



RESEARCH ARTICLE

Experiences of Education Students Implementing the Biocentric Approach Movement Music Encounters

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ABSTRACT

The study aimed to examine the insights, feelings, and experiences of students in education and teaching programs who participated in an academic course on the biocentric approach. The course incorporated movement, music, and encounter-based workshops, and students gained practical experience applying the biocentric approach in schools and kindergartens. The study included 275 undergraduate students in education and teaching programs who attended the academic course on the biocentric approach. This was a qualitative study, conducted in Israel in 2024. The findings indicate that the principles of the biocentric approach were well received, with students expressing a desire to deepen their understanding of the approach and explore its applications. The shared dance experience was found to be a powerful tool for strengthening social bonds, improving classroom climate, fostering trust and openness, and enhancing personal and bodily awareness. The findings further suggest that dance contributed to the students' and children's sense of belonging, reduced emotional stress, improved bodily awareness, and revealed hidden social dynamics. Integrating dance activities into academic courses and work with children can advance the emotional and social development of school children and students.

Keywords: biocentric approach; biocentric development; biodanza; education students; higher education courses; social-emotional learning (SEL)

Theoretical background

Different age cohorts are shaped by a constellation of shared influences, including technological developments, common social experiences, and events of local and global significance. Scholars have consistently noted that contemporary children operate naturally within digital environments, in which digital presence permeates nearly all aspects of daily life (Bonell & Booy, 2020; Höfrová et al., 2024; Taylor & Hattingh, 2019; Viner et al., 2020; Ziatdinov & Cilliers, 2022; Zilka, 2020ab, 2021ab, 2023a). This continuous engagement with digital technologies shapes children's experiences, fostering high levels of digital literacy alongside flexible, self-directed learning practices. Children are not merely consumers of digital content but active creators, expressing themselves through diverse modalities that are predominantly visual and concise. Accustomed to the immediacy and convenience afforded by technology, they may exhibit resistance toward learning approaches perceived as slow or misaligned with their digital experiences, such as outdated digital learning environments.

In response to these shifts, researchers have emphasized the need to reform teaching and learning practices and to attend more closely to students' social-emotional needs as a means of enhancing academic achievement (Bonell & Booy, 2020; Höfrová et al., 2024; Taylor & Hattingh, 2019; Viner et al., 2020; Ziatdinov & Cilliers, 2022; Zilka, 2021ab, 2023a). Against this backdrop, the present study explores the insights, emotions, and experiences of students enrolled in education and teaching programs who participated in an academic course grounded in the biocentric approach. The course integrated movement, music, and encounter-based workshops and provided students with hands-on experience implementing the biocentric approach in schools and kindergartens.

1. The biocentric approach

The biocentric approach (Cavalcante & Wagner, 2020; Stueck, 2021; Stueck & Villegas, 2009; Toro, 2004, 2005, 2010; Zilka, 2022a) places life, communication,

affectivity, vitality, and the sanctity of life at the core of its theoretical and practical framework. Its primary aim is to cultivate affectivity, joy in life, and love as foundational elements of human development. Central to this approach is a conception of the human being as a relational person, for whom every expression, movement, and dance constitutes a living language. The methodology underpinning the biocentric approach, known as *vivencia*, employs movement and dance as vehicles for expressing and strengthening vitality, creativity, affectivity, pleasure, and transcendence.

A core principle of the biocentric approach is the integration of physical experience, affectivity, and socio-emotional dimensions in the formation of a healthy, coherent identity and a socially and ecologically responsible way of being. The approach emphasizes reflective engagement with one's relationships to events and others, encouraging awareness of personal patterns, needs, and boundaries, as well as the cultivation of sensitivity toward oneself, others, and the natural environment. Through this process, individuals are invited to explore new modes of expressing affection and love, to awaken their affective capacities, and to engage more fully with life. This perspective promotes a positive orientation toward oneself and others, as well as a sense of meaning and purpose, often described metaphorically as learning to "dance through life" and access the joy of living.

In addition, the biocentric approach emphasizes the creation of networks of meaning that connect experiences, processes, sensations, emotions, and interpersonal interactions. It values aesthetics, poetics, imagination, and understanding, and embraces multiple forms of intelligence, including motor, spatial, semantic, and social intelligence. The approach affirms the freedom to inhabit one's identity fully, with awareness of personal potential, limitations, and possibilities for ongoing growth. Training the body to move in alignment with deeper needs, alongside a fundamental respect for all living beings, constitutes a central ethical dimension of this perspective.

The application of the biocentric approach in educational contexts (Zilka, 2022a) foregrounds affectivity as a guiding pedagogical principle, with the aim of cultivating an affectionate learning environment and fostering meaningful interpersonal encounters. This process involves engaging the senses and intuition—such as smell, taste, movement, hearing, vision, and touch—to support holistic learning. An affectionate learning environment is defined primarily by the quality of interactions among children, between adults and children, and among educators themselves. Such an environment enables learners to realize their academic, social, and emotional potential, develop resilience in challenging situations, and strengthen collaboration, interpersonal communication, and learning capacities while remaining attentive to the needs of others. Through its emphasis on interpersonal, group, and intergroup communication, the biocentric approach provides a foundation for mutual understanding and reciprocal, respectful relationships.

