



By combining dance and creative movement with the basic tenets of education, Susan Griss '72 has created a unique method of teaching a gamut of subjects. She demonstrated her technique at a workshop on campus last November.

# reading, writing, and jumping

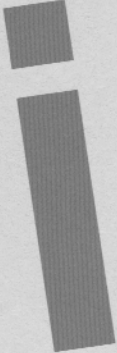


*Educator and dancer Susan  
Griss '72 uses creative movement  
to teach children everything  
from grammar to history*

# around

*By Susan Griss '72 Photographs by Fred Collins*





FIRST WITNESSED THE power of integrating creative movement into elementary education shortly after I graduated from Smith—and I've been cultivating that power ever since. § I had returned to my native New York City to pursue a career as a choreographer and performer and supported myself doing artist residencies in schools. It was my first classroom experience, working with an elementary class of predominately Spanish-speaking, learning-disabled children, that revealed to me the power of integrating creative movement and elementary curriculum. When I asked the principal to schedule a performance date in the auditorium, he was reluctant. "These children will never be able to put together a show," he said. § He was wrong. § With the help of two wonderful classroom teachers and the Leo Lionni storybook *Swimmy*, we produced an outstanding bilingual dance performance. It was so successful that children throughout the school wrote letters of thanks. Yet there was more to our success than the performance itself. Though I had been hired as an artist to teach dance, the children had also learned math as we worked on counts and patterns. They had practiced sequence and direction (left, right, forward, back, up, down). They sharpened their reading comprehension skills as they discussed and physically experienced the main idea, sequence of events, character development, and conclusions of the story. They learned about ocean life, and some of them, for the first time, took books out of the library. They also had participated in the creative process of developing an idea into a performance piece, with all the dance elements of coordination and balance and the awareness of shape, timing, and space. This was whole language at its fullest. To top it off, their self-esteem and creative energy had been thoroughly charged. § Some years later, a minor incident crystallized my understanding of how creative movement could be integral to teaching curriculum. I was teaching in an after-school program for gifted second graders in Poughkeepsie, New York, that offered classes in dance, science, math, writ-

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ing, and history. Students were divided into groups and studied one subject for a four-week session, then moved on to another subject. After I had worked with four different groups, the math teacher visited me to say that the children who had taken my dance class before math were grasping their lessons twice as quickly as those who hadn't yet had dance. "What are you doing?" she asked me.

I was teaching patterns of movement: A, AB, ABC, ABA, AB, AC, AD, etc. The teacher was likewise teaching patterns in her math class. In my class, the children chose movements and fit them into patterns (for example, four skips/three runs/jump and turn), notated them with various squiggles and colors, and performed for each other. We were running, skipping, twirling, laughing—none of us conscious that we were doing a "math" lesson.

Recognizing the potential connection between dance and academics inspired me to use the physical language of dance and creative movement to explore concepts and teach a gamut of subjects, ranging from environmental science to the U.S. Constitution, from punctuation to molecular theory, from arithmetic to the Underground Railroad. I soon had children exploring geometric shapes by assuming positions with their bodies and long pieces of elastic. I had them interpreting poetry through dance, exploring mood, meaning, even particular metaphors. They demonstrated the workings of the solar system through a dance piece involving spinning: the Venus child rotating clockwise, unlike the rest; the Mercury child revolving around the Sun four times

faster than the Earth child. Each child also created a short solo dance representing some aspect of the mythological god for whom her planet was named.

The fact is that children are naturally physical in the way they explore and react to the world around them, and they arrive in elementary school fluent in this nonverbal language. Why not use kinesthetic language to teach elementary curricular subjects?

If we subscribe to Piaget's theory that each developmental phase

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of intelligence is built upon the preceding, we can see the connections between sensory-motor development and cognitive development. According to Piaget, young children, ages 2–7, know the world concretely, through information taken in with their bodies, which lays the foundation for abstract thought. Even as children move on to the next stage of development, at which thought can precede action, they are still secure in their active/physical relations to the world. Introducing or reinforcing lessons through kinesthetic experience can therefore greatly assist their understanding of material that is being taught.





A more contemporary researcher, Dr. Howard Gardner of Harvard, introduced his theory of multiple intelligences in *Frames of Mind*, which set the stage for a new wave of educational reform. In this and subsequent books, Gardner identifies at least seven different human intelligences, aside from the linguistic and mathematical intelligences measured on I.Q. tests and rewarded in schools, including the "bodily-kinesthetic." (He soon added an eighth and is now investigating a ninth.) As a dancer, I have always sensed this kinesthetic intelligence. Gardner gave it a name, a context, and legitimacy in the education field.

### Suggested reading list

*In Their Own Way: Discovering and Encouraging Your Child's Personal Learning Style* by Thomas Armstrong, J. P. Tarcher, 1987.

*More Moving Experiences* by Theresa Benzwie, Zephyr Press, 1996.

"Arts as Epistemology: Enabling Children to Know What They Know," by Karen Gallas, *Harvard Educational Review*, Vol. 61, no. 1, Feb. 1991.

*Frames of Mind* by Howard Gardner, Basic Books, 1983.

*Unicorns Are Real* by Barbara Meister Vitale, Warner Books, 1982.

*Teaching the Three R's Through Movement Experiences* by Anne Green Gilbert, MacMillan Publishing Co., 1977.

