



Spectrum Podcasts

Dr. Jane Bluestein
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Movement and Learning: A Partnering Relationship

Guest: Aili Pogust, Ph.D.

Recorded: December 27, 2011

Background and Bio: Dr. Aili Pogust has worked as a public school teacher, a K-12 supervisor, and a college instructor. She has received over 350 hours of literacy training, is a certified Brain Gym® Consultant, as well as a certified coach with over 1200 hours of coaching experience. In addition to consulting, training, and coaching, Dr. Pogust maintains a private practice for children and adults where she effectively applies the methods developed by the International Educational Kinesiology Foundation which are used today throughout 80 countries. She is the author of *Communicating with Clarity: A Pocket Guide for Humans*.

Program Description: Vital information about the relationship between movement and literacy, and the importance of meeting the body's needs for all learning. Dr. Aili Pogust addresses the necessity of incorporating movement and accommodating differences in learning needs into the classroom. This program offers practical ideas for introducing simple, non-disruptive exercises throughout the course of a lesson, as well as compelling reasons for accommodating the neurological, biological, and developmental needs of students of all ages.

Highlights of Podcast:

Many teachers have a hard time recognizing the need for movement in the classroom because many of them are not doing movement (exercise) on a regular basis. (Dr. Pogust used the example of New Year's resolutions showing up at the gym and starting to fade within a few short weeks.)

Many people in education fail to make the connection between movement and learning, retention, or cognitive processing because in our training, we have not received this kind of information.

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When we move, it helps us process information and also helps us have more attention. Without attention, the concepts we teach don't move into long-term memory. Movement helps students retain new information longer because they have their attention focused.

Children's attention spans equal roughly one minute for every year, up to about 15-18 minutes. (This can be shortened by stress, distractions, processing problems, medication, etc.)

Fear that movement will lead to chaos and loss of teacher control.

Pogust recommends teaching in 20-minute blocks. Teach for 10 or 15 minutes and before they go into the next block of information to do some form of movement with the students. This creates an opportunity for students to be able to process the new information coming in.

Example of adult learners being asked to turn and share one piece of information they had just learned in the past 7-10 minutes.

Turning to someone and verbally processing the information offers a "novelty factor." In addition to turning and talking, Pogust also asks learners to stand up and then turn and share what they've learned. By standing up, you allow more oxygen to flow around the body which helps the body process the information even better.

Feedback from teachers using Brain Gym® exercises in their classrooms confirms that doing even one minute of the exercises gives teachers 15-20 minutes of student attention. Brains need time to process information coming in.

Even more important is the element of Brain Gym® that helps the body calm down. Reducing stress improves learning, processing, retention, and decision making. Relaxing also helps reduce impulsivity, and also helps balance between being over and under focused.

Accommodations and movement are often used with challenged or special needs children but applies to all learners.

As much stress and pressure as teachers experience, it's easy to forget how much stress kids are under (at home, socially, academically, etc.). We assume that the bell ringing means that the kids are focused and ready to learn. If students are in crisis mode, the best lessons in the world won't achieve their goals.

Teachers need movement as much as students!

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Students are especially receptive to (if not desperate for) movement in the classroom toward the end of the day. Kids really need an infusion of movement during the last period or two to finish up their day.

Pogust uses a lot of stand-up and stretching activities, stretching the back leg muscles. (Back muscles get contracted and tightened up from the tension of trying to sit and listen all day. This is where the tension starts building up.)

She has the kid stretch the tendon guard reflex (below the calf muscle), having students partner up with another student to hold onto one another's wrists and stretching away from each other. Or lifting their arms straight up and stretching the body and then crossing their ankles, relaxing the knees and letting the head hang.

Also crosses the the midline ("cross-crawl"), lift one knee, tapping that knee with the opposite hand. Then lift the opposite knee, tapping it with the opposite hand. This is another way to calm the body's system down and also engage both hemispheres of the brain.

Teachers are often surprised to notice how antsy *they* get having to sit for 45 minutes or so, and are likewise surprised to notice how much even 20-30 seconds of cross-crawl revives them and changes their level of alertness.

