

UDC 373.3.016:811.111]:37.018.43

DOI: [https://doi.org/10.33272/2522-9729-2026-1\(226\)-123-126](https://doi.org/10.33272/2522-9729-2026-1(226)-123-126)



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VISUALIZATION OF LANGUAGE MATERIAL IN PRIMARY SCHOOL ENGLISH LESSONS WITHIN A BLENDED LEARNING CONTEXT

A The article examines the use visualization tools in teaching English to primary school learners within the context of the transition to blended learning. The study's relevance stems from the need to adapt teaching methodologies to the psychophysiological characteristics of children, often referred to as "digital natives", who are characterized by fragmented thinking and a strong need for dynamic visual content. The author emphasizes that in blended learning environments, where direct contact with the teacher is limited, visualization shifts from being an auxiliary illustrative element to becoming a key didactic tool. In this role, it functions as a "cognitive bridge" that compensates for the lack of full language immersion.

The purpose of the article is to provide a theoretical justification and classification of visualization techniques, as well as to analyze the methodological aspects of their implementation. The study identifies and describes five groups of techniques: pictographic techniques, semiotic techniques, multimodal techniques, symbolic techniques, and digital visualization tools.

The conclusions highlight that the effectiveness of visualization largely depends on the teacher's methodological competence. The teacher should act not only as a transmitter of knowledge but also as a facilitator who helps learners decode visual information. The integration of the proposed techniques contributes to reducing cognitive load, increasing learner motivation, and fostering the development of foreign language communicative competence in young learners.

Keywords: visualization; visualization techniques; digital tools; blended learning; primary school; English lesson; language material; primary school teacher

ВІЗУАЛІЗАЦІЯ МОВНОГО МАТЕРІАЛУ НА УРОКАХ АНГЛІЙСЬКОЇ МОВИ В ПОЧАТКОВІЙ ШКОЛІ В УМОВАХ ЗМІШАНОГО НАВЧАННЯ

S Розглянуто проблему використання засобів візуалізації в процесі навчання англійської мови учнів початкових класів в умовах переходу до змішаного формату навчання. Актуальність дослідження зумовлена необхідністю адаптації методик викладання до психофізіологічних особливостей сучасних дітей, так званих «цифрових аборигенів», для яких характерне кліпове мислення та потреба в динамічному візуальному контенті. Авторка наголошує, що в умовах змішаного навчання, де безпосередній контакт з учителем початкових класів обмежений, візуалізація трансформується з допоміжного ілюстративного елемента на ключовий дидактичний інструмент, що виконує роль «когнітивного містка» та компенсує відсутність мовного занурення.

Метою статті є теоретичне обґрунтування та класифікація технік візуалізації, а також аналіз методичних особливостей їхнього впровадження. У статті виокремлено та охарактеризовано п'ять груп технік: піктографічні техніки, семіотичні техніки, мультимодальні техніки, символічні техніки, техніки цифрової візуалізації.

У висновках підкреслено, що ефективність візуалізації залежить від методичної компетентності вчителя, який має бути не лише транслятором знань, а й фасилітатором, навчаючи учнів декодувати візуальну інформацію. Інтеграція запропонованих технік сприяє зниженню когнітивного навантаження, підвищенню мотивації та формуванню іншомовної комунікативної компетентності молодших школярів.

Ключові слова: візуалізація; техніки візуалізації; цифрові інструменти; змішане навчання; початкова школа; урок англійської мови; мовний матеріал; учитель початкових класів

Statement of the problem. The principle of visualization in English language teaching methodology has traditionally been regarded as a cornerstone for successful material acquisition. However, while the arsenal of visual aids was previously limited to static objects or illustrations, the modern educational landscape is characterized by an exponential expansion of tools: from gestures and flashcards to multimedia programs and virtual

reality modeling. This issue becomes particularly acute in the context of educational reform in Ukraine and the implementation of the New Ukrainian School (NUS) concept, which has coincided with the forced transition to a blended learning format.

In the settings of blended learning, which has become a new reality for Ukrainian primary schools, the role of visualization transforms from an auxiliary element into a key didactic tool. This

is driven by the psychophysiological characteristics of modern young learners, who are so-called “digital natives” growing up in an environment overloaded with visual stimuli [8]. Their cognitive habits and information perception mechanisms differ fundamentally from previous generations.

