



Toward Best Practices in Dance Education Through the Theory of Multiple Intelligences

By Anne Green Gilbert

Reprinted from Journal of Dance Education, Volume 3, Number 1, 2003

The push for standards and assessments in the field of education has caused us to look at how we teach. Many books about brain research and how this might affect teaching practice have been written over the last two decades. Perhaps no book has so affected the world of arts education as that of Howard Gardner's *Frames of Mind*, written in 1983. Arts educators were thrilled with the Theory of Multiple Intelligences (MI theory) because they felt that it was proof that the arts are not just talents but intelligences – ways to learn and know and therefore, the arts should be part of core curriculum.

We are still fighting the battle to make dance a part of every child's education. Why is this when we have so much research pointing to the essentialness of movement to basic learning? Perhaps dancers and dance educators have either not been exposed to this research or have had trouble translating the research into material meaningful to their teaching situations. This research is in fact very valuable and can help us be better teachers. If our dance classes incorporate the multiple intelligences and brain research, I believe that parents and principals will be clamoring for dance in the schools! The few existing dance programs might not be the first to be cut and gyms might be filled with dancers instead of being turned into computer labs.

What does brain research tell us? Below is a list of how students learn best or in a "brain compatible" manner. (Jensen 1998, Brandt 1998, Wolfe 2001) We learn best:

- Through a multi-sensory approach (hear, see, say and do);
- When the material is authentic and meaningful to us;
- When we are emotionally engaged and given opportunities for reflection;
- Through social interaction and collaboration;
- When the material is challenging but achievable;
- When the feedback is positive, specific, timely and learner-controlled;
- Through novelty and repetition;
- When the material is developmentally appropriate and student-centered;
- When the material is presented sequentially and holistically rather than randomly and in sub-parts; and
- Through a variety of teaching strategies.

When I consider the list above and reflect on the rote, mimetic and often negative way I was taught dance, I am surprised that I continued my studies! Unfortunately, I still view many such dance classes around the country and talk with students who have had similar experiences and have not continued their dance studies! Could the way we teach dance be why there is so little dance in public education? Could the way we train dance teachers or the very lack of

dance education courses for dancers be a problem? It is easy to blame administrators, economics, the constant and often conflicting changes in school reform, and other related problems for the absence of dance in education. It is much harder to take a long look at our profession and demand that we, ourselves, do a better job of teaching.

I believe that focusing on the seven intelligences in every dance class can help us create brain-compatible dance education and encourage best practices in dance teaching (Table 1).

Bodily-Kinesthetic Intelligence

As dance educators, we may not give this intelligence too much thought because we feel that as we are teaching dance, we obviously are strengthening this intelligence. But there is more to developing this intelligence in our students than just teaching steps. For me, the bodily-kinesthetic intelligence is about understanding and embodying the concepts of movement and dance: space, time, force, and body. The locomotor and non-locomotor actions are not concepts but simply the steps we use to move us in and through space. If we just focus on steps, we teach dance in a rote method that has little meaning. The research clearly shows that little will be remembered with this approach (Jensen 1998). I am not sure that many of the researchers, including Howard Gardner, fully understand the bodily-kinesthetic intelligence. I say this because the researchers that are the proponents of movement often give lectures and include little movement in their own teaching. However, current research discussed in books by Eric Jensen, Carla Hannaford, Patricia Wolfe and Marilee Sprenger does state that movement is a crucial component of the learning process. As dance educators we can use this research to underscore the importance of our programs. However, we need to be sure that we are in fact teaching to the bodily-kinesthetic intelligence, not just mindlessly moving. To strengthen this intelligence in our students we give them ample opportunity to become fully aware of their bodies through positive structured and improvisation activities. They learn how to move safely and with ease. This means that we need to understand anatomy and alignment and what exercises are developmentally appropriate for what ages.