DESCRIPTION OF OBJECTIVES AND INTERVENTIONS RELATED TO THE BIOCENTRIC APPROACH

The biocentric approach delineates a set of interrelated objectives and pedagogical interventions designed to cultivate deeper connections with oneself, others, and the natural environment (Cavalcante & Wagner, 2020; Stueck, 2021; Stueck & Villegas, 2009; Toro, 2004, 2005, 2010; Zilka, 2022a, 2025). These principles integrate affective, embodied, cognitive, and relational dimensions of human development. The core objectives and associated skills and interventions are outlined below.

1. Fostering affectivity and affective intelligence

This objective focuses on developing affective intelligence, including the capacities for friendship, solidarity, trust, encounter, and reciprocal feedback (Stueck, 2021; Svendler Nielsen & Burrige, 2015; Svendler Nielsen & Koff, 2017; Zilka, 2022a). The associated skills involve affective communication with oneself and others, emphasizing emotional attunement and relational sensitivity within

social and environmental contexts. Interventions include experiential activities that promote self-love, self-respect, and awareness of personal desires and needs, alongside opportunities for emotional expression and the cultivation of empathy toward others.

2. Developing expressive capacity and communication

This objective emphasizes the expression of emotions and meanings through movement, dialogue, sculpture, design, and verbal articulation (Stueck, 2021; Svendler Nielsen & Burrige, 2015; Svendler Nielsen & Koff, 2017; Zilka, 2022a). Skills center on interpersonal communication grounded in shared embodied experiences, particularly through movement and dance as relational practices. Interventions include structured and improvised activities involving dance, music, and movement, which facilitate connection, mutual responsiveness, and the strengthening of social bonds.

3. Cultivating kinesthetic sensitivity and bodily awareness

The development of kinesthetic sensitivity, bodily self-awareness, and motor competence constitutes a central objective of the biocentric approach. This includes enhancing coordination and movement skills that foster autonomy, confidence, pleasure, and enjoyment (Stueck, 2021; Svendler Nielsen & Burrige, 2015; Svendler Nielsen & Koff, 2017; Zilka, 2022a). Relevant skills involve recognizing anatomical and movement milestones, cultivating spatial awareness in relation to oneself and others, and integrating diverse movement elements in dance creation. Interventions typically involve guided encounters and partner or group dances that encourage openness, sensitivity, and embodied dialogue.

4. Strengthening identity and resilience

This objective addresses the development of a coherent sense of identity, resilience in the face of challenges, and the courage to articulate and defend one's perspective while remaining

connected to one's inner drive (Stueck, 2021; Svendler Nielsen & Burr ridge, 2015; Svendler Nielsen & Koff, 2017; Zilka, 2022a). Skills focus on the exploration of personal identity in relational contexts, emphasizing awareness of individual life directions and values. Interventions include dance- and movement-based activities that facilitate self-exploration and shared reflection, enabling participants to articulate and deepen their understanding of personal identity through embodied experience.

5. Awakening instincts and the experience of pleasure

This objective seeks to awaken instinctual energies and stimulate experiences of pleasure, vitality, and enjoyment through movement practices such as harmonization and flow exercises (Stueck, 2021; Svendler Nielsen & Burr ridge, 2015; Svendler Nielsen & Koff, 2017; Zilka, 2022a). The associated skills involve recognizing and expressing individual and collective potential. Interventions provide opportunities for self-expression and discovery through movement and dance, as well as through complementary creative modalities such as art, writing, and imaginative play.

6. Expanding awareness and cultivating a poetic perception of life

Expanding awareness and fostering a sense of wholeness constitute key objectives of the biocentric approach. Skills in this domain involve developing an understanding of the interconnectedness of all living beings and their environments, alongside a poetic and ethical sensitivity to life (Balzer, 2013; Barsam, 2008; Mayr et al., 2010; Stueck, 2021; Svendler Nielsen & Burr ridge, 2015; Svendler Nielsen & Koff, 2017; Zilka, 2022a). Interventions include activities that promote connection with nature, reflection on ecological interrelationships, and appreciation of life's complexity, encouraging ethical awareness and responsibility toward the living world.

7. Experiential learning (vivencia) and knowledge construction

Experiential learning, conceptualized through the vivencia experience, constitutes a central pedagogical principle of the biocentric approach. The associated skills involve fostering joy in learning through movement, dance, rhythm, and play, while supporting active knowledge construction (Bichler et al., 2021; Camacho & Legare, 2016; Childress & Benson, 2014; Freire, 2007; Petko, 2012; Schmid et al., 2022; Stueck et al., 2013, 2019; Zilka, 2022b, 2022c). Interventions integrate multisensory experiences—such as smell, taste, movement, hearing, sight, and touch—within a supportive affective climate that promotes motivation, engagement, and interaction. Educational games and applications are employed to enhance participation and enjoyment, alongside adaptive teaching methods that combine digital and face-to-face learning, visual stimulation, and movement-based collaboration. These interventions aim to foster critical thinking, higher-order cognitive skills, imagination, and creativity within an enjoyable and participatory learning environment.