Therefore, in conditions where part of the learning process occurs indirectly through a screen and direct contact with the teacher is limited, visualization serves as a necessary “cognitive bridge.” In a blended learning context, this helps compensate for the lack of complete language immersion, reduces cognitive load on the child, and transforms abstract grammatical or lexical constructions into concrete, comprehensible images

Thus, the integration of modern visualization techniques in English lessons is not merely a methodological recommendation but a necessary condition for adapting the educational process to contemporary challenges.

Analysis of previous research and publications. Analysis of Ukrainian and foreign research reveals a consensus on the critical role of visualization in blended English learning, though with distinct regional focuses. Foreign scholars like P. Rosser and S. Soler emphasize the predominance of visual learning styles among modern students, arguing that teaching methods must evolve to include more visual resources to match student needs [9]. Z. Yu and D. Peng [14], Z. Mohseni, I. Masiello, R. Martins, S. Nordmark [6] expand this to “Visual Learning Analytics,” finding that while visual tools (including the metaverse) significantly amplify learner imagination and support multi-sensory learning [4], their effectiveness relies heavily on the teacher’s ability to interpret visual data and manage technical barriers. Conversely, Ukrainian researchers [1; 10] approach visualization not just as an enhancement but as a vital compensatory mechanism during crisis-driven distance learning. They highlight that in the absence of direct psychological contact, visual tools and interactive platforms serve as the primary ‘bridge’ for maintaining young learners’ motivation and facilitating reflection, transforming abstract English language material into accessible formats for primary learners in the New Ukrainian School context.

While the general effectiveness of visualization in English language teaching is well-established, the specific methodological adaptation of these techniques to blended learning environments for primary school students remains insufficiently explored. Consequently, there is a lack of comprehensive analysis regarding the various visualization techniques suitable for implementation in blended learning settings.

Purpose of the article. The purpose of the paper is to theoretically substantiate and classify visualization techniques and to analyze the methodological features of their implementation in primary school English lessons within a blended learning environment.

Presentation of the main research. Numerous studies address the interpretation of “visualization.” Scholars define it as a systematic, rule-based graphic representation designed to facilitate comprehension and communication [6].

For the purpose of this study, we adopt T. Sydelynykova’s definition, in particular a pedagogical method that utilizes

schematization and symbolic associations to present the structure and stages of a phenomenon [12]. Furthermore, scholars like K. Kiuru, E. Popova, and Z. Kodzova emphasize that visualization responds to modern educational challenges by enabling the individualization of learning and the compression of increasingly large volumes of academic material [1; 2].

A. Verbitskyi emphasize that it is essential to differentiate between “visual aids” and “visualization”. A visual aid is merely an object or image, whereas visualization is the product of mental activity. It is the process of condensing mental content into a visual form [13]. Thus, visualization should be investigated as the process of condensing mental content into a concrete visual image.

In the context of our research, it is crucial to examine specific visualization techniques that can be employed to develop the linguistic competence of young learners during English lessons. They are the following:

1. Pictographic visualization techniques.

Pictographic techniques (images, flashcards, and storyboard illustrations) constitute a fundamental stratum of visualization in teaching English to young learners. In the context of blended learning, the implementation of these tools undergoes a qualitative transformation, shifting from physical media to digital interactive modalities. The pedagogical efficacy of these techniques is substantiated by A. Paivio’s dual coding theory [7], which posits that the simultaneous processing of verbal and non-verbal information enhances memory retention. In a remote or hybrid learning setting, where physical paralinguistic cues are often diminished, vivid digital imagery serves as a critical scaffold for semanticizing vocabulary without recourse to translation, thereby reducing the cognitive load on the learner.

Within the blended learning environment, the functionality of traditional visual aids is expanded through digitalization. Static didactic materials, such as posters, are reconfigured into interactive digital resources via platforms like Genially or Padlet, while conventional flashcards are replaced by digital flashcard sets (e.g., Quizlet, Wordwall). This technological migration allows the educator to transcend mere demonstration (screen sharing), facilitating synchronous student interaction with the learning content.

For instance, the teacher can use digital flashcards (lexical topic: “Food”) to implement the “slow reveal” technique during synchronous sessions (Zoom/Google Meet). By partially obscuring an image (e.g., a *pineapple*) and gradually revealing it, the teacher engages the primary school children’s mechanisms of cognitive anticipation. Learners are required to hypothesize and articulate the lexical unit before full visual verification occurs. This method significantly activates attention and mitigates the psychological barrier associated with foreign language production.

