An elementary school art educator shares her kinesthetic-based art classroom unit.

Art and Transformation: Embodied Action in a First-Grade Art Class

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Introducing the Kinesthetic-Based Art Unit

"I have a tiny friend," I tell my students, feigning conspiracy. "She's here in my pocket… and she wants you to take her on an amazing adventure." The students are rapt with attention. "Do you want to meet her?" I ask. A resounding "Yes!" breaks the room's silence, a mere blip in decimals compared to what's to come. The tiny friend, a bright green rubber ball recovered from my pocket, receives an extra round of applause.

It's the first day of the kinesthetic-based unit in my elementary art classroom. Not one of the 17 1st-grade students sitting so eagerly on the brightly striped carpet has any idea what will come next. Neither do I. I take a deep breath, review classroom rules, and we talk about sharing. Holding my breath, I set the students loose, five at a time, to gather supplies from the back tables where piles of paper towel tubes tumble over curvilinear wood scraps mixed with brightly painted wood blocks. Eager hands stuff handfuls of supplies into bellies of t-shirts, tuck tubes under arms, and poke at other eager bodies vying to get the most and the best of the lot. The ear-splitting volume bouncing off cold cinderblock walls is enough to send me running for cover. I breathe deeply, remembering my role of teacher/observer, and my ears soon distinguish excitement within the wall of sound. This is not the playground, but the exuberance and playfulness witnessed in these first few moments make it seem like it is. Yet there is a distinct difference: students are hunched over blocks piled on tables, crouched down to peer eagerly through tube tunnels, chasing dropped rubber balls, only to return to the skateboard ramp/obstacle course/amusement park construction at hand. In a word, they are *engaged*.

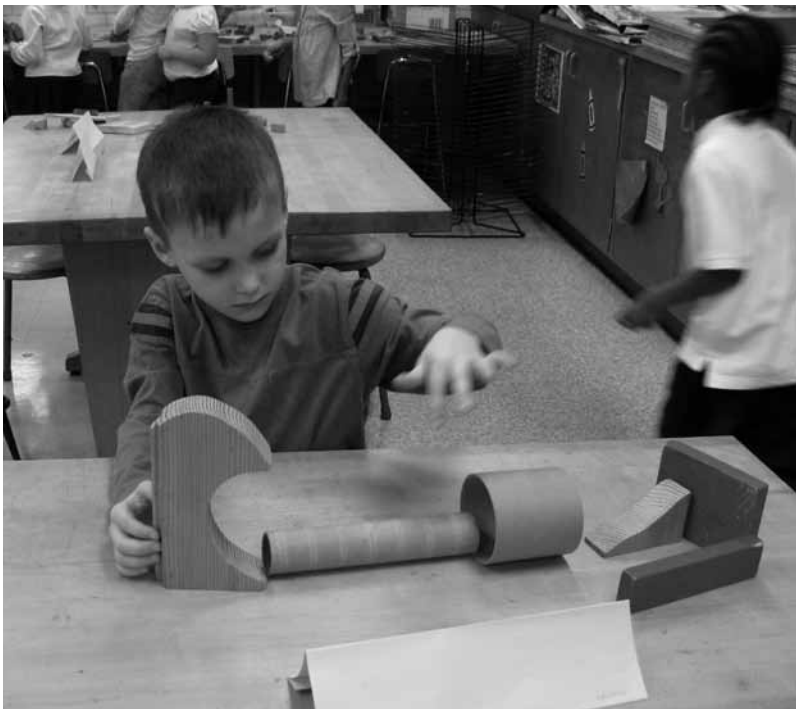
June 25, 2009

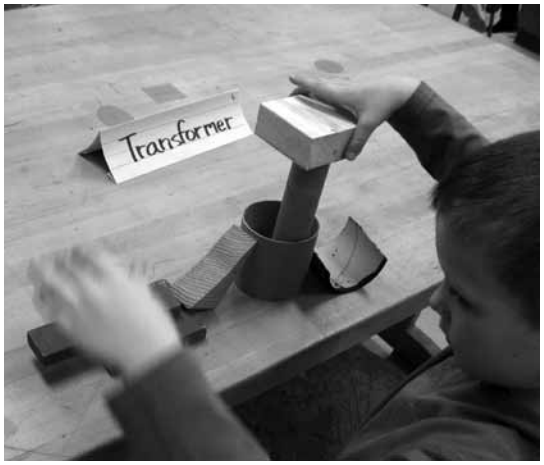
As I build a bird's nest using twigs and grass, it occurs to me (at least for now) that I should apply the same procedure to the nesting project that I impose on my 1st-grade students when exploring materials: Build the nest with found materials and then deconstruct it at the end of the day. Document the process with photos (as evidence of the nest's existence), but otherwise let it go.