8. Creativity and innovation skills and interventions

(Stueck, 2021; Svendler Nielsen & Burr ridge, 2015; Svendler Nielsen & Koff, 2017; Zilka, 2022a) encompass activities that expose individuals to diverse and enriched modes of expression. Such interventions cultivate the capacity to imagine and create, respond constructively to challenges, and attribute meaning in flexible, open, and creative ways. They stimulate curiosity and support development across learning, movement, and socio-emotional domains, while fostering initiative and sustained engagement in social and emotional processes. Furthermore, these approaches promote flexibility and openness toward oneself and others, equipping individuals with tools to navigate a dynamic and changing reality. Emphasis is placed on

the innovative and creative use of movement elements and dance-making processes, alongside the development of creativity, sensitivity, and openness in interpersonal interactions. Collectively, these interventions also enhance reflective capacities, supporting deeper self-awareness and intentional action.

2. Movement, Music, and Encounters

Dance may be understood as the intentional and rhythmic movement of the body. Scholarly research on movement addresses a wide range of dimensions, including intentional and voluntary movement, spontaneous and improvised actions, automatic or mechanical movements, body posture, touch, and stroking. The American Dance Therapy Association (ADTA) conceptualizes movement and dance as a therapeutic process that promotes emotional, physical, social, and cognitive integration within the individual.

Movement and dance support personal growth through the dynamic interaction between body and mind. Posture, physical expression, and habitual movement patterns are understood as manifestations of emotional states as well as psychological, interpersonal, and cultural dispositions. The body and mind operate as an interdependent system, forming a complex and inseparable unit. Consequently, modifications in movement patterns can influence psychological experiences, just as psychological states can shape bodily expression. Movement thus functions as a medium through which both conscious and unconscious dimensions of experience may be expressed.

Extant research highlights the contribution of movement and dance to human development across multiple domains (Bradt et al., 2015; Conceicao et al., 2016; Karkou & Meekums, 2017; Koch et al., 2019; Loman & Sossin, 2009; Meekums et al., 2015; Neto et al., 2014; Ren & Xia, 2013), including:

- the development of adaptive strategies for coping with emotions and life challenges;
- the cultivation of intrapersonal (internal) and interpersonal communication patterns;

- the identification of embodied emotional conflicts;
- enhanced integration between bodily experience and mental processes;
- the development of regulatory capacities for the expression of sensations and emotions; and
- the strengthening of social communication skills.

Engagement in authentic and natural movement enables individuals to turn inward and reflect upon their inner world. Natural movement refers to movement that emerges organically from the individual, guided by internal sensations, impulses, and affective states. This form of movement is closely aligned with mindfulness practices, as it involves sustained awareness and attentive presence to one's bodily sensations, emotions, and thoughts.

The conceptual framework for the study of dance encompasses several interrelated categories that address physical, psychological, cognitive, and social dimensions (Georgios et al., 2018; Ritchie & Gaultier, 2018; Stueck, 2021; Svendler Nielsen & Burrige, 2015; Svendler Nielsen & Koff, 2017; Vander Elst et al., 2023; Zilka & Tempel, 2024).

ENHANCING BODY AWARENESS

Movement facilitates a deeper connection to bodily sensations and internal states, thereby enhancing self-awareness and supporting the healthy expression of emotions. Dance contributes to improved coordination, balance, range of motion, joint flexibility, muscle strength, and pelvic floor stability. In addition, it supports cardiovascular and neural functioning, strengthens the brain–heart connection, and promotes overall physical fitness. These embodied benefits are closely linked to improved mental wellbeing and interpersonal connectedness.

DEVELOPING POSITIVE EXPERIENCES

Engagement in movement is associated with increased vitality, pleasure, and happiness, contributing to both psychological and physical

wellbeing. Dance experiences often generate positive affect and enjoyment, reinforcing motivation for continued participation.

STRENGTHENING A HEALTHY SENSE OF IDENTITY

Movement supports the development of autonomy and a coherent sense of identity, fostering a stronger connection between individuals and their internal and external environments. The integration of music and movement allows for bodily expression and the release of tension, while sustained participation in dance is recommended as a means of promoting long-term physical and mental health. Dance has been shown to stimulate neurogenesis and cognitive functioning, creating new neural pathways, enhancing memory and executive processes, and strengthening coordination. These effects underscore the close relationship between movement and brain function.

Beyond individual benefits, dance offers substantial advantages for social connection and relational wellbeing. Research highlights several key social outcomes of dance participation:

- strengthening social bonds and communication, particularly in group or partner-based dance contexts;
- enhancing a sense of belonging through shared movement experiences and inclusion;
- increasing interpersonal trust, fostered through synchronized and cooperative movement;
- reducing pain, with studies suggesting that collective movement can produce measurable physiological benefits;
- improving mental health by elevating mood and reducing loneliness;
- enhancing psychomotor, cognitive, creative, and social skills, thereby contributing to improved overall functioning; and
- improving quality of life through gains in physical fitness, enjoyment, self-image, happiness, and social engagement.

