



The Important Role of Music in Early Childhood Learning

"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 sing."

—Pete Seeger

When children sing or listen to music, when they move or clap or dance to it, they immerse themselves in the experience. *When children sing*, they listen closely to learn new lyrics and rhymes; they internalize phrasing, predict refrains, and mentally organize rhythmic patterns. *When children sing* with their classmates, the sound they create is richer and their experience more broad and inclusive. *When children sing*, they move, for there is very little music in early childhood without expressive movement.

BY ELAINE WINTER • ILLUSTRATION BY CALEF BROWN



Handwritten mathematical formulas on a musical staff background:

$$= \sqrt{\frac{B^2}{2A} + 4AC}$$
$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Other symbols include $3y =$ and CB .

Music is an emotional, complex, creative, multisensory, and whole-body experience.



On a recent weekend with my three-year-old grandson, I was struck by the ways in which music provided a sound track for his play — the snatches of melody that accompanied his activity, his music-infused gait, his rhythmic movement. In the midst of a Buzz Lightyear fantasy (in which I was Gramma Buzz), he stopped to tap on the kitchen table.

“See if you can do this!” he asked, and then beat out a pattern for me to copy.

He repeated this call-and-response again and again, sometimes inserting, “This is going to be a hard one!” then returned seamlessly to Buzz’s “infinity and beyond!!”

Later, taking a break from outdoor play, he initiated a guessing game.

“Guess what I’m playing,” he called out, as he pretended to play different instruments, bouncing about and shaking his head as if music were playing. I identified the piano, the trumpet, the drum, the violin, and the flute; he got me when he mimed a clarinetist.



My grandson may be a particularly musical child. It is too soon to tell, but it is clear that he benefits greatly from his preschool classroom environment in which singing, clapping, and moving are creative exchanges, almost conversations between teachers and students. Music is a vibrant and vital part of his life — and that of his classmates.

I found myself hoping that music would remain a part of his everyday education and his life.



For many years, I’ve made my professional home in early childhood education. I’ve taught prekindergarten, run two parenting centers, directed a large independent elementary school, and headed an admissions team. It was not until I joined my current school, Third Street Preschool, however, that I became immersed in music education and realized the exciting weave between music and young children’s

learning. Third Street Preschool is part of a larger institution, New York City’s Third Street Music School Settlement, and because of this connection, music is the backdrop of our school day.

As preschool director, I observe how children integrate these opportunities, looking for the interplay between music and creative and cognitive development, and identifying the numerous ways that music can enrich a child’s school experience. As I read, I am pleased to discover that current

“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 set up children for a better academic future.”

research seems to confirm and extend these firsthand observations.



Of course, we know that music is a key player in most preschool settings. It is the signal that alerts children to passages in their day, easing transitions to and from the classroom or providing a soothing ambient sound for quiet work times.



There is music that says hello to each child in the morning circle, that is culturally resonant, that introduces new languages, and that makes children want to move.

There is also music that makes children think — coupling their intellectual and imaginative energies and urging them to organize, remember, reimagine, anticipate, extend, and invent.



Today’s research takes us further, demonstrating how, through music, children construct powerful thought networks that fortify future learning in realms as varied as language processing, visual perception, memory, mathematics, and, of course, creative expression.



Scientists can now demonstrate how this occurs and predict which areas of the brain children tap when they engage in singing, playing an instrument, dancing, or actively listening to a rhythm or melody.



“Music molds the mind,” writes Susan Barry, professor of neurobiology at Mount Holyoke College, referring to that window of opportunity, or developmental stage, in which children are most receptive to music’s benefits. “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 connections among neurons.”¹

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.



Neuroscientist Oliver Sacks writes, “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.”²



In *A User’s Guide to the Brain*, John J. Ratey, associate clinical professor of psychiatry at Harvard Medical School, writes, “The 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 one’s ability for self-knowledge and expression.”



