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# Bridging the Gap: Using the Body as a Conduit within Dance/Movement Therapy to Enhance Holistic and Integrative Development in Early Childhood

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Bridging the Gap: Using the Body as a Conduit within Dance/Movement Therapy to Enhance  
Holistic and Integrative Development in Early Childhood

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### Abstract

This paper presents development and learning in early childhood as a fully integrated and embodied experience, which is available for use in dance/movement therapy to help pre-school aged children bridge the gap between non-verbal expression and verbal communication. Cognitive, emotional, and social aspects of intelligence begin to accumulate in infancy by physically interacting with the environment. These interactions are enacted and refined through developmental patterns of movement and expression that have been laid out in the frameworks of the Kestenberg Movement Profile, Body-Mind Centering, Laban Movement Analysis, and Bartenieff Fundamentals. The wealth of knowledge, which is accumulated through bodily sensations and interactions with the environment and is initially non-verbal, becomes the foundation for communication with self and others. The gap to be bridged pertains to the transition from the non-verbal and embodied means of growth, learning, and communication of the first three years of life to the verbal manner of expression and learning utilized in formal education. Dance/movement therapy is a modality that taps into embodied knowledge. It can help young children to cognitively understand their emotional experiences in social contexts through the exploration of their movement patterns and rhythms, which express needs to themselves and others non-verbally. Once a child understands, and can verbalize their embodied experience, dance/movement therapy then offers a chance to practice using their words to communicate these thoughts, feelings, and needs more effectively through verbal means.

*Keywords:* dance/movement therapy, children, development, pre-school, education, embodied knowledge, emotional development, social development, cognitive development, verbal, non-verbal

## Prologue

*The visceral, and physiological, sensations begin without warning in response to an emotional stimulus, which could be invoked either internally or externally. My breathing and heart rate accelerate; the muscles tense and bind, pulling my shoulders up and pinching my ribcage together. My hands clench into fists and I dig my fingernails into my palms, or I begin to rhythmically and roughly wring my hands with strength and intensity. I begin to cry without sound and can't stop. My skin is tingling and my ears are hot. There is a sensation of numbness and tingling around my mouth; these muscles spasm and it feels like my lips are cramping. I freeze, rooted in place with no sense of options or possibilities. Curiously, my body is also vibrating internally, which I identify verbally as feeling jittery and on edge. I am trying to breathe. Gradually, I am collapsing in on myself as freezing transforms to shrinking, and I try to become as small as possible for protection. Pain wells up from deep in my belly and finds its place just above my heart, to the left of my sternum. I hollow back into my ribcage while all breath is sucked from my lungs like a vacuum. The catch in my throat becomes a barrier and I am suffocating; wanting to scream, sob, and share this pain with anyone in the vicinity. I need to be heard. I need to be seen. I need someone to care about what happens to me, about what is happening to me. I need help to move through this experience. It becomes too big to contain and I am flailing about in an effort to communicate because words are failing, or are not there.*

This is my personal and embodied experience of emotions like fear and anger, although I could describe all my emotions in an embodied manner. Regardless of the emotion, the experience is visceral, which the dictionary defines as “felt in or as if in the internal organs of the body” (Merriam-Webster, 2017) and can be triggered by any number of stimuli. The response described above might be a reaction to external stimuli such as verbal feedback from a teacher,

the tone of voice used by a friend, a significant other's body language, the driver of the car that just cut me off, missing a train, or even watching a TV show or movie. This state can also be induced internally by negative memories, critical thoughts and beliefs that surface, an inability to perform a task correctly, or even performing the task adequately but not perfectly.

The emotions that I have identified as being related to this specific intrinsic reaction might be one of, or any combination of the following: anger, fear, frustration, grief, sadness, feelings of inadequacy, and/or feelings of insignificance. That is not to say that my embodied experience of these emotions is exactly like anyone else's embodied experience. Furthermore, it is entirely possible that these same emotions might be experienced internally in ways that are vastly different from mine. That being said, my own experiences led me to wonder about how others, specifically children, experience their emotions in an embodied manner. How do others recognize their emotions? In what ways do these embodied reactions, which signal emotions, affect a person's cognitions and actions? Might these sensations interfere with cognitive abilities? Are they unconscious patterns and connections which influence how we behave in relation to ourselves and others? If these viscerally sensed and embodied experiences of emotions are in fact unconscious, then when and how do they develop? I am suggesting that the embodied reactions experienced by children do, in fact, have an effect on cognition and action, and can interfere with cognitive abilities at times. They are also quite often unconscious, developing in childhood through interpersonal relationships, and can have an influence on our behaviors as adults. However, these same embodied experiences can be integrated holistically with all aspects of development to help young children bridge the gap between responding with unconscious action, and consciously choosing how they can communicate in an educational setting.

## Introduction

*“...the struggle between thought and emotion may ultimately be resolved... by a more harmonious integration of reason and passion in the brain, a development that will allow future humans to better know their true feelings and to use them more effectively in daily life.”*  
(LeDoux, 1996)

How often have you heard either yourself or another tell a young child to “use their words” in the midst of a meltdown? Why do we use this phrase? In most cases this utterance is used in response to the bodily action, or “acting out”, of a child in distress. Have you ever noticed how often the behavior in question can be traced to the frustration that child feels when a need is not being met? One might assume that most people in consistent contact with children will both recognize and empathize with this situation. Taking this line of questioning one step further, perhaps the same idea could be applied to quite a few adults as well. Perhaps you can recognize instances when you have experienced an intense sensation that wells up in your body and needs to be expressed. Maybe that expression takes the form of *acting out*. Is it possible that there are times when we are unable to *use our words*, so to speak? It is precisely this *bridge*, between the physically sensed experience of feelings and the ability to cognitively, and consciously, express a need identified by those feelings, that this paper will address.

There is an understanding that human development begins as a physical, experiential process that relates to and informs the cognitive development that occurs simultaneously (Piaget & Inhelder, 1969). However, there appears to be a gap in how the transition is made from physical to cognitive expression, or communication: i.e. from *acting out* to *using your words*. I believe that this gap stems from underestimating the important role that the body plays in the emotional, social, and cognitive development. This role is a necessary piece in the transition from non-verbal to verbal communication. Perhaps placing more importance on the body also

promotes optimal and holistic human development. This paper proposes that the problem lies within a demotion and invalidation of the embodied learning processes as young children begin to communicate verbally. It is within and through the body that growth and development occur. As such, the body is a point of intersection where a person's physical, emotional, social, and cognitive aspects meet, and exchange the information that has been gathered through interaction with the environment. It may also be possible that utilizing the body as a way to understand and communicate feelings and perceptions may lead to an earlier identification of diagnosable disorders and preventable psychoneurosis – characterized by visceral symptoms related to feelings of unhappiness or distress that are out of proportion to the circumstances of a person's life (Encyclopedia Britannica, 2016). This being the case, it is possible that the body has a much larger role to play in educational contexts.

In many western educational methods, there has been a focus on the cognitive stages of development to promote optimal intelligence and functionality, which includes a prevalent belief in the requirement of a still body for learning to occur (Acolin, 2016). There are also benchmarks identified and recommended for health care and education providers to apply early interventions which address delays, or anomalies, within physical and cognitive development (e.g. delays in muscle or bone growth, intellectual disabilities, learning disabilities, etc.). Interestingly, there appears to be little, or no, such attention paid to the roles that emotional and social development have on education and health issues, how they relate to both physical and cognitive development, or how the bodily experience of these aspects affects holistic development. It is just as important to pinpoint risks for delays in emotional and social development as it is to pinpoint physical and cognitive developmental risks (Denham, 1998), as disturbances in any one of these developmental areas can become lifelong difficulties as well. I propose that these often

underestimated aspects of human development are directly related to the transition from *acting out* to *using our words*, and that the bridge between the two is physiological, traversing along neuromuscular pathways through the body (Siegel, 2012). Furthermore, I would suggest that if incorporated into educational systems, there could be lasting benefits related to the prevention, and management, of mental illness. A number of society's issues and struggles can have a basis in problems related to the expression, understanding, and regulation of emotions (Denham, 1998). Additionally, a focus on connecting emotional and behavioral patterns to cognitive processing, mental health and functionality could have long-term and beneficial impacts on the prevention of pressing social concerns. That being said, there could be some objection to this premise based on the fact that some diagnosable mental illnesses do have a genetic component. In response, I would point out that having a genetic predisposition to a specific mental illness does not guarantee that it will manifest, without the introduction and influence of emotional and social contexts from the individual's environment. I would also argue that with the introduction of an educational framework it would be possible to counter the negative aspects of an individual's context, and activate the resilience inherent in the strengths they already possess.