Collectively, these findings position dance as a multifaceted practice that supports holistic wellbeing. Researchers describe dance as a form of embodied communication that engages the senses and integrates bodily, emotional, and cognitive processes (Georgios et al., 2018; Lykesas et al., 2018). Dance is perceived not only as an enjoyable physical activity but also as a meaningful avenue for emotional expression, social connection, stress reduction, and enhanced motivation. Through the development of psychomotor, cognitive, creative, and socio-emotional skills, dance contributes to improvements in quality of life across multiple domains.

Empirical findings further demonstrate that participation in dance activities fosters social integration, emotional wellbeing, and inclusive environments. Ritchie and Gaulter (2018) reported that dance created opportunities for meaningful interpersonal connection and strengthened a sense of belonging among participants. Similarly, Stueck (2021) emphasized the central role of dance within the biocentric approach, highlighting the importance of affective experiences that cultivate connection within individuals and between individuals and others. Within this framework, dance serves as a powerful medium for emotional expression, empathy development, and the reinforcement of social bonds.

The study received approval from the Institutional Review Board (IRB) of Achva Academic College.

STUDY OBJECTIVES

This study examined the insights, feelings, and experiences of education students who participated in an academic course on the biocentric approach. The course incorporated sessions involving movement, music, and encounters, and students implemented the biocentric approach in schools and kindergartens.

The research question was: How do education students who completed an academic course on the biocentric approach—which integrated movement, music, and encounters and included practical

application in schools and kindergartens—describe the biocentric approach?

Method

This qualitative study was conducted within the framework of an academic course taught concurrently to seven groups. The course, titled “The Biocentric Approach,” combined theoretical instruction with dance and movement activities. As part of the course requirements, students designed dance-movement experiences and implemented them in school or kindergarten settings. At various points during the course, students were asked to write reflective narratives, allowing them to express anything they deemed relevant and to share their experiences, feelings, successes, challenges, and more. These reflections, together with the students’ learning outputs, were later analyzed and mapped according to dominant themes that emerged. The data analysis involved careful listening to the students’ cognitive and emotional responses to the subject (Bernard & Ryan, 2010; Fletcher-Watson, 2013; Yin, 2012).

PARTICIPANTS

The study sample consisted of 275 undergraduate students (193 women and 82 men) in education and teaching programs, divided into seven academic course groups, all studying the biocentric approach. The average age was 27. The courses were conducted in Israel in 2024.

RESEARCH INSTRUMENTS

At various stages throughout the course, students were asked to write reflective narratives to help them articulate their thoughts and to encourage the sharing of experiences, feelings, successes, and challenges. In addition to these narratives, the students’ learning products were examined, including the design and implementation of movement-based activities in educational settings. The aim of the reflective process was to encourage students to evaluate their journey, consider the outcomes, and draw conclusions regarding further development.

Guiding questions included: What did you think? What did you feel? What was your goal?

Successes: What do you believe contributed to your success? What worked well? Which elements supported your success?

Challenges: What challenges did you face? How did you respond to those challenges?

Is there anything you wish to add? (Korthagen & Vasalos, 2005).

At the beginning of the course, students studied the principles of the biocentric approach and participated in sessions involving movement, music, and encounters. Each student selected one or more goals and designed activities involving movement, music, and interpersonal engagement for their own students.

DATA ANALYSIS

Data were analyzed according to the methods of Bernard and Ryan (2010) and Fletcher-Watson (2013). The analysis yielded insights into the students’ thought processes and emotional reactions. The students’ experiences and explanations formed the basis for the findings. The collected data underwent two levels of content analysis: normative content analysis to distinguish prominent patterns, and interpretive content analysis to identify diverse perceptions and insights. From these data, shared themes emerged and were consolidated into central categories aligned with the research question. In the process of content analysis, excerpts were extracted regarding events and situations. Significant recurring anchors or codes were identified and clustered into conceptual categories (Galletta & Cross, 2013). The process was a spiral one, in which the core findings gradually developed into a comprehensive picture of the participants’ lived experiences (Glaser & Strauss, 2012). Themes were constructed based on data contributed by 85% of the participants. Statements that were repeated by fewer participants were excluded.

Findings

This section presents the findings in the following order: general data, the distribution of students’ selection of one of the principles of the biocentric

approach, and a thematic division of the aspects raised by students during the course and following the practicum in classrooms and kindergartens. The themes were constructed based on the data collected from 85% of the students who participated in the study. Statements that were repeated by fewer students were not included.

General data. After working with the children in schools in kindergartens, students emphasized elements of movement within the activity space and the social-emotional aspects of the activities, both during the course and following their work with children. In general, no differences were found between genders, age groups, or educational settings (kindergarten, primary, or secondary).

1. Selecting a principle of the biocentric approach
Students selected one of the principles of the biocentric approach at the end of the first half of the course, after learning about the approach and its principles, and after experiencing activities involving movement, music, and encounters during the course. All the students expressed willingness to study the principles of the approach in-depth and read articles to deepen their knowledge, and most of the students (257 out of 275) who participated in the study reported a strong connection between the principles of the approach. All the students indicated that they regarded the approach as having potential for working with children of different ages. The distribution of selected principles is shown in Table 1.

