

# PERCEPTIONS OF FUTURE KINDERGARTEN TEACHERS ON THE USE OF EMBODIED LEARNING WHEN APPROACHING WORKS OF ART IN PRESCHOOL EDUCATION

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## Abstract

The purpose of this study is to explore the perceptions of future kindergarten teachers on the use of embodied learning in the preschool classroom with an emphasis on movement that comes from exposure to works of art in museums or in the classroom. For this purpose, we used a google forms questionnaire with open-ended and closed-ended questions administered to 45 undergraduate students in the Department of Preschool Education at the University of Crete. Specifically, we asked for their views on their previous experiences with museums and on the application of movement when approaching works of art. According to the respondents, museums are mainly seen as places of art and exhibits, while they point out that they lack educational museum learning activities. They also agree, with the educational practice of visiting a cultural site or using works of art in the kindergarten classroom. The implementation of embodied learning to approach works of art is supported by the participants. They believe that movement contributes to the sensory experience of exhibits and works of art, to the approach of difficult concepts and to a better understanding and retention of knowledge through experience, body and senses. Furthermore, they point out that works of art can act as a stimulus for children's motor activation and that movement and the experiences associated with it play an important role in the expression of emotions, development and learning. Finally, participants express their desire for workshops on how to approach works of art through embodied learning in their university curriculum.

**Keywords:** *Museum experiences, embodied learning, motor experiences, early childhood, higher education.*

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## 1. Introduction

Despite the insistence on traditional mind-centered teaching methods, which separate the body from the mind and have the learner sitting in a chair in a classroom, listening and writing, it is now increasingly recognized that movement and the experiences associated with it play an important role in the learning process (Macrine & Fugate, 2022; Wilson, & Foglia, 2015). The theory of embodied learning has been developed, rooted in the theory of phenomenology by Martin Heidegger and Maurice Merleau-Ponty, according to which, the physiology of the human body and the experiences the individual has in the environment with their body determine the way they think (Vasilaki, 2023; Kai-Kee, et al., 2020). Our body and its sensorimotor skills are a point of orientation in the environment and therefore a key reference point for our learning, developmental and cognitive experiences (Pourkos, 2015). During the preschool age, motor and perceptual experiences form the basis of a young child's education. Activities, as well as educational environments that involve movement and engage students to move in defined ways, enhance learning (Kosmas & Zaphiris, 2018). In addition, embodied educational interventions and interactions make knowledge accessible to all students, offering them more opportunities for active participation (Macrine & Fugate, 2022; Macedonia, 2019; Kosmas & Zaphiris, 2018; Foglia & Wilson, 2013). Embodied knowledge seems to be influenced by the activity of the body as the triptych of perception-cognition-action is closely linked (Barsalou, 2010). By changing the traditional ways of teaching and learning, embodied learning uses the body, the senses, the mind and the environment (Shapiro & Stolz, 2019; Paniagua & Istance, 2018).

Non-traditional learning environments such as museums function as places of diversity and holistic sensory and cognitive experiences, where learning is achieved through processes that activate both body and mind. In particular, post-humanist theories point to the importance of sensory experiences, movement, somatic memory and the need to take into account, during the museum experience, the dynamic role played

not only by the objects, but also by the actual space and time of the museum (Hackett, Holmes & Macrae, 2020). At the same time, “body-based pedagogy” in museums is taking shape, which puts visual perception in the background and focuses on approaching museum exhibits with all of the senses, the mind and the body, and encourages somatic interpretations (Christofalou, 2022). In fact, studies show that embodied learning assists in approaching difficult concepts in education (Papadopoulos & Mamali, 2021; Smyrniou, et al, 2016).

However, in the field of teacher education, existing research emphasizes mainly the cognitive and scholarly aspects of embodiment. We have therefore identified a research gap between teaching and sensory, body experiences (Hilde & Ørbæk, 2024). Furthermore, a shortage has been identified in courses on how to utilize art and museum experiences through embodied learning in the museum and in the classroom by both future and practicing teachers (Dimitriadi & Malafantis, 2022; Doxanaki & Linardakis, 2022; Oikonomidis & Trouli, 2022; Trouli, 2023; Sotiropoulou-Zormpala, Trouli & Linardakis, 2015; Sotiropoulou-Zormpala, Trouli, & Linardakis, M. (2010).

Seeking to fill the aforementioned gap, in recent years, in the Psychomotor and Museum Education courses of the University of Crete, we use techniques of embodied learning, such as sensorimotor activities, gestures, free movement expression activities and playful body movements, emotional involvement activities, and role playing, in order to approach knowledge, often using works of art as a tool.