Why Kinesthetic-Based Art? Leveling the Playing Field

The kinesthetic-based art unit, central to this qualitative case study, was originally designed to address disparities in learning styles present in my art classroom. In particular, students who were generally disruptive during teacher-centered art instruction often focused easily during lessons infused with movement activities. It became imperative to include kinesthetic learners in art instruction in order to level the playing field.

In general, our public schools privilege verbal/mathematical learning over other learning modalities. These modalities are reinforced at the expense of many students who do not fit this academic profile. In addition, the marginalization





Figures 1 and 2. Transformer lives up to his self-appointed name by changing readily from skate park enthusiast to architect in one short 6-minute period.

of many students due to their so-called inattentive behavior may simply be a result of inappropriately matched teaching-to-learning styles. Addressing this disparity, Griss (1998) states that, "by providing alternative paths to subject matter, kinesthetic learning can save some children from the spiral of academic failure" (p. 9). The study presented in this article was designed to incorporate kinesthetic, visual, and tactile elements in an integrative unit of instruction—an attempt to inspire all types of learners to thrive and grow.

Contextualizing Cartesian Dualism

On the third day of our kinesthetic-based unit, Christopher experiences a transformation. "Ms. Hartjen! Come and see!" he shouts from across the room. He sends his green ball hurtling down the c-shaped wood block and into a series of paper-towel tubes carefully aligned to receive the ball at the bottom of the wooden ramp. The ball exits the far side of the paper tunnel, bumping into a small ramp flanked by a red rectangular block. He looks up at me, flashes a soft and familiar smile of accomplishment, and then returns to his solo efforts. Two minutes later, he beckons again, his enthusiasm hard to resist: "Ms. Hartjen! Look at what else I've made." Soon Christopher shifts to the far end of the table for his third transformation of materials, creating a structure resembling a cityscape complete with concentric smokestack-tubes and alternating red and plain wood "buildings" lined up in a row. "Ms. Hartjen, Ms. Hartjen," he demands in a voice rising with excitement. "Come here!" Christopher, now "Transformer," lives up to his self-appointed name by changing readily from skate park enthusiast to architect in one short 6-minute period (Figures 1 and 2).

The role that the body plays in cognition and development is often overlooked due to long-held and deeply seated Western cultural beliefs and traditions (Gibbs, 2006). This mindset stands in sharp contrast to ways that many children experience the world—by testing the strengths and limitations of the body during physical play. Although educators are beginning to acknowledge the need for kinesthetic-based curricula and activities (Gardner, 1983; Kapsch & Kruger, 2004; Lowenfeld & Brittain, 1982; Swann, 2009), many still fail to recognize the centrality of the body to lived experience, especially for growing children. Providing an inspiring exception to this trend, Reggio Emilia methods recognize the importance of movement and play within a curriculum that emerges with student interest (Malaguzzi, 1998).

June 26, 2009

As I begin to gather materials for my tree drawing, I reject brightly colored paper for a few sheets of large newsprint. Knowing that I like to be physically involved in a drawing—using both hands and forearms as drawing instruments—I pin the newsprint sheets together to form a large working area. Long strokes and sweeping gestures help to alleviate some of my initial self-consciousness. Like many of my students, I want to create an "accomplished" drawing right away.

I then flip the paper over and begin again, noting the history of the first drawing showing through. Things get really interesting when the chalk falls out of my hand and I start using my hands to blend—I have to reach very high and get down low—the pure physicality is energizing.