Table 1. Distribution of the students' selections of the biocentric approach principles

No.	Principles	No. of students (N=275)
1	Cultivating affectivity and the development of affective intelligence, friendship, encounters, and feedback.	55 students
2	Fostering expressiveness and communication, the expression of emotions through movement and dialogue. Expressions of creativity and innovation, sculpture, design, and verbal articulation.	45 students
3	Developing kinesthetic sensitivity, bodily self-awareness, motor skills, coordination, movement exercises that promote independence and confidence, and experiences of enjoyment and pleasure.	27 students
4	Connecting individuals with their identity, meeting challenges in the face of difficulties. The courage to defend one's point of view. Connecting with one's inner drive.	45 students
5	Awakening the instincts.	25 students
6	Expanding awareness, connection with wholeness, and poetic perception. Integration into nature and the development of ecological awareness, connecting to the seasons. The senses as gateways to the world, sensations.	13 students
7	Experiential learning.	35 students
8	Creativity and innovation.	30 students

After working with children as part of their practicum, all the students stated that the biocentric approach was suitable for practice in today’s digital age. The approach offers a tailored response to the problems characteristic of our era and it is well adapted to the characteristics of children of Generation Z and Alpha, with whom the students worked in kindergartens and schools. The students reported feelings of satisfaction and enjoyment, love for the field, a sense of its importance, positive feelings, and contentment.

2. *Students’ experiences in the course and in their practicum with children in kindergartens and schools*
 Students were asked to reflect in writing and to express whatever they deemed relevant. They were encouraged to share experiences, feelings, successes, and challenges.

Table 2. Thematic comparison of students’ experiences in the academic course and in their practicum with pupils

Theme	Students’ experiences during the course	Students’ experiences during the practicum
<p>Experience of belonging and social cohesion</p> <p><i>Sub-theme:</i> Connection with others; Engagement</p>	<p>The students felt a sense of closeness and belonging following the movement activities in the lessons. The shared dance created deep interactions and improved the sense of security and social involvement. It diminished the feeling of alienation and led to the development of a sense of solidarity, closeness, and belonging to the group, and increased a sense of trust.</p> <p>Quote: "At first it felt strange to dance with people I don't know, but in time, the ice broke and we became really close."</p>	<p>The students wrote that they immediately noticed social tensions in the classroom, therefore tried to create a friendly and enabling environment. They understood that the shared dance in the activity space revealed social tensions that were hidden from their eyes before. The students felt that the activity encouraged the children to express a sense of closeness and belonging in the shared space, and of involvement between the students.</p> <p>Gradually, the children learned to dance with others with diverse characteristics (body structure, muscle tone).</p> <p>Quote: "I was sure I knew the students in my class, but suddenly I saw who was rejected, who always looks for the same friends and who tries to fit in."</p> <p>Quote: "Only after the experiences, I saw how much tension there was between the students. It was surprising to discover how dance exercises in space can reveal social dynamics that I hadn't noticed before."</p>

Theme	Students' experiences during the course	Students' experiences during the practicum
<p>Body awareness</p> <p><i>Sub-theme:</i> Self-awareness</p>	<p>Improvement in students' awareness of body movements, a feeling of vitality and joy, openness to movement, and physical experimentation.</p> <p>Development of awareness of body sensations, freedom of movement, and sense of vitality.</p> <p>The students noted feeling that movement strengthened the connection to the body and brought enjoyment.</p> <p>They wrote that they developed bodily awareness and understood how movement affected their feelings and communication with others.</p> <p>Most (257) students noted that today, more than in the past, they attached importance to body awareness. Awareness rose especially after experiences with the children.</p> <p>Quote: "Suddenly I noticed how I felt and what I felt in my body and what it did to me emotionally."</p>	<p>The students wrote that they saw how children learned to self-regulate through movement. In the activities, the students felt a strengthening in the children's bodily awareness.</p> <p>The students noted that, while working with the children, they understood how important body awareness was in children, working on emotional and physiological regulation through free movement.</p> <p>Most (237) students wrote that they felt that the children learned to know the sensations of their bodies better.</p> <p>The students noticed gaps between the emotional-physical regulation abilities of the children.</p> <p>Quote: "There were children with very powerful movements and others barely moved."</p> <p>Quote: "Suddenly I saw how they all used different means to join the movement."</p>
<p>Change in the perception of social interactions</p> <p>Improvement in trust and social openness</p> <p><i>Sub-theme:</i> Interpersonal relationships</p>	<p>Greater openness to dancing with others and strengthening of mutual trust.</p> <p>The students wrote that through movement they experienced a significant change in the quality of social interactions.</p> <p>The dance strengthened the sense of mutual trust between students, increased the desire for involvement in the course, and improved the sense of community.</p> <p>Quote: "It made the course much more personal. I felt comfortable opening up to friends I didn't think I'd connect with."</p>	<p>The students wrote that they understood the social difficulties children had only after the movement activity.</p> <p>They wrote that they felt the children began to pay more attention to the feelings and needs of others and adapt their movements and interactions to the needs of others. They learned to cooperate, listen to others, and make new connections.</p> <p>Quote: "At first, the children danced with their closest friends, but in time they dared to choose new partners. It was an amazing process to watch."</p>
<p>Movement as a tool for reducing stress and emotional regulation</p>	<p>The students wrote that movement in the shared space helped release tensions, created a sense of calm, increased vitality, and relieved emotional pressures.</p>	<p>The students wrote that the children learned to regulate their emotions, reduce tension, and experience their body sensations.</p>

