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Music in the Early Childhood Classroom

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I would teach children music, physics and philosophy: but most importantly music, for the patterns in music and all the arts are the keys to learning.

– Plato

If I didn't think music could help save the human race, I wouldn't be making music.

– Pete Seeger

My first week as Director of Third Street Preschool was eye-opening. Though a veteran educator, this was my first experience directing a program situated within a musical environment—in this case, Third Street Music School Settlement. Musicians were everywhere. As preschool classes traveled to and from their rooms, pianos played, orchestras rehearsed and musicians passed by carrying violin, guitar and trumpet cases. The bi-weekly senior citizen band invited them to rehearsals to listen, and sometimes to conduct. Additionally, there were visits from instrumental instructors who introduced children to the sounds of their instruments, teaching them about the bow and reed and valve, and the importance of a case in protecting an instrument's delicate parts.

At Third Street, music plays a significant role in children's daily school lives. I wanted to deepen my understanding of the potential effects of this on preschoolers' overall development, to explore the

broader benefits, and so I observed, spoke with teachers, and immersed myself in the growing body of current research. The following highlights what I see as music's far-reaching effects on the growth of young children.

Classroom Observations

Music is a staple in most early childhood classrooms. It is the glue that connects curriculum to classroom life, reinterpreting and personalizing it. Music is the signal that alerts children to passages in their day, eases transitions to and from the classroom and provides a soothing ambient sound for quiet work times.

There are rhyming and counting songs, songs that label colors and animal sounds, and songs that say hello to each child in the morning circle. There is music that is culturally resonant, music that introduces a new language, and music that makes children want to move.

Teachers know that, by virtue of its universality, music also creates community. It merges songs from home with songs that are school-specific or culturally new. It allows children to express themselves as they might not otherwise be able, then reach outside themselves in a harmony with others they might not otherwise achieve.

I'm learning that there is also music that makes children think, coupling their intellectual and imaginative energies and prompting them to organize, remember, re-imagine, anticipate, extend and invent. Before looking into its cognitive benefits, however, I made some observations about the layers of experience music offers children:

1. When children sing or listen to music, or move or clap or dance to it, they open their whole selves to the experience, taking that which is familiar, real or imagined, and reinterpreting it through song. These experiences grow as they do, reflecting their feelings, suggesting new directions and offering solace.

2. When children sing, they invent through rhyme, rhythm and movement.
3. When children sing, they learn new lyrics and rhymes, they internalize phrasing and mentally organize rhythmic patterns.
4. When children sing with their classmates, their sound is even richer and the experience broad and inclusive.
5. When children sing, they move, for there is little music in early childhood without expressive movement.
6. And, finally, when children sing, they learn.

Music Molds the Mind

Today, neuroscientists are discovering a great deal about the impact of early musical experiences on cognitive development. Research is showing that the powerful thought networks children construct through music fortify future learning in realms as varied as language processing, visual perception, mathematics, and, of course, musical and creative expression.

According to Dr. Norman Weinberger, “making music actively engages the brain’s synapses, and there is good reason to believe that it increases the brain’s capacity by increasing the strengths of connections among neurons.” Thus, as young children participate in music-based activities, their muscles, senses and intellect are engaged simultaneously; they are exercising their brains in ways they rarely do.

The notion that activities as intuitive and engaging as singing, moving and playing an instrument enhance a young child’s neurological development is indeed powerful. According to researchers, music-based experiences not only enhance children’s appreciation for sound, pattern and melody, they shape the growing brain. As neurobiologist Susan Barry puts it, “Long-term musical training actually re-organizes the brain.” In his book *Musicophilia*, neurologist Oliver Sacks asserts, “Anatomists today would be hard

put to identify the brain of a visual artist, a writer, or a mathematician—but they could recognize the brain of a professional musician without a moment’s hesitation.”

A Key to Learning

Among the cognitive benefits currently being studied by scientists are those relating to executive function, memory and intelligence, literacy and language processing. The following is a sampling of their findings:

Executive function and meta-cognition. Children with strong executive functioning abilities intuitively think ahead, making mini-plans for what they’ll do next. They may show this in their choice of classroom activity (“I think I’ll build in blocks with Ben”) or in sequenced processes such as hand washing or dressing to go outdoors. Their thinking is flexible—if one idea doesn’t work, they try an alternative. They are resilient thinkers, tuned in to their feelings and capable of modulating them.

Similarly, when singing or playing an instrument, children organize and sequence new material before memorizing it. According to recent studies, children are able to apply this process to a range of learning situations. In his book *A User’s Guide to the Brain*, Dr. John Ratey describes the sort of processing musical performance requires: “[T]he musician is constantly adjusting decisions on tempo, tone, style, rhythm, phrasing and feeling—training the brain to become incredibly good at organizing and conducting numerous activities at once. Dedicated practice of this orchestration can have a great payoff in lifelong attention skills, intelligence, and an ability for self-knowledge and expression.”

