AUGMENTED REALITY AS A DIGITAL EDUCATIONAL RESOURCE FOR DEVELOPING CULTURAL TOLERANCE IN PRESCHOOL FOREIGN LANGUAGE LEARNING

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Abstract

The development of cultural tolerance at preschool age requires educational approaches that combine language learning with meaningful encounters with cultural diversity. Digital educational resources create new opportunities for introducing preschool children to different cultural contexts in an age-appropriate and emotionally engaging manner. This paper examines augmented reality (AR) as a methodological resource for developing cultural tolerance in the process of foreign language learning among preschool children. The proposed approach considers AR not simply as a technological innovation but as a pedagogically structured environment in which foreign-language vocabulary, cultural information, visual representation, and interactive actions are integrated. The paper identifies methodological principles for the use of AR, including cultural authenticity, developmental appropriateness, emotional safety, guided interaction, and gradual expansion of cultural perspectives. A model of AR-supported foreign language activities is proposed, consisting of motivational, exploratory, interactive, reflective, and consolidating stages. Particular attention is paid to the teacher's role in mediating children's interpretation of culturally diverse content. The paper argues that appropriately designed AR activities can support children's positive attitudes toward cultural diversity while simultaneously developing basic foreign-language communication skills.

Keywords: preschool education, foreign language learning, cultural tolerance, augmented reality, digital educational resources, intercultural awareness, teaching methodology.

Introduction

Contemporary preschool education increasingly incorporates digital educational resources into foreign language instruction. At the same time, foreign language education at an early age should not be restricted to vocabulary acquisition and pronunciation practice. It can also provide children with their first systematic experience of cultural diversity. When children encounter different languages, traditions, forms of communication, food, clothing, music, celebrations, and everyday practices, foreign language education can become a context for developing respect for people whose cultural experiences differ from their own.

Cultural tolerance at preschool age should be understood as an emerging ability to accept cultural differences positively, avoid negative judgments based solely on unfamiliarity, and demonstrate interest in other ways of living. Such development requires concrete and emotionally accessible educational experiences rather than abstract explanations.

Augmented reality offers a potentially valuable methodological resource in this context. AR can combine physical learning materials with digitally generated visual, auditory, and interactive information. For example, a picture of a traditional object can become an entry point to foreign-language vocabulary, a short cultural explanation, or an interactive cultural situation.

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However, the pedagogical value of AR does not automatically result from the technology itself. The methodological organization of AR activities is essential. Without appropriate teacher mediation, digital cultural content may remain superficial, stereotypical, or disconnected from language learning. Therefore, the central methodological question is not whether AR should be used in preschool foreign language education, but how AR activities should be designed and implemented to contribute specifically to cultural tolrance.

1. Augmented Reality in Preschool Foreign Language Education

Augmented reality can be described as a technology that supplements the child's perception of the physical environment with digitally generated information. In preschool education, AR can be implemented through mobile devices, tablets, interactive cards, posters, objects, or specially designed educational applications.

From a methodological perspective, AR has several characteristics that are particularly relevant to foreign language learning.

First, AR can create a connection between real objects and foreign-language input. A child may see a physical image of an object while simultaneously accessing its foreign-language name, pronunciation, animation, or contextual representation

Second, AR can provide multimodal learning experiences. Children can receive information through visual, auditory, and motor channels simultaneously. This is important because preschool learners often benefit from concrete and sensory forms of educational interaction.

Third, AR can provide contextualized cultural content. Instead of presenting isolated vocabulary items, teachers can introduce words within culturally meaningful situations. For example, vocabulary related to food can be associated with images of different traditional meals, while greetings can be introduced through culturally diverse communication situations.

Fourth, AR can stimulate children's curiosity. Curiosity is methodologically important because positive interest in cultural differences can become an initial foundation for tolerant attitudes.

Thus, AR should be considered not as an independent pedagogical objective but as a digital educational resource supporting the methodological integration of language and cultural content.

2. Methdological Principles of AR-Based Cultural Learning

The proposed methodology is based on five principles.

2.1. The principle of developmental appropriateness

AR content should correspond to preschool children's cognitive, linguistic, emotional, and motor development.Digital activities should be short, visually clear, and based on familiar objects and situation

Complex cultural explanations should be replaced by concrete examples. For instance, rather than providing a lengthy explanation of cultural traditions, the teacher can present several images and introduce simple foreign-language expressions connected with them.

2.2. The principle of cultural authenticity

Digital materials should represent cultural diversity accurately and respectfully. The selection of images, characters, objects, music, and language should avoid exaggerated stereotypes.

The purpose is not to present a culture as a collection of unusual or exotic features. Instead, children should encounter ordinary aspects of people's lives: how they greet one another, what children play with, what families eat, how people celebrate special occasions, and how different languages are used.

2.3. The principle of positive comparison

Culturacomparison should not be organized as a search for which culture is “better.” Instead, the teacher should encourage children to recognize both similarities and differences.

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For example, after viewing an AR scene showing children greeting each other in another country, the teacher may ask:

“How do they greet each other?”

“How do we greet people?”

“What is similar?”

“What is different?”

Such questions transform cultural difference into an opportunity for understanding rather than evaluation.

2.4. The principle of guided interaction

Preschool children require adult mediation when interpreting culturally unfamiliar information. Therefore, AR activities should include teacher questions, explanations, demonstrations, and opportunities for discussion.

The teacher functions as a mediator between the digital representation and the child's interpretation of cultural meaning.

