

# Dance Advocacy and Brain Research

## Why is a developmentally appropriate creative dance education essential for Early Childhood age children?

\*This list includes but is certainly not limited to...

- Develops fine and gross motor skills, body-awareness and a neutral body-image
- Develops self-concept (who am I?) and self-esteem
- Impulse control
- Integrates brain and body
- Engages the senses
- Facilitates Creativity, Imagination, Risk-Taking, and Confidence
- Cultivates whole child
- Allows young children to begin to connect inward which is the foundation for establishing and cultivating relationships out in the world (Peggy Hackney)

## Brain Research and Significant Implications for Young Children

(Based from Maximizing Your Child's Potential by Dr. Frank Lawlis)

- A child is born with over 100 billion brain cells, most of which are just waiting to connect.
- Wiring the brain is a physical act through the coordination of sequential developmental patterns that all human beings experience in the first year of life (approximately). Therefore, physical movement is critical for the development of neural networks.
- The brain is a use-dependent organ so children must use it!
- The brain can reorganize itself with ease during the first years of life.

## The Brain/Body Connection - Why a Developmental Approach to Dance?

**Creatively incorporating the Developmental Movement Patterns and Sensory System facilitates "Readiness"**

- Dance experiences creatively incorporate the developmental movement patterns help re-organize the brain and the body.
- Re-wiring in this way better prepares children with a readiness for learning during the dance experience as well all other areas of learning.
- Engaging the sensory nervous system allows children to better process sensory information and thus perceive the world around them through increased body awareness, and balance.

## What are the Specific Benefits of Practicing the Developmental Patterns?







- Increases blood and oxygen to the brain - critical for brain development.
- Neurological re-patterning coordinates all parts of the brain and body for emotional, social, and cognitive learning (**Readiness**)
- Increases body awareness, connectivity and alignment, and physical balance.

### Patterning Body Connections

**Patterning Body Connections is Fundamental.** We make connections within our own bodies through patterns or plans which our neuromuscular system develops for executing movement sequences, i.e., habitual firings of muscular pathways which come into play to meet a need or fulfill an intent. Habitual ways of organizing the body to deal with relationships within the body and with other people and the environment are constantly being laid down in the neuromuscular system.

Some patterns, such as the primitive reflexes, righting reactions, equilibrium responses, and the tendency to progress through stages of movement development mentioned below are built into our neuromuscular systems. Other patterns come through habits we choose later on in life. But every human being is physiologically mandated to fulfill certain developmental tasks bodily in order to be fully functional and expressive.

We have all gone through a developmental progression similar to the newborn baby we discussed as we began this chapter. This progression has hopefully enabled us to own our **Fundamental Patterns of Total Body Connectivity:**

- |                             |   |                               |   |
|-----------------------------|---|-------------------------------|---|
| 1. Breath                   |    | 4. Upper-Lower Connectivity   |    |
| 2. Core-Distal Connectivity |   | 5. Body-Half Connectivity     |   |
| 3. Head-Tail Connectivity   |  | 6. Cross-lateral Connectivity |  |

**These Fundamental Patterns of Total Body Connectivity form the basis for our patterns of relationship and connection as we live our embodied lives. They provide models for our “connectedness.”** When these patterns are not achieved, the individual will develop compensatory patterns that might not effectively support the next stage of development and may lead to either physical or psychological problems later on. But whether the patterning is maximally effective or not, patterning *is* happening as an individual grows and develops. Habitual ways of organizing the body to deal with relationships within the body and with other people and the environment are being laid down in the neuromuscular system.

**Each Fundamental Pattern of Total Body Connectivity represents a primary level of development and experience, and each is relational. Each organizes a way of relating to self and to the world.** As human beings progress toward an integral stage, a stage of meaning and purpose in life, all previous stages of bodily organization become important and appropriate according to context. Even without our awareness, the Fundamental Patterns of Total Body Connectivity are with us. Indeed as we come from the darkness of sleep into the light of wakeful choice everyday we can and do reinvest in the beginnings of that progression. We confirm our relation to the life-giving basic flow of the breath as we

lie in bed and yawn, taking in large amounts of new oxygen, filling us with energy (Breath pattern). We stretch out away from our navel and come back into it with our whole body (Core-Distal pattern). We explore our spine, as we wriggle and sense our flexibility returning for the day's ventures (Head-Tail pattern). We push to sit up. We reach our legs to the floor and push to stand (Upper-Lower pattern). Or perhaps we dip down with one side to assist in putting on slippers (Body-Half pattern). And then we walk (Cross-lateral pattern). All of this we probably do without even being consciously aware of it. Were we to go through the entire developmental progression each morning with intent to enjoy choosing our own connectivity we might discover new expressive areas opening as well.

