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Integrating Movement Breaks to Support Developmental Goals in Early Intervention: A

Method Development

Capstone Thesis

Lesley University

May 5, 2023

Cassie Laskowski

Dance/Movement Therapy

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Abstract

The implementation of movement in school classrooms and other learning spaces has become more prominent throughout recent years. A growing body of research argues that movement and creativity can promote classroom functioning, social/emotional learning, and overall development. However, there is an absence of literature examining the implementation of dance and movement in early childhood intervention programs. This paper explored the history and structures of early intervention programs in the United States as well as dance/movement therapy (DMT) in relation to children, development and learning environments. Based on the reviewed literature, a method was developed and implemented in a local early intervention program. The method focused on integrating movement breaks into multidisciplinary individual sessions with three toddlers ($N = 3$) enrolled in the program. The goals of this method included 1) Supporting children's session functioning through providing movement breaks that targeted regulation and creativity, and 2) Observing how DMT could be integrated into multidisciplinary, play-based early intervention sessions. The results of this method showed the movement breaks supported the participants' expansion of creativity and connection as well as the importance of the use of space to support session functioning. This method development shows an instance of successful integration of movement into existing early intervention structures.

Key words: early childhood intervention, development, learning, dance therapy, movement

Identity statement: As I approach this work, I acknowledge the influence my experiences and identity have on my perspective. I am a straight, White female who was born and raised in New England.

Integrating Movement Interventions to Support Developmental Goals in Early Intervention: A Method Development

Introduction

Two years ago, I began working as an assistant teacher in a daycare classroom for toddlers. The first day I walked in, I saw the teachers had a quote framed and hanging in the entryway for all children, parents, and visitors to see. It read, “If it hasn’t been in the hand and the body, it can’t be in the brain.” Unknowingly at the time, this quote first spoken by Bev Bos would inform my approach to interacting with children and forming an identity as a dance/movement therapist for the next several years. Between then and now, I have taught dance classes, continued my work in a daycare, and experienced clinical internships in an elementary school as well as an early intervention program. Throughout these experiences, I have found myself contemplating the structures and expectations of children in learning environments. With my combined knowledge of dance/movement therapy (DMT) principles, early childhood development, and implicit understanding of dance as expression, it feels obvious that embodied experiences promote learning. However, this is not universally evident in educational practices as of yet.

In the literature review section, research studies will provide evidence of the positive effect of movement implementations in learning spaces. Other areas of exploration include DMT with infants and toddlers, the use of DMT or movement integration in learning spaces, and evidence supporting the use of creative experiences in learning. In reviewing the existing literature, there appeared to be a lack of documentation of the use of DMT within early intervention. Lastly,

the existing structures and institutional practices of early intervention were addressed to contextualize the method development.

This thesis is focused on the development of a method for integrating expressive and sensory-based movement breaks throughout individual play-based early intervention sessions. The purpose of this method was to observe how DMT can be utilized within the existing constructs of early intervention. Additionally, the effects of DMT on each child's individual goals were observed. This method was created with the desired outcomes of 1) Contributing to the literature on DMT practices in early intervention programs and 2) Helping families identify beneficial strategies to advocate for as the child progresses through the education system.

Literature Review

Early Intervention

According to Brambring and Beelmann (1996), early intervention (EI) programs in the United States came about due to several theories and movements including 1) The spreading popularity of early childhood education, 2) Theories on early childhood development, 3) Experimental effects of environmental interventions, 4) Governmental initiatives, and 5) Grassroots initiatives. In the last 50-70 years, the United States wrote the required provision of early intervention services into law through introducing the Individuals with Disabilities Education Act (IDEA) (Brambring & Beelmann, 1996). Now, EI services are provided to all eligible children ages zero to three and include a wide range of disciplines that can assist in healthy and well-rounded development.

To build context around current EI structures, the five listed "spheres of influence" (Brambring & Beelmann, 1996, p. 12) were explored. The broad concept of early

childhood education started in European countries. Germany popularized kindergarten as an important first step to experiencing educational environments. Pre-school programs began emerging in Italy and England, and eventually this influence spread to the United States. As time went on, it became widely accepted in Western societies that early childhood educational experiences were beneficial to overall development. While institutional presence of pre-school and kindergarten were being established, the field of psychology was rapidly expanding and building upon developmental theories. Overall, there was a major shift away from the school of thought that intelligence was only genetic; theories began to include environmental factors that influence behavior and overall development. For the better part of the 20th century, data were being gathered from studies addressing the effects of environmental conditions, presence of mother-child interaction, and testing experimental early intervention programs for environmentally at-risk populations (Brambring & Beelmann, 1996).

