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EMBODIED LEARNING IN EFL: A MULTIDIMENSIONAL CLASSIFICATION AND PEDAGOGICAL APPLICATIONS IN THE DIGITAL AGE

Abstract. In the context of digital transformation, embodied learning has become a significant approach in English as a Foreign Language (EFL) teaching. It emphasizes the role of the body, movement, and sensory interaction in cognition and meaning-making (Jusslin et al., 2022), while emerging technologies such as AR/VR further expand its pedagogical potential (Jung, Lee, & Liu, 2025).

This paper proposes a three-dimensional classification of embodied learning based on the level of bodily engagement, modal composition, and social form. It distinguishes passive and active embodiment, identifies kinaesthetic, multisensory, and technology-enhanced modalities, and highlights individual and collaborative practices.

The findings demonstrate that embodied learning enhances engagement, retention, and communicative competence, offering a structured framework for designing interactive and learner-centered EFL environments.

Keywords: embodied learning, EFL, multimodality, kinaesthetic learning, AR/VR, gamification, communicative competence

Embodied learning has gained increasing attention in contemporary foreign language pedagogy as a response to the limitations of traditional, cognitively

dominated instructional models. Within modern EFL contexts, it is particularly relevant due to the growing need to make language learning more meaningful, contextualized, and experientially grounded. In contrast to approaches that treat language as an abstract system of rules and forms, embodied learning emphasizes the integration of bodily experience, perception, and action in the construction of meaning.

Embodied learning is grounded in the principles of embodied cognition, which posit that cognitive processes are deeply rooted in bodily interaction with the environment. Learning, therefore, emerges not only from mental activity but also from sensorimotor experiences, spatial awareness, and physical engagement. In this sense, embodied learning can be defined as an educational approach in which knowledge acquisition is facilitated through active bodily involvement, multimodal perception, and interaction with the surrounding environment, enabling learners to construct meaning through lived experience rather than abstract representation (Shkola et al., 2025).

In the context of foreign language education, this perspective challenges traditional, purely cognitive approaches and emphasizes the integration of movement, perception, and action in meaning-making processes. Shkola et al. (2025) further argue that embodied learning in EFL is inherently multimodal and visually oriented, as it engages learners through gesture, space, visual cues, and digital interaction, thereby enriching linguistic input and output.

Recent studies highlight that bodily engagement enhances memory retention, comprehension, and learner motivation by creating multimodal neural connections (Jusslin et al., 2022). This is particularly relevant for EFL learners, who often struggle with abstract linguistic forms detached from real-life contexts. Embodied approaches enable learners to “experience” language through action, thus bridging the gap between form and meaning.

Moreover, the rapid development of digital technologies has further strengthened embodied learning. Tools such as augmented reality (AR), virtual reality (VR), and interactive simulations create immersive environments where learners can

physically and virtually interact with language in context. As noted by Jung, Lee, and Liu (2025), such technologies extend the boundaries of traditional classrooms and facilitate experiential, context-rich learning. In this regard, embodied learning becomes not only a pedagogical strategy but also a framework that aligns naturally with digital and multimodal EFL environments, supporting deeper engagement and more authentic language use.

Building on recent research and the collective monograph by Shkola et al. (2025), this study proposes a **three-dimensional classification of embodied learning**: (1) level of bodily engagement, (2) modal composition, and (3) social form.

This framework allows for a comprehensive understanding of how embodied practices can be systematically integrated into language teaching (Fig.1).

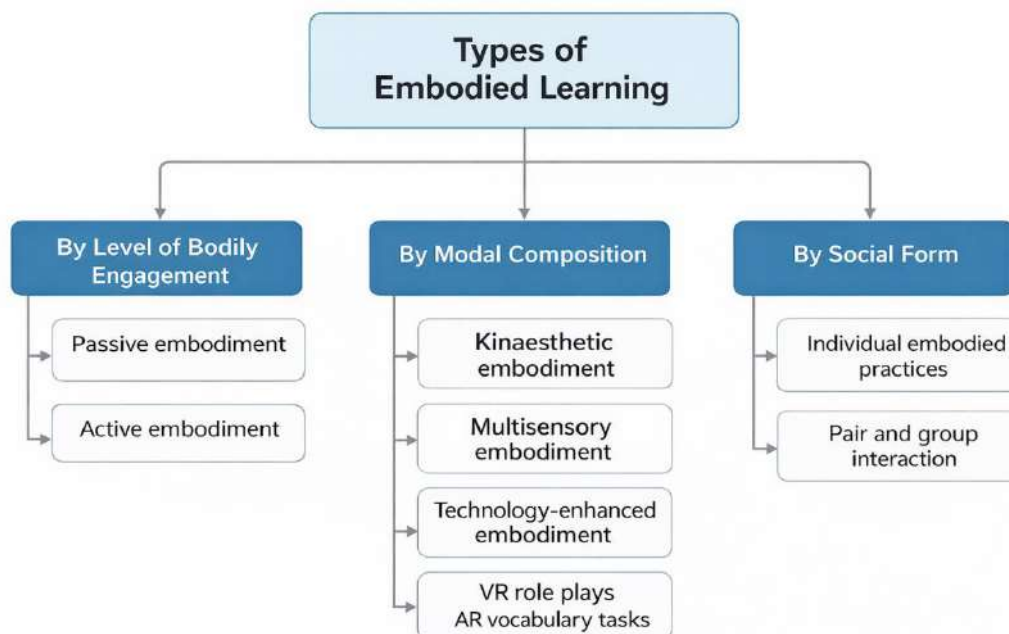


Table 1. A Classification of Embodied Learning in EFL

Talking about embodied learning by **Level of Bodily Engagement**, we can differentiate between Passive and Active Embodiment.