**WHEN CHILDREN ARE GIVEN the opportunity to 'physicalize' a scientific process, learning becomes more tangible and memorable.**

Gardner describes kinesthetic intelligence as "the ability to use one's body in highly differentiated and skilled ways, for expressive as well as goal-directed purposes." He contends that kinesthetic intelligence can be developed to help create a well-rounded individual. It can also provide a pathway to other intelligences. When children are given the opportunity to "physicalize" a scientific process, a literary character, or the geographical terrain of a country, learning becomes more tangible, accessible, and memorable. According to educational researcher William Glasser, "We learn 10 percent of what we read, 20 percent of what we hear, 30 percent of what we see, 50 percent of what we both see and hear, 70 percent of what is discussed with others, 80 percent of what we experience personally, 95 percent of what we teach to someone else." When children learn with their muscles, they are having a personal experience through which they can make observations and lay a foundation for knowledge.

The following science lesson demonstrates my approach: I ask the group which medium they think sound waves travel through fastest—air, water, or solid. Most will intuitively respond, "air,"

thinking it less resistant and easier to get through. Next, I have them line up in three equal groups of "molecules"—one row each of air, water, and solid, with the air molecules standing furthest apart (least density), the solids closest together. When the last person on each line hears the single drum beat, they pass the "sound wave"—a shoulder tap—down the line from one person to the next. Of course, the solid group, standing most closely together, finishes first and the air group last.

This activity not only reveals which medium conducts sound waves fastest but it also demonstrates why. It makes clear why, long ago, Native Americans put an ear to the ground to hear the buffalo, or why people listen to a train track to hear if a train is coming. The facts about sound waves will be retained, not because they have been memorized but because the concept has been understood in a most fundamental way.

I don't know yet of academic studies correlating creative movement in the classroom with student achievement. But from my years using movement in classrooms and teaching my techniques to educators, I do know that students who are taught kinesthetically are more engaged and have a better understanding and higher retention of the material. For example, after teaching my speed-of-sound lesson to a combined third/fourth-grade private school class, their science teacher told me it was the only question the entire class answered correctly on their sound unit test.

And there have been other successes.

A fourth-grade New York public school teacher asked me to create a movement lesson to teach punctuation, since he was having a hard time getting results. I asked the students to make whole body shapes symbolizing the punctuation marks. We stretched our arms up high to represent an upper case letter; slapped our hands on the floor with our bodies in a crouch to represent a period; and a gentle arm swing ending with percussive flat hands indicated the pause-and-separate meaning of a comma. Using these physical symbols, we practiced "walking" through unpunctuated sentences [see "A kinesthetic primer," p. 29]. Two weeks later, their teacher told me that some children were using punctuation in their writing—correctly—for the first time. The information, which had been ignored before, took root as it passed from their muscles to their nerves to their brains.

A high school teacher from Sturbridge, Massachusetts, was taking a course from me on using this kinesthetic approach. For her assignment, she asked her English class to review their weekly vocabulary words by pantomiming the definitions, in small groups. The rest of the class had to match the pantomime with the correct word. For two weeks in a row, their final test scores rose. When, in the third week, she decided not to include the physical activity, their scores fell. Returning again to the pantomimes, she saw the grades go up again.

These are only an anecdotal sampling of the outcomes of kinesthetic teaching. While past studies have shown a correlation between academic achievement and arts programming in general (for instance, the College Entrance Examination Board reports higher SAT scores among students studying the arts), neither dance nor

## Enhancing learning through the arts

Though many schools are trimming back to bare-boned core curriculum, a growing number of educators, artists, and arts institutions are working together in the schools to enhance student learning in and through the arts. In 1994, for the first time, the Consortium of National Arts Education Associations published the National Standards for Arts Education, which included dance as one of its four tracks. More recently, the State Education Department of New York included dance as part of its official Learning Standards in the Arts. In 1997, New York launched the Empire State Partnerships Program, in which Susan Griss '72 serves as a faculty member for its Summer Institute as well as an artist-in-residence. It is the largest statewide collaboration between educational and arts institutions in the nation.

kinesthetic teaching have been singled out for statistical analysis. I believe we are ready for just such a study.

The longer I teach with this kinesthetic language, the more ways I see my students stretching themselves. In the cognitive realm, at the very least, information taught kinesthetically is understood and retained. Children also become engaged in analysis and reflection as they transform ideas into movement. In fact, the very process of dance-making parallels the cognitive skills identified in Benjamin Bloom's Taxonomy of Educational Objectives, a developmental order of cognitive thinking that many teachers use as a guide in developing lessons. Knowledge, comprehension, application, analysis, synthesis, and evaluation are all integral to choreography.

In the affective area, I have seen aggressive children explore gentleness and timid children enjoy the empowerment of physical strength and expression. Children learn to work both privately and collaboratively, to take personal risks, and to support others—physically and verbally.

In the area of aesthetics, children begin to learn about the art of dance, perhaps the oldest of all art forms. As they become familiar with the elements of dance, they deepen their understanding of music, design, and sculpture—and lay the foundation for becoming educated members of a dance audience. Creating choreography, they learn about form and develop problem-solving and decision-making skills. Dance also helps children develop greater physical stamina, agility, strength, and coordination.

I am very fortunate to be involved in this wave of educational reform. Our most permanent home is our body. Children learn to listen to their bodies and respect them, to carry themselves with dignity, to know their limits, and safely stretch beyond.

My many students, both children and adults, have inspired me with their joy, creativity, and personal insights gained through dance. Their successes proved to me the effectiveness of using the arts to teach to the multiple intelligences of children. ■

*Susan Griss '72 is an educator and choreographer who has focused on the use of creative movement in elementary curriculum for more than 10 years. She is an artist-in-residence through the New York Foundation for the Arts and the New York State Council on the Arts. She also teaches in the creative arts in learning program at Lesley College in Cambridge, Massachusetts. Her book, Minds in Motion: A Kinesthetic Approach to Teaching Elementary Curriculum (Heinemann, Inc., 1998), may be ordered through Heinemann at (800) 793-2154.*