<b>Not selected</b>	19	47,5
<b>Selected</b>	21	52,5
<b>Limited time in class for VR activities</b>		
<b>Not selected</b>	26	65,0
<b>Selected</b>	14	35,0
<b>Difficulty in adapting to VR as a learning tool</b>		
<b>Not selected</b>	39	97,5
<b>Selected</b>	1	2,5

Table 24 and graph 14 summarize responses to the twenty-third item that delves into the challenges that might exist in using VR for culture learning. Lack of access to VR technology received the highest selection, 77,5%. Limited time in class for VR activities received 57,5%. The high cost of VR equipment was selected by 52,5%. Insufficient training on how to use VR resulted in 40% of the selection. The least selected was Difficulty in adapting to VR as a learning tool. Other respondents provided more barriers, like Content limitations/motion sickness/students with special needs may find it uncomfortable, and learners may not always use VR for its intended purposes.

## Discussion of the findings

According to the findings of *the students' questionnaire*, VR shows great promise as a tool for learning culture.

From the first section and Item 3, we can note that the majority of learners, 65%, never used virtual reality, but they are interested in using it.

From section two that concerns cultural learning, the findings confirm that learners recognize the importance of learning culture and that language and culture are inseparable, which aligns with what Brown (1994) posits, "A language is a part of a culture and a culture is a part of a language; the two are intricately interwoven so that one cannot separate the two without losing the significance of either language or culture" (p.165).

The selection of ( social norms and literature) as an interesting aspect of culture suggests that learners prioritize practical cultural knowledge over abstract topics, such as economics or government. This supports Kramersch's (1993) argument that language learning is deeply intertwined with sociocultural contexts. Responses to the eighth item that explores methods that learners find useful for learning about culture. Videos and multimedia were the most selected option, with 75% suggesting that nowadays learners are more into digital and visual learning styles rather than textbooks and traditional methods, the latter supports connectivism theory as Siemens ( 2005) stated that in today's digital era, technological advancements are shaping societal and educational landscapes, leading to a shift from traditional approaches to new ones.

The third and fourth sections are devoted to learners' perceptions of VR technology and VR in EFL. The findings reveal that learners hold high perceptions of VR as they perceive it as a potent tool to enhance language learning. The motivation to learn via VR highlights its effectiveness in keeping learners engaged, supporting the findings of Chen (2020), who found

that VR increases learner interest in language acquisition. However, there exists a variability in familiarity with VR (SD = 1.26), indicating unequal exposure to VR technology. This disparity may be rooted in socioeconomic factors, as VR is mostly accessible in prestigious educational settings.

For the VR in teaching culture, learners perceive VR as helpful for experiencing different cultural environments, as it may help them better understand other cultures' norms and increase their empathy and awareness in a realistic immersive environment this supports the research done by Kurdi (2023) that highlighted the role of vr in cultural education and its ability to craft immersive cultural experiences.

The final section examines their willingness to utilize VR and their perspective on its future role in EFL education. Learners demonstrated a high desire to use VR for cultural learning outside the classroom as they see the benefits that VR could bring to cultural learning, such as a deeper understanding of cultural differences, with 72,5% of selection, and the ability to experience real-world cultural scenarios this aligns with B. Sinthiya et al. that stressed that VR creates fully immersive virtual environments that transport learners to target language settings, providing authentic language exposure and opportunities for real-time communication. The challenges that might exist in using VR were mostly about the Lack of access to VR technology, 77,5%. Limited time in class for VR activities 57,5%. These findings align with Cheng, H. J. (2021) mentioned several challenges of VR in education. For the future role of VR, most learners had a positive future vision of this tool. As they are interested in gaining more access to this technology.

**For teachers' questionnaire**, there were also five sections : (1) Demographics (2) Teacher Perceptions on Teaching Culture in EFL Classrooms (3) Teacher Perceptions on Virtual Reality (VR) in EFL Classrooms ( 4 ) Perceptions on the Role of VR in Teaching

Culture in EFL Classrooms (5) Practices and Future Perspectives on Using VR to Teach Culture in EFL Contexts.

