



The Power of Music



By Steve Buckley

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I had my first experience of working in music with exceptional students in 1981 when I was asked to provide music for three men with Down syndrome in a group home in Orillia, Ontario. I was much younger then, but the experience left a lasting impression. Those three individuals got much enjoyment from what I felt at that time was simply "a few songs."

In 1999 I had a private music studio running in Innisfil, and friends of the family asked me to try to teach their daughter.

She was 9 years old, had been diagnosed with Down syndrome, and was shy and nonverbal. My friends had given up on speech and language development for their daughter and had decided instead to work on methods of augmented communication. One year later this young lady was able to sing along with one of her favorite songs and mine: "I Don't Want to Live on the Moon" by Shawn Colvin. This was a great achievement for a child whose parents had been advised that their daughter would never talk.

The power of music was again revealed to me in May of 2002 when my twin boys were born. My wife went into premature labor at twenty-three weeks gestation and was rushed to hospital, where our boys were diagnosed with twin-to-twin transfusion syndrome. At twenty-six weeks, the doctor induced labor when one of our twins went into congestive heart failure. Our first twin's heart flat-lined at birth, and his brother was born with a low blood supply and needed an immediate transfusion. Our first twin

weighed 1030 grams; his brother weighed only 760 grams!

Both boys needed to be resuscitated at birth, and it was over an hour before they were stabilized and my wife and I were able to see them. Our firstborn was active and responsive while his brother remained unresponsive after delivery. My wife (also a musician) stood beside him and started to sing "You Are My Sunshine," a song she had sung to them in her womb every night before bed. Our son instantly started moving and reaching for her hand to hold her finger!

Shortly after that, I started using music and music lessons as a gentle strategy to help children learn and develop, a strategy that gradually removes the therapeutic aspect. My students were now going to a music lesson just like the rest of the kids did, rather than going to a clinic appointment or another doctor's visit. The students were involved, participating, learning, and leaving with a smile. It was incredibly rewarding to witness these exceptional students succeed. Smiles of accomplishment became a driving force as I helped all of my students learn.

In 2011, one parent asked me about an after-school program called MusIQ Club. Curious about the possible benefits, I contacted the company and started using their interactive music software with some of my students. The response was informative. Students seemed not only to gravitate to the computer but also worked well within its interactive environment.

One of these students, a 9-year-old boy with Asperger's syndrome and ADHD, had been my student for eighteen months. Early on I began using strategies to develop and increase his attention span. During each session, we had rotated between singing, movement, instrumental, and musical activities, and he had displayed a slowly increasing attention span, with a maximum of 5-minute sessions. However, introducing this child to sessions using interactive music software had an immediate impact. He began to actively request the computer music sessions, and using the interactive software, he was able to concentrate for a full 45-minute session about learning to read music and play the piano! Within six months this boy was reading music, following beats and rhythms, and getting full enjoyment from a solid music session. His increased interest in music allowed me, as an instructor, to focus on

behavior, social interactions, and emotion. I have seen this situation repeat itself with many of my students.

The benefits of music training are supported by recent neuroscience research. Studies show that instrumental music learning improves rates of learning math, science, and reading. One 2006 study by Hong Kong University of China¹ found that students in a challenging instrumental program develop better verbal memory (how many words can be learned at once). When the music lessons were stopped for a year, the advantage

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remained. When the music lessons were resumed, the advantage increased again.

Reading music involves reading an abstract set of symbols, interpreting those symbols, and translating them to physical motion of ten fingers across a piano keyboard. That's exercise for the brain, both receptive and productive processes at the same time, and at any age it develops new neural connections.

Permanent change to the brain was measured in a 1995 Heinrich-Heine University study that found the cerebrum was significantly larger in people who had received instrumental music training early in life.² A 2012 study shows that students who receive instrumental music training early in life develop enhanced listening skills that can make a significant difference in academic performance.³

Attraction to learning music is one of the great consistencies in human nature. Consistency is required for learning . . . so why not lean on music to help our children learn and develop? Using music as a gentle strategy and driving force, combined with evidence-based methods of intervention, we are better able to help our exceptional children excel. Replacing the therapeutic focus with music learning makes it enjoyable—not just another therapy session or doctor's appointment. Shaping their mode of thinking and making it fun allows children to approach music, education, and development with smiles, thus allowing them to achieve and advance educationally,

musically, behaviorally, and socially. Being excited about music extends the benefit of our class because students practice with the interactive software every day, and parents appreciate sharing music with them at home.

Music truly has been a gift to man. It is a greater gift to our children with special needs because it helps them develop and advance in a naturally fun learning environment. 🍯



Steve Buckley has been involved in the music industry for more than forty years, following fifteen years of private classical and jazz training. He has been teaching music to children for twenty-five years and working with special needs children for more than thirteen years. In 2011 Steve began designing programs for children with special needs using interactive music software by Adventus, and he continues to teach complex care and high behavior children privately at his home studio in Innisfil, Ontario.

Endnotes:

1. American Psychological Association (2003, July 29). Music Instruction Aids Verbal Memory. "Music Training Improves Verbal but Not Visual Memory: Cross-Sectional and Longitudinal Explorations in Children," Yim-Chi Ho, M. Phil.; Mei-Chun Cheung, Ph.D.; and Agnes S. Chan, Ph.D.; The Chinese University of Hong Kong; *Neuropsychology*, Vol. 17, No. 3, www.science.daily.com/releases/2003/07/030729080020.htm.
2. Department of Neurology, Heinrich-Heine University, P.O. Box 101007, D-40001 Diisseldorf, Germany (received 20 June 1994; accepted 27 February 1995). The subsequently performed Scheff tests showed a significantly larger anterior callosus in musicians with early commencement of musical training compared to controls, and in musicians with early commencement of training compared to musicians beginning later (p. 0.01).
3. www.sciencedaily.com/releases/2011/04/110420112058.htm, "Childhood Music Lessons May Provide Lifelong Boost in Brain Functioning."