The Mind/Body Split and Bodily-Kinesthetic Intelligence

Much of Western thinking and scientific study has been structured on philosophy that has its roots in Ancient Greece, finding revitalization through 17th-century philosopher Rene Descartes' theory of the nature of mind. Descartes suggested clear distinctions between "physical substances," including the body, and "thinking substances," including all

aspects of the mind (Gibbs, 2006, p. 4). This philosophy evolved into Cartesian dualism, creating a sharp divide between the mental and the physical. As Gibbs (2006) explains, "Cartesian dualism evolved into an epistemological tradition that separated the mind as rational, thinking, immaterial, and private from the body as an irrational, corrupt, and physical substance that merely provided public, physical exertion on the material world" (p. 4). In this dualist view, the body, at best, plays a subservient role to the mind and, at worst, is wholly disregarded as a vehicle of perception—a distinction that pervades much of Western thinking to this day.

Scholarship based in the field of cognitive science is beginning to acknowledge that the body plays a crucial role in cognition. In his 1983 treatise *Frames of Mind,* Howard Gardner outlines his widely recognized Theory of Multiple Intelligences, which describes seven kinds of intelligence—including *bodily kinesthetic*—and suggests a new framework for viewing cognition. He defines bodily-kinesthetic intelligence as "the ability to use one's body in highly differentiated and skilled ways, for expressive as well as goal-directed purposes" (p. 206). Efland (2002) notes that although Gardner acknowledges an intelligence based in bodily oriented activities, his theory employs a "mind as computer" model in which a corresponding area in the brain is associated with each of the seven intelligences (pp. 56-57). The body, although acknowledged as an active agent of cognition, continues to be subservient to the mind, thus reinforcing the Cartesian mind/body split.

Embodied Action

Transformer did not fit the "bodily-kinesthetic" learning modality. He tended to spend a great deal of time on visual details and rarely moved from his work table during independent activities, remaining intently focused on *assemblage* construction—qualities that aligned more closely with Gardner's (1983) "spatial-verbal" modality. I tell Transformer's story because the kinesthetic-based unit described in this article appeared to inspire students of many learning modalities. Transformer made a dramatic shift from a shy and timid boy to a confident classroom leader over the course of this instructional unit. I chose Transformer as a subject of this article because it was through observations of him and other students like him that my definition of the kinesthetic learner expanded from a singular learning modality into one that places all modes of learning on a continuum of embodied experience.

Quiet focus transforms the orange table into a desert of silence amidst the surrounding sea of voices. "Batman" and Transformer are working side-by-side in near-collaboration. They share supplies but not ideas on this eventful day, which marks the beginning of Transformer's retreat from isolation. Batman refines a design that has evolved over the past five class sessions: a ramp leading to a short, wide paper tube flanked by two half-tubes, perfectly balanced left-to-right. Testing an oddly arched roof atop a candy-striped base, Batman pushes his symmetrical habits into asymmetry. Meanwhile, Transformer considers the height of his paper tunnel by lifting one end high and peering through to visualize the ball's path. A yellow supporting structure stands vacant nearby, awaiting adaptation by Transformer's hands. Alternating green and red toy bridges rest on their sides, simultaneously supporting and elevating two paper tunnels above the table's surface. Apparently out of supports, the final tube is propped gingerly atop a wooden block, the partially curved surface echoing curves of earlier supporting structures, including Batman's upright half-tubes. At the end of the run, a short half-tube stands upright, its concave surface ready to receive a ball and keep it safe from the table's edge. By the end of class Batman's roof shifts into service as an elevated ramp leading to Transformer's tunnel (Figure 3). The boys' careful attention to detail and symmetrical design connect this *assemblage* visually. Only a demonstration of the ball in action provides the demarcation of design space.

July 1, 2009

Yesterday I spent about an hour working above a tree branch suspended in my studio. The branch moved readily as I patiently added dry twigs to my bird-sized nest study. As I was working, I noticed that the addition of each new piece effectively changed the dynamic of the nest: As each piece was inserted, it not only caused the local area to shift, but seemingly unrelated areas began to move, sometimes causing "older" twigs to release in the process. The nest felt like it had a sense of fluidity/plasticity in spite of the stiffness of the materials (Figure 4).