This second section focuses on teachers' current approaches and views regarding teaching culture in the EFL classroom. Teachers demonstrated a strong belief in the importance of teaching culture in EFL classrooms. (Mean=4,93) This aligns with existing literature that highlights the relationship between language and culture in language learning (Byram, 1997) and, as Xue 2014 asserted, "a foreign language can hardly be acquired or learned without addressing the culture of the community in which it is spoken."

For the practices, most teachers addressed social norms and behavior (80%) and traditions and customs (80%) in their class, suggesting that teachers prioritize practical, everyday cultural knowledge. This may mirror the pedagogical emphasis on communicative competence, where understanding social norms is critical for effective interactions, which aligns with Byram's intercultural communicative competence, which is the key that enables foreign language students to function meaningfully with individuals from various cultural backgrounds.

For the methods they use to address challenges in cultural teaching, Videos and multimedia, and reading materials and case studies were the most used methods, with equal selection of 73,3%. While guest speakers or cultural exchanges were rarely used (6.7%), it may be due to logistical constraints. These findings highlight that while teachers give high importance to cultural teaching, they face practical barriers to providing authentic, immersive cultural experiences, which aligns with Mekheimer et al 2024 who mentioned that EFL teachers in Egypt and Saudi Arabia face challenges in integrating cultural knowledge.

The third and fourth sections are concerned with teachers' familiarity and perceptions toward VR as a potential solution. The findings highlight strong interest among teachers for

using VR despite the low familiarity and use (mean=2.07), they perceive VR as an effective tool that can improve students' cultural understanding (mean=4.27) visualize and experience inaccessible cultural settings (mean=4,33) increasing empathy and awareness (mean=4.13 ), and engage learners (mean=4,40). These findings are supported by the study of Chuanxiang Song et al 2023, which indicates that VR technology increases motivation, interaction, and retention. And by Kussainova A.Z et al., 2024, which highlighted VR power in language learning and student motivation in various cultural contexts

The last section explores teachers' practices and future perspectives regarding VR integration in teaching culture. The findings highlight a high level of willingness to incorporate VR in lessons of culture (mean 4,20 ) for their strong belief about the benefits that VR could bring to cultural teaching, such as Improved cultural understanding 93,3% of selection Realistic immersive experiences 80 %. However, significant barriers and challenges were identified, like: Lack of resources, 93,3%. Insufficient training or technical knowledge by 66,7%. This may explain teachers' high interest in receiving professional training on how to effectively integrate VR in EFL classroom learning. This aligns with Al Musawi 2025 who emphasized the need for professional training for teachers.

## **9. Recommendations and pedagogical implications**

For further developments in the field, researchers should spotlight the intersection of technology, language, and culture to develop new methods and strategies for foreign language learning, since the latter becomes imperative in today's society and for the new type of learners. Additionally, institutions should provide Teacher training programs on developing intercultural competence using VR, which can include workshops that guide teachers' practices and technical skills. Moreover, the findings of the study highlight the need for research into educational policies on the use of VR in language education. Hence policy policymakers should support research in this area and frame national standards for intercultural VR content.

Furthermore high cost of equipment is one of the VR barriers; stakeholders should work on resource Allocation Strategies to make technologies accessible in all institutions. Further, future researchers should investigate new teaching methods that align with today's learners, since the latter is fully immersed within the digital world. Another important area that future researchers should examine is the role of virtual reality in enhancing learners' communicative competence. Finally, a collaboration between disciplines would help VR use, for instance, the foreign languages field can collaborate with researchers from computer science to gain technical skills and develop educational software for specific purposes.

## **10. Limitations**

For the limitations of this study, we can note the small number of participants for both teachers and learners. Moreover, the high cost of VR equipment made it challenging to give the participants the chance to experience this technology and better comprehend its potential. The absence of participants' prior exposure to VR in educational contexts may impact the generalizability of the findings to a broader population.