With relation to the inherent resilience available to any given person, dance/movement therapy's unique strength lies in its focus on connecting the non-verbal expressions of the body with the verbal expressions of the mind. (Levy, 2005; Loman & Merman, 1999) Through dance/movement therapy, it is possible to learn to understand and translate what the body is communicating into language that the conscious, or cognitive, self can then communicate in more socially acceptable ways. Specifically, dance/movement therapy is the perfect method to deliver a framework designed to help children *bridge the gap* because: a) it is based in the reciprocal body/mind/feeling connection and conversation, b) dance/movement therapy



facilitates the recognition of felt sensations in the body, c) it helps to connect these previously unconscious feeling sensations to identifiable emotions, d) it facilitates the translation of felt emotions to conscious verbal expression, and e) promotes reflection on where that feeling comes from and whether or not it is connected to the present experience. (Chaiklin, 2009; Bernstein, 1979; Payne, 2006; Shafir, 2016; Tsachor & Shafir, 2017)

### **Literature Review**

The goal of this paper is to introduce and promote the use of dance/movement therapy in pre-school settings as a regular part of the curriculum. The aim of utilizing dance/movement therapy in this manner is for the purpose of integrating social and emotional aspects of development with cognitive aspects; while also incorporating the relational, regulatory, and logistical skills necessary to thrive in the world (Gergely & Watson, 1996). In effect, the experience of consciously recognizing, and effectively expressing, one's own internal experience, while also identifying and responding to another's internal experience, relates to many different aspects of development at the same time. It is a cognitive experience related to thinking critically and logically, a social experience of continuously relating to oneself and others, an emotional experience related to recognizing and communicating feelings, and a physical experience of sensations in one's body with regards to the most basic needs. Each individual expresses many different needs in each act of movement, behavior, and communication. These needs might be related to that individual feeling loved, confident, safe, as well as experiencing a sense of autonomy and purpose (Maslow, 1970). In other words, there is an element of intersectionality inherent in an individual's experience, which can change from moment to moment. This is the reciprocal connection among the biological, emotional, social, neurological, and cognitive areas of growth and development taking place within the body.

Figure 1 – Intersectionality of developmental processes

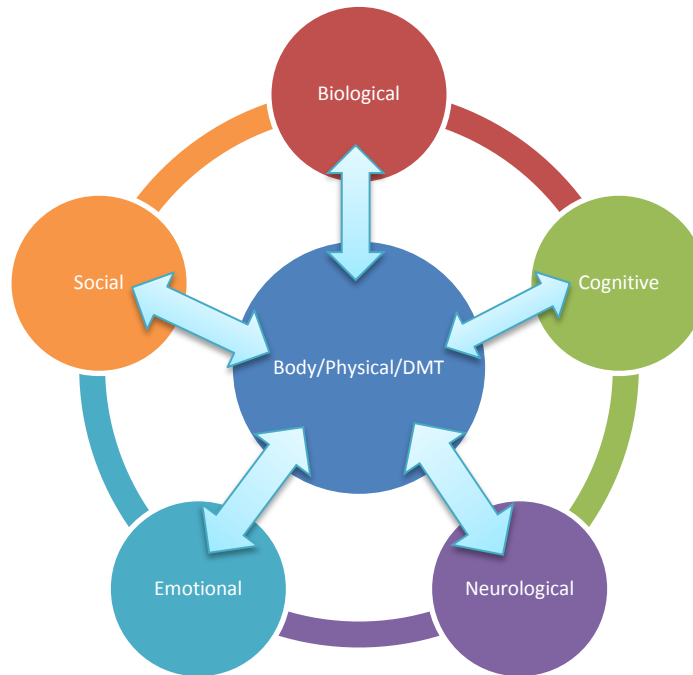


Figure 1 is an image of the intersection of developmental aspects, all of which are in consistent and reciprocal communication; each one influencing the others through the conduit of the body.

Two core beliefs of dance/movement therapy are that the body and mind share a reciprocal connection which is in constant communication and that change in one has an effect on the other (Levy 2005). These core principles could be incorporated into a pre-school setting, possibly for society's betterment. This offers young children an opportunity to practice and integrate these skills into their behavioral patterns; regardless of the possible limitations on resources, means, or advantages, available to them. Utilizing a dance/movement therapy framework when working with children at three years of age offers an opportunity for re-patterning, or re-introducing, earlier developmental experiences.

One way of working with children to revisit earlier developmental experiences is through the Kestenberg Movement Profile. In this method of movement analysis there is a connection

between certain rhythm patterns in movement (like the sucking rhythm, or the biting/snapping rhythm), called tension flow rhythms, and certain developmental tasks (like symbiosis and nourishment, or differentiation and chewing). In particular, Kestenberg-Amighi et al. (1999) pointed out that the prominent tension flow rhythm at the age of three is swaying, which is useful for integrating previous needs and expressions with current and future ones. In other words, some problems that develop within infancy and toddlerhood might be addressed through movement by utilizing this rhythm consciously in a dance/movement therapy session with preschoolers (Kestenberg-Amighi et al, 1999). Furthermore, the National Scientific Council on the Developing Child (NSCDC, 2007) came to the conclusion that implementing programs which take into consideration the cumulative and integrated nature of development, would not only be beneficial to the holistic development of children, but will also have positive effects on the quality of society as they grow into adults.

This concept of development as an integrated and reciprocal process that can, and should, be utilized in early childhood education is supported in a publication by the National Scientific Council on the Developing Child. In 2007, Harvard's Center on the Developing Child created this council, made up of leading US professionals in the fields of neuroscience, developmental psychology, pediatrics and economics to present what is known about human development in a cumulative and integrated manner. To this end, the National Scientific Council on the Developing Child (2007) named six "core concepts of development" that have implications for policy and practice listed below:

- Child development is a foundation for community development and economic development, as capable children become the foundation of a prosperous and sustainable society.
- Brains are built over time.

- The interactive influences of genes and experience literally shape the architecture of the developing brain, and the active ingredient is the ‘serve & return’ nature of children’s engagement in relationships with their parents and other caregivers in their family or community.
- Both brain architecture and developing abilities are built ‘from the bottom up,’ with simple circuits and skills providing the scaffolding for more advanced circuits and skills over time.
- Toxic stress in early childhood is associated with persistent effects on the nervous system and stress hormone systems that can damage developing brain architecture and lead to lifelong problems in learning, behavior, and both physical and mental health.
- Creating the right conditions for early childhood development is likely to be more effective and less costly than addressing problems at a later age. (NSCDC, 2007, p. 1-2)

In other words, the aim of education is not only about increasing a child’s intellectual capabilities through reading, writing, and arithmetic, but includes learning and practicing the skills of social and emotional intelligence as well. From this perspective, dance/movement therapy is in a unique position to introduce the skills children need to safely face, and then express, their emotions, through the bodily integration of physiological, biological, emotional, social, and cognitive growth and development.

In the sections that follow there will be a review of what is currently known regarding pre-verbal growth, development, and learning theories; the importance of prioritizing the reciprocal and integrated nature of these theories as children mature, learn and grow; and the body as a conduit in the process of incorporating the developing verbal and cognizant processes into the pre-verbal foundations already established. When initially exploring the topic of this paper the phrase *bridging the gap* kept surfacing when thinking about what happens in body and mind during the shift from pre-verbal communication, which is mainly expressed through movement and body attitude, to verbal communication, in which the body is a secondary form of communication and highly controlled. In essence, that *bridge* is already in the initial stages of being built during the first months of infancy. I envision these early experiences as the planning

stages of building a large structure, followed by the expansion of the supporting framework, and finally the construction of the span which connects each side of the bridge.

### **Finding Bedrock**

“If the child partly explains the adult, it can also be said that each period of his development partly explains the periods that follow. This is particularly clear in the case of the period where language is still absent.” (Piaget & Inhelder, 1969, p.3) In other words, the pre-verbal sensori-motor period is the time of development when the foundational “cognitive substructures” and emotional reactions are forming, which will eventually underlie all later intellectual facilities and affective tendencies (Piaget & Inhelder, 1969, p. 3). Of course, these early processes, and all subsequent ones, are based in the body. As Aposhyan (2007) points out, “All experience is physical. Everything we do – not only our movements, but also our sensations, thoughts, and feelings – we do with our bodies” (p. 1). This is clear in Piaget’s choice to name this earliest stage of development the *Sensori-Motor* period.