Passive embodiment involves minimal physical activity and is primarily based on observation, imagination, or empathetic engagement. In this case, the body functions as a sensory receptor rather than an active agent. Learners may observe

gestures, facial expressions, or physical actions in videos, dialogues, or live demonstrations.

For example, students watching a film scene analyze non-verbal communication cues such as gestures, posture, and proxemics. Although they do not actively perform movements, they still engage cognitively and emotionally through embodied simulation. This form is particularly useful at early stages of language exposure or when introducing new communicative contexts.

Active embodiment, in contrast, requires direct physical participation. Learners use gestures, movement, and spatial interaction as tools for meaning construction. The body becomes a mediator of learning, facilitating deeper cognitive processing.

Typical examples include Total Physical Response (TPR) activities, role-playing scenarios (e.g., “shopping” or “airport check-in”), and gesture-based grammar practice. Research indicates that such activities significantly improve vocabulary retention and grammatical accuracy due to the integration of motor and cognitive systems (Jusslin et al., 2022; Lindgren & Johnson-Glenberg, 2023).

The second dimension of embodied learning - **by Modal Composition** – includes *Kinaesthetic (Motor) Embodiment, Multisensory Embodiment, and Technology-Enhanced Embodiment*.

Kinaesthetic embodiment focuses on physical actions and movement-based responses. It supports procedural memory development by linking language input with bodily actions. Learners internalize meaning through “learning by doing,” which enhances automaticity in language use.

For instance, students may follow and give commands (“*Stand up,*” “*Turn left,*” “*Open the door*”), or act out professions and daily routines. Such activities are particularly effective in vocabulary acquisition and classroom interaction.

Multisensory embodiment integrates multiple sensory channels, including visual, auditory, tactile, and sometimes olfactory or gustatory inputs. This approach creates rich semantic networks, making language more memorable and meaningful.

An example is the “*Kitchen Stations*” activity, where learners rotate through stations involving touch (textures), smell (spices), and visual sequencing (recipes).

Another example is tactile storytelling, where students manipulate objects while narrating a story. These activities support deeper comprehension and long-term retention by engaging multiple sensory pathways.

Technology-enhanced embodiment represents a contemporary extension of embodied learning. It incorporates AR/VR environments, interactive simulations, wearable devices, and AI-driven systems that respond to gestures and movement.

For example, VR-based role plays such as “Virtual Job Interview” allow students to practice language in immersive settings while also developing non-verbal communication skills. AR applications can overlay vocabulary and instructions onto real-world objects, creating interactive and engaging learning experiences (Table 1).

Table 1.

Technological Applications of Embodied Learning

Technology	Description	Pedagogical Benefits	Example
Virtual Reality (VR)	Fully immersive digital environments	Increased motivation, reduced anxiety, contextual learning	Virtual café simulation
Augmented Reality (AR)	Overlay of digital content onto real world	Multimodal interaction, enhanced attention	AR flashcards with pronunciation
Interactive simulations	Real-life scenario modeling	Development of communicative skills	Airport check-in role play
Gamification	Integration of game elements	Engagement, collaboration, creativity	Vocabulary quest with movement

Such technologies not only increase motivation but also enable the simulation of contexts that are otherwise inaccessible in traditional classrooms. Additionally, they provide opportunities for tracking learner progress through digital data.

The last dimension - **Embodied Learning by Social Form** – focuses on *Individual Embodied Practices and Pair and Group Embodied Interaction*.

Individual practices consider personal bodily awareness and self-regulation. These include articulation exercises, breathing techniques, posture control, and reflective activities such as body logs.

Such practices are particularly beneficial for pronunciation training, as they enhance awareness of speech organs and improve prosody. They also contribute to emotional regulation, which is crucial for reducing language anxiety (MacIntyre, 2022).

Pair and group activities emphasize collaborative meaning-making through physical and social interaction. These include role plays, simulations, quests, and performance-based tasks.

For instance, activities such as “*City Quest*” require students to navigate space, interact with peers, and complete communicative tasks. Similarly, “Role Play Carousel” allows learners to engage in structured interactions, practicing different discourse functions in rotating groups.

These forms foster communicative competence, non-verbal communication skills, and teamwork, aligning with the principles of communicative language teaching.

As the experience proves, the integration of embodied learning into EFL classrooms has significant methodological implications. First, it promotes learner-centered instruction by actively involving students in the learning process. Second, it enhances motivation and engagement through dynamic and interactive activities. Third, it supports differentiated instruction, as learners with different sensory preferences can benefit from varied modalities.

Teachers are encouraged to design lessons that combine different types of embodiment, ensuring a balance between physical activity, sensory engagement, and social interaction. Importantly, the use of digital tools should not replace physical experience but rather complement and extend it.

Conclusions. Embodied learning represents a holistic and innovative approach to foreign language education, integrating cognitive, physical, and social dimensions of learning. The proposed classification provides a structured framework for understanding and implementing embodied practices in EFL teaching.

By incorporating movement, sensory experience, and technology, educators can create meaningful and engaging learning environments that foster communicative

competence and long-term retention. Future research should focus on empirical validation of specific embodied techniques and their impact on different language skills.

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