## 2. Research aims and questions

In this context, we decided to investigate the perceptions of a group of students from the Department of Preschool Education on the implementation of embodied learning through the approach of works of art in museums or in the kindergarten classroom. The research questions involve exploring the participants' prior experiences and perceptions of museums, as well as the application of movement when approaching works of art.

## 3. Method

### 3.1. Research design

For the needs of the research, a questionnaire was designed in google forms with 8 open-ended and 19 closed-ended questions on a Likert scale. Mixed methodology was applied for data analysis, particularly, descriptive-thematic analysis of the participants' reasoning (Tsiolis, 2018), and descriptive statistical analysis using the statistical package SPSS22 (Chalikias, Lalou, & Manolesou, 2015). The students' responses to the open-ended questions were recorded and sorted into categories; the number and percentages received by each response category are listed below. For those questions where responses were given on a five-point Likert scale (1=strongly disagree, 2=disagree, 3=don't know, 4=agree, 5=strongly agree), the means and standard deviations of the participants' responses are provided.

### 3.2. Research sample

The sample of the survey consisted of 45 students (43 women and 2 men, aged 20-22 years old), a ratio that reflects the actual representation in Preschool Education Departments in Greece. The participants were in their last two years of studies at the Department of Preschool Education of the University of Crete during the academic year 2024-25.

## 4. Results

### 4.1. Perceptions of future teachers on museums

In relation to the first research question, in order to explore the respondents' perceptions of museums, they were asked to write down three words that came to their minds when they heard the word museum, three things they liked about museums and three things they thought were missing from museums. They were also asked to answer what preschoolers gain from visiting a museum or using works of art in the kindergarten classroom.

In their attempt to capture the notion of "museum," students use the words statues (N=21, 46.7%), history (N=15, 33.3%), art (N=14, 31.1%), paintings (N=12, 26.7%), exhibits (N=12, 26.7%), culture (N=9, 20%), and guided tours (N=8, 17.8%). Students perceive museums as places of: art and exhibits (objects, sculptures, paintings, jewelry, frescos, pottery, tombs, photographs) (N=34, 75.6%), information, exploration, discovery, and learning (activities, educational events, guided tours, teaching materials, etc.) (N=19, 42.2%), calm, harmony, and relaxation (N=6, 13.3%), as well as observation of the evolution and usefulness of objects and their influence until today (N=6, 13.3%).

According to the students, significant deficiencies in museums are observed in the following areas: museum education (museum educational activities for everyone, experiential activities, interactivity, interactive exhibits, transmission of knowledge, hands-on interaction with the exhibits, guides, games, entertainment, audio tours) (N=26, 57.8%), access (physical, cognitive, free entrance, cheaper tickets, funding, accessible for people with disabilities) (N=11, 24.4%), organisation (site and visitor management, more staff, better promotion and information, spaces for children) (N=11, 24.4%), as well as exhibition and collections (lack of technology, presentations, and music) (N=11, 24.4%).

The students' answers regarding the individual questions about the educational practice of visiting a cultural site and the use of works of art in the kindergarten classroom ranged between "agree" and "strongly agree". In particular, they consider that this practice enriches children's stimuli and experiences (mean=4.5, sd=0.76), helps children acquire knowledge (mean=4.48, sd=0.63), supports their sensory development (mean=4, sd=0.91), the development of their cultural awareness (mean=4.51, sd=0.79), the development of their empathy (mean=4.24, sd=0.96), their social development (mean=4.2, sd=0.82), their language development (mean=4.1, sd=0.91), the development of their body expression (mean=3.96, sd=1.19), the development of their civic awareness (mean=4,1, sd=0,89), the development of their environmental awareness (mean=3.96, sd=1.11), and lastly, the development of their non-verbal expression (mean=3.84, sd=1.39).

#### **4.2. Perceptions of future teachers on the application of movement when approaching works of art**

In order to explore the perceptions of the research participants about the application of movement when approaching works of art, we asked them what they think about the implementation of embodied learning in museums or kindergartens, whether movement can contribute to the sensory experience of works of art, whether we can approach difficult concepts through movement, whether works of art can serve as motivation for the motor activation of children, and lastly, how does movement and the experiences associated with it benefit preschool children?

The implementation of embodied learning in museums or in approaching works of art in the kindergarten classroom finds the students of our sample "in agreement" (mean=4.4, sd=0.75). In particular, they believe that embodied learning can contribute to a better understanding and retention of knowledge (N=17, 37.8%), enhance interactivity and interest among children and adults (N=4, 8.8%), promote well-being (N=3, 6.7%) and creativity (N=3, 6.7%).