During the earliest portion of this period of development, the sensations of internal organs, which move as they perform their unique functions, can create movements that sequence out through the rest of the body. This might manifest as barely imperceptible shifts in shape, large observable movements with the full participation of limbs and trunk, or any possible combination of the two. For example, as a newborn digests its meal, there is the physical sensation of movement in the esophagus, stomach, and intestines, which is also outwardly observable in the face, limbs, and torso. It’s almost as if the entirety of the body is actively involved in breaking down food and moving it through the body to where it needs to go. This consistency of movement can also be observed in the simple, rhythmic process of breathing;

which begins with a newborn's first breath that fills the lungs, expanding the ribcage and muscles in the torso, and is continuous throughout the lifespan. This core biological function is an automatic process, but changes in thoughts and feelings can shift breathing patterns and rhythms, and vice versa. (Hackney, 2002) The child's experience of bodily sensations (sensori), whether internal or external in nature, is translated into a moving response (motor) in an attempt to effect a change.

In dance/movement therapy it is possible to observe this in action by utilizing the specific assessment methods available to dance/movement therapists: Kestenberg Movement Profile, Laban Movement Analysis, Bartenieff Fundamentals, and Body-Mind Centering. Each of these methods for analyzing movement follow a developmental progression in the body that integrates and incorporates the parallel developmental progressions of psychological, cognitive, emotional, and social growth. Each one of these systems begins with breath as well. In Body-Mind Centering, cellular breathing and naval radiation are the first two movement patterns to develop, followed quickly by prespinal patterns (Aposhyan, 2007; Cohen, 2012). The Kestenberg Movement Profile establishes the first rhythmic pattern as the sucking rhythm which corresponds to the mouthing movement pattern, or reflex, described in Body-Mind Centering (Kestenberg-Amighi et al, 1999; Cohen, 2012). Breathe head-tail and core-distal connections (which correspond to prespinal and naval radiation, respectively, in Body-Mind Centering) are also the point of beginning movement explorations made explicit in both the Laban Movement Analysis and Bartenieff Fundamentals literature as well (Hackney, 2002). It is also through movement that infants communicate needs that can only be met by a caregiver like feeding, changing, soothing, and physical interaction.

Essentially, an infant begins to accumulate a body of knowledge based on what they are born with, or their nature (e.g. the genetic and biological realities of their physical make-up, inherent temperament and personal preferences for comfort and homeostasis, and the necessity for fulfilling basic needs for nourishment, safety, and attachment), and the environmental experiences that have an effect on these natural tendencies and preferences, or how they are nurtured (e.g. the environment's meeting of most basic needs or not, the environment adding to or subtracting from initial physical health and wholeness, and the infant's ability to effect a change in the environment to get needs met and maintain homeostasis). This knowledge is acquired through physiological sensations and then is collected in the growing brain for assimilation into the performance of essential functions. (LeDoux, 1996; Siegal, 2012) In essence Piaget & Inhelder's (1969) first stage of cognitive growth, the sensori-motor period, is the first layer of *scaffolding* (NSCDC, 2007), or the foundation, which underlies all subsequent intellectual growth; and is based in the reciprocal sharing of information between the body and the mind.

Also in the cognitive arena of development, Spelke & Kinzler (2007) suggest that humans are born with four, possibly five, systems of "core knowledge" – the established four being object representation, agents and their actions, number representations, and spatial geometry of surfaces in the environment; with the possible fifth representing identification of social partners – which subsequently "guide and shape the mental lives of adults" (p. 89). The principles related to the core system of object representation allow newborn infants and adults to "perceive object boundaries", which helps them to cognitively complete the shape of an object partially out of view and to attempt predicting an object's movement trajectory and stopping point (Spelke & Kinzler, 2007, p. 89). The core system relating to "agents and their actions"

guides infants and adults when considering the gaze direction of the agent, and any contingencies or reciprocity that may be connected to that agents gaze or action, which is useful when reasoning out options for action that are efficient and goal-directed (Spelke & Kinzler, 2007, p. 90). Separately, the number representation system allows both infants and adults to add, or subtract, two quantities of objects or sounds together and conclude whether the resulting sum is more or less than a third quantity of objects or sounds (Spelke & Kinzler, 2007). The fourth core system of spatial and surface geometry allows infants and adults to utilize geometric information in real experiences, as well as in pictures, to orient themselves in, and navigate through, their environment (Spelke & Kinzler, 2007). The proposed fifth system of social partners allows infants and adults to recognize those of their cultural identity, through language and accent, as well as the more readily available identities of race and gender (Spelke & Kinzler, 2007).

These systems of core knowledge could be considered to underlie the development of information-processing, which includes growth in the areas of memory, strategy, problem-solving rules, learning, and intelligence (Miller 2011). Research has shown that young infants learn and remember, in a rudimentary way, the sensory input from their movement and its effects on the environment that involve a reward connected to a response, which leads to an increase in the response as a means to an ends (Gergely & Watson 1996). More specifically, this has been demonstrated (Rovee-Collier & Gerhardstein, 1997; Rovee-Collier, 1999) in work with infants around two months old who increased their rate of kicking when a ribbon which was tied to their leg moved the mobile above the crib. This contingent stimulus event caused by the kicking movements has been shown to be remembered by two month olds for as long as two weeks and by older infants even longer (Rovee-Collier, 1999). The implicit memory represented here



matures fairly early on and continues to develop even as explicit memory begins to emerge in toddlerhood (Miller 2011).

The research of emotional growth in early development has indicated the cross-cultural existence of a set of emotions that are innate (Ekman et al. 1972). Infants older than four months are capable of recognizing and responding to emotional facial expressions by perceptively discerning between them (Nelson, 1987). However, it is questionable whether infants younger than four months of age are able to do this. In other words, during the first months of life, the innate emotional experiences of infants seem to have more of an internal, or intrapersonal, focus rather than an external or interpersonal one. This would seem to correspond with the first of the Kestenberg Movement Profile's tension flow rhythms mentioned previously, which represent the needs that may disrupt an individual's internal experience of homeostasis and are expressed through the body's movements (Kestenberg-Amigh et al, 1999). The first of these rhythms, the *sucking* rhythm, occurs in the first six months of infancy. During this period of time the infant's developmental task is that of nourishment and symbiosis, which is communicated non-verbally, and almost instantaneously, through the body (e.g. rooting for the nipple, fidgeting and fussing, crying and wiggling, etc.) This is to say that perhaps the set of emotions that is innate to human infants is initially an internal and bodily process which Gergely & Watson (1996) conceptualize "as complex pre-wired behavioral organizations activated under specific input conditions" (p. 1185). The authors also highlight the implicit nature of these organizations, describing them as "procedural" and "at first cognitively inaccessible to the infant." (Gergely & Watson, 1996, p. 1185) So, in effect, an infant begins the process of emotional growth with an innate set of feeling states and a propensity for expressing these states when experiencing a shift in their bodily sensations, which brings them either nearer to, or farther from, homeostasis.

Perhaps the first layer of emotional bedrock is learning what is liked or disliked. The emergence of the next Kestenber Movement Profile tension flow rhythms, known as the biting/snapping rhythm, adds another layer to the earliest process of emotional growth. In the second half of the first year of life the developmental task is differentiation, which promotes an awareness of internal feelings as separate from another's and a rudimentary understanding of what these internal feelings represent, through a social process. (Kestenber-Amighi et al, 1999) For example, one might observe this process in the patting and pushing of an older infant when being held, actively asserting their desires as separate from, but also just as valid as, those of the adult who is holding them. There is a burgeoning realization of the external environment's ability to influence internal feelings. Then it becomes necessary to develop a system of regulating between the emotional need to be taken care of, and soothed, by another and the emotional need to be an autonomous individual fully capable of pushing back. In other words, these early emotional experiences begin the process of learning to recognize and label one's emotions in respect to self and others, which is a skill that underlies the more complex feeling states and the verbal communication of them that will emerge over the next few years. This would appear to be the beginning of an individual's emotional growth, adding to the foundation upon which all later development scaffolds out.

Included in this foundational, and scaffolded, view is the importance of the social aspects of development. It is through social interaction that intellectual and emotional growth is made possible (Saarni, 2001; Dunn, 2000). In the beginning, an infant's ability to form a social relationship with another is a matter of survival, because they rely on others for even the most basic necessities required to survive (Ainsworth & Bowlby, 1991; Bretherton, 1992). Therefore, the achievement of an attachment is the first order of business for any newborn. If a reasonably

secure attachment is achieved with a caretaker, an older infant is able to begin testing out social interactions with others while remaining connected to the safety of the first relationship (Ainsworth & Bowlby, 1991; Ainsworth, 1967; Bretherton, 1992; Miller, 2011). Possibly this is observed in moments when a child, around six months or older, finds themselves in a new and startling situation in which they aren't sure whether they are positively, negatively, or neutrally affected. At this point one might observe the child looking to the closest caregiver for conformation of the appropriate feeling response in that specific situation. Gergely & Watson (1996) describe this as "affect-mirroring" in which a child learns to connect and match felt sensations to outward facial expressions of the feeling. Essentially, they are beginning to compile a variety of ways to non-verbally communicate and interact with others. Similarly, attachment theory posits that the infant's attachment to a caregiver is based in the responsiveness of that person to the infant's signals and in their willingness to engage in quality social interaction. (Bretherton, 1992) With the establishment of an attachment, a child will be able to explore the world around them, and their autonomy in it, while remaining securely connected to a figure of safety. (Ainsworth, 1967) In effect, "affect-mirroring" (Gergely & Watson, 1996) and the development of secure attachments could be another aspect of the bedrock that is foundational in both emotional and social processes of growth.