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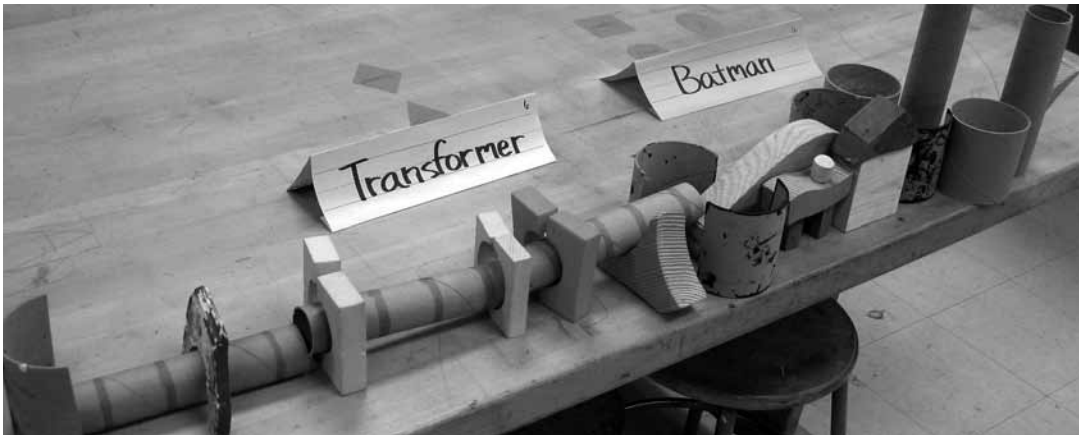

Figure 3. *Assemblage* by Transformer and Batman.

Embodied Cognition: An Alternate View

Theories of embodied cognition state that being in a body is integral to how we perceive and interpret the world around us. Gibbs (2006) states, "Concepts of the self, and who we are as persons, are tightly linked to tactile-kinesthetic activity" (p. 12). This linking of self to embodied action begins to blur and at times completely erases the Cartesian mind/body split.

Reason, as it is generally understood, is what sets us apart from animals, separating higher order thinking from actions based on "animal" instinct (Anderson, 2003, p. 106). Embodied cognitive theory, however, suggests placing reason on an evolutionary continuum of perceptual skills (Lakoff & Johnson in Anderson, 2003, p. 107). Thus, our sense of agency is integrally linked to the physiological conditionings of the body. In this case, Descartes' famous phrase "I think, therefore I am" may be re-phrased: *I am embodied, therefore I think*.

Anderson (2003) offers a second view of the evolutionary history of the agent by describing the concept of *emergence* as "a way to relate complex behavior to its physical, or evolutionary grounds" (p. 107). Gibbs (2006) furthers Anderson's definition by stating that perception and action are integrally linked together, or "coupled"; in other words, "our bodies are closely defined, and experienced, in terms of the specific actions we engage in as we move about the world" (p. 17). Twisting and curving the body to understand what a crooked tree feels like can help students find a more immediate connection to a drawing of an old tree. The addition of movement in the art classroom may help students embody an understanding of the subject, thereby opening possibilities for enriched artistic expression (Swann, 2009).

July 10, 2009

It occurs to me that my new drawing is a two-dimensional form of nest construction: The art materials are my twigs and grasses, and I gather and place the marks on the paper from a bird's perspective (working above, staying contained within a defined space). The resulting image was informed by having already created a few nests using interlocking twigs and weaving in vines and grass: The lines on the drawing merged then went off in other directions; the mark and how I held the instrument for marking became very physical, and my "travels" were documented by charcoal traces of my footprints (Figure 5).

Figure 4. The Beginnings of a Dry Twig Nest.

Suggestions for Using Kinesthetic-Based Projects in the Classroom.

- **Incorporate movement games into your lessons.** A 5-minute "train walk" around the room pretending to be animals, insects, vehicles, or toys can help students embody the experience of their art subjects.
- **Tap into student interest.** Find out what kinds of physical activities your students like to do outside of school. Design an open-ended question that asks them to apply their favorite movements to an art problem. The question guiding the instructional unit described in this article was: Using the wood blocks and paper tubes at your table, how might you create a miniature obstacle course to guide an imaginary tiny friend on an amazing journey?
- **Whole body painting or drawing.** Encourage students to use whole arm and/or whole body movements to make their marks by taping large paper to bookshelves and cabinets and inviting them to reach up high and crouch down low as they work. Similarly, working on top of paper placed on the floor encourages kinesthetic mark making.

Figure 5. Lisa Hartjen, *Yajna #2*, 2009. 60 inches x 72 inches.