Throughout the 20th century, federal and grassroots initiatives have influenced the concrete promise of EI services for families and children. Most notably, Project Head Start was launched in the 1960s and targeted families from low socioeconomic backgrounds to provide services aiding in the health and development of children from ages zero to five. Head Start was reauthorized in 1994, and is still in operation today. In addition to Head Start programs that provide services to children ages three to five, Early Head Start was created to help children from ages zero to three. According to the U.S. Department of Health and Human Services (2022), Head Start programs “support children's growth from birth to age 5 through services that support early learning and development, health, and family well-being.” Not only does Head Start ad-

dress the well-being and development of the child, the program also aims to prevent secondary risk factors that persist throughout children's educational experiences (Carpenter, 2005).

In addition to large-scale federal initiatives like Head Start, there were also grassroots initiatives advocating for an emphasis on the role of families, caregivers, and everyday environments in early childhood developmental services (Brambring & Beelmann, 1996) These influences have all assisted in the formation, evolution, and maintenance of present day EI.

While EI services are a federal provision under IDEA, it is on the state level that the specifics of EI provision are determined. There are several ways to be eligible for EI services including existing eligible medical diagnoses, environmental/social risk factors, and/or eligible scores on a developmental assessment. The Commonwealth of Massachusetts' EI Mission Statement (2023) states, "Massachusetts Early Intervention is a viable system that builds upon supports and resources for family members and caregivers to enhance the development and learning of infants and toddlers through individualized, developmentally appropriate intervention embedded in everyday activities." As the mission statement describes, EI services revolve around the family to incorporate effective and accessible interventions, strategies and resources into the daily routines of the family being served.

To promote this emphasis of family wellbeing, EI services are generally provided through in-home therapy. Based on needs and circumstances, individual sessions may also take place in a child's daycare center with peers or at an EI center. Each EI program consists of early intervention specialists with backgrounds in various disciplines including occupational and physical therapy, mental health counseling, speech/language pathology, vision and hearing specialists, feeding specialists, and many more. Regardless of the specialized lens of a clinician, all EI service

providers are additionally specialized in the model of play-based, family focused intervention and early childhood development.

The Department of Public Health's EI division identifies Parent Interactions with Infants (PIWI) philosophy as a guiding tenet of EI work (Commonwealth of Massachusetts, 2023). The PIWI philosophy describes the role of the clinician as a facilitator whose main goal in interventions is to promote the interaction of parent or caregiver with child (Center on the Social and Emotional Foundations of Learning, n.d.). Through helping caregivers develop knowledge and applicable skills around play and interaction, the clinician keeps the parent-child dyad at the center of applied interventions. This philosophy is grounded in developmental theories including attachment theory which is discussed in the following section.

The body of knowledge surrounding the use of arts-based intervention specifically in EI appears to be limited, however, Rathunde and Isabella (2019) provide information on a developing arts-based parent education and outreach program. This program, called ThroughPlay, is a multi-modal psycho-educational program that utilizes film, photography, graphic design, and dance to elicit emotional, expressive experiences throughout the informative process. The researchers discussed the growing evidence that utilizing the arts to disseminate scientific concepts can bridge the gap between scientists and the general public, making beneficial knowledge more accessible to all. ThroughPlay specifically aims to inform parents and caregivers about early childhood development and the benefits of play with children by illustrating the joyful experience of play as adults. As they are bridging the gap between science and art, they are also bridging the gap between caregiver and child. While this project seems promising, there are not substantial results illustrating the efficacy of this project yet. However, the concepts discussed by the

researchers suggest growing interest in the many applications of expressive arts to promote strong child-caregiver relationships and early childhood development.

Dance/Movement Therapy

Dance/movement therapy is defined as “the psychotherapeutic use of movement to promote emotional, social, cognitive and physical integration of the individual,” by the American Dance Therapy Association (2020). The practice of DMT is rooted in the simple reality that any mental state or psychological process is also a bodily experience. Through senses and mental processes, mind and body are in constant communication with one another. Therefore, the utilization of fully embodied practice provides a more holistic approach to addressing mental health concerns. Susan Chaiklin (2015) expresses this concept by stating, “When speaking of the body, we are not only describing the functional aspects of movement, but how our psyche and emotions are affected by our thinking and how movement itself effects change within each of them and is affected in return,” (p. 5). This concept is found in the practice of DMT strategies that focus on body awareness, grounding exercises, and physical creative expression.

Chaiklin (2015) conceptualized DMT as a practice that has evolved from the universal phenomenon of movement as a healing and unifying power. Cultures across the world and across centuries have turned to physical expression to find connection to their world, spirituality, and community. One can follow the journey of expressive movement from cultural folk dances utilized to connect to the environment and society to an art form that over time splintered off into various styles and techniques. From technical, performance-driven dances evolved a new wave of individuals aiming to capture the natural expressive power of movement. It is from these individuals that the practice of DMT was born (Chaiklin, 2015).

