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The Benefits of Dance: Cognitively, Socially, and Emotionally

Our world thrives on education—and for good reason. Nelson Mandela said, "Education is the most powerful weapon which you can use to change the world." Education has been the driving force for incredible inventions, innovations, and changes that have taken place in the world over the past fifty years. Unfortunately, these positive changes have also brought negative consequences. Modern-day school systems have transformed into overwhelming testing grounds, where the ultimate prize and "mark of intelligence" is the A on the physics exam, the 36 on the ACT, and the perfect 4.0 GPA. Standardized tests receive attention because teachers must prove to their superiors that they are effective. However, scientists believe that the combination of movement and music help children more fully develop cognitively, socially, and emotionally than standardized testing.

Cognitive Development

The cerebellum is the area of the brain associated with motor control. It is similar to the size of a fist and is located at the back of the brain near the top of the spine. Although the cerebellum is only one-tenth of the brain in volume, it contains *nearly half* of all its neurons and is considered to be the most complex part of the brain (Ivry & Eiez, 2000). The cerebellum's neural circuits are considered to be "outbound," meaning it sends the information out to the rest of the brain. This was an incredible discovery, but Peter Strick from the Veteran Affairs Medical Center has discovered an even more incredible connection. He and his staff tracked a

pathway from the cerebellum back to other parts of the brain involved in attention, memory, and spatial perception. Remarkably, the part of the brain that processes movement is the same part of the brain that processes learning (Jensen).

Not only does this finding suggest that learning and movement are intertwined at the neural level, but research has shown that exercise and movement may even grow a "better brain" (Wilson). In fact, John Ratey, author of *A User's Guide to the Brain*, calls exercise "Miracle-Gro" for the brain because of its role in stimulating nerve growth (Wilson). Studies have found that physical activity supports child development by improving concentration, memory, and positive outlook. Some school districts believe they need to cut back on physical education to improve academic performance, but this would likely be counterproductive. Indeed, Eric Jensen, author of *Teaching with the Brain in Mind*, says: "We may not be overstating the case to say that it is educational malpractice when only about a third of K-12 students take part in a daily physical education class".

Social Development

Movement also assists in building social skills and improving social development. In a recently published article, *The Arts in Early Childhood: Social and Emotional Benefits of Arts Participation,* sixteen different studies involving dance and music were used to observe and test elementary-aged students. Each of these studies examined the effects of movement and music on the children's social abilities.

Linda Smith, the Deputy Assistant Secretary for Early Childhood Development, stated:

> "Ample research has found that a strong social-emotional base in early childhood is associated with academic success and long-term outcomes like high likelihood of employment, and lower likelihood of involvement with the criminal justice system . . . Art activities like singing, dancing, and visual arts are associated with an array of positive outcomes, including pro-social skills, cooperation, independence, emotional regulation, and reductions in both externalizing and internalizing behavior" (Menzer, i).

For example, one study assigned children to a dance group that met twice a week at school for eight weeks. The children that participated had strong improvements from pre- to post-assessment in parent- and teacher-reported social skills, such as cooperation and teamwork. These children also showed strong reductions in internalizing shy and anxious behavior and externalizing aggressive behavior (Menzer, 8).

Another study randomly designated toddlers to participate in a four-to-eight-month classroom-based music education program. The music-based toddlers were then compared to toddlers who received standard programs. Although each group was learning the same topics, results showed that toddlers engaged in the music-based education program were more likely to increase their level of social cooperation, interaction, and independence over the school year compared with the control group. (Menzer, 8). Additionally, mothers who engaged with their infants in a five-week music and movement program were more likely to increase their reported quality of attachment with their child over time (Menzer, 8).

Emotional Development

In addition to cognitive and social improvements, movement and the arts help children emotionally. Jane Chu, Chairman of the National Endowment for the Arts, has stated: "Arts participation is strongly linked to the following types of emotional regulation ability: mood control and positive changes in affection and expression" (Menzer, iii). This is evidenced in studies focused on emotion regulation, such as:

1. Toddlers in arts integration programs displayed improvements in teacher-rated positive and negative emotion regulation over the course of the school year. These programs are comprised of daily music, dance, and visual arts (Menzer, 9).
2. Low-socioeconomic status toddlers in schools that include an arts integration program express more positive emotion and display improvements in teacher-rated positive and negative emotion regulation over the course of the school year (Menzer, 12).
3. Engagement in dance programs correlates with improved social competence, such as pro-social behaviors and cooperation, and stronger reduction in internalizing and externalizing problems over time, compared with a similar group of children in low-SES families who did not engage in a dance program. Children in this study were randomly assigned to either the dance program or control group. (Menzer, 12).

As research and studies have indicated, movement and motion are not only important, but crucial, to the development of a child. It is our responsibility as teachers and educators to ensure that our students receive the best education possible. Some teachers are fond of the

idea of incorporating movement, but many don't know how to integrate new curriculum into their jam-packed schedules.

This is where dance educators can shine. Through research and practice, we have found ways to help students learn core subjects, such as math, science, language arts, and social studies, through movement. This creative movement exploration does not diminish these core subjects; rather, it enhances them to an entirely new level.

In the words of Eric Jensen: "Brain-compatible learning means that educators should weave math, geography, social skills, science, and physical education together, along with movement, drama, and the arts. Let's not wait for a special event" (Jensen). I echo his words. It is my hope that we take every day as an opportunity to enhance our children's learning experience by giving them opportunities to move, create, and learn 21st century skills, rather than teaching them to become professional test takers.

Works Cited

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