

## **The effect of piano lessons on the vocabulary and verbal sequencing skills of primary grade students.**

By: Joseph M. Piro and Camilo Ortiz, *Journal Psychology of Music*, March 16, 2009.

Children exposed to a multi-year program of music instruction involving training in increasingly complex rhythmic, tonal, and practical skills display superior cognitive performance in reading skills compared with their non-musically trained peers, according to a study published in the journal *Psychology of Music*. According to authors Joseph M. Piro and Camilo Ortiz from Long Island University, data from this study will help to clarify the role of music study on cognition and shed light on the question of the potential of music to enhance school performance in language and literacy.

Studying children at two elementary schools, one of which routinely trained children in music and one that did not, Piro and Ortiz investigated the hypothesis that children receiving keyboard instruction as part of a music curriculum increasing in difficulty over successive years demonstrate significantly better performance on vocabulary and verbal sequencing than students who did not receive keyboard instruction. Several studies have reported positive associations between music education and increased abilities in non-musical (e.g., linguistic, mathematical, and spatial) domains in children. The authors recognize similarities in how individuals interpret music and language and “because neural response to music is a widely distributed system within the brain... it would not be unreasonable to expect that some processing networks for music and language behaviors, namely reading, located in both hemispheres of the brain would overlap.”

The aim of this study was to observe two specific reading sub-skills – vocabulary and verbal sequencing – which, according to the authors, are “are cornerstone components in the continuum of literacy development and a window into the subsequent successful acquisition of proficient reading and language skills such as decoding and reading comprehension.” The investigators selected second grade children from two schools in identical geographic vicinities and similar demographics to ensure the two groups of children were as similar as possible apart from their music experience.

Children in the intervention school studied piano formally for three consecutive years as part of a comprehensive instructional intervention program. Children attending the control school received no formal musical training on any musical instrument or music lessons as part of their school curriculum or in private study. Both schools followed comprehensive balanced literacy programs integrating reading, writing, speaking, and listening skills. All students were tested to assess their reading skills at the start and close of a standard 10-month school year using the Structure of Intellect (SOI) measure.

Results analyzed at the end of the year demonstrated that the music learning group had significantly better vocabulary and verbal sequencing scores than did the non-music learning control group. This finding, conclude the authors, provides evidence to support the increasingly common practice of “educators incorporating a variety of approaches, including music, in their teaching practice in continuing efforts to improve reading achievement in children.”