The literature cited in the previous paragraphs seems to point to there being a foundation of knowledge inherent to infants that grows exponentially in conjunction with the experiences of both internal sensations and external influences. Through the body, its sensations and actions, a person first begins to perceive and learn about themselves, their environment, and others within that environment. Early explorations of newborns inherently, and naturally, integrate processes of emotional, social, cognitive, and neurobiological development through bodily sensations and

actions. This foundation is the first scaffold of learning, the “bedrock” if you will, upon which all further learning and development will be built.

### **Driving the Pilings**

To return to the proposed image of a bridge, which is being built through the integration of developmental processes experienced and expressed through the body, the bedrock that has been found and prepared for maintaining a stable support must then be connected to the main structure which is yet to come. If truly building the tangible structure of a bridge then this connection would more than likely come in the form of driving the pilings – the beginning of an underlying framework which will eventually give shape to the finished structure. The first layer of bedrock presented in the previous section now becomes the foundation for the next layer of learning, growth, and development. Simply put the next stage of learning and growth scaffolds out from the previous. Obviously, this first layer of growth in the body, mind, and environment is entwined and reciprocal and will be incorporated into subsequent stages, and will also continue to evolve as learning continues through interaction with the environment. Since it is the sensory information collected by the body which informs how we feel and think about ourselves and others in any given context, it only seems fitting to begin with the body in adding the next scaffold.

In each of the previously discussed movement analysis methods, certain neurological pathways and patterns have been explored and incorporated into the body and knowledge base of a growing child (Aposhyan, 2007; Cohen, 2012). At this point the infant is beginning to move out of the horizontal (lying down) and into the vertical (sitting upright), having gained the muscle strength and control necessary to sit up unassisted (Hackney, 2002; Tsachor, 2013).

There is also a shift from the mouth, tongue, and teeth as the main source of sensory input for information about self, other, and the environment (Kestenberg-Amighi et al, 1999). That is not to say that these earliest forms of communication and movement, described above, disappear. In fact they become more refined and habitual, requiring less thought and effort to execute. Solving problems also begins to become more complicated as the child learns that current methods of getting needs met like crying, which have consistently worked before, are not always as effective anymore (Miller, 2011). So new strategies must be developed through trial and error as each child begins to understand what is expected of them within their specific family context.

To explore the shifts in development happening around the age of one, it will be helpful to return to the Kestenberg Movement Profile, because it is around this time that the next tension flow rhythm begins to appear. This “twisting” rhythm begins to generate locomotion that is initiated from the pelvis like, “crawling, climbing, and rising up to a wobbly vertical position” (Kestenberg-Amighi et al, 1999, p. 36). From a Body-Mind Centering perspective, which takes an evolutionary view of development, the child is exploring the following basic neurological actions in beginning to shift from the horizontal to the vertical: homologous push from both hands and/or feet, homo-lateral push from one hand and/or foot, and a homologous reach from both hands and/or feet (Cohen, 2012 & Aposhyan, 2007). The Laban Movement Analysis and Bartenieff Fundamentals frameworks describe this in terms of upper/lower (moving the torso and arms separate from the hips and legs) and body half (moving the right side of the body separate from the left side); as well as introducing the use of the Effort qualities (how a person moves through space) related to weight (moving with strength or lightness) and time (sustaining the movement or moving with quickness), and extending the reach into the larger kinesphere (Hackney, 2002; Tsachor & Shafir, 2017; Shafir, 2016). As the infant shifts its perspective, from

the internal plane of horizontal sensory and movement experience like creeping and crawling, to the external plane of the vertical experiences of sensation and movement like sitting and standing up, there now is the possibility for an active exploration of stimuli in the environment which expands the child's understanding of themselves and others in the context of that environment. Adjustments will be made based on new sensory information being acquired through emerging motor capabilities, which expands available options for solving problems, communication, and autonomy when incorporated into the existing knowledge base.

From Piaget's perspective an older infant, almost toddler, is still in the sensori-motor period but in the fifth stage that he described "tertiary circular reactions" (Piaget & Inhelder, 1969; Miller, 2011). During this stage of the sensori-motor period, a young child is exploring and experimenting with their environment and how their actions affect that environment and the objects in it. By utilizing a trial-and-error method of discovery, the core knowledge systems of object representation, agents and their actions, number representation, spatial and surface geometry, and social partners can be expanded upon as new means are developed to achieve an end result (Spelke & Kinzler, 2007). These new means of problem solving and goal achievement are made possible by the growth and development of more complex physical, emotional, and social capabilities.

At around one and a half years old, the child moves into Piaget's sixth, and final, stage of the sensori-motor period described as the "invention of new means through mental combinations" (Miller, 2011, p. 44). There is an observable shift from external actions, in which the child appears to be *groping* for new means which are stumbled upon, to an internal curiosity wherein they begin thinking about how to approach this novelty and what available means might be useful. There are moments of insight whereby the toddler discovers the secret to their

quandary after looking at it from every possible angle and trying already established means of completing the task at hand before moving on to try out new means (Piaget & Inhelder, 1969). This rudimentary processing of information, coupled with trial-and-error actions to achieve an end goal, can then become strategies which the child can, and will, fall back on until they encounter a situation in which the now available strategies are no longer useful. Optimally, the use of effective strategies will be increased while decreasing the use of less useful strategies, and ultimately discarding those strategies that are of no use at all (Miller, 2011). Of course, the unique composite of an individual child means that no two sets of strategies will be the same, nor will all children exhibit a conscious awareness that they are using strategies at all (Siegler & Jenkins, 1989).

Young children are also beginning to branch out socially at this age, becoming more mobile and curious as they physically and perceptually shift from the horizontal plane to the vertical. With more information coming in through the senses to be stored as knowledge, a young toddler is beginning to learn from, think about, and plan for how to interact with another to get a need or desire met, or in response to the interactions of others within the family in their efforts to get their own needs and desires met. The development of a child's ability to relate to another person and the nature of that relationship is inextricably linked to the development of that child's ability to understand someone else's feelings and intentions (Dunn, 1986). In short, emotional growth and social growth go hand in hand, each one informing the other to create more options for expressing feelings and thoughts to others. Children as young as 14 months have shown an understanding of behaviors or words that would annoy their siblings, as well as exhibiting behavior supportive to family members in conflict (Dunn & Munn, 1985). During this period of social development, the young toddler is learning to navigate and adapt to the intuited

and anticipated feelings and actions of those in their first social milieu, their immediate family. The foundation laid by the bedrock of the infant's first attachment experiences is now being expanded to include the understanding of a relationship with another as one in which someone else's feelings and intentions are just as valued and important as theirs. The pilings being driven to connect the inner and outer social worlds have the potential for conflict and discomfort but are necessary to secure the developmental structure.

### **Pouring Concrete**

As a child reaches the age of two, they will experience another shift both physically and perceptually, as they move from sitting to standing in the vertical dimension and begin to move in the sagittal plane after finding their footing. At this point in their growth and development, the bedrock has been prepared and the foundational framework has been created with pilings in place for the supportive structure of the metaphorical bridge under construction. The process during this period of growth might be likened to the pouring of concrete in which the framework becomes solid, sturdy and tangible as a lasting structure. In effect, just like many toddlers at this age, this might be the point when the bridge proudly announces "Here I am." The child has accumulated a wealth of knowledge through the body that informs how they perceive themselves and the world around them from a relatively stationary place that is stable and includes a small social cohort. In this third year of life, mobility in the sagittal plane expands all aspects of physical, emotional, cognitive and social experiences which in turn expands available capabilities and knowledge base for creating new options. (Kestenberg-Amighi et al., 1999; Hackney, 2002; Loman, 1998; Tsachor & Shafir, 2017; Tsachor, 2013)



In the Kestenberg Movement Profile approach to developing movement patterns, the first half of the third year of life, roughly 24 to 30 months, is devoted to the emerging running/drifted tension flow rhythm and the tension flow attribute – these represent how a person approaches and moves in the world – known as graduality. Children in the running/drifted rhythm of tension flow exhibit “gradual increases or decreases of muscle tension” (Kestenberg-Amighi et al, 1999, p. 41). At this point in development, children seem to be letting themselves be carried forward through space, relying on outward boundaries to contain their explorations which can feel like dawdling, or stretching time, to an adult in a hurry. In the second half of this year, the emergence of the starting/stopping tension flow rhythm, along with the tension flow attribute of abruptness, creates a shift from playing with time to mastery of time (Kestenberg-Amighi et al, 1999; Tsachor & Shafir, 2017; Shafir, 2016). During this period of movement development, a toddler is exerting more control over the sagittal movement of the body, being able to start and stop an action at will, and is beginning to understand time as it supports the constancy of an object, in which that object can still be identified as such even when not located in its usual place. (Kestenberg, 1975; Vaughn, Kopp & Krakow 1984) In the Kestenberg Movement Profile view, it is during this time that a child is learning to anticipate and expect that things will happen within a certain frame of time. At the same time, the child is also learning that they have some autonomy and control over how time is used.