2.5. The principle of emotional safety

Cultural content should not create fear, embarrassment, or feelings of cultural inferiority. AR activities should establish an atmosphere in which unfamiliar practices are presented as legitimate forms of human diversity.

This principle is particularly important in early childhood because emotional reactions can strongly influence children's attitudes toward unfamiliar people and practices.

3. A Methodological Model of AR-Supported Foreign Language Activities

A methodological model can be organized into five consecutive stages.

Stage 1. Motivational introduction

The teacher introduces a physical object, picture, card, or classroom element connected with the topic. The AR function is then activated.

For example, a picture of a child from another country may trigger a short animation accompanied by a simpl foreign-language greeting.

The methodological purpose of this stage is to create curiosity and establish the communicative context.

Stage 2. Cultural exploration

Children explore selected AR materials with teacher guidance. They encounter images, sounds, words, gestures, and everyday situations related to another cultural context.

The amount of information should remain limited. The objective is not to provide encyclopedic knowledge but to create meaningful first encounters with cultural diversity.

Stage 3. Foreign-language interaction

The cultural material becomes the basis for simple foreign-language communication.

Children can repeat words, identify objects, answer simple questions, match images with words, imitate culturally appropriate greetings, or participate in short dialogues.

For example:

Teacher: “Hello! What is this?”

Child: “A hat.”

Teacher: “Who is wearing it?”

Chil: “The boy.”

The linguistic tasks should remain simple while the cultural context provides meaning.

Stage 4. Reflective comparison

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After the digital interaction, the teacher encourages children to compare the presented cultural situation with their own experience.

Questions may include:

“Do children here do the same?”

“What is different?”

“What do you like about this tradition?”

“Can people have different traditions?”

This stage is particularly important for cultural tolerance because it helps children move from simple observation toward acceptance of difference.

Stage 5. Consolidation

The final stage involves a non-digital activity that reinforces the learning objective. Children may draw, classify pictures, perform a short dialogue, create a simple classroom display, or participate in a cooperative language activity.

This transition from digital to physical activity prevents the AR experience from becoming an isolated technological event.

4. AR Content Categories for Cultural Tolerance Development

For preschool foreign language education, AR resources can be organized into several methodological categories.

AR content category Foreign-language objective Cultural-tolerance objective

Greetings and gestures Basic communicative expressions Recognition of different communication practices

Children's everyday life Vocabulary related to daily routines Understanding that children in different cultures may have different routines

Food and meals Food vocabulary and simple phrases | Respect for different culinary traditions

Clothing Clothing vocabulary Acceptance of different forms of dress

Games and toys Action words and object names Recognition of diversity in children's play

Celebrations Basic thematic vocabulary Positive attitude toward different traditions

Family life Family-related vocabulary Recognition of diverse family practices

Public places Situational language Understanding different social environments

This classification allows teachers to select digital content according to both linguistic and cultural objectives.

5. Methodological Conditions for Effective AR Use

The effectiveness of AR-based cultural education depends on several pedagogical conditions.

The first condition is purposeful integration with the foreign-language curriculum. AR should not be introduced simply because it is technologically attractive. Every AR activity should have clearly defined linguistic and cultural objectives.

The second condition is limited duration of digital interaction. Preschool children should not spend excessive time interacting with digital devices. Short AR episodes can be integrated into broader educational activities.

The third condition is teacher mediation. The teacher should explain culturally unfamiliar content, encourage questions, and prevent simplistic interpretations.

The fourth condition is culturally balanced representation. Digital resources should include different cultural contexts rather than repeatedly presenting a single culture as the universal model.

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The fifth condition is transition between digital and social interaction. AR should ultimately support communication between children rather than replace it. After exploring digital content, children should have opportunities to speak, cooperate, compare, and act together.

6. Expected Methodological Outcomes

The proposed AR methodology can contribute to three interconnected areas of preschool development.

The first is foreign-language development. Children receive repeated exposure to vocabulary and simple comunicative structures within meaningful situations.

The second is cultural awareness. Children gradually learn that people may speak differently, eat different foods, use different forms of greeting, celebrate different occasions, and organize everyday life in different ways.

The third is cultural tolerance. Through guided comparison and positive interaction, children can develop more accepting attitudes toward unfamiliar cultural practices.

Importantly, cultural tolerance should not be assessed solely through children's ability to reproduce cultural information. A child may remember a cultural fact without developing a tolerant attitude. Therefore, methodological assessment should also consider behavioral and emotional indicators, such as willingness to interact with unfamiliar cultural characters, absence of negative reactions to differences, ability to identify similarities, and readiness to accept alternative practices.

Conclusion

Augmented reality can become a meaningful digital educational resource for developing cultural tolerance in preschool foreign language education when its technological potential is subordinated to clear methodological objectives. The proposed approach integrates foreign-language learning, culturally oriented content, interactive digital experience, teacher mediation, and reflective comparison

The central methodological principle is that AR should not merely show children cultural differences. It should organize a pedagogically guided process in which children encounter, explore, communicate about, compare, and positively accept cultural diversity.

For the theory and methodology of teaching and upbringing, the use of AR is therefore significant not because of the novelty of the technology itself, but because it allows the construction of new forms of foreign-language educational interaction in which linguistic development and the formation of cultural tolerance occur simultaneously.

The proposed five-stage model — motivational introduction, cultural exploration, foreign-language interaction, reflective comparison, and consolidation — may serve as a methodological framework for designing and evaluating AR-supported activities in preschool foreign language education.

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