Proper nutrition should be part of this discussion – what we put into our bodies to make them work efficiently. While some young people starve themselves, becoming addicted to nicotine and other drugs, others have a problem with obesity! The balance lies with understanding the importance of protein; healthy fats which help build myelin (the fatty substance that insulates axons); less sugars and carbohydrates; and plenty of water and oxygen, essentials for the brain and body (Hannaford 1995).

Another way to strengthen this intelligence is through many and varied movement experiences. This seems fairly obvious but I have observed many dance classes in which the material is either repetitive to a fault or extremely random. When students explore dance concepts in a sequential way their understanding of movement is greatly deepened and the balance between novelty and repetition, so important for brain development (Jensen 1998), is assured. Focusing on a different dance concept each week will provide the variety. Following the same lesson plan format each week will provide the repetition. Building on familiar movements and patterns will provide the sequencing.

When practicing familiar movements, the kinesthetic intelligence can be deepened by exploring these movements through the other six intelligences. For example, you might explore the skill of turning in this manner:

- Listen to and select a variety of music compositions that "sound like" turning and/or create your own turning sound score with vocal, body and instrument sounds (musical intelligence).
- Turn with external focus, internal focus, eyes closed, "spotting", in one place, through general space, around objects or people, holding a prop, and/or observe dancers turning and draw pictures or designs of the different turns (visual/spatial intelligence).
- Explore and understand the physics of turning and centrifugal force. Create a repetitive pattern using two to three different turns, or practice computation by counting the number of turns you can do and the number of turns done by all the dancers divided by the number of minutes it takes to do the turns (mathematical/logical intelligence).
- Speak and write the word "turn" in different languages and through symbols such as motif or pictographs (linguistic intelligence).
- Explore ways to turn with a partner, in a trio, or quartet. Learn turns from others, and teach turns to others (interpersonal intelligence).
- After turning and observing others turning, reflect on your feelings about turning (intrapersonal intelligence), then share these feelings with peers (interpersonal intelligence).

Remember, when practicing skills it is important for all the dancers to be moving as much of the class time as possible. I have observed dance classes where the movement time is less than optimum for developing the bodily-kinesthetic intelligence. Dancers stand more than is necessary while waiting for turns in lines. They sit to listen to directions that could be shorter and clearer. They must wait for all their peers to be perfectly quiet or while the teacher works with one of them and ignores the rest. In large classes, try different formations when moving across the floor so that students do not have long waits in lines (i.e., scattered, oppositional lines that pass through each other, or two horseshoes). Instructors should demonstrate new ideas and movements quickly with simple, clear directions, and should repeat or enlarge upon the directions while the dancers are moving. Students will often pick up the ideas better through their visual and kinesthetic senses than their auditory senses.

Musical Intelligence

While music is often an integral part of dance classes, I think it is sometimes not used in a brain-compatible way. Do all dance educators understand music concepts? Music and rhythm are very powerful ways to enhance memory (Sprenger 1999). If teachers and students sing or chant simple rhymes to accompany exercises and movement patterns (rather than counts) these patterns will be much better remembered and enjoyed. Counting in "eights" does not really constitute musicality. Most of us could probably benefit from a simple course in music for dancers.

We all have our music preferences just as we have our movement preferences. Are we using a variety of styles, meters, and instruments? Is the music developmentally appropriate for the age group? Younger students respond better to music that is medium fast, has a strong beat, and contrasts in dynamics. Music with words may sometimes be too directive or inappropriate for older and younger students. Younger students can easily respond to 4/4, 3/4, 2/4 and 6/8 meters, while older students can be challenged with 5/4, 7/8 and other more uncommon meters. Dance educators could share music from many cultures with their students. If live accompaniment is used, teachers should try alternating live accompaniment with

recorded accompaniment to provide the variety that will give your students the right support for the movement and the variety needed to motivate and educate. A steady drumbeat can be helpful during some parts of class, but a steady diet of drumbeats may not provide the variety needed for a full exploration of the musical intelligence.

Building an appropriate music library takes time and effort. Dance teachers could seek the advice of music specialists, other dance educators, and borrow from the library for listening at home before spending money on inappropriate music. We all have our favorite pieces that we play over and over. Teachers should try to add at least three to five new ones to your repertoire each year.