Regarding the contribution of movement to the sensory experience of exhibits and works of art, students seem to "agree" (mean=4.31, sd=0.95). In fact, they consider that: movement contributes to better understanding and retention of knowledge through experience, the body, and the senses (N=17, 35.8%), it increases emotional engagement and understanding of emotions (N=4, 8.9%), enhances representation of exhibits through the body, and the development of creativity (N=4, 8.9%), and strengthens memory (N=2, 4.4%).

The students also "agree" that through the movement and sensory experience of the exhibits we can approach difficult concepts, such as the refugee issue (mean=4.02, sd=1.14) and point out that empathy is enhanced and we achieve awareness and understanding of a difficult situation (N=17, 37.8%), they also consider movement a good approach for difficult issues (N=13, 28.9%) and that it increases emotional engagement and understanding of emotions (N=3, 6.7%).

The view that works of art can act as motivation for the motor activation of children is "agreed" by the students (mean=4.33, sd=0.79), as 35.7% (N=16) believe that works of art are a source of inspiration for motor-physical representation and expression, however, they point out that an appropriate educational approach (N= 11, 24.4%) and suitable works of art (N=2, 4.4%) are required.

Lastly, the students in the sample "agree" that movement, and the experiences associated with it, play an important role in the processes of: emotional expression (mean=4.40, sd=1.14), physical and motor development (mean=4.22, sd=1.06), social development (mean=4.24, sd=1.09) and education and learning (mean=4.22, sd=1.06). In fact, in an open-ended question, when asked to indicate what else they consider important for approaching works of art through embodied learning, the students in the sample indicated their desire for the implementation of relevant workshops as part of their university curriculum for the purpose of: acquiring skills to apply embodied learning (N= 16, 35.6%), acquiring and enhancing new skills (N= 7, 15.6%), acquiring knowledge in a different way (N= 6, 13.3%) and gaining hands-on experience (N= 4, 8.9%).

### **5. Discussion**

The students' previous experiences of museums confirm previous studies (Trouli, 2023; Dimitriadi & Malafantis, 2022; Oikonomidis & Trouli, 2022) where the notion of museum is mainly associated with

statues, history and art. The students in the sample perceive museums mainly as places of art and exhibits, which can be explained, as in Greece, archaeological and historical museums are predominant (Doxanaki & Linardakis, 2022).

Even though the respondents perceive museums as places of learning, exploration and discovery, they point out that there are deficiencies when it comes to museum education and access (Trouli, 2023). Previous studies confirm the views of the students in the sample on the educational practice of visiting a cultural site or the use of works of art in the kindergarten classroom (Trouli, 2023; Dimitriadi & Malafantis, 2022; Oikonomidis & Trouli, 2022). In particular, the students responded that this educational practice enriches children's stimuli and experiences, helps children in acquiring knowledge, supports their sensory development, the development of their cultural awareness, the development of their language skills, their empathy, their social development, their civic and social awareness, as well as their physical/nonverbal expression.

The implementation of embodied learning in museums or in the approach of works of art in the kindergarten classroom through the sensory experience of exhibits and works of art, which essentially function as a motivation for the motor activation of children, is "agreed" by the students in the sample. They believe that, embodied learning can mainly contribute to a better understanding and retention of knowledge, to approach difficult concepts through experiencing the body and senses, confirming the literature on the importance of embodied learning to approach knowledge (Foglia & Wilson, 2013; Kosmas & Zaphiris, 2018). In addition, they point out that works of art can act as a stimulus for children's motor activation and that movement and the experiences associated with it play an important role in the expression of emotions, development and learning.

In order to achieve the above, they express their desire for the implementation of relevant workshops within their university curriculum in order to develop new skills in the implementation of embodied learning and to gain knowledge and experiences in an experiential way.

## 6. Conclusions

In kindergarten, the implementation of embodied learning is essential, as children conceptualize their experiences to a greater extent through their movement, senses and mind (Macrine & Fugate, 2022; Macedonia, 2019; Kosmas & Zaphiris, 2018; Foglia & Wilson, 2013). Unfortunately, later on, as we grow older, due to the prevalence of traditional teaching models that separate the body from the mind, opportunities to perceive and understand knowledge and the environment through the body are lost. Our research shows that students, the future teachers, understand the value of embodied learning, identifying its benefits and pointing out the need to strengthen university curricula with experiential courses and workshops.

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