Theme	Students' experiences during the course	Students' experiences during the practicum
	<p>Quote: "On days when I arrived tired or stressed, after the activity in the course, I left completely different, with good energy."</p>	<p>Quote: "At first there were children who seemed restless, but at the end of the activity they seemed much more relaxed and calm."</p>
<p>Deeper understanding of social dynamics</p>	<p>The students wrote that at first, they were not aware of the effect of movement on interpersonal connections but gradually understood how dance created new connections. They shifted from a perception that movement adds an experiential aspect to understanding that it is a significant means for developing emotional and social abilities.</p> <p>Quote: "I thought it would be a motion activity but it revealed the dynamics of who's closed, who's open, and who's seeking connection."</p>	<p>Through dance, the children learned to look at each other from a more empathetic angle and identify their social needs. The students clearly saw that children preferred to dance with a limited number of specific children, but slowly they began to connect with other children and expand their circle of friendships. They also saw that the circle opened first to children who moved their bodies beautifully and danced with integration between different body centers. Later, the students wrote that they identified signs of openness to collaboration in a wider group of children.</p> <p>Quote: "Only through movement did I see how sensitive the children were to each other, even without using words."</p>
<p>Emotional and social learning through dance</p> <p><i>Sub-theme:</i> Dealing with discomfort</p> <p>Personal development through movement</p>	<p>Students wrote that dance allowed them to expand their ability to be more flexible, release rigid patterns, and learn about themselves. They wrote that through dance they learned that movement allows emotional release and increases the sense of freedom.</p> <p>Initial discomfort in dance turned into a liberating experience.</p> <p>Recognition that movement creates a balance between autonomy and sharing, between independence and being carried along.</p> <p>Quote: "At first I was really fixated on how I moved, whether people were looking at me, but I learned to relax and go more with the flow."</p>	<p>Students wrote that children learned about themselves and others through movement and improved their level of listening and adaptation to each other. They wrote that they learned to identify children struggling with concerns, fears, and fear of rejection, and that at first children were embarrassed to dance but gradually joined in more naturally.</p> <p>The children learned how to gradually approach others, show sensitivity toward their dance partner, and understand the importance of balance in power and movements.</p> <p>Quote: "The children learned to observe and listen to the body movement of the other and to adapt their movement both to the other and to themselves. The observation of the children and the understanding of the processes that were happening felt like pennies dropping, one after the other. It was amazing to discover this process; it felt like finding an amazing treasure."</p>

Theme	Students' experiences during the course	Students' experiences during the practicum
Movement as a means of creating a positive climate in the classroom and kindergarten	<p>Students wrote that the lessons created a sense of a safe space, increased positivity and friendliness in the group, and improved the learning experience. They wrote that they understood that movement changed the atmosphere in the course and made it more inclusive and more connecting.</p> <p>Quote: "I look forward to this lesson every week; it's like a breath of fresh air, unlike the other academic courses I'm taking. I feel lucky I enrolled in this course."</p>	<p>The students noticed that the children learned to be more attentive and accommodating to each other and that movement served as a significant means of reducing conflicts and improving social dynamics.</p> <p>Quote: "I started hearing more pleasant words in the classroom and less rejection or confrontations."</p> <p>Quote: "I feel like these activities opened my eyes and I became more sensitive to the social and emotional aspects of my students. I now read much better what affected the climate in my classroom."</p>
The contribution of movement to the development of a positive learning environment	<p>Students wrote that the integration of movement in the course allowed for more experiential learning and greatly improved the emotional-social climate in the course. It encouraged a more empathetic view toward other students in the course. It caused a shift from habits of judgmental observation to a deeper understanding of emotional and social aspects.</p>	<p>The students wrote that the children learned to cooperate and listen to each other and that there was an improvement in the quality of social relationships between the children.</p> <p>They developed an awareness that movement allowed flexibility between different needs, such as openness vs. closure, flexibility vs. rigidity.</p>

Discussion

The present study examined how education students described the biocentric approach while studying it in an academic course and implementing its principles in schools and kindergartens during their practicum. Overall, the study found that the students accepted the biocentric approach with considerable enthusiasm, noting that the approach offered a solution adapted to the characteristics of the digital age. The findings indicate that joint dancing is a powerful tool for deepening social connections, improving classroom climate, fostering trust and openness, and enhancing personal and physical awareness. Dancing contributed to strengthening the sense of belonging in both students and children, reducing emotional tensions, improving bodily awareness, and revealing hidden social dynamics.

Incorporating dance activities in academic courses and working with children may have contributed to the emotional and social development of both students and the children they worked with during their practicum. A strong connection was found between what the students felt in class and what they perceived happening during their experiences with their students, possibly because of paying attention to certain aspects.