Consequently, the integration of digital pictographic techniques into blended learning not only compensates for the limitations of distance communication but also fosters a direct visual-semantic connection. This approach effectively repositions the primary learner from a passive observer to an active participant in the educational process.

2. Semiotic visualization techniques.

Semiotic visualization techniques (mind maps, word clouds, and semantic organizers) represent a higher level of abstraction, utilizing graphic structures to systematize linguistic knowledge. In the context of blended learning, these tools transition from static paper-based formats to dynamic, collaborative digital workspaces.

In a blended setting, digital graphic organizers serve as external cognitive scaffolds that reduce the load on working memory. They allow children to visualize semantic fields and logical relationships (part-whole, genus-species) rather than memorizing isolated lexical units.

Thus, while teaching topic "Seasons and weather", instead of individual drawing, the teacher might utilize collaborative platforms like Miro or Coggle. The central concept "Seasons" is placed in the center. Students work in breakout rooms or simultaneously on the main board to branch out into months, weather adjectives, and clothing items. This transforms a brainstorming session into a collective cognitive artifact that remains accessible for revision and asynchronous review.

Hence, semiotic techniques in blended learning do not merely present vocabulary. They structure the learner's mental lexicon. By engaging students in the construction and manipulation of these digital graphic organizers, primary school teachers foster critical thinking and help young learners navigate the transition from intuitive to systematic language competence.

3. Multimodal visualization techniques.

Multimodal techniques (video fragments, GIF animations, and interactive hotspots) provide a high-fidelity simulation of the language environment, crucial for the "immersive" aspect of blended learning. Theoretically grounded in sociocultural theory and R. Mayer's Cognitive theory of multimedia learning [5], these tools stimulate simultaneous processing through auditory and visual channels. In a blended setting, where the teacher's physical presence is intermittent, multimodal content compensates for the lack of direct interaction by modeling authentic communicative behavior, paralinguistic cues (gestures, intonation), and social context.

In a blended curriculum, the passive viewing of videos might be transformed into active inquiry using tools like Edpuzzle. Activity: The teacher embeds a short video depicting a classroom interaction. The video pauses automatically at key moments, requiring students to answer comprehension questions or repeat commands ("Open your books," "Work in pairs"). This ensures that students not only hear the language but also observe the physical enactment of instructions, reinforcing the link between verbal commands and actions.

Besides, GIF animations are particularly effective for visualizing the durative aspect of grammar, which static images cannot convey. For instance, to teach the Present Continuous tense, the teacher utilizes looping GIFs (e.g., a child running or jumping) within a digital presentation or a Google Classroom assignment. The repetitive nature of the GIF visually reinforces the concept of an ongoing action. Thus, multimodal visualization in blended learning acts as a substitute for the natural language environment. It contextualizes learning, ensuring that young

learners acquire not just vocabulary, but the behavioral and situational patterns of the target language.

4. Symbolic and graphic representation techniques.

Symbolic techniques (icons, emojis, and simplified action schemas) constitute the visual vernacular of the digital age. In a blended learning context, these elements serve a dual function. They act as pedagogical tools for explaining abstract concepts and as navigational instruments within digital platforms (LMS). Theoretically grounded in G. Kress and T. van Leeuwen's framework of multiliteracy [3], the use of symbolic systems supports the transition from concrete to abstract thinking. In blended environments, where immediate teacher clarification is often absent (especially in asynchronous modes), symbolic coding becomes essential for reducing cognitive load. It replaces lengthy verbal instructions with compact visual cues, fostering learner autonomy.

For instance, emojis might be utilized not merely for engagement, but to decode the pragmatic intent of language in chat-based communication (Zoom chat/Google Classroom comments). During a synchronous feedback session, young learners use reactions to indicate comprehension ("I understand," "I need help"). Furthermore, when teaching adjectives (*excited*, *bored*, *nervous*), the teacher asks students to map distinct emojis to specific words, or to use an emoji to set the tone of a written dialogue (e.g., adding a "sunglasses" emoji to change a sentence from neutral to cool/confident).

Thus, symbolic and graphic techniques in blended learning function as a form of "visual scaffolding." They demystify abstract grammar and streamline instructional logic, leveraging the students' existing digital literacy to facilitate the acquisition of English communicative competence.

