

TUNING UP KIDS' IQs



The sounds they produce may seem like random noise. But a Mac study says music lessons attune your preschooler's thinking skills. The 'symphony' signals advanced brain development.

**By Daniel Nolan
The Hamilton Spectator
(Sep 20, 2006)**

Katherine Randall might be the poster child for why music lessons are good for your kids.

A McMaster University study says music lessons can help children as young as four show advanced brain development and improve their memory, even when it sounds like a budding musician is banging out little more than noise.

Randall, 13, a Grade 8 student at Norwood Park, a French immersion school on the west Mountain, began taking violin lessons five years ago at the Hamilton Suzuki School of Music. She now plays the flute, is trying to teach herself German, goes horseback riding and is debating with her mother Carolyne about learning how to play the guitar.

Randall and her mom say music lessons have been good for her and her mind.

"It helps a lot in math," says Randall, who's read that taking music lessons can improve her memory. "Awhile ago, before I took violin, I would get Bs, then when I started playing I was getting better and I was getting As."

Researchers at McMaster used magnetoencephalography or MEG brain-scanning technology to compare the developmental changes in 12 Toronto children aged four to six over a year.

The study, to be published in the October edition of Oxford University's neurology journal *Brain*, found those who took music lessons showed more changes in brain responses.

Even when parents hear only what sounds like random notes or nonsense, it's likely their children are developing their brains in ways that could enhance their overall thinking, said professor Laurel Trainor, who led the study with Takako Fujioka, a scientist at the Rotman Research Institute in Toronto.

"There are probably really fundamental things going on in the brain as those kids are learning over that first year, so even though they appear on the surface to maybe only play a few pieces, very simple pieces, it's probably setting up networks in their brain," Trainor said.

Music training could lead to improvements in literacy, verbal memory, visuospatial processing, mathematics and IQ, she added.

Sharon Grennan and Sylvia Klarer have their children taking music lessons at the Suzuki school. Grennan's daughters Laura, 9, and Elizabeth, 7, are learning to play the violin and cello, respectively, and Klarer's son Connor, 5, has been taking piano lessons for the last year.

Both parents believe the lessons have proven beneficial to their children's brain development. Laura is in the gifted program at her Burlington school and Connor is reading at a level -- 50-page children's novels -- that amazes his parents.

"I think it really helps them to get rhythm, to be focused. ... It does involve a lot of intellectual skills," says Grennan.

Both parents, however, never took music lessons or picked up an instrument when they were growing up. Grennan is a doctor and Klarer has a MBA and is an

organizational development director at a human resources management company in Mississauga.

"I did very well," joked Grennan. "I ended up as a physician."

The study found particular changes in the attention systems of children who took music lessons, which affected their ability to pay attention to important things around them.

"A child with a superior attentional system will be able to apply that in different domains, so they'll be able to focus in on what's important in a verbal learning task, they'll be able to concentrate when figuring out a mathematical problem," Trainor said.

"So you can imagine how a superior attentional system would have wide-ranging consequences across many domains."

Trainor said the study represents the first time researchers have identified the benefits of music lessons for preschool children. Previous studies compared the impact of music classes and drama classes in older children and found kids who learned an instrument had better improvements in IQ scores.

"I think our study and other studies show that music has benefits ... for cognitive processing and cognitive development," she said.

"We would hope that when decisions have to be made, music would be considered a core part of the preschool and school curriculum."

The government should be putting more funding into music education because many studies have proven it important, said Ingrid Whyte, executive director of the Coalition for Music Education in Canada.

"There's this tremendous emphasis on math and English and science and those are wonderful and important things, but here's a study proving, yet again, that music education does help develop the brain," she said.

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With files from The Canadian Press