IMPLEMENTATION OF THE PRINCIPLES OF THE BIOCENTRIC APPROACH

At the end of the first half of the course, the students were asked to choose one of the principles of the biocentric approach that they regarded as having the potential for working with children of different ages. The choice was made after they had studied the approach and its principles and had hands-on

experience in activities related to the principle they chose, integrating movement and interactions as part of the course. Subsequently, the students practiced activities related to their chosen principle, again combining movement and interactions with the children they taught during their practicum.

The leading principles selected by a significant number of students were: (a) the principle of affection, chosen by 55 students (out of 275); the principle emphasizes nurturing affectivity and developing interpersonal intelligence, friendships, interactions, and feedback; (b) fostering expressive ability and communication, expressing emotions through movement and dialogue, including creativity and innovation in sculpture, design, and verbal expression, selected by 45 students; and (c) connecting individuals to their identity, meeting challenges in the face of difficulties, and having the courage to defend one's point of view, chosen by 45 students. Many students selected other principles, showing great interest in both the approach and its principles.

Before their experience with children, students worked on the principle they chose, learning it in-depth, asking questions, and seeking resources for deeper understanding. After their experiences with children, their understanding of the connection between the principles of the approach expanded and deepened, alongside their understanding of the significant benefits of implementing these principles through movement and interactions. The students indicated that the biocentric approach was suitable for work in today's digital age, providing responses tailored to aspects that needed to be reinforced in our time. They expressed a desire to expand their knowledge of the biocentric approach when working with children of different ages, integrate the principles of the approach, address social and behavioral aspects, foster expressive ability and communication, and nurture affection while learning ways to connect individuals with their identities, particularly in working with children. The students expressed satisfaction and enjoyment, love for the field, recognition of its necessity, feelings of wellbeing,

satisfaction, and a desire to adopt the biocentric approach in their work with children. They associated the approach with the characteristics of Generation Z and Alpha children with whom they worked in kindergartens and schools.

SOCIAL-EMOTIONAL ASPECTS

The experience of belonging and social cohesion.

The findings (Table 2) indicate that shared dance, centered around topics chosen from biocentric principles, contributed to deepening students' sense of belonging and social cohesion of participants in the course and led to a profound understanding of the subject following their experiences with children. Students wrote that initially, they felt some discomfort dancing with others during the course but reported that in time, the activity contributed to creating meaningful connections and a sense of community, strengthening group trust outside the boundaries of the course as well, and fostering a sense of solidarity and engagement with the group. These findings reinforce the results of previous research (Stueck, 2021; Vander Elst et al., 2023; Zilka, 2022a, 2023b), which found that movement and dance in a shared space deepened the sense of group belonging and led to social cohesion.

In their experience with children, students noted that dance revealed hidden social tensions that were not previously apparent. Children who typically did not interact began to cooperate and show involvement and willingness to engage with others. Students wrote that initially, they had thought they understood the social dynamics in the classroom, but the movement activity exposed social interactions between the children that the student teachers were not aware of. They were able to identify who tended to lead, who remained on the periphery, and who experienced social exclusion. This recognition helped them develop appropriate educational interventions. Findings from previous research (Stueck, 2021; Vander Elst et al., 2023; Zilka, 2022a, 2023b) indicate that shared dance strengthened mutual trust, reduced social anxiety, and increased the sense of security within the group. Researchers found that

collaboration in movement strengthened trust, increased emotional closeness, and reduced fear of new interactions. Researchers noted the connection between movement and the creation of social bonds, interpersonal openness, and reduction in feelings of social alienation.

Improvement in trust and social openness. Students reported that at the beginning of the course, they tended to dance only with close friends and maintain limited interactions within familiar circles, but gradually began to feel comfortable dancing with additional people. This process strengthened mutual trust, reduced social anxiety, and increased the sense of security in the group, flexibility, adaptation, and balance between personal and group needs. Students noted that the children they worked with underwent a similar process: initially, the children danced only with close friends but in time learned to expand their circle of connections, regulate their movements according to their partner, and improve their interactions with other children. These results reinforced the understanding that dance and movement activity can serve as a means for building positive interactions and strengthening group cohesion, as reported in previous studies (Georgios et al., 2018; Lykesas et al., 2018; Ritchie & Gaulter, 2018; Stueck, 2021; Svendler Nielsen & BurrIDGE, 2015; Svendler Nielsen & Koff, 2017; Vander Elst et al., 2023; Zilka & Tempel, 2024). Research has pointed out connections between dance and movement and emotional-social aspects, such as enjoyment, psychological wellbeing, and a sense of satisfaction. Dance evoked a sense of social connection, community, and belonging. It reduced feelings of loneliness and contributed to the formation of new relationships and to pain reduction. Group dance can result in social interactions between dancers, strengthen social bonds, and create a sense of belonging.