5. Digital visualization techniques and interactive platforms.

Digital visualization techniques constitute a distinct methodological category based on the utilization of web-based platforms that synthesize visuality, interactivity, and gamification. These resources create an environment conducive to active learning for primary school students. Tools such as LearningApps, Wordwall, Genially, Canva, and BookCreator enable the transformation of traditional didactic exercises into dynamic educational content, including interactive puzzles, quizzes, animated schemas, posters, and virtual narratives. This approach aligns with contemporary pedagogical paradigms regarding the digital learning environment, where active interaction with the material is a prerequisite for successful acquisition.

LearningApps is widely utilized to create exercises focused on correlation, categorization, cloze tests, and identification. For instance, within the topic "Animals," students may drag and drop images into semantic categories (pets vs. wild animals), while for "Daily routines," they can arrange images to reconstruct a chronological sequence. These tasks combine visual scaffolding with kinesthetic action, facilitating deeper lexical acquisition and reducing reliance on translation.

Wordwall is predicated on gamification principles, offering formats such as quizzes, "Wheel of Fortune," crosswords, and match-up games. In primary education, these tools are highly

effective for drilling and reviewing vocabulary and grammatical structures (e.g., *plural nouns* or the usage of *there is/there are*). The competitive element stimulates engagement, yet the platform is sufficiently adaptable to support individual learning trajectories, adhering to the principles of differentiation.

Genially and Canva augment the scope of digital visualization by enabling the creation of interactive posters, presentations, and animated schemas. For example, an interactive poster on the topic "My house" may contain clickable elements ("hotspots"). Upon selecting a room or object, the student hears the pronunciation, sees the spelling, and receives a micro-task. This integrates visual, auditory, and cognitive modalities, allowing learners to process material at their own pace. Canva is also effective for designing simple infographics that visualize grammatical rules, such as word order in sentences.

BookCreator is instrumental for creating virtual books, making it particularly effective for Project-based learning. Young learners can collaboratively or individually construct digital mini-books on topics like "About myself," "My favorite animal," or "My day," synthesizing text, drawings, photos, and audio recordings. Such activities foster not only communicative skills but also elementary digital literacy, creativity, and the ability to present one's work.

A critical advantage of digital visualization is its capacity to support differentiated instruction. Young learners with diverse learning styles can engage with formats that best suit their needs whether through imagery, audio, or active manipulation. Digital tools allow for unlimited reiteration of tasks and enable primary school children to work at their own pace, which is invaluable for classes with heterogeneous proficiency levels.

In summary, digital visualization techniques represent a convergence of visibility, interactivity, and flexibility, creating favorable conditions for active, motivating, and individualized English learning in primary schools. When implemented with methodological precision, they not only enhance the retention

of lexical and grammatical material but also cultivate a positive disposition towards learning in general, presenting English as a modern tool for cognition and creative self-expression.

It is worth mentioning that in a blended learning setting, the teacher must possess the methodological competence to effectively use visualization techniques. Primary school teachers need to critically select digital tools that align with specific learning objectives, ensuring that visual compression aids rather than hinders comprehension. Furthermore, the teacher must explicitly train young learners to decode and analyze these visual data, transforming visualization from a passive viewing experience into an active cognitive strategy during both synchronous and asynchronous sessions.

Conclusions. The study establishes that in the context of the New Ukrainian School (NUS) and the shift to blended learning, visualization has evolved from a supplementary illustrative method into a foundational didactic mechanism. This transformation is driven by the cognitive profile of modern primary school students ("digital natives") who require dynamic visual stimuli to compensate for the lack of direct teacher contact and language immersion in remote settings. The research classifies and substantiates five key categories of visualization techniques adapted for blended environments: pictographic techniques, semiotic techniques, multimodal techniques, symbolic and graphic techniques, digital visualization.

The paper concludes that the effectiveness of these techniques relies heavily on the primary school teacher's methodological competence, specifically, the ability to select appropriate tools that reduce rather than increase cognitive load, and the deliberate training of students to decode visual data.

Perspectives of further research. Based on the findings and the identified research gaps, future scientific exploration should focus on investigating the potential of generative AI for creating personalized visual content in real-time.

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The date of receipt of the author's material by the editorial office: 15.01.2026