Spatial Intelligence

A multi-sensory environment in which a student is offered the opportunity to "see, hear, say and do" the curriculum results in a 90%-95% retention rate (Jensen 1998). Students need to use the spatial intelligence for more than just copying your movement style. In my experience, mirroring and mimicking only the teacher's movements will result in little learning because this does not engage the social or emotional intelligences (the interpersonal and intrapersonal intelligences).

Creating posters for the students to look at with the very rich dance vocabulary of all the elements of space, time, force, body and movement is a first step. Posters of skeletons, muscles, and brains help dancers visualize what they are moving and using (models are even better). Photographs of dancers in action provide impetus for choreography and movement phrases. Dance explorations that involve copying peers' movements such as shadowing and mirroring cannot be underestimated. By copying many people's movements students enlarge their movement vocabulary and gain practice in using their spatial intelligence.

Seeing is also a wonderful way to gather instant feedback for students and teachers. Timely feedback is the most brain-compatible (Jensen 1998). When teachers want students to learn from each other they should encourage multi-focus activities. Encouraging students to copy others or to "try on" other movement signatures during explorations helps the most inhibited students move with ease.

Watching dance videos of many dance styles, cultures, and historical periods also increases our knowledge and understanding of the world. Observing classmates' compositions sharpens the visual sense and helps students see not only dance performances with more intelligence and acuity but also architecture, sculpture, paintings and other performing arts. Moving in pathways over, under, around and through other dancers and objects strengthens spatial intelligence.

The spatial intelligence can be further strengthened through art activities such as drawing movement maps, creating different designs, collages and sculptures as choreographic motivators through such activities as using famous works of art as an impetus for compositional studies and improvisations.

Linguistic Intelligence

There can be many opportunities in a dance class for students to engage the linguistic intelligence. When you teach dance conceptually, the linguistic intelligence will be

strengthened when the students are presented with new concepts and dance vocabulary. Exploring dance concepts (space, time, force, body) in each class provides vocabulary and tools that not only offer a structure for creating, performing, and responding, but also connect to life, making dance class meaningful. It is important to make sure the dancers say the vocabulary as they embody it. When you "say and do" vocabulary simultaneously the brain remembers it better. In 1977, I conducted a research project in the Seattle Public Schools. Third grade students studied language arts concepts through dance activities. The students involved in the study increased their MAT scores by 13% from Fall to Spring, while the district-wide average showed a decrease of 2% (Gilbert 1979).

When assessing choreography, students should be encouraged to use the dance vocabulary so that their evaluations are clear and constructive. Besides speaking and reading dance vocabulary, teachers can make an effort to share the learning principles of brain research and MI theory with students. Let them know how important movement is to the brain. Explain how your classes allow them to experience all the intelligences. Provide journals in which they can write new vocabulary, poems, thoughts, and questions. Encourage discussion by providing time for students to share questions with each other because students learn best through social interaction.

A quick way to include the linguistic intelligence is to have a brief reflection after an improvisation. For example, after a partner activity ask the dancers who preferred being a leader to sit down and those who preferred being a follower to stand up. Then ask each student to think of only one to two words why she or he made this choice and speak those words aloud. As an extension, the dancers could write down all these words for a further discussion, or write a story about what makes good leaders or followers during their language arts class. Through these exercises linguistic intelligence can easily be integrated into dance classes so that a balance of bodily-kinesthetic and linguistic intelligences exists.

Logical-Mathematical Intelligence

Through improvisation, choreography and technique we work with actual math concepts. For example consider the simple computation of: Section A = 16 counts, Section B = 24 counts, Section C = 16 counts, then how many counts for the whole composition? We have 25 students and I want to have 6 different groups working on dances so how will that work out? The math concepts of symmetry, asymmetry, and geometric shapes can be explored through improvisations using props or body parts. Repeating patterns and sequences can be developed through a variety of movement combinations. Students can also gain an understanding of the logic of physics concepts (such as momentum, force, and gravity) when they are explored through dance.