I am aware that even as I sit here writing, I could use the Fundamental Patterns of Total Body Connectivity as a five-minute recuperation. I could inhale deeply, sensing my whole body grow and shrink. I could stretch out away from my core and release back into it. I could playfully have a conversation between my head and my tail. I could push away from my desk and pull myself back several times using either my arms or my legs. I could shift my body side-side several times, perhaps using my right side to grab a banana from a nearby bowl, and my left side to turn myself around in my swivel chair. As I reach across and down to file papers I could engage my cross-lateral functioning. And I could return to my computer refreshed. It is recuperative to give attention to fundamental movement.

**As we become conscious of these stages of bodily development, we recognize that we are in a creative process at all times—creating our own embodied existence. And we can see that these stages and patterns are mirrored in the development of our other creative work as well.** Each creative project we do begins its life within us in an unformed way, simply as part of our life breath. We live with it, gestating, for a while. Soon we begin to sense a core idea of the project, and possibilities radiate from there. Then comes a magical time of inspiration and playing with relationships until the spine of the project finds form. After this happens, playtime is over—it starts to seem like work. We have to push and pull to get anywhere and aspects of the project seem really polarized. It is a time of struggle and can be wonderfully challenging, like the push that is the beginning of crawling—or it can seem too daunting and we give up. If we continue, issues begin to clarify themselves and the form gets set—what is right is right and what is left is left (or left behind). We hone details and get everything coordinated again and in some relationship to the original inspiration—functioning as it should, just like an easy cross-lateral walk which gets somewhere. And, hopefully we plan time for a meaningful relationship with what we have created to enter our lives. This is the integration stage.

As we become familiar with the stages, we can then know which stage we are in as we work, and perhaps give bodily support to that stage by moving in the corresponding developmental pattern. For instance, when I am writing an article, during the inspiration stage I might play with Head-Tail relationships, and at the struggle stage, I might work with Lower Body push patterns.<sup>5</sup> In this way I can be congruent with myself, embodied.

Patterning body connections is fundamental and so are relationships and change. Let's spend some time looking at the words "relationship" and "change."

Anne Green Gilbert's Brain Dance incorporates the Fundamental Patterns of Total Body Connectivity and integrates sensory experiences incorporating tactile input and stimulating the Vestibular System.

In Summary

# BrainDance



1. **Breath** – Breathe deeply.



2. **Tactile** – Squeeze, tap, pat, scratch, brush all body parts.



3. **Core-Distal** – Reach out with toes, fingers, head, tail and curl back to your core.



4. **Head-Tail** – Move head and tail separately and together in all planes, wiggle spine.



5. **Upper-Lower** – Move all parts of upper half of body, then all parts of lower half of body.



6. **Body-Side** – Move all parts on right side of body, then all parts on left side, do horizontal eye tracking.



7. **Cross-Lateral** – Move across midline and connect upper and lower body quadrants, do vertical eye tracking.



8. **Vestibular** – Move off balance with swings, spins, tips and rolls on all levels and in all directions.

Some of these patterns are based on Bartenieff Fundamentals.  
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### **Benefits of Each Pattern**

Some patterns are based on the Bartenieff Fundamentals

- 1. Breath:** Deep breathing is essential for a fully functioning brain and body. The brain consumes one-fifth of the body's oxygen. All movements and rhythms are based on breath.
- 2. Tactile:** A variety of touch leads to bonding, sensory integration, proprioception (knowing where the body is in space) and appropriate behavior.
- 3. Core-Distal:** Reaching out with distal ends (fingers, toes, head and tail) connects us to the world beyond ourselves (interpersonal intelligence) and creates full body extension. Curling back to the core (pelvis and trunk) returns us to our own self (intrapersonal intelligence) and creates an awareness of core support for correct alignment and a sense of aliveness.
- 4. Head-Tail:** Being aware of the interactive relationship between the head and tail (pelvis) leads to a full use of both ends of our spine for propelling us through space with ease, both on and off balance. Release of the head and tail creates an open path for our central nervous system to fully function. This pattern also strengthens back, neck and shoulder muscles used in sitting, writing and focusing on book, screen or blackboard.
- 5. Upper-Lower:** Grounding the lower half, by yielding the weight of the body into the earth, allows the upper half to reach into space and relate with people. Grounding the upper half allows the lower to shift weight and travel through space toward someone or away from danger. Grounding and articulating body halves encourages emotional stability. We learn to reach for goals and set boundaries.
- 6. Body-Side:** Grounding the right side allows the left side to be fully expressive and vice versa. Right or left dominance is felt; left and right brain hemispheres are strengthened. Body-side movements develop horizontal eye tracking necessary for reading.
- 7. Cross Lateral:** Connecting body parts from opposite quadrants creates complex, three-dimensional movements such as spirals. Crossing the midline of the body connects both sides of the brain through the corpus collosum, which is essential for developing higher thinking skills. Cross-lateral movements develop vertical eye tracking necessary for reading.
- 8. Vestibular:** Moving off balance develops the balance or Vestibular System. Stimulating the Vestibular System strengthens eye tracking, hearing, proprioception, balance and coordination.