Pogust acknowledges that many adults are not comfortable with their own bodies, and that this has an impact on how we address movement in the classroom. "If we're not comfortable with our own bodies and the way we move in public... then we're not gonna translate that into the classroom." Quotes Paul Dennison (developer of Brain Gym®) saying, "Our first client is ourselves."

When we start to experience the benefits of the 26 Brain Gym® exercises — including noticing that the exercises relax, refocus us, help us with our attention, help us with our organizing, help us with the way we communicate— we are more willing to translate the support and help we receive into the classroom. Otherwise it's just another thing to do.

Teachers who instinctively know that kids simply can't sit as long as we ask them to sit are often relieved to hear that these types of movement have enormous benefits in the classroom.

Accommodations can be very simple and inexpensive: One second grade teacher found that a child who kept talking and falling out of his seat,

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when given a spring-loaded clothespin, could control his talking and stay in his seat.

Pogust also mentioned a student of Dr. Carla Hannaford (*Smart Moves*) who had a student in her class who knitted, never looked up, but when it came time to process the information, remembered everything. We have kinesthetic learners who need to process by movement (moving their hands).

Many teachers assume that kinesthetic learners who are doodling, or knitting, or doing something with their hands are not paying attention despite the fact that for some learners, that is *how* they best take in auditory information.

Pogust, another kinesthetic learner, related that as a child, she used to walk (back and forth, up and down the steps), as she was studying for her spelling tests. The movement helps her process and retain the information.

Everyone can benefit from taking movement breaks.

For kinesthetic learners, movement “is not a maybe, it’s a must.” This is how they process information.

One other thing to be aware of is that using movement to understand a concept is also a very powerful way to learn. Rather than just lecturing, teachers need to give kids a chance to practice, and one of the ways to do that is to use movement to create a concept, for example, using the body to show the idea of gravity; learning to tell time by using their arms as the arms on a clock. (Once kids experience a concept three-dimensionally, it is often easier for them to transfer that learning to a two-dimensional expression.)

Use the body as an arena for learning. Using movement as a way to learn.

Show— don’t just tell.

Impact of technology

Young children especially function in a three-dimensional world and many have trouble working with paper and pencil, which is two dimensional.

Technology impinges on a child’s three-dimensional reality and on opportunities for them to go outside and play. If they’re not playing, they’re not building their eyesight (ability to develop depth perception

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and visual processing), they're not building their creative abilities, taking risks that come out in play.

When you're outside and in nature, there is a calming effect. Studies show that when you're looking at nature in a two-dimensional representation (on a monitor, for example) vs. being out in nature, seeing nature on a monitor correlated to staring at a blank wall.

The emphasis in our culture on two-dimensional processing before kids are developmentally ready is having an impact on literacy. In order to be able to read and write, you have to be able to move your eyes from left to right, and they have to cross the midline. If you are working in the midfield with the games (on a monitor), you're focusing your attention into one space and you're not crossing the midline.

Another thing that's being compromised (especially with young children) is curiosity.

Pogust recommends balancing lecture with stretching, breaks, and movement after 10 or 15 minutes. Just two or three minutes in between instruction. Breaks need to happen inside the classroom. Moving between classes in middle school and high school is not enough. Teachers working with kids at the end of the day need to do this even more because kids at that point are pretty fried, and so are the teachers.

She also recommends that parents look to balancing play with technology — meaning going outside and playing in nature. Parent need to become much more concerned about what kids are doing inside and what they are doing outside.

Free article by Dr. Pogust

Literacy: What's Movement Got to Do with It?

by Ali Pogust, Ph.D.

The year I taught fifth grade found me on the second floor of a school building erected in the 1920's. There was only one third, fourth, fifth and sixth grade on that floor, and there were four of us of who taught up there. We were used to helping each other out, but when the school secretary informed us after lunch one day that the music teacher was not coming and no substitute was replacing her that afternoon, we were a sorry lot— each of us had lost a precious half hour of prep time. I saw this as a golden opportunity

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to demonstrate the importance of movement in learning. I immediately volunteered to take all 80 students to the school gym for 30 minutes and guide them through some easy physical movements designed to integrate their left and right sides (laterality) and calm their nervous systems. The students I returned to class were so receptive to the afternoon lessons that my colleagues were first amazed, then delighted.