When the dance educator considers the logical-mathematical intelligence it should be a reminder to include some repetitive techniques, skills, and patterns in every class as well as novelty through the addition of problem solving exercises. As mentioned earlier, a combination of repetition and novelty is very brain compatible (Jensen 1998). This intelligence reinforces the importance of repetition of skills, which builds myelin, the fatty substance that insulates our axons and creates faster and smoother communication between brain cells. Repetition of skills also provides low stress activities that allow dancers to notice their growth and development.

By including improvisations and compositional studies, we offer dancers novelty and the opportunity to logically solve problems, which is another way to strengthen this intelligence.

Interpersonal Intelligence:

Social interaction is very important to learning. We often learn best when working with others (Brandt 1998). The limbic brain (social/emotional brain) is becoming neglected in America because of the increase in technology (Hannaford 1995). Because of this, we are noticing an increase in our society in behavior problems, anti-social behavior, and violence. When we sit in front of televisions, video games and computer screens, we have little time for socialization. When young people are forced to be in so many structured situations such as school and after-school activities, they do not have time for free play with friends, which is such a valuable time to strengthen the interpersonal intelligence.

People with strong interpersonal intelligence are so important to a successfully functioning society. This intelligence will not be nurtured in dance classes where students stand in self space at the barre and move in isolation in lines across the floor. It will not be nurtured through dance competitions.

Teachers can include social interaction in the dance class by alternating structured skill activities with improvisation and exploration, and by doing a lot of partner and small group work. Shadowing, mirroring, shape museums (see Table 1), and similar activities strengthen the interpersonal intelligence. There are several other strategies in which dance can include the interpersonal intelligence:

- Exercises in which students change partners frequently, even several times during one activity (especially when working with mixed sexes and special needs students).
- Vary groupings for choreography using random ways to select these groups.
- Vary group numbers by using trios, duets, quartets, quintets, and so forth. When doing combinations across the floor, work often as partners. After a partner or trio activity, ask the dancers to share with each other ways they could work together better, or new ways to collaborate positively.
- Young dancers enjoy holding hands, older dancers enjoy meeting and passing, counter balance movements, and weight sharing.
- Include activities that encourage appropriate touch such as "Sculptor and Clay" and "Action/Reaction."
- Include peer coaching in your classes by pairing more experienced dancers with less experienced dancers and having students teach each other phrases they have created themselves. When a student becomes a teacher for a peer, learning is greatly increased (Jensen 1998) and social skills are strengthened.

Intrapersonal Intelligence

Emotional engagement is another key to learning. Emotional involvement is very important for memory (Sprenger 1999). How many facts or steps do we forget yet how many "special" teachers and favorite dances do we remember? If dance class is fun and joyful our students secrete serotonin, a "feel good" and self-esteem producing chemical. Descriptive positive reinforcement, smiles, encouragement, and validation go a long way to creating a positive emotional environment where learning and memory flourish. Of course, an engaging

lesson plan is essential! A little stress also increases emotional involvement so challenging and complex, but appropriate, activities are recommended. However, too much stress causes the body to secrete excess cortisol, a chemical that can be harmful to the brain and body (Sprengrer 1999).

To promote the development of the intrapersonal intelligence, after dance explorations and improvisations students could be asked to reflect on how the movements or experience made them feel. They can do this simply by standing to show one way or sitting to show another feeling. ("If you enjoyed moving with sharp energy the most, sit down. If you enjoyed moving with smooth energy the most, stand up.") You might leave it at that or ask each student to explain his or her reaction in one or two words such as "challenging", "more creative", "easier", "more exciting", "calming" and so forth. They can also express their feelings about dance class or certain aspects of class in journals, to a friend, or draw a face showing their emotions. It is important to have at least one self-reflection opportunity in every class. Remembering to include activities that strengthen the intrapersonal intelligence will ensure that students are emotionally engaged

Conclusions

Including the multiple intelligences can be more than just providing a variety of random arts activities in your studio or classroom. From the examples above it can be seen that dance can engage and nourish all seven of Gardner's multiple intelligences; as an activity, dance is not restricted to just the bodily-kinesthetic realm. Applying the concept of multiple intelligences to the practice of teaching can be a powerful tool for encouraging learning beyond simple dance technique. When the number of dance educators using "best practices" increases, our student base will increase, our job opportunities will increase, and more importantly a greater number of people will have the opportunity to have a holistic, multi-intelligence, quality education.