In the Body-Mind Centering framework, this period in a toddler’s development of basic neurological actions is focused on the emerging contralateral movements which allow for crawling, walking and reaching beyond one’s self to extend the kinesphere and range of motion (Cohen, 2012; Apashyan, 2007). In the contralateral reach from the hand and/or the foot there is a growing ability to use the established stability and grounding, ideally mastered in earlier

patterns, to extend or step out freely in a new direction while still retaining one's sense of self and balance intact. (Aposhyan 2007, Cohen 2012)

The Laban Movement Analysis and Bartenieff Fundamentals perspectives emphasize emerging themes, related to time, mobility, and recuperation that are engaged with, and mastered, through exploring the transitions between planes and patterns in space, weight and time. (Tsachor, 2013) Cross-lateral connectivity emerges as the culmination of all the body part differentiation patterns which have been integrated into the overall range of movement in an individual. The emphasis of this type of movement is on the feeling of connection through the body along diagonal lines, like anchoring through the right leg in order to reach the top shelf with the left hand (Hackney, 2002). Not only does the introduction of this connection within the body enhance the mastery over the body's physical action and mobility, but also can enhance the ability of the brain's right and left hemispheres to communicate, which can allow for more symbolic thought and logical concepts to evolve (Siegal, 2012; Hackney, 2002). In short, this cross connectivity begins to give form to feeling. This is important when related to the developmental and educational goal of translating inner feeling and perception into a verbal construct to be communicated to others in social contexts such as school in childhood and work in adulthood.

As movement in the body becomes more complex, through the integration of new patterns and actions, which are growing out of those previously established in the first two years of life, so too are the cognitive processes by which a child understands themselves and the world around them. In other words, the increasing complexity involved in a two to three year old child's cognitive processing is emerging from the cumulative foundation of knowledge and understanding that, ideally, was honed and developed during the sensori-motor period. At two

years old, a toddler is beginning the period of cognitive development which Piaget calls the preoperational period (Piaget & Inhelder, 1969). This period lasts, roughly, from the age of two to the age of seven, during which the achievements of sensori-motor action must be re-developed to become representational (Miller, 2011).

Those children just entering this period of cognitive growth are beginning to develop symbols and signs as representations for objects which may, or may not, be within sight or reach. Early development of representational thinking underlies the emerging ability to use words and language to express thoughts to others (Piaget & Inhelder, 1969). Of course, at the age two and three, these abilities are just beginning to surface, and guidance through identifying when and how to express thoughts, feelings and ideas with representational signs (rather than concrete actions) is necessary. During this time there is also a shift in a child's ability to remember specific events as autobiographical, reliving and telling the story of an event that happened to them. Possibly the egocentrism, wherein the child lacks the ability to perceive that another sees things differently, which Piaget observed in children of preoperational age serves as a "self-based organization of memory" (Miller, 2011, p. 281) which coincides with the stabilizing of a child's sense of self around this same age (Howe, Courage, & Rootksby, 2009).

This also relates to Brown's (1975) suggestion that matching what needs to be remembered to what the child already knows enhances and expands the possible parameters of cognitive development. If a child already has knowledge and understanding of the material to be learned, however rudimentary this knowledge or understanding might be, they are more likely to remember that material for future use (Miller, 2011). Would it not be beneficial, then, to help young children to expand their ability to learn, remember, and use representational signs and symbols for verbal communication, by firmly anchoring new information to be integrated in the

knowledge and understanding already acquired in previous experiences of growth and development? This concept seems particularly relevant to the task in pre-school years of learning to express verbally what used to be expressed non-verbally through the body.

From the perspective of emotional development, the two year old toddler has developed a basic awareness, and understanding, of their own emotions as well as the emotions of others. Hopefully, a rudimentary ability to regulate and control the expression of their emotions has developed alongside this awareness and understanding as well. In addition, older toddlers are beginning to use the knowledge accumulated about emotions in earlier development to further the success of themselves and others (Behera, 2016). Denham (1998) suggested that by the time children have reached pre-school age they are proficient in a variety of emotional competencies falling under the themes of expression, understanding, and regulation.

Within the theme of expression, Denham (1998) listed the following behaviors and concepts as observable in young children: expressing non-verbal emotional messages through gestures, demonstrating empathy in relating to others, showing appropriate use of complex emotions which demonstrate self-conscious and social connections, and the understanding that a person might feel one way inside and express a different feeling on the outside. As to the demonstration of emotional understanding, Denham (1998) posited that children at this age are able to parcel out the specific emotions involved in their own emotional states, to identify the emotional states of others through non-verbal facial or movement cues, and to use the vocabulary available to them to verbalize about their emotions. Finally, in regards to regulation, the author stated that children approaching pre-school age have already had experience coping with negative and positive emotions (e.g. those emotions that elicit feeling pleasure or distress in a situation) as well as having developed strategies to regulate their emotional experience and

expression of those emotions as appropriately as possible (Denham, 1998). A honing and mastery of emotional language, and an increase in the understanding of the more complex combinations of emotions experienced, is a necessary task as the toddler begins to move toward the world of peer interaction with less caregiver oversight. What is evident in the research is the close and integrated nature inherent in a child learning to manage emotional arousal elicited by social interactions (Saarni, 2001).

Erikson's (1997) theory of psychosocial development identified children between the ages of two and three as being in the second stage of development. In this stage, the crisis to be addressed has to do with the child's experience of autonomy versus their experience of shame and doubt. Toddlers are now encountering rules that may, or may not, infringe on their burgeoning sense of themselves as being in control and able to achieve goals on their own. Ideally, in this stage, children are learning to balance the experience of control with the experience of doubt as part of the foundation of their development of self-esteem (Miller, 2011). There is an inherent and central ambivalence to this stage as the child is beginning to integrate polarities such as "holding on" and "letting go" (Erikson, 1980, p. 68). Essentially, children in this stage are shifting back and forth between their dependency on caretakers and their desire to invoke their blossoming autonomy (Erikson, 1980). Within this experience, the toddler is building a base of knowledge related to the sense of law and order, as well as learning the rules that apply to themselves and others across various social contexts.

A child's ability to experience themselves as both sure of and doubtful of their autonomy, effectively exploring when to hold on and when to let go in different contexts, is supported by the underlying type of attachment that has become the foundation for socialization with peers as well as caretakers (Ainsworth & Bowlby, 1991). The learning process at this point in

development builds on the child's current competencies through engagement and cooperation with others in their environment, whether these others are peers or adults. Additionally, within Vygotsky's zone of proximal development, social interaction with those more skilled than one's self can lead to the maturation of functions as yet unavailable through observation and imitation, as well as by direct instruction (Miller, 2011). It might be said that it is in the context of social interactions that cognitive, emotional, and bodily growth occurs.

### **Assembling the Span**

The importance of social interactions becomes increasingly apparent as young children start to take their places in society as autonomous beings. At this point, all the experiences of earlier stages of development have accumulated as neuromuscular, cognitive, emotional, and social knowledge through the active sensing and movement of the body. From now on though, children have to shift even farther away from a sensory and motoric method of learning as they begin to acquire language abilities. This shift can be difficult and confusing, requiring a complex and implicit understanding of all aspects of their development without necessarily being taught what is happening and why. Suddenly, what was considered acceptable communication as a two year old, like crying or the use of non-verbal physical cues, is no longer the expected mode of expression as verbal abilities become stronger. This relates to the process of learning to regulate and take responsibility for their individual emotions and behaviors.