When educators refer to “lifelong learning,” they have in mind both a child’s disposition (intellectual curiosity and drive, tenacity and resilience) and his or her ability to organize thoughts and activity, to process new information productively, shaping it to fit his or her world. The latter is executive function (EF), described by researcher Christopher Bergland as “high-level cognitive

processes that enable people to quickly process and retain information, regulate their behaviors, make good choices, solve problems, plan, and adjust to changing mental demands. People with strong executive functioning abilities intuitively think ahead, making mini-plans for what they’ll do next.”

“A new study from Boston Children’s Hospital found a correlation between musical training and improved executive function in both children and adults,”³ Bergland writes in *Psychology Today*.

In the course of any school day, preschoolers are met with choices (“Should I build in blocks with Ben or paint at the easel?”), social dilemmas (“Is it OK to be silly now?”), and sequential tasks (“Should I put on my boots or jacket first to go outdoors?”). Children who successfully navigate these choices, dilemmas, and tasks are able to be flexible; if one idea doesn’t work, an alternate is right behind it. Children with strong EF direct their efforts productively and temper their emotions to fit the situation at hand.



“Since executive functioning is a strong predictor of academic achievement, even more than IQ, we think our findings have strong educational implications,” write Harvard University researchers Nadine Gaab and Paula Tallal. “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 set up children for a better academic future.”⁴

In particular, they have found that musical training improves the way children’s brains process the spoken word — an important asset to children in the process of learning to read, and especially valuable for those with dyslexia and other reading challenges because it helps them to *hear* the words as they decode.

Five-year-old Harry, a child in our preschool, possesses only a rudimentary sense of sound symbol relationships; he struggles to identify consonant sounds within a spoken word. Yet, because of his participation 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 down the path toward literacy.



Children who play an instrument are consistently organizing, adjusting, and sequencing new material before committing it to memory. And while not every child has the opportunity or inclination, many can benefit from classroom activities that mimic the brain’s multitasking challenges. Even a routine clap-back can strengthen children’s listening skills, requiring them to attend closely in order to echo a teacher’s pattern.

Ayanna’s teacher claps out a short, crisp pattern, such as Peas Porridge Hot, asking the class to echo her. She then repeats it with the words. Later, she again presents the clap-back, asking children to identify the rhyme. All ears are glued!



Writer and musician Blake Madden puts it this way, “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 toward college and future employment? Music education will help.”⁵



In his 2014 book, *Why Music Education Actually Matters*, Madden quotes John Gabrieli, of the Department of Brain and Cognitive Sciences at the Harvard-MIT Division of Health Sciences and Technology: “Young children who take music lessons show different brain development and improved memory over the course of a year, compared with children who do not receive musical training. It is very interesting that the children [we studied] taking music lessons improved more over the year on general memory skills that are correlated with nonmusical abilities such as literacy, verbal memory, visiospatial processing, mathematics, and IQ than did the children not taking lessons.”⁶

In brief, music impacts memory in young children.



“Music doesn’t discriminate between race, income, or social status. It benefits children equally,”⁷ writes developmental psychologist Marilyn Price-Mitchell.

By virtue of its invitation to be shared, music creates community. It joins children’s familiar songs from home with ones that are musically and culturally broadening, creating a collective bond. The Francis W. Parker School’s music department in Chicago offers us the following: “Music is a vehicle for students to express themselves in ways no other communication can achieve. The [Francis W. Parker School] music department strives to help students discover their own melody, create harmony with others, and experience the heartbeat of our shared humanity.”⁸



When singing, moving, and listening occupy a solid place in the classroom, alongside block building, painting, and story time, children build a repertoire of songs they delight in singing over and over and over again, adding new lyrics, personalizing them, owning them.

Musical experiences grow as they do, reflecting their feelings, suggesting new directions, offering solace, and just plain jazzing things up.



“When they move and when they sing, children tend to feel good about themselves,” writes Julene K. Johnson, professor at the University of California, San Francisco: “Study after study has found that singing relieves anxiety and contributes to quality of life.”⁹



How, then, do we structure musical education so that the students’ experiences are, in fact, joyful and resonant? These components come to mind:

- A focus on process, participation, and playfulness over achievement.
- A thoughtful choice of repertoire, based not only on holiday, seasonal, or day-to-day considerations, but also on children’s personal experience and opportunities to build musicianship.