## **11. Conclusion**

The findings of this study highlight VR as a transformative tool that can revolutionize the educational landscape. From the surveys, we can note that both teachers and learners perceive VR positively, especially in cultural learning. Both groups recognize the crucial role of culture in EFL classrooms, and when asked about the most interesting aspect of culture, the main findings were Social norms, literature, history and landmarks, and traditions and customs. For the useful method to teach and learn culture, the most relevant one was the use of Videos and multimedia, discussions and debates, and reading materials and case studies. Moreover, it was confirmed that VR can enhance learners' engagement and motivation when learning about culture for its affordance in simulating cultural environments that help learners better understand other cultures' norms and increase their empathy and awareness in a realistic

immersive environment, greater access to diverse cultural perspective, and better retention of cultural knowledge. Nevertheless, the challenges that might exist when incorporating VR into cultural teaching are a Lack of access to VR technology, Limited time in class for VR activities, insufficient technical knowledge, and high costs of implementation. Future visions on VR are positive, encompassing more professional training on how to use VR for both teachers and learners.

### **General conclusion**

Cutting-edge technologies have the ability to shape the educational landscape due to their transformative potential. Virtual reality is an ascended paradigm that transforms the way people learn. Its prowess stems from its ability to craft immersive experiences that transcend physical boundaries, where learners are vivid participants rather than passive vessels. Further, this technology allows students to visualize complex concepts. In this way, VR can bridge the gap between abstract ideas and tangible experiences.

This study explored teachers' and learners' perceptions on Integrating Virtual Reality in EFL Classrooms to teach and Learn Culture. The findings confirm the two hypotheses and revealed that teachers and learners hold high perceptions of VR as a potent tool in teaching culture for its potential of creating immersive cultural environments, helping learners better understand other cultures' norms, and increasing their empathy and awareness in an authentic atmosphere. However, VR integration may face hurdles such as the Lack of access and resources, limited time in the class, insufficient training on how to use it, and high cost of VR.

In essence, this study not only explores the perceptions of teachers and learners on the integration of virtual reality to teach culture but also provides comprehensive insights into the integration of this potent tool in education and the potential barriers and hurdles that may occur. Hence, the study contributes to informing EFL teachers and learners about technological advancements that can transform their teaching and learning journey.

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## **Appendices**

## **Appendix one**

### ***Students' Perceptions on Integrating Virtual Reality in EFL Classrooms to Learn Culture***

#### **Section 1 Demographic Information**

*Please provide the following information to help us understand your background and learning context.*

**1. What is your current level of English proficiency?**

- Beginner
- Intermediate
- Advanced

**2. How long have you been studying English as a foreign language (EFL)?**

- Less than 1 year
- 1–2 years
- 3–5 years
- More than 5 years

**3. Have you ever used Virtual Reality (VR) for language learning?**

- Yes, frequently
- Yes, occasionally
- No, but I would be interested in using it
- No, and I am not interested in using it

## **Section 2: Students' Perceptions on Learning Culture in EFL Classrooms**

*These questions focus on your experiences and views regarding learning about culture in your EFL lessons.*

**4. How important do you think it is to learn about culture when studying a foreign language like English?**

- Very important
- Important
- Neutral
- Not very important
- Not important at all

**5. How often do you learn about culture in your EFL lessons?**

- Very frequently
- Frequently
- Occasionally
- Rarely
- Never

**6. Which aspects of culture are most interesting to you in your language lessons?**

**(Select all that apply)**

- Traditions and customs
- History and landmarks

- Literature and arts
- Social norms and behavior
- Politics and government
- Economy and technology
- Other (please specify) \_\_\_\_\_

**7. How comfortable do you feel learning about culture in English classes?**

- Very comfortable
- Comfortable
- Neutral
- Uncomfortable
- Very uncomfortable

**8. What methods do you find most useful for learning about culture in your English lessons? (Select all that apply)**

- Videos and multimedia
- Discussions and debates
- Reading materials (articles, books)
- Guest speakers or cultural exchanges
- Other (please specify) \_\_\_\_\_