A Boston Children’s Hospital study found a correlation between musical training and improved executive function in both children and adults. “Since executive functioning is a strong predictor of

academic achievement, even more than IQ, we think our findings have strong educational implications,” said Nadine Gaab, the study’s senior investigator. “While many schools are cutting music programs and spending more and more time on test preparation, our findings suggest that musical training may actually help to set up children for a better academic future.”

Memory and IQ. In 2006, Canadian scientists discovered the first evidence that young children who take music lessons show different brain development and improved memory, compared to children who do not receive musical training. One researcher, Laurel Trainor, noted, “It is very interesting that the children taking music lessons improved more over the year on general memory skills that are correlated with non-musical abilities such as literacy, verbal memory, visuospatial processing, mathematics and IQ than did the children not taking lessons.”

Literacy and language processing. Stanford University research shows that musical training improves the way the brain processes the spoken word. This heightened auditory processing ability, researchers say, can enhance children’s reading ability and is especially valuable for children with dyslexia and other reading challenges. It helps them to *hear* the words as they decode. “Especially for children ... who aren’t good at rapid auditory processing and are high-risk for becoming poor readers, they may especially benefit from early musical training,” said researcher John Gabrieli.

A 5-year-old in our preschool with only a rudimentary sense of sound-symbol relationships cannot distinguish consonant sounds within a spoken word. Yet, because he’s participated in a music-based program, he can identify a trumpet, violin and piano within a piece of music. Kindergarten teachers will leverage this ability as they guide him along the path toward literacy.

Even routine clap-backs strengthen children's listening skills, requiring them to listen closely in order to echo a teacher's claps. The teacher claps out a short, crisp pattern, such as "Peas Porridge Hot," asking the class to echo her, then repeats it with the words. Later, she may offer just the clap-back alone, asking children to identify the rhyme.

The Educator's Takeaway

As new research continues to deepen our understanding of music's impact on young children, one takeaway is clear: just as they are joyful and evocative, musical experiences can be intellectually enriching.

This research should prompt educators to rethink their commitment to music and movement. Not only is music time a powerful group experience, adding to each child's sense of belonging, it stimulates cognitive growth in a range of areas. Building blocks for a solid music curriculum might embrace:

- Focus on process, participation and playfulness;
- A thoughtful choice of repertoire, sparked in part by the children's interests, based less on holiday or seasonal considerations and more on opportunities for developing musicianship;
- A spiraling sequence of songs that allows students to approach new music without letting go of the familiar;
- Generous opportunities for movement and physical expression;
- Flexibility, fun and vibrancy; and
- Ample time within each preschooler's day to enjoy, experiment, and extend the learning.

In the 2008 *Parents League Review*, Steve Nelson, Head of The Calhoun School, urged parents to consider the importance of music in

schools. “If I had one bit of advice to anyone seeking a school for a child it would be, ‘Find a school where there is much singing, listening to and playing of music all day long, in and out of the classroom.’” Writer and musician Blake Madden says: “You want higher test scores in math and science? Music education will help. You want children with higher mental faculty? Music education will help. You want to keep kids out of trouble and on-track towards college and future employment? Music education will help.”

More good news: Nearly every child can benefit from a music-based experience. “Music doesn’t discriminate between race, income or social status. It benefits children equally,” writes developmental psychologist Marilyn Price-Mitchell. Likewise, every classroom can offer rich musical experiences. A wide array of instruments is wonderful, but a solid program can be constructed without expensive equipment and props. Rhythmic stomping, clapping and patting one’s thighs can be as good as drumming. Carefully chosen CDs can mimic a teacher’s voice, and shakers can be made from beans and metal food tins.

New Questions Arise

As we learn more about the ways that music and musicianship are linked to learning, new questions arise:

- Is there a chronological window of opportunity before musical training is no longer able to “mold the mind” and enhance pathways for learning? To what degree do its effects diminish after age 5, age 8?
- How do musical experiences compare to those in the visual and dramatic arts with regard to cognitive and imaginative development?
- Do singing and movement have the same impact as playing an instrument or actively listening to music?

- And finally: If, as some scientists maintain, music has only minimal impact on the intellect, would we value it less?

In a 2013 *The New York Times* opinion piece, Samuel Mehr, a musician and doctoral student at the Harvard Graduate School of Education, argues that the intrinsic value of music education is so obvious it needs no validation from empirical study. “My colleagues and I urge parents, teachers, school administrators and policy makers to make music education a part of children’s lives for the musical skills it imparts, the cultural knowledge it conveys and, above all, the joy it brings.”

With much still ahead of me to learn and understand, I am persuaded that a music-rich early childhood environment offers important opportunities to enrich children’s learning, and their lives, for years to come. As educators and parents, we should work to provide these opportunities in generous measure.

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