As children enter pre-school they gradually begin to learn the display rules that they will be expected to follow in their cultural societies (Saarni, 1979). The author lays out four categories of display rules children learn as posited by Ekman & Friesen (1969). These include intensification or minimization of certain emotional displays based on others anticipated

reactions, neutralization of facial expressions, and dissimulation of one's emotional response to a situation by substituting another affect display (Ekman & Friesen, 1969). For the purposes of this paper, one might imagine that the foundations for these display rules have already been laid in the first three years of development through interactions in the family unit. Additionally, one might assume that once a child begins pre-school they have already begun to monitor and adjust their emotional responses based on these interactions. Of course, these attempts at monitoring and adjusting are rudimentary, and more than likely are closely related to the primary caregivers' likes and dislikes. As Saarni (1984) pointed out "... this skill at monitoring one's expressive behavior develops only gradually during childhood, being dependent on social-cognitive development, fine muscle control, and individual experience" (p. 1504). In other words, learning to transition from physically acting out emotional expression to verbally communicating the expressive feelings requires a certain amount of knowledge to have been built up and shared within the body and mind.

From the perspective of the metaphorical bridge, that knowledge began with the natural bedrock available to the newborn and was built up and out, and made sturdy, through the pilings driven and the concrete poured during infancy and toddlerhood. This is now the point when the main span of the bridge is developed. In educational settings there is an opportunity help a child take what they have already learned and integrated through their body's sensations and social experiences to begin developing an emotional vocabulary that adheres to their society's display rules. In this way "bridging the gap" becomes an inherent piece of the educational puzzle and teaches the skills necessary to effectively express one's self to others.

With this in mind, programs that implement socio-emotional learning in educational settings have been shown to enhance socio-cognitive and affective competencies; positive

attitudes towards self, others, and school; positive behavioral adjustment, and academic performance. (Durlak et al., 2011) Furthermore, implementing programs which have a high degree of participant responsiveness, i.e. those in which there are higher levels of student attendance and engagement, has led to increases in socio-emotional skills, wellbeing, and school engagement. (Pereira & Pinto, 2017) In light of this research, dance/movement therapy is a plausible, and effective, method of helping young children *bridge the gap* between their well-established physical communication style and the new verbal method of communication that they are being asked to learn.

### **Dance/Movement Therapy and Development**

In reviewing the available research on dance/movement therapy (DMT) as it is connected to developmental processes and working with children in an educational environment, this author discovered articles pertaining to the following: the prevention of violence and bullying (Kornblum, 2016; Hervey & Kornblum, 2006), emotional regulation and resilience (Betty, 2013; Tsachor, 2013; Tsachor & Shafir, 2017; Shafir, Tsachor & Welch, 2016; Shafir, 2016), the developing sense of self (Avstreich, 1981), the effects of proprioceptive feedback on affect and attitude (Koch, 2014), the teacher's use of body knowledge and movement experience in classrooms (Koren, 1994), the embodiment of neurobiological connections through the polyvagal system, mirror neuron system, and somatic markers (Homann, 2010), and the integration of emotional intelligence with education (Behera 2016). Of note, and related to a preschooler's process of adjusting to a new environment and manner of communication, is the importance of the body in making this adjustment (Pylvanainen, 2008). In other words, when working with preschool age children it is important to consciously utilize the body and its movement for the purpose of transitioning into new methods of learning and communicating, because the body has



been integral in the child's ability to adjust to, and retain, new information up to this point (Pylvanainen, 2008).

The breadth of information regarding dance and movement as it pertains to social, emotional, cognitive, and neurological contexts of an individual does point to the importance of the body in working with any of these areas. At the same time, there does seem to be a lack of research available which is specific to DMT in an educational setting, with pre-school age children, that utilizes developmental theory to enhance the outcome of cognitive, emotional, social, and behavioral intelligence. This is interesting due to the wealth of developmental information from the various movement analysis methods available within the DMT practice. Of course, all of the previously mentioned methods of movement analysis like the Kestenberg Movement Profile, Body-Mind Centering, Laban Movement Analysis, and Bartenieff Fundamentals stem from a developmental perspective of the body and its actions. Surprisingly though, there is very little research which includes the use of these developing movement patterns as a basis for educational purposes.

Two articles that are specific to dance/movement therapy with children stood out in the literature reviewed. The first relates specifically to the use of movement in a pre-school curriculum with the explicit goal of enhancing socio-emotional development (Thom, 2010). The author posited that dance/movement therapy as part of a pre-school curriculum can help young children to develop socially and emotionally by tapping into the body's resources through creative and expressive movement. Specifically she states that within a dance/movement therapy experience, in an educational environment, preschoolers can further enhance the "language skills, social cognition, and self-regulation" which can be difficult skills for young children to develop (Thom, 2010, p. 101). Thom's (2010) work supports the idea that a young child moving

from the non-verbal and physically sensed experience and expression of emotions to the symbolic perception and verbal communication of that emotion may not have the vocabulary available to bridge this gap (2010).

Loman (1998) examines implementing the use of movement from a developmental perspective in work with both children and families, although not necessarily in an educational context. She (1998) points to the Kestenberg Movement Profile specifically as a developmental framework that can provide pertinent information, gleaned from observed movement repertoire, as to the physical, emotional, social, cognitive, and neurological functioning, skillsets and strategies that a person possesses (p. 103). Her research presents the Kestenberg Movement Profile as a method of assessment that could be used in an educational context and applied to the intrapersonal relationship of a child with themselves, as well as to the interpersonal relationships between a child and a peer, teacher, caregiver, or the family unit. From a learning perspective, using the Kestenberg Movement Profile could help educators “identify the child’s psychological as well as motoric needs and offer intervention strategies” (Loman, 1998, p. 103), which can guide work with students to strengthen those resources that are already available and introduce those that have been limited or avoided. Dance/movement therapists can work with children to expand movement repertoires and practice more effective coping skills that can help them to understand and then verbally communicate their emotions and thoughts to others.

### **Discussion**

Bridging the gap between the visceral, and physically sensed, experience in the body and the ability to cognitively and consciously understand, much less communicate, what these sensations mean to ourselves and to others requires an integration of skills from each aspect of development. Dance/movement therapy can aid in integrating skills from each aspect of

development and in each stage of life, as well as when and if re-patterning becomes necessary later on, due to flaws in the initial growth process. In infancy, and throughout a person's lifespan, dance/movement therapy can incorporate the Kestenberg Movement Profile, Body-Mind Centering, Laban Movement Analysis, and Bartenieff Fundamentals to help facilitate the progression through emerging rhythms and neuromuscular patterns in the body. As these patterns emerge, the developing child is coming into contact with the environment which ignites a growth process in awareness, learning, and action, however rudimentary this process might initially be. Additionally, since growth is cumulative, dance/movement therapy can be a tool for learning, or re-learning, new and different ways of interacting, communicating, and getting needs met within their environments. In educational situations dance/movement therapy can be useful in furthering the cognitive, social, and emotional learning processes which are happening simultaneously.

The accumulation of sensory information through the body in the first years of life creates a wealth of information that relates to all aspects of subsequent development, which is integrated into an individual's patterns of behavior and learning. Within the Kestenberg Movement Profile framework, the body's shape and position in space, evident through a person's use of breath, shaping in the torso and limbs (i.e. widening/narrowing, lengthening/shortening, bulging/hollowing, advancing/retreating), and pre-efforts (embodiments of learning styles: flexibility/channeling, gentleness/vehemence or straining, hesitation/suddenness) are useful tools for learning how to self-regulate, problem-solve, and think critically. In addition, the ability to access all basic neurological actions (i.e. being able to push and reach with both ends of the spine, or with feet and hands, as well as anchoring one's self with one side to extend out with the other) as outlined in the Body-Mind Centering framework, allows for flexibility and mobility when responding to external situations and one's internally experienced and felt emotions. An

awareness of one's own physiological and visceral sensations, recognized through internal rhythms of breath, heart-rate, muscle tension, and feelings, can create more possibilities for regulating emotions, which supports communication. Dance/movement therapy also works with each individual from where they currently are in their understanding and perception of themselves, their environment, and others in that environment. It also assumes that no two people's experience in similar contexts will generate matching perceptions of, or actions in, that experience. Effectively, bridging the gap between one's ability to use verbal communication rather than non-verbal communication begins with that individual having an understanding of the personal, and unique, internal sensations which underlie their thoughts, feelings, and actions in any given context. Using one's words rather than acting out, so to speak.