Before describing some of the movements I used that day, I'll provide some background on why movement is such an important part of learning: Every movement sends impulses to the brain, providing information about changes in position and location of the body in space. These sensations provide self images which is how we go about creating what we know and how we behave. (Hannaford, 2005). Learning where we are in time and space begins in the womb, develops during our first years in life and is utilized throughout our adult years. For example, the Moro reflex, an involuntary reaction to threat, acts as a survival mechanism in the first months of life to alert, arouse and summon assistance. As adults we have remnants of that reflex when we are startled by a loud noise or interrupted suddenly when engrossed in an activity. Yet, most of us calm down quickly. If the Moro reflex remains active beyond the first few months of life, the baby, who will become our student, will be hypersensitive to stimuli. This may be exhibited by free-floating anxiety, mood swings, tense muscle tone and poor breathing. (Goddard, 1995).

Although developmental specialists have long recognized that movement is important for development of the nervous system and that young bodies need free play to learn how to control their bodies spontaneously, our culture remains movement deprived. We are placing our babies in walkers and providing insufficient floor time for them to crawl and creep to develop their vision. We are placing our babies in front of two-dimensional television screens at a time when a three-dimensional world is essential to help them develop their vision. We are handing our infants electronic games that force their vision into a focal point that their eyes are not ready to handle. When children don't know how to point their two eyes on a line of print without seeing double or losing their place, there is no point in asking comprehension questions. (Dennison, 2006).

As educators, many of us are familiar with the importance of physical movement. Ask any teacher what it's like to teach a class of students who missed a recess or gym class. We notice a marked lack of focus during afternoon lessons. Who among us wouldn't want his or her students to improve their ability to focus? Yet, it has been a hard sell to incorporate physical movement to help students focus more effectively during literacy or

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other lessons. A major reason for this resistance is because many educators perceive learning as a mental act that exclusively involves the intellect. (Dennison, 2006).

I've personally experienced the often overwhelming number of items that educators have on their teaching agendas. That's why the movement exercises that follow only take a few minutes each and blend easily into literacy lessons. They help the eyes, ears and hands team up in more effective ways for reading and writing. There is no "right" or "wrong" way to do these movements, so relax and play with ways to adapt them to your classroom needs.

Cross Crawls

When I took those 80 students to the gym class, one of the first movements we did was designed to support laterality, which is the integration of the left and right sides of the body. We must use both hemispheres of the brain to be maximally proficient at anything. (Hannaford, 2005). Reading requires that both eyes team up and move across the body's midline so that words can be read from the left to right. For most people the brain's right hemisphere sees the big picture and the left side sees the details. For reading, one side of the brain is comprehending the big picture and the other side is decoding the print.

An effective way to promote integration of the two hemispheres is "cross crawls." While standing, slowly touch the right hand or elbow to the left knee, then the left hand or elbow to the right knee. Repeat this motion for a minute or two. Do the cross crawls slowly for optimal integration. (Heilberge, Wilson and Heiniger-White, 2000). It has been my experience that some students who are stuck in some developmental reflexes will find this difficult and will touch their elbows to their knees on the same side of their bodies and not cross their midlines. Imagine, then, how difficult reading would be for them. In these cases, I point to their elbows and visually guide their elbows to the opposite knees with my finger. If it is still challenging, I have them sit while they cross their midlines from elbows to knees.

I have also noticed that some students can cross the midline but rush through the movements in order to maintain them. This is particularly true for students who tend toward hyperactivity. Because my intention is to help them slow down their movements so they can move and listen at the same time, I challenge them, in a playful spirit, to slow down to half-time. When

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they have accomplished that task, I challenge them again to slow the movement down half as fast. This gives them opportunity to teach themselves what it feels like to slow down. This empowers them and saves me, the teacher, from being seen as nag. Variations of the cross crawl and other movements can be found in *Brain Gym: Teacher's Edition* (revised) by Paul and Gail Dennison.