Whether focusing on popular culture, or exploring materials or kinesthetic-based experiences, art educators can meet students where they are and invite them into a deeper engagement with the learning process.

Practical Action

People know the world through active participation in it, often exploring situations from several angles in order to solve a specific problem (Gibbs, 2006, p. 49). The theory of practical action is more specifically related to our direct perception of the material world as it is experienced in and through the body (Anderson, 2003). In building their obstacle courses, students in this study were often observed lowering themselves down to the level of the table in order to see through a long tunnel, later returning to a bird's eye view in order to ensure the smooth passage of a ball through the enclosed space. Gibbs (2006) states, "perception is not solely located in brain activity, but must always be situated in terms of the more complex dynamic couplings involving the whole body in action" (p. 49). The act of viewing the structure from multiple angles likely enabled each student to create a dynamic picture of objects in space, thereby inviting more opportunities to find solutions for the given problem.

The Mind and the Body Reconsidered

Western concepts regarding the relationship between body and mind are in the midst of a major paradigm shift. The separation of mind from body, once the cornerstone of modern Western scientific and philosophical thought, is now being called into question through emerging theories of embodied cognition where the role that the body plays in perception, cognition, and agency is central to our ability to make sense of the world. With this non-dualist concept at its core, the implications of such a paradigm shift are profound, signaling changes in thought ranging from our relationship to the animal kingdom to our concept of selfhood.

Moreover, theories of embodied cognition begin to explain what children appear to experience instinctually: the body is central to our lived experience and so cannot be separated from our understanding of that experience. While theories around *bodily/kinesthetic* (Gardner, 1983) or *haptic* learners (Lowenfeld & Brittain, 1982) begin to define the relationship between learning and the body, they fail to move beyond the Cartesian mind/body split by describing the body as a vehicle for knowledge processed by the mind. Although there is no doubt as to the wide variety of embodied experience, theories of embodied cognition would likely place people who are kinesthetic-oriented learners on a continuum with those who are, say, visually-oriented learners by contextualizing all modes of learning within the body. Embodied cognition offers a holistic view of kinesthetic-oriented learners by framing all experience within and through the body (Anderson, 2003; Gibbs, 2006; Johnson, 1987). As humans, we are embodied by definition; depending on one's worldview, the body may serve as a vehicle for our experience or the body may be so integral to our lived experience as to not be considered separate from that experience and associated meaning making.

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As an artist, the majority of my artmaking is based in two-dimensional media, yet I have always been physically active. Until recently, I never considered kinesthetic engagement in light of my artmaking. A desire to integrate

my visual and physical skills through art has led to a deeper understanding and empathy with students who are bodily/kinesthetic learners.

The Kinesthetic Learner Reconsidered

Many layers of kinesthetic expression began to unfold over the course of this instructional unit. During every kinesthetic-based, three-dimensional lesson, students were observed running, jumping, crawling, and spinning around the art room, mimicking the bouncing balls that inevitably moved from table-based *assemblages* to the floor. In more focused moments, students raised themselves on tip-toe to view their constructions from above or lowered themselves to the level of the table to watch their ball navigate through tubes. This deep connection between the body and student engagement with three-dimensional materials has interesting implications for ways that young learners respond to a kinesthetic-based curriculum when synthesizing new information. For many students, the art problem is "solved" on two levels—through the use of the body in relation to the environment and through the use of three-dimensional manipulative materials. The body plays a crucial role in both the creative process and the ability to more readily assimilate new information. Redefining kinesthetic learning in light of theories of embodied cognition places all learners on a continuum of embodied experience that integrates physical experience with other modes of perception, thereby replacing seemingly separate learning modalities with a more holistic, whole-body approach to learning.

Concluding Remarks

In a call to action, Annette Swann (2005) states, "As educators, we must devise essential opportunities with the tools and materials of art that will lead toward a more informed visual language for young children" (p. 42). Whether focusing on popular culture, or exploring materials or kinesthetic-based experiences, art educators can meet students where they are and invite them into a deeper engagement with the learning process. An emergent curriculum invites students and teachers to become co-creators of a learning process aimed at empowering students to construct meaning through social engagement and shared discovery. As Loris Malaguzzi (1998) states so eloquently, "Once children are helped to perceive themselves as authors or inventors, once they are helped to discover the pleasure of inquiry, their motivation and interest explode" (p. 67).

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