From an integrational standpoint the foundations of this bridge begin with the inherent biological traits a person is born with. This is the bedrock so to speak, and includes any number of tendencies or proclivities that an infant might exhibit when reacting to either internal or external stimuli. For example, one infant may show a preference for a more intense and abrupt rhythm of rocking in soothing efforts, whereas another might find this motion distressful and exhibits a preference for a more gradual and even rhythm of soothing movement. These tendencies in temperament, personality, and expression are inherent and individual in nature, pointing to a need for any learning process to be person-centered and individualized from the start. Dance/movement therapy considers the uniqueness of each individual by focusing on the range of accessible choices in thoughts, feelings, and actions that that person routinely turns to within their specific context. This is important in order to match, mirror, or attune the leadership styles of those who teach and guide to the learning styles of those being taught and guided, in an effort to support the strengths and resiliencies that that individual already possesses. As any

parent or teacher will state, what works for one child almost never works for another. And in instances when a want, need or desire is thwarted, dance/movement therapy provides body-based opportunities to learn to tolerate, regulate, and shift those thoughts, feelings, and actions that can, or have, become barriers to the achievement of a developmental task; whether those barriers be cognitive, psychological, emotional, motor, social, or neurobiological in nature. Through movement, a preschooler has an opportunity to find ways of expressing how mad they might be about a circumstance and then explore how to communicate that feeling effectively.

Communicating effectively means in ways that they are seen, heard, and taken seriously; successfully getting their own needs met while also considering and respecting that others have needs as well. For example, a child that has difficulty transitioning between emotions, or into new situations, might be guided through this process in a dance/movement therapy session. The dance/movement therapist first matches, in movement, the child where they currently are and then introduces the emotion, or idea, to transition to through patterns of stopping and starting, which initially go back and forth between the two. In this manner, the unique needs of each individual child can be explored and expressed in a group, which also allows for everyone to practice taking on someone else's point of view.

There are also numerous similarities and generalities that can be applied to almost every developing child, creating a framework for what could be considered holistic, or a fully integrated process of development. In this framework the focus is on the accessibility of motion, action, emotion, problem-solving, and decision-making along a continuum rather than as separate and fixed points to be made or missed by one specific point in time, never to be accessed again. Early experiences of yield and push patterns from Body-Mind Centering, sucking and biting rhythms from the Kestenberg Movement Profile, and breath and head/tail

connections from Laban Movement Analysis/Bartenieff Fundamentals, just to name a few, might be considered the physical foundations of initial cognitive thought processes. These processes include developing an understanding of the surrounding environment by moving in and through it, perceptions of, and feelings about, the self and other in the environment by interacting both physically and verbally, and how those understandings, perceptions, and feelings are shared with others in body language and word choices. These early experiences also relate to brain and nervous system development, because the more often that these specific neuromuscular pathways are used the more likely it is that the correlated neural receptors will survive the natural purges which happen every so often as a child grows. This idea gives new meaning to the colloquial phrase “use it or lose it”. So the process of growth and development that begins in infancy is already working in an integrated fashion as physiological sensations from the body travel reciprocally along neuromuscular pathways to promote the expression of a biological need to be filled. To return to the initial concept of a bridge, this integration of what is inherently available to each individual child might be likened to the solid ground which serves to support and strengthen the full structure once complete.

If we stick with this image of a bridge, the next step would be to begin driving the pilings for the structural foundation. Developmentally this time would include an integration of the various aspects of growth already acknowledged in the research. In the cognitive domain the sensori-motor period and core knowledge have been identified as integral in early learning. Simultaneously, in the emotional domain the existence of an innate set of emotions and the propensity for expressing them through the body are both being influenced and reinforced by the individual child’s temperament and personality. This is a continuation of the accumulation of the physiological body of knowledge that travels through neuromuscular pathways to be saved for

later use. Additionally, in the social domain, affect-mirroring from caregivers promotes early attachment experiences in interpersonal relationships, which is also information gathered through visceral sensations and collected along neuromuscular pathways to add to the knowledge already accumulated. Of course, the secureness of these attachments will affect the emotional and cognitive experience of exploring the external environment. From a perspective of integrating developmental processes, each of these individual aspects are intersecting in the body and communicate in a reciprocal manner, with new information being experienced viscerally in the body. These physically experienced sensations are induced either internally as emotions, or externally as social relationships, and then conveyed neuromuscularly to the brain for cognitive processing. Of course, as stated previously, at this early point in development these processes are rudimentary and more than likely unconscious to the individual child. Although, the fact that they are seemingly inherent and unconscious, just serves to further highlight the importance of the body in development and learning. These earliest experiences of learning in the body are the foundational pilings which sink into the bedrock as a framework of stability – the connecting points between ground and structure, upon which the rest of our bridge will be built.

Based on the research, a dance/movement therapy group that integrates multiple developmental theories, while incorporating the body as the platform in which growth and learning occurs, could be offered for all three year olds in a pre-school setting. This type of learning environment will help them to transition from non-verbal to verbal methods of communication in a holistic manner, by integrating the body-based learning already established with new methods of processing and expression that are cognitively based. The focus of this group would be on guiding young children through the process of identifying, and verbally labeling, the emotions they sense in their bodies, and developing the ability to communicate

those feelings to others in an effective manner. Through the experience of moving with peers, young children also have the opportunity to learn, and practice using, coping skills in the face of frustration or conflict. They can learn to recognize when another's emotional experience is different from their own and how to navigate their physiological responses to these differences in ways which enhance social inclusion and empathy.

In a dance/movement therapy session, pre-school age children continue the process of learning through the body but begin to integrate their sensations with conscious awareness. For example, imagine a child who experiences anger when a peer takes a toy from them, and either responds physically by acting on that anger in the form of pushing and hitting, or withdraws completely from interacting with anyone. In this instance, the child is using the non-verbal communication skills and problem-solving strategies that have been honed during the first three years of life. In a dance/movement therapy session, this child could begin to practice consciously identifying for themselves that they feel angry, and then problem solve ways that they could express how they feel about the situation without violating another's boundaries, or allowing their own boundaries to be violated. This could also be extended to other emotions and physiological sensations, like being able to calm one's self in the face of intense excitement, or the ability to retain mobility in the face of fear. Within any given dance/movement therapy session, children would also have an opportunity to process through social conflicts that arise between themselves and peers, teachers, and caregivers. Addressing these issues from a body-based perspective can access the knowledge already accumulated and then work to consciously introduce new strategies for solving these conflicts in verbal ways. In this manner, dance/movement therapy addresses and bridges the gap between *acting out* and *using your words*



in ways that young children can understand and utilize by focusing on the integrative and cumulative nature of development in early childhood.

## References

- Acolin, J. (2016). The Mind-Body Connection in Dance/Movement Therapy: Theory and empirical support. *American Journal of Dance Therapy*. 2, 311-333.
- Ainsworth, M. D. S. (1967). *Infancy in Uganda: Infant care and the growth of love*. Baltimore, MD: Johns Hopkins University Press.
- Ainsworth, M. D. S., & Bowlby, J. (1991). An Ethological Approach to Personality Development. *American Psychologist*. 4, 333-341.
- Aposhyan, S. (2007). *Natural Intelligence: Body-mind integration and human development*. Boulder, CO: Now Press
- Avstreich, A. K. (1981). The Emerging Self: Psychoanalytic concepts of self-development and their implications for dance therapy. *American Journal of Dance Therapy*. 2, 21-32.
- Behera, A. K. (2016). Understanding Emotional Intelligence in Educational Context. *International Journal of Humanities and Social Science Invention*. 2,17-28.
- Bernstein, P. L. (1979). Historical Perspective in Dance-movement Therapy. In P. L. Bernstein (Ed.), *Theoretical Approaches in Dance-Movement Therapy*. (Vol. 1). (pp. 3-9). Dubuque, IA: Kendall/Hunt Publishing Company.
- Betty, A. (2013). Taming Tidal Waves: A dance/movement therapy approach to supporting emotion regulation in maltreated children. *American Journal of Dance Therapy*. 35, 39-59.
- Bretherton, I. (1992). The Origins of Attachment Theory: John Bowlby and Mary Ainsworth. *Developmental Psychology*, 5, 759-775.
- Brown, A. L. (1975). The Development of Memory: Knowing, knowing about knowing, and knowing how to know. In H. W. Reese (Ed.), *Advances in Child Development and Behavior* (Vol. 10). New York, NY: Academic Press.
- Chaiklin, S. (2009). We Dance from the Moment Our Feet Touch the Earth. In S. Chaiklin, & H. Wengrower (Eds.), *The Art and Science of Dance/Movement Therapy: Life is dance*. (pp. 3-12). New York, NY: Routledge Taylor & Francis Group.
- Cheng, A. C. (1979). The emotional, social, and cognitive of children from two to five years. *The Journal of the Singapore Pediatric Society*, Suppl, 49-51.
- Cohen, B. B. (2012). *Sensing, Feeling, and Action: The experiential anatomy of Body-Mind Centering*. (3<sup>rd</sup> Ed). Northampton, MA: Contact Editions