The effect of dance on classroom climate. The findings indicate that movement contributed to the improvement of the atmosphere in the course and the creation of a supportive and enabling environment. Students described the lessons as

experiential and non-judgmental, which helped them feel more relaxed during the course and in social interactions. Likewise, in the classrooms they were teaching, students noticed that the children were more relaxed from activity to activity, cooperated better, and were more open to expressing themselves. These findings align with research showing that incorporating movement improves the emotional-social climate in work with children and reduces aggression (Svendler Nielsen & BurrIDGE, 2015; Zilka, 2022a, 2023b). Previous research (Georgios et al., 2018; Lykesas et al., 2018; Vander Elst et al., 2023) found improvements in the sense of belonging and involvement, increased trust in others, and more.

The students noticed significant disparities between the children in emotional and physiological regulation. Some exhibited rough movements whereas others displayed fine ones. A process should be designed for them to foster emotional, physiological, and motor balance, emphasizing movement, music, and interactions rather than following instructions or performing prescribed movements. Children can choose their own paths and movements. It is advisable to focus on creating an affectionate group dynamic. Exercises for establishing a safe space; creating the opportunity to coexist in a shared environment, making room for others, and refraining from pushing are recommended (Zilka, 2022a, 2023b).

Students reported that, as a result of these activities, they viewed the children from a more empathetic and less critical perspective. They recognized how vulnerable the children were, as well as their sensitivity to body language, assertiveness, others' physical dysregulation, smells, and sounds. The students indicated that they initially thought they knew the children well, but after each dance activity in the shared space, they felt they understood each child and the classroom dynamics much better. They also identified which emotional and social aspects required further attention in their work with the children. They realized that the use of movement in the classroom facilitated the creation of a supportive,

accepting environment that promoted emotional-social learning. Similar findings were reported in previous studies (Stueck, 2021; Svendler Nielsen & Burrige, 2015; Svendler Nielsen & Koff, 2017; Zilka, 2022a), particularly concerning aspects related to emotional-social connections between individuals, themselves, and others. Researchers have indicated that activating these aspects raised identity-related questions in individuals, focusing on understanding personal identity and internal directions. These activities, which encouraged self-exploration and the sharing of experiences with others, led to a deeper understanding of personal identity (Ashmore et al., 2004; Erikson, 1959; Oris et al., 2018; Roccas & Brewer, 2002; Yanos et al., 2010; Zilka, 2024).

AWARENESS OF SENSATIONS AND THE BODY

The students reported that their participation in movement and dance activities during the course heightened their awareness of their bodies as well as their physical and emotional sensations. They noted that the experience was stimulating and made possible a deeper understanding of body-emotion connections, allowing them to be more attuned to their physical and emotional states.

In the classroom, the students observed that different children demonstrated varying capacities for emotional and physical regulation. Some were extroverted while others were reserved. Certain children exhibited powerful, extroverted movements whereas others showed restraint and hesitation to participate. Stueck (2021) noted that dance and movement constitute a central component of the biocentric approach and intervention processes, pointing out the importance of experiences that foster affectionate connections of individuals with themselves and with others. Dance serves as a means to express emotions, develop empathy, and strengthen social bonds. The findings of this study reinforce previous research (Greaves et al., 2016; Stueck, 2021; Stueck & Tofts, 2016; Stueck et al., 2013, 2019; Svendler Nielsen & Koff, 2017; Zilka, 2022a, 2023b). Researchers have found that movement improved bodily awareness and enhanced feelings

of vitality and happiness, leading to better mental and physical wellbeing. They also determined that experiences of movement strengthened the link between self-awareness and emotional regulation. Over time, dance and movement activities contributed to improved self-regulation in the children and increased their bodily awareness. Researchers (Svendler Nielsen & Koff, 2017) found that, compared to a control group, dance led to statistically significant improvements in emotion regulation, behavioral regulation, and prosocial behavior. They identified notable differences between groups in the children's social competence following shared dance experiences. As the activity became more natural over time, the children's ability to regulate themselves, adapt their movements to the environment, and heighten their bodily awareness improved noticeably.

In sum, the principles of the biocentric approach were received with widespread approval. The students expressed a desire to explore these principles further and investigate methods for their application. They focused on interactions within the course and in their work with children, as well as on social-emotional aspects in the course and in their interactions with their own students.

The students consistently pointed out that the movement and dance component influenced the continuum between openness and closure, flexibility and rigidity, the desire for personal development and for development alongside others, and the sense of freedom to be oneself vs. the need to adapt. They noted that, over time, shared dance softened and diminished these dichotomies, fostering new combinations that promoted development, openness, flexibility, and a sense of freedom.

Given the many changes in learners' characteristics across all age groups, which emerged because of digital transformations (Zilka, 2021ab, 2022b, 2022c), incorporating movement, music, and interaction into the learning process is highly advisable. Activities that enable spontaneous connections and playful engagement should be scheduled. To address

emotional-social aspects such as closeness, exposure, emotional and social expression, and social initiative, learners should be encouraged to experiment, take risks, and express themselves through movement. Positive gestures should be promoted, and an accepting, supportive, and collaborative atmosphere cultivated to foster cooperation and the creation of relationships and interactions.

RESEARCH LIMITATIONS AND FUTURE STUDIES

The data in this study were collected from the students' personal reports. Future studies should incorporate observations of the activities conducted during the course and in work with children. The research could be expanded to examine the long-term effects of dance-movement activities based on the biocentric approach to the wellbeing of children and students.

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