In DMT interventions with infants and toddlers, a positive relationship between parent and child is a main focus. From birth, a child's experience of the world relies on nonverbal communication. Bowlby and Ainsworth's attachment theory highlights the importance of a mother's ability to accurately read a child's cues and appropriately respond for the early mother-child relationship (Allen, 2023). Interactions with "clearly discriminated caregiving figures" (Allen, 2023, p. 29) are all happening on the nonverbal level in the first year of life. These interactions include responding to the infant's emotions with appropriate facial expressions, being present in new or perceived fearful situations, and physical comfort in moments of distress.

After reviewing the existing theories on attachment and the emphasis on nonverbal communication, Tortora (2010) developed the Ways of Seeing framework that utilizes body-based observation and assessment of the parent-child relationship to address attachment and attunement in infancy and toddlerhood. Through "implicit ways of knowing, nonverbal exchange and body movement-oriented experiences" (Tortora, 2010, p. 38), clinicians utilizing this framework gain insight to the nature and quality of a parent-child dyad. Tortora observes the parent-child dyad and implements intervention that addresses the quality of the relationship with the goal of strengthening attachment and therefore promoting development.

In her movement-based framework, Tortora (2010) outlines eight features of interaction to observe including 1) quality of eye gaze, 2) facial expressivity, 3) use of space, 4) quality and frequency of touch, 5) body shapes, 6) tempo of nonverbal movement style, 7) vocal patterns, and, 8) nonverbal behavior and regulation. These features are also observed in one-on-one work with the child. Additionally, Tortora discusses the concept of kinesthetic attunement (2010).

Kinesthetic attunement approaches attunement from an embodied level which includes continued self-reflection of bodily sensations and emotional states throughout interactions with a parent-child dyad to maintain a safe holding space for therapeutic work to unfold. Kossak (2009) defines attunement as “a felt embodied experience that can be individualistic as well as communal, that includes a psychological, emotional, and somatic state of consciousness,” (p.14).

Based on Bowlby, Ainsworth (Allen, 2023), and Tortora’s (2010) concepts of attachment and kinesthetic attunement, is important to consider kinesthetic attunement and nonverbal interaction during therapeutic work with infants, toddlers, and the parent-child dyad. Early interactions inform how a child experiences the world and interacts with others. Regardless of a child’s developmental concerns and goals, creating a held space that reflects and validates their inner experiences will affect the therapeutic relationship and potential for growth. Additionally, approaching the therapeutic work with Tortora’s lens of kinesthetic attunement further reinforces the PIWI philosophy present in the EI mission today. In using DMT with infants and toddlers, the clinician and child are constantly creating movement dialogues through the body-based communication (Loman, 1998). From observing the nonverbal relations of a child and caregiver, clinicians can continue to center therapeutic experiences around the dyad from an embodied lens.

DMT in Educational Environments

There is a growing body of information regarding the importance of movement and non-verbal interactions in relation to healthy development. In attempting to determine what exactly about dance enables children’s learning, Deans (2016) argued that it is the inclusion of not only bodily work but also decision making, imagination, problem solving, and nonverbal communication happening all at once. This section discussed several studies that address evidence of move-

ment promoting emotional regulation, the use and observation of movement in educational spaces, and the role that mindfulness and creativity have in children's learning processes. Through the discussion of these topics, the gaps in research and need for further exploration of DMT in EI programs were presented.

Through describing the process of a preschool class of three year old children utilizing DMT practices to strengthen social awareness and emotional recognition, Thom (2010) presented the potential benefits of embodied social/emotional education with young children. The goal of Thom's (2010) application of nonverbal communication in her classroom was to "foster the connection between children's bodily experiences and their emotional expression," (p. 101). These experiences included time to experiment with yoga, expressive movement, and embodied activities that strengthened recognition of nonverbal emotional cues.

Thom (2010) described that the children were eventually able to identify peers' emotional experiences through facial recognition and nonverbal cues, allowing them the more deeply attune to each other. Additionally, this process of incorporating expressive movement in the classroom led to the presentation of a peer-led movement experience. One student led her classmates through an expressive movement routine that demonstrated the class's ability to regulate their bodies in order to attune to the group and participate in the experience. While this is one successful instance of expressive movement's power in the classroom, there is little information on social context provided and limited perspective due to the single narrative from Thom herself. However, the theoretical justification for this practice is rooted in widely accepted scientific and developmental theories, making it worthwhile in the advocacy for movement in early educational spaces.