- Denham, S. A. (1998). *Emotional Development in Young Children*. New York, NY: The Guilford Press.
- Dunn, J. (1986). Growing up in a Family World: Issues in the study of social development in young children. In M. Richards & P. Light (Eds.), *Children of Social Worlds: Development in a social context* (pp. 98-115) Cambridge, MA: Harvard University Press.
- Dunn, J. (2000). Mind-reading, Emotion Understanding, and Relationships. *International Journal of Behavioral Development*. 2, 142-144.
- Dunn, J. & Munn, P. (1985). Becoming a Family Member: Family conflict and the development of social understanding in the second year. *Child Development*. 56, 480-492
- Durlak, J. A., Dymnicki, A. B., Taylor, R. D., Weissberg, R. P., & Schellinger, K. B. (2011). The Impact of Enhancing Students' Social and Emotional Learning: A meta-analysis of school-based universal interventions. *Child Development*. 1, 405-432.
- Ekman, P., & Friesen, W. (1969). Nonverbal Leakage and clues to deception. *Psychiatry*. 32, 88-105.
- Ekman, P., Friesen, W. V., Ellsworth, P., Goldstein, A. P. & Krasner, L. (1972). *Emotions in the Human Face: Guidelines for research and an integration of findings*. New York, NY: Pergamon Press
- Erikson, E. (1994). *Identity and the Life Cycle*. New York, NY: W.W. Norton & Company, Inc.
- Erikson, E. (1997). *The Life Cycle Completed*. (Extended Version). Erikson, J. M. (Ed.) New York, NY: W.W. Norton & Company, Inc.
- Gergely, G. & Watson, J. S. (1996). The Social Biofeedback Theory of Parental Affect-Mirroring: The development of emotional self-awareness and self-control in infancy. *International Journal of Psycho-Analysis*. 6, 1181-1212.
- Hackney, P. (2002). *Making Connections: Total body integration through Bartenieff Fundamentals*. New York, NY: Routledge
- Hervey, L. & Kornblum, R. (2006). An Evaluation of Kornblum's Body-based Violence Prevention Curriculum for Children. *The Arts in Psychotherapy*. 33, 113-129.
- Homann, K. B. (2010). Embodied Concepts of Neurobiology in Dance/Movement Therapy Practice. *American Journal of Dance Therapy*. 32, 80-99.
- Howe, M. L., Courage, M. L., & Rooksby, M. (2009). The Genesis and Development of Autobiographical Memory. In M. L. Courage & N. Cowan (Eds.), *The Development of Memory in Infancy and Childhood*. New York, NY: Psychology Press.

- Kestenberg, J. S. (1975). *Children and Parents: Psychoanalytic studies in development*. New York: Jason Aronson.
- Kestenberg-Amighi, J., Loman, S., Lewis, P., & Sossin, K. M. (1999). *The Meaning of Movement: Developmental and clinical perspectives of the Kestenberg Movement Profile*. New York, NY: Routledge
- Koch, S. (2014). Rhythm Is It: Effects of dynamic body feedback on affect and attitudes. *Frontiers in Psychology*. 5:537. doi: 10.3389/fpsyg.2014.00537.
- Koren, B. (1994). A Concept of “Body Knowledge” and an Evolving Model of “Movement Experience”: Implications and application for curriculum and teacher education. *American Journal of Dance Therapy*. 1, 21-48
- Kornblum, R. (2016). *Disarming the Playground Training Manual*. Oklahoma City, OK: Wood N Barnes Publishing.
- LeDoux, J. (1996). *The Emotional Brain: The mysterious underpinnings of emotional life*. New York, NY: Simon & Schuster Paperbacks.
- Levy, F. J. (2005). *Dance Movement Therapy: A Healing Art*. (2<sup>nd</sup> rev. ed.). Reston: American Association for Health, Physical Education, Recreation, and Dance.
- Loman, S. (1998). Employing a Developmental Model of Movement Patterns in Dance/Movement Therapy with Young Children and Their Families. *American Journal of Dance Therapy*. 2, 101-115.
- Loman, S. & Merman, H. (1998). The KMP as a Tool for Dance/Movement Therapy. In J. Kestenberg-Amighi, S. Loman, P. Lewis, & K. M. Sossin (Eds.), *The Meaning of Movement: Developmental and clinical perspectives of the Kestenberg Movement Profile* (pp. 211-234). New York, NY: Routledge.
- Maslow, A. H. (1970). *Motivation and Personality*. (2<sup>nd</sup> ed.). New York, NY. Harper & Row, Publishers, Inc.
- Miller, P. H. (2011). *Theories of Developmental Psychology*. (5<sup>th</sup> ed.). New York, NY. Worth Publishers.
- Nelson, C. A. (1987). The Recognition of Facial Expressions in the first two years of life: Mechanisms and development. *Child Development*. 4, 889-909.
- Payne, H. (2006). Introduction: Embodiment in action. In H. Payne (Ed.), *Dance Movement Therapy: Theory, research, and practice*. (pp. 1-16). New York, NY: Routledge Taylor & Francis Group.

- Piaget, J., & Inhelder, B. (1969). *The psychology of the child*. New York, NY: Basic Books.
- Spanish (International Sort). Pereira, N. S., & Marques-Pinto, A. (2017). The Role of Participant Responsiveness on a Socio-Emotional Learning Program. *The Spanish Journal of Psychology*. 2, 1-14.
- Posada de Valenzuela, M. (2014). Dancing with Mothers: A school-based dance/movement therapy group for Hispanic immigrant mothers. *American Journal of Dance Therapy*. 36, 92-112.
- Pylvanainen, P. (2008). A Dance/Movement Therapy Group as a Community Outreach for Intercultural Women in Tokyo. *Body, Movement and Dance in Psychotherapy*. 1, 31-44.
- Rovee-Collier, C. (1999). The Development of Infant Memory. *Current Directions in Psychological Science*. 8, 80-85.
- Rovee-Collier, C. K., & Gerhardstein, P. (1997). The Development of Infant Memory. In P. H. Miller. *Theories of Developmental Psychology*. (5<sup>th</sup> ed.). New York, NY: Worth Publishers.
- Saarni, S. (1979). Children's Understanding of Display Rules for Expressive Behavior. *Developmental Psychology*. 4, 424-429.
- Saarni, S. (1984). An Observational Study of Children's Attempts to Monitor Their Expressive Behavior. *Child Development*. 55, 1504-1513.
- Saarni, S. (2001). The Continuity Dilemma in Emotional Competence. *Psychological Inquiry*. 2, 94-96.
- Shafir, T. (2016). Using Movement to Regulate Emotion: Neurophysiological findings and their application in psychotherapy. *Frontiers in Psychology*. 7:1451. doi: 10.3389/fpsyg.2016.01451.
- Shafir, T., Tsachor, R. P., & Welch, K. B. (2016). Emotional Regulation Through Movement: Unique sets of movement characteristics are associated with and enhance basic emotions. *Frontiers in Psychology*. 6:2030. doi: 10.3389/fpsyg.2015.02030.
- Siegel, D. J. (2012). *Pocket Guide to Interpersonal Neurobiology: An integrative handbook of the mind*. New York, NY: W. W. Norton & Company, Inc.
- Siegler, R. S. & Jenkins, E. (1989). *How Children Discover New Strategies*. Hillsdale, NJ: Erlbaum.
- Spelke, E. S., & Kinzler, K. D. (2007). Core Knowledge. *Developmental Science*. 1, 89-96

- The Editors of Encyclopedia Britannica. (2016). Neurosis. *Encyclopedia Britannica*. Retrieved October 3, 2017, from <https://www.britannica.com/science/neurosis>.
- The Science of Early Childhood Development*. (2007). National Scientific Council on the Developing Child. <http://www.developingchild.net>.
- Thom, L. (2010). From Simple Line to Expressive Movement: The use of creative movement to enhance socio-emotional development in the preschool curriculum. *American Journal of Dance Therapy*. 32, 100-112.
- Tsachor, R. P. (2013). Laban/Bartenieff-based Somatic Movement Therapy: One practitioner's methodology and individual case studies. *Journal of Laban Movement Studies*. 1, 20-53.
- Tsachor, R. P. & Shafir, T. (2017). A Somatic Movement Approach to Fostering Emotional Resiliency Through Laban Movement Analysis. *Frontiers in Human Neuroscience*. 11:410. doi:10.3389/fnhum.2017.00410.
- Vaughn, B. E., Kopp, C. B., & Krakow, J. B. (1984). The Emergence and Consolidation of Self-Control from Eighteen to Thirty Months of Age: Normative trends and individual differences. *Child Development*. 55, 990-1004.
- Visceral. (n.d.). Retrieved November 2, 2017, from <https://www.merriam-webster.com/dictionary/visceral>.