**Section 3: Students' Perceptions on Virtual Reality (VR) in EFL Classrooms**

*These questions focus on your awareness and opinions about using VR in language learning.*

**9. How familiar are you with Virtual Reality (VR) technology?**

- Very familiar
- Somewhat familiar
- Neutral
- Not very familiar
- Not familiar at all

**10. How effective do you think VR technology is for enhancing language learning?**

- Very effective
- Effective
- Neutral
- Ineffective
- Very ineffective

**11. How confident do you feel using VR technology for learning purposes?**

- Very confident
- Confident
- Neutral
- Not very confident
- Not confident at all

**12. Do you think VR could help you learn about the culture of English-speaking countries?**

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

**13. How engaging do you think VR would be in teaching you about culture compared to traditional learning methods?**

- Very engaging
- Engaging
- Neutral
- Not very engaging
- Not engaging at all

**14. Would you feel more motivated to learn about culture if VR technology were used in your English lessons?**

- Strongly agree
- Agree
- Neutral
- Disagree

- Strongly disagree

#### **Section 4: Perceptions on the Role of VR in Learning Culture in EFL Classrooms**

*These questions explore how you think VR can be useful in helping you understand and experience cultural aspects of the language.*

**15. How helpful do you think VR could be for experiencing different cultural environments related to English-speaking countries?**

- Very helpful
- Helpful
- Neutral
- Not very helpful
- Not helpful at all

**16. Do you think VR could improve your understanding of cultural traditions, behaviors, and customs?**

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

**17. How useful do you think VR could be in increasing your empathy and awareness of cultural differences?**

- Extremely useful
- Very useful
- Moderately useful
- Slightly useful
- Not useful at all

18. **To what extent do you think VR can make cultural learning more realistic and immersive?**

- To a very large extent
- To a large extent
- To a moderate extent
- To a small extent
- Not at all

19. **Do you believe VR could help you experience cultural scenarios that would be difficult to encounter otherwise?**

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

## **Section 5: Students' Experiences and Future Perspectives on VR in Language Learning**

*These questions explore your experiences with VR and your outlook on its future role in EFL education.*

**20. How often would you like to use VR in your English lessons to learn about culture?**

- Very frequently
- Frequently
- Occasionally
- Rarely
- Never

**21. How likely are you to use VR for cultural learning outside of class, if given the opportunity?**

- Very likely
- Likely
- Neutral
- Unlikely
- Very unlikely

**22. What benefits do you think VR could bring to your cultural learning in English?**

**(Select all that apply)**

- Greater engagement with the material
- Deeper understanding of cultural differences

- More interactive and immersive learning
- Ability to experience real-world cultural scenarios
- Better retention of cultural knowledge
- Other (please specify) \_\_\_\_\_

**23. What challenges or barriers do you think might exist in using VR for learning culture? (Select all that apply)**

- Lack of access to VR technology
- Insufficient training on how to use VR
- High cost of VR equipment
- Limited time in class for VR activities
- Difficulty in adapting to VR as a learning tool
- Other (please specify) \_\_\_\_\_

**24. How do you envision the role of VR in learning about culture in the future?**

- Very positively
- Positively
- Neutral
- Negatively
- Very negatively

**25. Would you be interested in using VR more frequently to learn about culture in your English lessons if you had more access to the technology?**

- Yes, definitely
- Yes, maybe
- Not sure
- No, probably not
- No, definitely not

## **Appendix two**

### **Teachers' Perceptions on Integrating Virtual Reality in EFL Classrooms to Teach Culture**

#### **Section 1: Demographic Information**

*Please provide the following information to help us understand your background and teaching context.*

**1. What is your current teaching rank?**

- Professor
- Associate Professor
- Assistant Teacher
- Section-Time Teacher

**2. What is your area of specialization?**

- English as a Foreign Language (EFL)
- English Literature
- TESOL (Teaching English to Speakers of Other Languages)
- Applied Linguistics
- Other (please specify) \_\_\_\_\_