Burrill (2011) evidenced through a study utilizing the Kestenbergl Movement Profile (KMP) that young children present developmentally appropriate movement rhythms more consistently when engaging in free play, dance and arts activities in preschool classrooms. The KMP is a movement-based observational framework that assesses bodily rhythms throughout development and relates them to important psychological and developmental processes. The aspects of movement assessed by the KMP include tension-flow rhythms, tension-flow attributes, and unipolar/bipolar shape flow (Loman & Sossin, 2015). Burrill (2011) observed a classroom of children ($N = 14$) and focused on the children's group movements during various activities. The results of this study showed that in traditional educational activities such as circle time, there was an absence of developmentally appropriate rhythms and shapes in the children's physical activity. In comparison, less structured, expressive activities appeared to allow children to engage in a present and fully embodied way.

The influence of movement has reached beyond young children's classrooms as well. A recent study assessed the impact of Movement Integration (MI) in elementary school classrooms on behaviors during joint learning time and transitions (Moon et al., 2020) The utilization of grading scales assessing quality and style of MIs and negative and positive behaviors provided evidence that implementing movement breaks in the classrooms could be beneficial to learning. This section has presented several studies conducted in different environments; each study indicates that allowing students of all ages to honor bodily needs through movement and sensory experiences benefits childhood development as well as the functioning of the educational space as a whole.

Creativity and Mindfulness in Learning

The previous section identified the potential benefits of utilizing movement for educational and developmental gains. An important distinction to make is the the quality or type of movement being introduced in classrooms. This section describes studies focused on the application of creativity and mindfulness with children ages four to seven.

In dance education, children are often required to learn novel gross motor movements simultaneously with novel vocabulary. Sacha and Russ (2006) performed a study to examine the effects of imagery-based directives in dance lessons compared to traditional dance education methods. This study compared two groups of children; one group ($n = 14$) received traditional ballet classes that delivered typical motor-based directives while the second group ($n = 18$) attended ballet classes that incorporated creative imagery directives to achieve movements. This study showed that the children receiving creative and imagery-based instruction retained knowledge of dance steps and demonstrated stronger attention during sessions than the traditional class attendees.

Buono (2021) explored the concept of mindful somatic practice with four-and-a-half-year-old children. Somatic movement can be thought of as bringing deeper awareness or consciousness to the body through noticing breath, feelings, and emotions through bodily sensations (Leigh, 2019). Through Buono's (2021) study that implemented "mindful movement" (p. 324) and arts-based reflective practices in a preschool classroom, it was observed that young children have the capacity for somatic literacy. These movement practices targeted relaxation, body awareness, and social/emotional awareness. Based on the children's drawings, lived bodily experiences of Buono, and interviews between Buono and the children, evidence of children's ability to grow in their mindful practices was presented.

This literature review discussed DMT and its applications in educational settings as well as children's ability to positively interact with creative and mindful movement practices. These many examples of movement integration provide a strong base for the argument for widespread implementation of expressive movement for developmental benefit. Additionally, it has been proposed through several studies that 1) creative movement helps children attend to learning and retain information better (Sacha & Russ, 2006) and, 2) preschool aged children have the capacity for somatic literacy when provided regular practice in mindful movement (Buono, 2021).

Conclusion

While the information presented provided such evidence, the practice of DMT in Early Intervention programs appears to still be relatively unexplored. Since EI services are provided to children younger than three years old, it is less clear if they possess the same capacity to interact with expressive, mindful movement practices with the same intention. Regardless, the presented studies and theories provide context around the method that was developed as part of this thesis. When creating this method, consideration was taken for the quality of movement intervention and the implications of working with the EI population.

Method

Utilizing the principles highlighted in the previous section, a collaborative movement-based method was designed to integrate expressive movement in an existing Early Intervention program. The method focused on implementing movement breaks in individual EI sessions to promote session functioning. Strengthening session functioning allowed each client to work toward their identified Individualized Family Service Plan (IFSP) goals. Children were provided with two choices for each movement break to highlight their autonomy throughout the experi-

ence (Castelo et al., 2022). The method was implemented during individual sessions where the child was accompanied by a caregiver as well as a collaborating clinician. The setting of these sessions varied between clients based on family needs previously identified by an EI service coordinator.

Participants

The participants were three children ($N = 3$) that were enrolled in the Early Intervention program. Eligibility for EI was determined based on an assessment that reviews development across several domains, existing medical diagnoses, and social risk factors. All clients were under the age of three years old at the time of method implementation. Reasons for referral included communication/language concerns, sensory challenges, hyperactivity, defiant behaviors, and global development concerns. Client A's services were provided by a speech/language pathologist (SLP 1). Client B's services were provided by another speech/language pathologist (SLP 2). Client C's services were provided by an occupational therapist (OT).