Resources:

- Brandt, Ron. (1998). *Powerful Learning*. Alexandria, VA: ASCD.
- Gilbert, Anne Green. (February 1979). "Learning Language Arts Through Movement." Paper presented at *Dance as Learning Conference*, Claremont, CA.
- Hannaford, Carla. (1995). *Smart Moves*. Arlington, VA: Great Ocean Publishers.
- Jensen, Eric. (1998). *Teaching With The Brain in Mind*. Alexandria, VA: ASCD.
- Sprengrer, Marilee. (1999). *Learning and Memory: The Brain In Action*. Alexandria, VA: ASCD.
- Wolfe, Patricia. (2001). *Brain Matter: Translating Research into Classroom Practice*. Alexandria, VA: ASCD.

Table 1 Brain Compatible Dance Lesson Using Multiple Intelligences

Warming-up

"Walk Through the Concepts of Dance" (Bodily-Kinesthetic Intelligence)

Introduce and walk through all 15 dance concepts of Space, Time, Force and Body.

Suggested Music: *Music for Creative Dance, Volume I, #15*

Exploring the Concept (Relationships to people, objects)

1. "Pulse/Rhythm" (Musical Intelligence)

Stands back to back with a partner and clap a steady pulse directed by the teacher. Bend knees up and down to the pulse and feel the beat in each other's backs. Try medium, slow and fast pulses when keeping the steady beat. When the music stops, freeze and then move around the room creating your own rhythms with body claps and slaps. Alternate your own rhythms with keeping the steady pulse of the teacher.

Suggested Music: *Music for Creative Dance, Volume III, #2*

2. "Puzzle Shape Museum" (Visual/Spatial Intelligence)

Half the class forms statue shapes with lots of negative (empty) space. The other half moves around the shapes each making a shape fitting into a statue like a puzzle piece but without touching. Then the statue comes alive and moves to another statue to create a new puzzle piece, and so forth.

Suggested Music: *Music for Creative Dance, Volume IV, #17*

Developing Skills

"Dance of Eights" (Logical-Mathematical Intelligence)

Walk eight steps while counting to 8. Step backward and snap fingers every two counts while counting to 8 in twos (2,4,6,8). Stretch wide while counting to 4, curl small while counting 4 more (5,6,7,8). Turn for 7 counts and make a shape on count 8! Improv 16 counts smooth and 16 counts sharp. Repeat counting dance ending with a turn for 6 counts and a shape on 8. Improv 16 counts slow and 16 counts fast. Repeat counting dance ending with a turn for 5 counts and a shape on 8! It is important for all the dancers to count out loud (hear, say, do). Try dances of 6, 10, 12, and so forth.

Suggested Music: *Music for Creative Dance, Volume I, #10*

Creating

"Cinquain" (Linguistic Intelligence)

Create a cinquain (a five line poem) about a subject or concept you are studying (animals, nature, climate, electricity, geometry, etc.). The poem can be created as a group or individually. Have the students dance the poem as they speak the words.

Noun	Water
Adjective, adjective	High, Low
Verb, verb, verb	Evaporating, Condensing, Precipitating
Four word sentence	Water gives us life
Noun or synonym	Cycle

Closure/Cooling Down

"Blind Mirror" (Interpersonal Intelligence and Intrapersonal Intelligence)

Partners press palms together. Follower closes eyes and leader guides follower through space slowly. Reverse roles and change partners if time allows. Discuss with each other your feelings as leader and follower.

Suggested Music: *Music for Creative Dance, Volume II, #1*