**3. How many years of teaching experience do you have?**

- 0–3 years
- 4–6 years
- 7–10 years

- 11–15 years
- More than 15 years

## **Section 2: Teacher Perceptions on Teaching Culture in EFL Classrooms**

*These questions focus on your current approach and views regarding teaching culture in your EFL classroom.*

**4. How important do you think teaching culture is for EFL learners in becoming proficient in the language?**

- Very important
- Important
- Neutral
- Not very important
- Not important at all

**5. How frequently do you incorporate cultural elements into your EFL lessons?**

- Very frequently
- Frequently
- Occasionally
- Rarely
- Never

**6. Which aspects of culture do you focus on when teaching English to foreign learners? (Select all that apply)**

- Traditions and customs
- History and landmarks
- Literature and arts
- Social norms and behavior
- Politics and government
- Economy and technology
- Other (please specify) \_\_\_\_\_

**7. How comfortable are you with integrating cultural content into your language lessons?**

- Very comfortable
- Comfortable
- Neutral
- Uncomfortable
- Very uncomfortable

**8. How do you currently address challenges in teaching culture in the classroom? (Select all that apply)**

- Use of multimedia (e.g., videos, audio)
- Discussions and debates

- Reading materials and case studies
- Guest speakers or cultural exchanges
- Other (please specify) \_\_\_\_\_

### **Section 3: Teacher Perceptions on Virtual Reality (VR) in EFL Classrooms**

*These questions focus on your familiarity and perceptions of using VR in EFL education.*

9. **How familiar are you with Virtual Reality (VR) as a tool for language learning?**

- Very familiar
- Somewhat familiar
- Neutral
- Not very familiar
- Not familiar at all

10. **Have you ever used VR technology in your teaching?**

- Yes, frequently
- Yes, occasionally
- No, but I am interested in using it
- No, and I am not interested in using it

11. **How effective do you believe VR technology is in enhancing language learning in the EFL classroom?**

- Very effective

- Effective
- Neutral
- Ineffective
- Very ineffective

12. **How confident are you in using VR technology for teaching purposes?**

- Very confident
- Confident
- Neutral
- Not very confident
- Not confident at all

13. **Do you think VR can effectively simulate real-life cultural experiences for EFL learners?**

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

14. **To what extent do you think VR could engage students more effectively compared to traditional methods of teaching culture?**

- To a very large extent

- To a large extent
- To a moderate extent
- To a small extent
- Not at all

#### **Section 4: Perceptions on the Role of VR in Teaching Culture in EFL Classrooms**

*These questions explore how you perceive VR's potential role in teaching cultural knowledge and experiences in your EFL classroom.*

**15. How helpful do you think VR could be for exposing EFL learners to different cultural environments and contexts?**

- Very helpful
- Helpful
- Neutral
- Not very helpful
- Not helpful at all

**16. Do you believe VR can improve students' understanding of cultural practices and traditions?**

- Strongly agree
- Agree
- Neutral

- Disagree
- Strongly disagree

17. **How useful do you think VR could be in enhancing learners' empathy and cross-cultural awareness?**

- Extremely useful
- Very useful
- Moderately useful
- Slightly useful
- Not useful at all

18. **To what extent do you think VR technology can help students visualize and experience cultural settings they might not have access to otherwise?**

- To a very large extent
- To a large extent
- To a moderate extent
- To a small extent
- Not at all

19. **Do you think VR can enhance learners' engagement and motivation when learning about culture?**

- Strongly agree
- Agree

- Neutral
- Disagree
- Strongly disagree

## **Section 5: Practices and Future Perspectives on Using VR to Teach Culture in EFL Contexts**

*These questions explore your experiences and future perspectives regarding VR integration in teaching culture.*

**20. How often would you be willing to use VR to teach culture in your EFL classroom?**

- Very frequently
- Frequently
- Occasionally
- Rarely
- Never

**21. How likely are you to incorporate VR into your future lessons on culture?**

- Very likely
- Likely
- Neutral
- Unlikely
- Very unlikely

**22. What do you think are the potential benefits of using VR in teaching culture to EFL learners? (Select all that apply)**