Table 1.

Participant Information: Clinician and Session Setting

Participant	Collaborating Clinicians	Setting
Client A	SLP 1 and DMT Intern	Client A's home
Client B	SLP 2 and DMT Intern	Agency Playroom
Client C	OT and DMT Intern	Agency Playroom

Procedure

In preparation for implementing this method, five movement options were chosen and introduced to the clients. The chosen movement options included 1) Pushing the wall: the child takes a break from play to push a designated spot on the wall that has painted handprints, 2) Movement exploration with scarves: this prop was introduced through a song that provided directives for how to use the scarf, then participants were given the opportunity to explore independently, 3) Singing a movement-based song such as “Head, Shoulders, Knees, and Toes” or “If You’re Happy and You Know It”, 4) Taking a walk away from activity space, and 5) Mindful breathing exercise. In the weeks leading up to the method implementation, these movement/body-based activities were introduced to the clients one at a time so that they developed familiarity with the material.

Once the participants were familiarized with the movement choices, the method was implemented over the span of three weeks for each client. During these three weeks, the clients’ weekly individual sessions included the method implementation throughout. Individual sessions included play with various toys, reading books, and movement breaks. The collaborating clinicians, client, and client caregiver were present for the duration of all sessions.

The basic structure of these sessions varied based on the client, the session space and the clinician’s style of facilitation. Additionally, visual communication aids were utilized based on client’s needs. These communication aids included a choice board for selecting a movement break, and a visual schedule/checklist of the session activities. These communication aids were pre-established tools regularly utilized in client’s sessions.

Record Keeping

To track this method process, I utilized several arts-based reflection tools. Before each session, I drew a body map and performed a body scan to reflect on how I was showing up to the session on an embodied level. I journaled about the body scan to accompany the drawing. After each session, I debriefed with the collaborating clinician, wrote observations, reflections, and drew movement maps of how I experienced the session in the space. Additionally, I engaged in an improvisational movement practice to reflect the session experience through movement. I kept all drawings and written reflections in a designated journal and recorded all improvisation sessions to keep a virtual movement journal.

Ethical Considerations

In working with toddlers, it is important to maintain autonomy and informed consent through body language, space, and accepting all levels of participation. All interventions are an invitation to the client and caregivers. This method was implemented in a way that maintained informed consent with caregivers and clients through open discussion as well as choice provision at all times during sessions. The method was implemented within the existing structure of EI which emphasizes a client-led format of play and skills building. Additionally, cultural sensitivity to client's homes and family practices was maintained by all clinicians throughout the process.

This method development also followed the American Dance Therapy Association's ethical codes, including sensitivity to the use of touch in DMT practice. While the use of touch can be therapeutically beneficial to some clients, this decision must be continuously assessed based on the client's history, consent, and best interest. Within this method implementation, props were utilized as a bridge between clinician and client to create a sense of connection while maintaining bodily autonomy.

Results

This section describes the implementation of the method with each client. Topics reviewed include session setting, clinician's intervention style, communication aids, and movement observations of each client. Since EI is focused on providing individualized care to each family, structure, setting and session approach differ case by case. The movement method was implemented in congruence with these individual approaches tailored to each client.

Client A

Client A's sessions typically began with a quick welcome into the home. After greetings, Client A would begin playing with his own toys, usually cars or trains and train tracks. Clinicians then intermittently offered movement breaks about every 10 to 15 minutes. To maintain choice in the activity, the clinician offered two choices and allowed time for Client A to make his decision. After exploring movement for a few minutes, Client A would resume play with his toys.

After the initial familiarization with props and movement activities, Client A began to show preference for movement exploration with scarves and taking a walk away from the play space. Client A's walks were often initiated independently, so SLP 1 and I practiced naming his decision to build awareness around the disengagement. Client A would return to the space independently when he felt he was ready to join again, typically in one minute or less. Upon his return, the clinicians would again name his choice to rejoin the space.