# DEL Early Childhood Focusing Warm-Up\*

\*Adapted from the Bartenieff Patterns of Total Body Connectivity and Anne Green Gilbert's Brain Dance.

## Lyrics

## Developmental Pattern

First we breathe in and out,  
In through your nose and out your mouth.  
(1 more time and you'll feel fine)

Breath

Then use your hands to create heat,  
and tap your head down to your feet.

Tactile

Then make your body really small,  
and round, just like a tiny ball.  
Stretch your arms and knees - Expand!  
...A starfish playing in the sand.

Core/Distal

Then shake your head and tail and bark (Whoof),  
A puppy rolling in the park.

Head/Tail

Wiggle arms, then legs, shout - HOT!,  
Spaghetti boiling in a pot.

Upper/Lower

Open one side, close it - LOOK!  
Your body moves just like a book.

Body/Side

Kris cross your legs and tap your knees,  
Make an x shape - open it, then say CHEESE!

Cross/Lateral

Bounce down low 1-2-3 POP!,  
Spin round and round till you hear - Stop!\*

Vestibular

\*Freeze and finish with 1 last deep breath melting arms down by one's sides.

# DEL's Thematic Developmental and Sensory Based Physical Warm-Up\*

\*Adapted from the Bartenieff Fundamental Patterns of Total Body Connectivity and Anne Green Gilbert's Brain Dance

## Unit Theme: Babies

Thematic Material inspired by the children's book, "Over in the Meadow" By Ezra Jack Keats

**Begin warm-up in a circle formation with children for connection and community.**

### Movements

### Developmental Pattern

#### **Diving Muskrat**

Sit on heels and reach arms up above ones head and rise onto knees while taking a deep breath. Dive down over legs with upper body like a muskrat into the water (as seen in the story) and exhale while popping upper body back up to original sitting position on heels. Repeat 2-3 times or as many times as desired.

**Breath**

#### **Buzzing Baby Bees**

Remain sitting on bottom and stretch legs in front of ones body. Use tips of fingers to "buzz" all body parts.

**Tactile**

#### **Baby Birds Chirping and Spreading Wings**

Curl in all limbs and hug legs in tight to form a tiny ball shape and chirp like a baby bird. Then "grow" by spreading and stretching arms and legs (wings) out wide. Give arms a little flap to practice flying.

**Core/Distal**

#### **Turtles Digging**

Pull all limbs in close and sit on knees with upper body rounded over legs with ones head down on the ground. Use hands to "dig" in the dirt while rounded over and press hands into the ground poking turtle head out to look around. Repeat a few times and then slowly shake your turtle tail from side to side.

**Head/Tail**

#### **Swimming Fish**

Sitting back on knees, make a fish face and then use

**Upper/Lower**

arms to "swim" like the fish in the story. Reach arms toward floor to support laying down on ones belly. Anchor elbows into the ground to prop-up upper body and use legs to "swim" as a fish tail. Kick, flutter, sway back and forth, flip, etc.

### **Lizard Crawl**

Stick out lizard tongue and get ready to crawl into the center of the circle. From lying down on ones belly, tap one arm to one knee on the same side and then dig one's toe into the ground to push while at the same time reaching that same arm forward to pull lizard body forward. Repeat on the other side and then as many times until children are close together in the center of the circle. Press hands into the ground to lift lizard head and stick lizard tongue out. Then use hands to slide back out to original circle formation and sit up with crisscrossed legs.

**Body/Side**

### **Crow's Building Nest**

Flap crow "wings" (arms) out wide to the side and then cross arms over the midline of body and "build" your nest. Repeat on the other side and as many times as desired.

**Cross Lateral**

### **Fireflies Flying**

Pop up to standing and make little firefly wings in near reach space. Quickly flap wings and spin in one direction in personal space and the stop and spin in the other direction. If the group is ready, guide students to "fly" in the general space on straight, curvy, and zig-zag pathways without bumping into another firefly friend. Return to the circle and "land" once again in personal space ready for the next instruction.

**Vestibular**