- Increased student engagement
- Improved cultural understanding
- Better retention of cultural knowledge
- Realistic, immersive experiences
- Greater access to diverse cultural perspectives
- Other (please specify) \_\_\_\_\_

**23. What do you think are the main challenges or barriers to using VR in your classroom? (Select all that apply)**

- Lack of resources (e.g., VR equipment, software)
- Insufficient training or technical knowledge
- High cost of implementation
- Limited classroom time
- Resistance from students
- Other (please specify) \_\_\_\_\_

**24. How do you envision the role of VR in the future of EFL culture teaching?**

- Very positively
- Positively
- Neutral

- Negatively
- Very negatively

25. **Would you be interested in receiving professional development or training on how to effectively integrate VR into your teaching of culture?**

- Yes, definitely
- Yes, maybe
- Not sure
- No, probably not
- No, definitely not

## ملخص

اليوم، في هذا العصر الرقمي السريع، تحول تعليم اللغة الإنجليزية كلغة أجنبية بشكل جذري من التركيز على تراكم المعرفة اللغوية إلى تطوير الكفاءة التواصلية بين الثقافات لتطوير ما يسمى بالمواطن العالمي الذي يعمل بفعالية عبر ثقافات متنوعة. مع التقدم التكنولوجي، ظهرت تقنية الواقع الافتراضي (VR) كأداة واعدة يمكن أن تحدث ثورة في تعليم الثقافة في سياق تعليم اللغة الإنجليزية كلغة أجنبية (EFL). تستكشف هذه الدراسة تصورات المعلمين والمتعلمين حول استخدام الواقع الافتراضي (VR) لتعليم الثقافة في فصول اللغة الإنجليزية كلغة أجنبية (EFL)، حيث يواجه كل من المعلمين والمتعلمين صعوبة في التعرض للسياقات الثقافية والمواد الأصلية بسبب القيود المالية والجغرافية والاجتماعية التي تعيق انغماسهم في ثقافة المجتمعات الناطقة باللغة الإنجليزية. لذلك، تهدف هذه الدراسة إلى استكشاف تصورات معلمي ومتعلمي اللغة الإنجليزية كلغة أجنبية حول دمج الواقع الافتراضي لتعليم وتعلم الثقافة. استخدم هذا الباحث الكمي استبيانين، شمل 15 معلمًا و40 متعلمًا. تكشف النتائج أن كل من المعلمين والمتعلمين يحملون تصورات عالية حول إمكانيات الواقع الافتراضي في تعليم الثقافة، حيث يدركون أهمية دمج العناصر الثقافية في دروس اللغة الإنجليزية كلغة أجنبية. تسلط النتائج الرئيسية الضوء على دور الواقع الافتراضي في البيئات التعليمية في توفير سيناريوهات ثقافية غامرة، وتعزيز الفهم الثقافي، وتعزيز التعاطف، وتقديم تجارب واقعية. علاوة على ذلك، تسلط الدراسة الضوء على التحديات المحتملة التي قد تنشأ في تنفيذ الواقع الافتراضي لتعليم الثقافة، مثل نقص الوصول إلى تكنولوجيا الواقع الافتراضي، والوقت المحدود في الفصل للأنشطة المتعلقة بالواقع الافتراضي، والمعرفة التقنية غير الكافية، والتكاليف العالية للتنفيذ. يوصي الباحث بتدريب تقني للمعلمين، واستراتيجيات تخصيص الموارد، والبحث في السياسات التعليمية لتنفيذ الواقع الافتراضي، والتعاون بين التخصصات لتعزيز إمكانيات الواقع الافتراضي. تساهم هذه الدراسة في فهم التعلم بين الثقافات الذي يتم بواسطة التكنولوجيا في سياقات تعليم اللغة الإنجليزية كلغة أجنبية وتوفر بيانات أساسية للدراسات التجريبية المستقبلية.