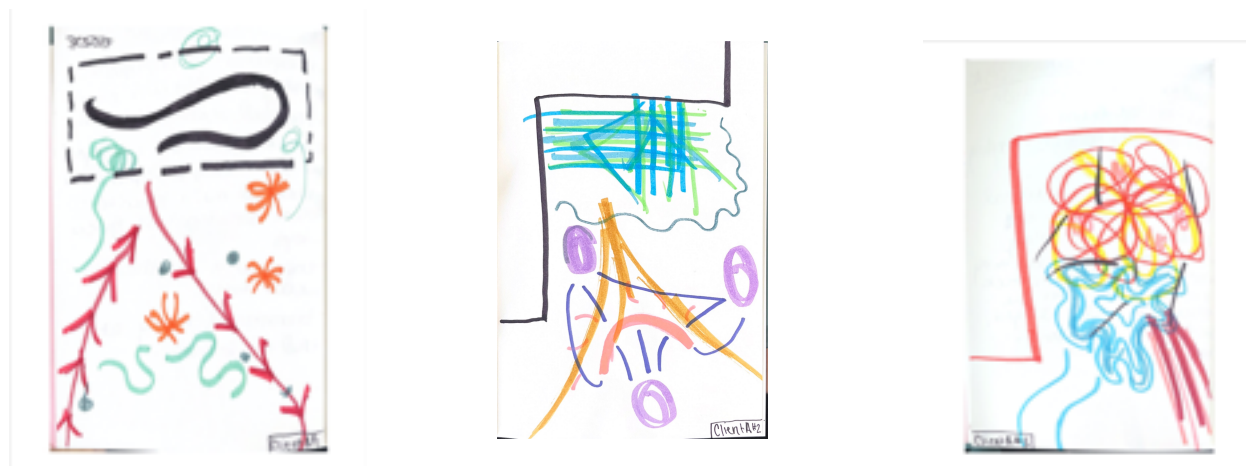
As he gained familiarity with the movement options, Client A began to anticipate and request the movement scarves independently. Through spontaneous exploration that included making the scarves slither like a snake on the ground, clinicians and Client A created the "Snake Game." After tying all five scarves together to create one long scarf, Client A held one end and I

held the other. Client A walked around the space while maintaining connection with me through the scarves. This game developed more each session, growing to include following movement directives and further opportunities for Client A to practice communication and speech. Movement directives included “stop,” “go,” “slow down,” “go faster,” and “come back.”

Client A’s movement and use of space were also observed in these sessions. In moments of self-directed play, Client A often communicated without eye contact and remained in the same portion of his playroom. During movement breaks and embodied activities, Client A connected with eye contact with clinicians and his mother and engaged in turn-taking and collaborative play. In each session, it was observed that once movement was introduced the first time, Client A maintained connected to others in space for the duration of the session through eye contact and play interactions. Additionally, exploring movement appeared to help Client A connect to his breath more readily. Embodying different animals and monsters through songs and games provided opportunities for Client A and his mother to interact playfully and relate to each other.

To keep record of these sessions through art, a movement map was created after each of the three sessions. These movement maps (See Figure 1) provided a snapshot of memorable experiences, moments, and observations from the session mapped out in the space. In reflecting on the movement maps from Client A’s sessions, I saw that there was very concentrated energy in one space of the room, where he preferred to set up his play scapes with train tracks and cars. I also observed the connection that occurred between all participants when movement activities were introduced. Overall, the implementation of movement breaks appeared to present opportunities for connection, breath and embodied exploration in each session.

Figure 1.

Reflective Movement Map: Client A**Client B**

Client B's sessions took place in an EI center play room. The collaborating clinician, SLP 2, approached each session with a few activity goals for Client B while maintaining time and opportunities for choice in his play. Movement breaks were implemented during transition times or when clinicians sensed Client B needed a break. In these moments, Client B was provided with two choices for a movement break and was given time to make his decision. After completing the movement break, clinicians facilitated the transition to a new activity.

Each session with Client B began with an opening song. As Client B gained familiarity with the scarves and the "Scarf Song," SLP 2 implemented this as the opening of each session. Client B quickly began to anticipate this activity and the different movement directives that are utilized in the song. After completing the song, SLP 2 facilitated transition into an activity. Typical activities for Client B included puzzles that focused on fine motor skills, reading books, building with magnet tiles or blocks, and engaging in dramatic play with animals or Mr. Potato

Heads. Between each activity, I offered Client B a movement option. With growing familiarity to choices, Client B began to prefer pushing the wall and moving with scarves.

Client B often chose to push the wall once or twice per session. A game developed around this choice, in which Client B would initiate a race to the spot designated for pushing the wall (a large blue felt board situated in a corner of the space). I would take three turns with Client B, seeing who could push the wall harder. SLP 2 intuitively utilized this transition to introduce more challenging activities for Client B such as matching games or puzzles. The corner of the room coupled with the sensory feedback of pushing the wall immediately before appeared to support Client B in focusing on a challenging task.

There were a few times throughout the three sessions that Client B became dysregulated or did not want to participate in the planned activities. In these moments, I offered him movement options. Specifically, in dysregulated moments, singing “If You’re Happy and You Know It” but including other emotions with action directives appeared to help Client B recover. Additionally, if he chose to move with scarves in dysregulated moments, I would model connecting my movements with the scarf to my breath. Client B would usually respond to this connection and join me in the deep breathing.