S'cool Moves for Learning by Debra Wilson Heilberger and Margot C. Heiniger-

White is another excellent resource filled with easy movements to use in the classroom.

Figure 8's on Paper

The figure 8 is another excellent tool for developing laterality. Think of the figure 8 horizontally rather than vertically. I tape a 9 x 12 sheet on each student's desk and draw a vertical line down the middle of the page. I then have each student, in a sitting position, align the center of his or her midline with the drawn line. Then I have students take a crayon in their dominant writing hands, start at the midline and move to the left to make the horizontal 8 which activates the right spatial hemisphere and move around to finish the 8 on the right. I involve students' auditory processing systems by having them join in the chorus, "Up to the left and around. Cross the middle and up. Around, down, and back to the middle." (Dennison, 1994). When students complete three 8's, I have them switch to their other hand. After three more 8's, I have them use both hands. (This is why taping the paper to the desk is a good idea.) Be on the lookout for students who want to start on the right. Since you are helping the students work spatially, you want to guide them to move to the left to help them see the big picture. Again, my language is friendly and playful. Since some students like to start toward the right, I challenge them to see what they can do when they start on the left.

Figure 8's in the Air

A variation on the figure 8 is to draw "in the air." I have students extend their right arms in front of their eyes, their right hand in a fist with the thumb sticking up and their eyes focused on their thumbs. They draw their horizontal 8 by, again, beginning their 8 to the left to activate their spatial perception. As before, we all recite our movement out loud. We then do the same with our left hand. Finally, we use both hands, all the while making

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sure our eyes stay focused on our thumbs. This helps our eyes cross the midline. Then, I gently guide the students to use only their eyes to cross their midlines. If they keep using their whole bodies, there is indication that midline movements for the eyes remain a challenge. For those students, I provide a board eraser and have them work with gross motor movements at the blackboard while they make their 8's, again with one hand, the other hand and then both hands.

The 8's can also be drawn on tactile surfaces, which stimulates sensory systems even more. While working with the 80 students in the gym, we did our 8's in the air as paper and crayons were not a practical option. The power of crossing the midline through the use of the horizontal 8 was reinforced for me when I was asked by a colleague to teach this movement to her special education students to assist with writing. I shared some of my own writing and had them write about a topic of their choice. Most students had written several lines before running out of steam. I then introduced the 8, which was met with a great deal of enthusiasm and a sense of fun. I noticed that one little guy was having some difficulty crossing the midline and hadn't written any thing. His teacher informed me privately that he rarely wrote. While the other students continued working on their writing, I assisted and guided him in creating his 8's. When he was comfortable with the 8's, I left him to practice on his own while I circulated around the room conferencing with the other students. By the end of the period, our little guy had filled an entire page of writing, much to the delight of his teacher.

Hook-ups

I ended my 30 minutes with those 80 students with hook-ups, a movement that helped calm their nervous systems and integrate their emotional brains with their rational, thinking brains. This movement has two parts. In the first part, students crossed their left ankles over their right. Then they interlaced their fingers and drew their hands up toward their chests. The students closed their eyes, breathed deeply and relaxed for about a minute. I suggested that they think about a time that made them happy. I played relaxing music. (I particularly like music that is connected to nature.)

In the second part, the students uncrossed their legs and touched the fingertips of both hands together while they continued to breathe deeply for another minute. (Dennison, 1994). I do not insist that students keep their eyes closed because I realize that some students need open eyes to feel safe. Children who feel constantly stressed respond reflexively to the

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sensation of danger by moving their eyes peripherally so they can take in as much of the environment as possible. Traumatized children exhibit “wall eye,” with both eyes in a sustained peripheral focus. (Hannaford, 2005).

By giving students a consistent opportunity to use the calming effect of hook-ups, they gradually begin to relax their stressed eyes as well as all other parts of their bodies. Whenever I use hook-ups to guide groups of teenagers who have been under chronic stress, I can always count on one of them telling me that it makes them feel “fatigued,” which is the word they equate with relaxation. They are simply unaware of how stressed they are.