- A spiraling sequence of songs that allows students to approach new music without letting go of the familiar.
- Ample opportunity for movement and physical expression.
- An emphasis on flexibility, fun, and vibrancy.
- Sufficient time within each preschooler’s day to enjoy, experiment, and extend the learning.



For some educators, the introduction of music and musical experimentation begins the minute children enter their classroom. For others, developing a music curriculum represents greater challenge. Most school communities offer professional development opportunities including interactive workshops. One such workshop was the two-day training session presented recently by Third Street Music School Settlement in conjunction with the NYC Department of Education. Participants were further supported by classroom visits from workshop mentors.

If your school is struggling to engage fully in music, there are people who will help — who *want* to help.



During this year’s Bank Street Pre-Kindergarten Summer Institute,

music teacher Betsy Blachly offered two suggestions for educators struggling to hold a tune. “First, don’t worry about it, and, second, place yourself next to two children who sing well. You’ll probably see that your voice begins to blend in with theirs.”¹⁰



Lack of material resources may also present as a deterrent, and, while an array of instruments is certainly a plus, a solid music program can be constructed with very little. Rhythmic stomping, clapping, and patting one’s thighs can be as good as drumming. Shakers can be made from beans and metal food tins or paper towel rolls, and carefully chosen CDs can support movement activity and games. In other words, just about anything can become a musical prop.

Recently, I was watching a three-year-old in the park as he was mimicking a musician at work. When the musician took up his banjo, the boy looked around him, picked up a big oak leaf, and began to “strum” and sing.



As we continue to learn more about the benefits music offers young children, new questions arise. How wide is the chronological window of opportunity that allows music to “mold the mind”

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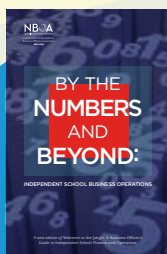
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and enhance pathways for learning? To what degree do its powerful effects diminish after age five, age eight, and so on? How do musical experiences compare with those in the visual and dramatic arts with regard to cognitive and imaginative development? Are singing and movement as impactful as playing an instrument or actively listening to music?



In a 2013 *New York Times* article, “Music and Success,” Samuel Mehr, doctoral student at the Harvard Graduate School of Education, writes, “My colleagues and I urge parents, teachers, school administrators, and policymakers 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.”¹¹



To quote Steve Nelson, head of The Calhoun School (New York), “If I had one word of advice for anyone seeking

a school for a child, it would be, ‘Find a school where there is much singing, listening to and playing music all day long, in and out of the classroom.’”¹²



As early childhood educators, we can spark powerful cross-cultural, creative, social, and intellectual growth in our children when we help them to engage in rich music-based activities.

By making music a central focus within the school day, we provide children with joyful opportunities destined to enrich their learning for years to come. And we can enjoy even more fully those times within each day *when children sing*.

Elaine Winter is director of Third Street Preschool in New York City, a part of the Third Street Music School Settlement, which is celebrating its 120th anniversary.

Notes

1. Susan R. Barry, “Do Musicians Have Different Brains?” *Psychology Today*, June 11, 2010.

2. Oliver Sacks, *Musicophilia: Tales of Music and the Brain*, Knopf, 2008.
3. John Ratey, *A User’s Guide to the Brain*, Vintage Books, 2001.
4. Paula Tallal and Nadine Gaab, “Dynamic auditory processing, musical experience and language development,” *INMED/TINS — Trends in Neurosciences*, July 2006.
5. Blake Madden, *Why Music Education Actually Matters*, National Association for Music Education, August 1, 2014.
6. Ibid.
7. Marilyn Price-Mitchell, “How Music Improves the Lives of Children, Applause: Children, Music and Social Change,” *Psychology Today*, June 2011.
8. Ibid.
9. Stacy Horn, “Singing Changes Your Brain,” *Time* magazine, August 2013.
10. Betsy Blachly, “Music in the Pre-K Classroom,” *Getting Ready for Pre-K*, an Institute for Educators, August, 2014.
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