As I progressed with the three sessions of implementing this method with Client B, I noticed that SLP 2 was integrating movement into more activities than just the movement breaks. For example, building rocket ships with magnet tiles was expanded to flying the rocket ships around the room; this included reaching, stretching, playing with levels, and exploring different body efforts to depict flying and crashing. Additionally, while reading books, SLP 2 offered time on each page to explore through movement whether it was embodying different animals or using

Figure 2.

Reflective Movement Maps: Client B

rhythm during *Chicka Chicka Boom Boom*. The movement maps reflecting on Client B's sessions (See Figure 2) showed the themes described above. The holding space in the corner used to push the wall provided appropriate support for Client B to attend to more challenging activities. Additionally, the use of movement exploration opened up his focus and use of space for connection with clinicians and his mother in play.

Client C

Client C attended sessions at the center as well. Prior to this method implementation, the collaborating clinician, OT, had established a routine of beginning each session with time to play and run on the playground next to the EI center. After time on the playground, the clinicians and Client C transitioned inside to the playroom where a visual schedule of activities was reviewed for the session. The implementation of movement breaks occurred between these planned activities, and were presented as an option if Client C needed them. The clinician would present two

choices for movement breaks each time and upon completion, Client C would transition to his next task.

Typical session activities for Client C included 1) art with paint, crayons or pasting things to paper, 2) sensory bin activities including kinetic sand and water beads, 3) fine motor tasks such as puzzles and shape sorters, and, 4) free choice at the end of each session. The first day of implementing this method, the breaks were not depicted on Client C's visual schedule. Throughout the session, my offering for a movement break was often ignored by Client C. While the client appeared to require a break from focused activities, the lack of a visual aid appeared to impact the implementation with Client C.

After correcting this detail and including a visual depiction of the movement breaks in his visual schedule, Client C could reflect on his need for a break in the moment. The client often decided to not take a break, but simply having the option to disengage from an activity appeared to help him remain on task without becoming dysregulated. When I provided options for a movement break, the client appeared to pause and quietly reflect on his needs. The client typically took the opportunity for a break right before transitioning to a more challenging task such as art that involved using scissors or using the shape sorter.

In moments of dysregulation or frustration, Client C acknowledged that his body needed a break and was receptive to my movement offerings. In one instance, Client C was frustrated and kicking his legs while lying on his back. I asked him if I could show him something that made my body feel better when I was upset, and he nodded. I showed him the designated space to push the wall, and he imitated my movements by stomping his feet and pushing repeatedly. This action helped him regulate and he quickly resumed the activity.

Additionally, Client C and his mother had established a mindful breathing activity that utilized imagery of the Big Bad Wolf blowing a house down. To provide the option to take deep breaths, I integrated Client C's existing breathing practice into the options so that they felt familiar to him. Overall, the opportunity to have a break in general appeared to have a positive effect on Client C's functioning in his sessions. Furthermore, his ability to reflect on his needs and utilize movement interventions as needed helped him interact meaningfully with OT and all activities. The movement maps for Client C's sessions (Figure 3) reflect his focus and ability to reflect in order to use the space as needed.

All three participants displayed growth throughout this method implementation in the areas of use of space, creativity, and connecting with others. These themes arose in all participants' processes in different ways based on the routine of movement implementation that developed. Table 2 describes the ways these three themes were displayed in each participant's sessions.

Figure 3.

Reflective Movement Maps: Client C



Table 2

Emerging Themes: Space, Creativity, and Connection

Client	Space	Creativity	Connection
Client A	<ul style="list-style-type: none"> Client A routinely left the play space when he needed a break. Client A also utilized the entire play space when engaging in movement activities, compared to remaining in one spot of the room during independent play. 	<ul style="list-style-type: none"> The “Snake Game” with scarves that developed in Client A’s sessions became a routine activity for him and was useful in practicing following directions and joint play. Using the scarves as props in play also emerged as a habit for Client A. 	<ul style="list-style-type: none"> During dancing along with songs, exploring props and taking walks, Client A appeared to make eye contact and connect with clinicians and his mother and initiated movement-based games with everyone the space.
Client B	<ul style="list-style-type: none"> Using the corner of the room designated to pushing the wall as a space to focus on more challenging activities became an important and supportive part of the session routine. 	<ul style="list-style-type: none"> After implementing movement breaks, Client B and SLP 2 began to explore movement creatively in other play schemes including during story time and in building with magnet tiles. 	<ul style="list-style-type: none"> Client B showed natural desire for his mother to actively participate in movement activities, giving them opportunities to connect throughout the session.
Client C	<ul style="list-style-type: none"> Disengaging from the area of the room where the table was (where most activities took place) allowed Client C to take a break when needed. Client C was also provided with choice over where activities happened (at the table or on the floor) when possible which appeared to help him remain engaged. 	<ul style="list-style-type: none"> Client C and his mother’s established imagery around mindful breathing carried over into sessions. This consistency of creative imagery kept mindful breathing for regulation accessible and familiar to the him. 	<ul style="list-style-type: none"> When offered a movement break, Client C would express who he wanted to take a break with; he often chose his mother, which provided moments of connection for them. Client C appeared to connect with clinicians more frequently during movement-based activities.