It is an amazing and gratifying experience to feel a room of students settle into a state of calmness as they do their hook-ups. The noise of the mind and emotions are quieted. The electrical frequencies radiated by the heart change. This can affect not only each student but the other students around them. (Childre, 1998). I have seen how extremely agitated students can be calmed down when classmates are doing hook-ups, even if the agitated students are not directly participating. This calmness provides a classroom atmosphere conducive to independent reading and writing while the teacher is engaging in reading or writing conferences with students or directing small group instruction.

Hydration

When I guided those 80 students through these exercises, there was one important movement I couldn’t use— moving water through their bodies. Logistically, it was not feasible to wait for 80 students to drink water from one fountain outside the gym when I only had 30 minutes. However, I made sure my class was well hydrated throughout the day.

Our body systems are electrical. It is water that directs these electrical systems that makes for a sensing, learning, thinking and acting organism. (Hannaford, 1995). The first sign of dehydration is loss of concentration and focus, not thirst. When our students regularly drink water, they help their bodies carry more oxygen to their brains. As we know, fruit juice, soda and diet soda are high in sugars and salts. These bind water in the body and decrease alertness. It may be helpful to think of the different bodily systems as laundry. We wouldn’t think of washing our laundry with juices, sodas, coffees and teas. To keep our clothes clean, we would use water. The same applies to our bodies.

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Awkward pencil grips, perching on chair edges, wrapping legs around a chair, laying the whole body on the desk and covering one eye when reading are familiar examples of compensating behaviors that students have created so they can try to learn. Their hearts want to learn but, developmentally, their bodies are not ready. As educators we must be careful not to “label” these compensations. We can, however, help our students let go of these compensations by providing the movements their bodies need to learn comfortably.

The movements can be used to prepare for a lesson, as a way to get through a learning challenge, as a way to transition from one lesson into another and as a way to anchor the lesson that was just learned.

In conclusion, except, perhaps, for air-traffic controllers, I can't imagine a more stressful job than teaching. We need these movements as much for ourselves as for our students. That is why a sizable part of my movement work is with teachers. This is not about “prescribing” or “fixing.” Rather, it is about gracefully integrating movement into our own and our students' lives. I use the power of movement whenever I notice I am under stress or have lost focus. I know I must redirect my stress and my focus before I can be effective in any classroom. I have to take care of myself first. Isn't that what the airline stewards tell us as they go over the safety precautions for our flight? When the overhead compartments drop our oxygen masks, aren't we asked to put ours on first before we place them on our children? Try the moves. Play with them. Experience how they helped you. You will then be motivated to share them effectively with your students.

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Dr. Aili Pogust has worked as a public school teacher, a K-12 supervisor, and a college instructor. She has received over 350 hours of literacy training, is a certified Brain Gym® Consultant, as well as a certified coach with over 1200 hours of coaching experience. In addition to consulting, training, and coaching, Dr. Pogust maintains a private practice for children and adults where she effectively applies the methods developed by the International Educational Kinesiology Foundation which are used today throughout 80 countries. She is the author of *Communicating with Clarity: A Pocket Guide for Humans*.

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Additional Resources:

Edu-Kinesthetics, Inc. Web site of Dr. Paul Dennison and Gail E. Dennison. Includes books, music, aids, and Dr. Dennison's training schedule. 888-388-9898; 805-650-3303; <http://www.braingym.com>

Brain Gym International. Educational Kinesiology Foundation. Includes resources, research, practitioners, classes. 1-800-356-2109, 805-658-7942; <http://www.braingym.org>

Enhanced Learning and Integration Inc. Sharon Promislow's Web site with books, workshops, and events. 604-682-8192; <http://www.enhancedlearning.com/el.htm>

Touch for Health Kinesiology Association. John F. Thie, D.C.; 509 324-8117; <http://www.touchforhealth.us>

Three in One Concepts. Integrating body, mind, and spirit. 818-483-0855; <http://www.3in1concepts.us>

Links to various Multisensory and Sensory Integration Resources:
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Links to various Resources for Sensitivities to Food or Light:
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