

# Mature Differentiation

**D**ifferentiation is the ability to move one body part without the unintentional movement of other parts. The ability to move one's eyes independently from the head is required for reading text or facial expressions. Differentiation of fingers, one from another, is needed for fluid writing. Differentiation also allows us to mentally prioritize and focus on the task at hand.

According to Judith Blueston, creator of the HANDLE® Approach, clues that may indicate a weakness in differentiation include:

- when concentrating, knocks things over at the table
- startle reactions
- unintentional body movement often interpreted by others as misbehaviors when standing in line, sitting at circle time, etc.
- unintentional movements of the head or jaw when the eyes are tracking
- unintentional movements of the opposite hand when one hand is engaged
- unintentional movement of the legs when one hand is engaged
- tics that involve more than just the eyes
- difficulty sorting out fingers for fine motor coordination
- movement of the tongue and/or mouth when concentrating on a task

Many of our hurting children who come from toxic wombs and an early, stressful first year of life have immature differentiation of movement.

With immature differentiation, brain circuits aren't organized enough to support good regulation of emotions and adequately control impulses. This is reflective in the movement of unnecessary body parts to perform simple actions. Example: Sticking the tongue out of the mouth to the right to turn right or sticking the tongue out of the mouth to the left to turn left on a bicycle. Another example is when someone turns their whole head when they just could have turned their eyes and they are too old to do that. Another sign could be the whole-body hyper-startle response to sudden noise or movement long after infancy. Mature

differentiation is the precursor to good, inter-hemispheric integration. It is the "on/off" switch of the brain. If one can switch on the behavior or the thought and then switch it off, then one has the ability to learn and practice self-control. The movements of the body are good indicators of how organized the brain is. If there are too many body parts moving to perform certain actions, then the brain isn't maturely organized enough for higher functions such as impulse control and mood regulation to come on line as they should.

**1. What causes immature differentiation?** One theory is that reflex integration, particularly the MORO reflex, didn't happen during infancy as it should. That could have been a result of a baby having had too much stress during that period or even during the gestational period.

The Moro reflex is a whole body startle movement. It emerges in-utero and should be integrated before the child becomes bi-pedal (about 1 year of age). If it remains unintegrated, the brain spends too much time in the fight-flight-freeze center (brain stem), practicing too much stress. A stressed brain doesn't learn, said the late Judith Bluestone. Higher brain systems have trouble coming on line in an efficient manner if lower brain centers such as the brain stem are still overly-active. It's hard for the smart part of the brain to develop properly if the attention is constantly pulled back to the brain stem.

**2. Is there a good general activity to help integrate the MORO reflex?** See how Kathy Johnson, MS Ed., teaches the yoga-like Starfish exercise at <https://www.youtube.com/watch?v=fQ4K9sw7by8>. HATHA Yoga may also be good for helping children and adults integrate many primitive reflexes that didn't integrate as they should have during infancy.

**3. What does interhemispheric integration have to do with differentiation?** Mature differentiation is the precursor to the easy shifting, or good communication between the two sides of the brain (interhemispheric

integration). Please see the work of Dr. John Pettigrew on the subject of interhemispheric stickiness and bipolar disorder.

Diagnoses such as ADHD, oppositional defiant disorder, obsessive compulsive disorder and bipolar disorder depend on poor interhemispheric shifting due to immature differentiation, Bluestone said. Note that when a person has symptoms of one of these disorders, he or she also has problems turning off movement, behaviors, thoughts, desires or feelings.

Begin preventive and interventive treatment at the level of differentiation, so interhemispheric integration can be supported.

**4. What can caregivers of hurting children who have suspected immature differentiation do?** No-tech, old fashioned play! Get the kids off of their behinds and separated from their technological gadgets. Get them moving and interacting with others in the "real world." See the partial list of "old school" neuro-behavioral play activities below which can help build better brains. Please note that "play" is supposed to be fun. A stressed brain doesn't learn.

Differentiation Play includes practicing stop/go movements and stillness of non-essential body parts to increase impulse/mood control and support interhemispheric shifting. Some examples include:

- Pick up sticks
- Jacks
- Marble games
- Finger string games such as cup and saucer
- Red light, green light
- Mother, may I?
- The quiet game
- Swing the Statue
- The hot lava game
- Twister®
- Basketball dribbling on one side of the body, then the other, alternating hands to cross the midline of the body. The caregiver can help the child practice on/off switch by trying to take the ball away.



# of Body Parts By Beth Powell

## A Prerequisite to Self-Control

Be sure children focus on not moving unnecessary body parts when playing differentiation games. For example: A child does not need to stick his tongue out of his mouth to shoot marbles. Nor should a child dance or move around while waiting a turn in "Mother, May I."

### **5. Interhemispheric Integration Play —**

to increase thinking skills and improve management of thoughts/feelings. Some examples:

- Dancing games such as the hokey pokey
- Cross-lateral clapping and lummi stick tapping games while singing in time to the clapping and tapping
- Crawling races or other cross-lateral crawling activities, such as the crab walk
- Forward and backward cross-legged walking
- Group sports activities such as volleyball, baseball, basketball, etc.
- Jumping jacks while standing or lying down
- Marching to patriotic music
- The rock, scissors, paper game
- Bike riding
- Hide and go seek games
- Skipping games
- Simon says
- Any group or solitary problem-solving pretend play games that require planning, common sense, cooperation and sequential order thinking.
- Chinese checkers, chess, puzzles or any board game that requires thinking and turn taking

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