Reflective Movement Journals

The improvised movement explorations performed after each session with all participants helped to reflect on my experience on a bodily level. In reviewing these improvisation videos, my movement appeared to get more expansive and freer as I progressed from first to last session with each client. After each first session, the movement in the videos appeared to be strong, but minimal with eye focus cast down toward the ground. Throughout this movement, there were small moments of expansion in movement as well as eye focus. Throughout the following videos corresponding with all following sessions, these moments of exploration and expansion appeared more frequently and lasted longer. There also appeared to be a more apparent use of rhythm and flow within the progression through sessions. These observations support the themes of connection and use of space previously discussed.

Discussion

This thesis explored the integration of movement in early intervention to help support session functioning and therefore overall development of children under three years old. Through implementing the opportunity for movement breaks within existing early intervention sessions led by clinicians of varying disciplines, the participants were able to explore space, connect with other participants, and practice embodied self-regulating tools. The goals of this method implementation were to support participant's session functioning through movement in order to work toward IFSP goals and gather information about how DMT can be applied within the Massachusetts EI structure. An additional goal was to help parents identify effective strategies to utilize moving forward as the participants transition out of early intervention and into school systems.

Several themes appeared throughout the method implementation with all three clients. First, the use of space was observed throughout all sessions. The introduction of movement-based activities in sessions appeared help the participants explore more space. Different areas of space were utilized in support of the participants' attention to activities as well. Another theme that emerged in this method development was the opportunity for connection and collaboration that movement provided for the participants. These moments of connection offer opportunity for kinesthetic attunement (Tortora, 2010), both within the parent-child dyad as well as the therapeutic relationship between client and clinicians.

Additionally, the introduction of movement in the form of small breaks appeared to lead to further embodiment throughout entire sessions. Through growing to be more embodied in sessions, clinicians and participants are interacting in a way that promotes mind-body connection and full integration of the body in developmental practices. This development aligns with the literature discussed in this thesis and shows the potential positive effect movement-based practice can have in an early intervention setting.

Through the introduction of movement, all participants strengthened their creative capacity and connection to others. Additionally, the collaborating clinicians' natural integration of movement into their own intervention style was observed. These themes show an instance of successful integration of DMT into EI services. Through supporting and encouraging connection to caregivers, movement has also promoted the PIWI philosophy within this development. This method has provided evidence that embodied therapeutic play and movement integration are applicable to the philosophy of EI in Massachusetts.

Preschool-aged children's capacity for creativity and mindfulness was discussed in the literature review. This method was developed in part to observe if creativity and mindfulness were skills that children under three years old could achieve. The development of creative games and expression as well as the successful use of imagery to guide mindful breathing that were observed in this method implementation provide affirming information on this topic.

The concepts explored in this method can be further developed by being implemented in a group setting. One limitation of this method was the small participant group and implementation in individual settings only. Additionally, the participants of this study were of similar age and presentation. This specific method of integrating DMT in early intervention may not translate to children who present with different challenges or with younger toddlers and infants.

A goal of this thesis was to provide information in support of utilizing movement to promote development and learning. Since the majority of learning spaces in the United States are group settings in classrooms, it is important to further explore this method and its implementation in a group setting. Since the intentional use of space as a supporting factor in session functions was observed so consistently in this method development, another further development of these ideas could be to deepen the exploration of space usage in learning spaces for young children.

This thesis explored DMT and its relationship with learning. Literature on the social and historical context of EI in the United States, principles of DMT with young children, and the impact of creativity and mindfulness on learning were reviewed. By focusing on existing participants in an EI program, the method provided information on how integrating movement with a multidisciplinary team supported the participants' developmental goals. Through the application

of developmentally appropriate movement breaks in EI sessions and discussing emerging themes, the potential benefits of implementing DMT in EI have been explored.

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***THESIS AP-
PROVAL FORM***

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MA**

Student's Name: Cassie Laskowski

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In the judgment of the following signatory this thesis meets the academic standards that have been established for the above degree.

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