

## **Benefit two: The study of music helps students develop intelligence.**

- A research team exploring the link between music and intelligence reported that music training is far superior to computer instruction in dramatically enhancing children's abstract reasoning skills, the skills necessary for learning math and science.  
*-Shaw, Rauscher, Levine, Wright, Dennis and Newcomb, "Music training causes long-term enhancement of preschool children's spatial-temporal reasoning." Neurological Research, Vol. 19, February 1997*
- Students in two Rhode Island elementary schools who were given an enriched, sequential, skill-building music program showed marked improvement in reading and math skills. Students in the enriched program who had started out behind the control group caught up to statistical equality in reading, and pulled ahead in math.  
*-Gardiner, Fox, Jeffrey and Knowles, as reported in Nature, May 23, 1996*
- A McGill University study found that pattern recognition and mental representation scores improved significantly for students given piano instruction over a three-year period. They also found that self-esteem and musical skills measure improved for the students given piano instruction.
- In the kindergarten classes of the school district of Kettle Moraine, Wisconsin, children who were given music instruction scored 48 percent higher on spatial-temporal skill test than those who did not receive music training.  
*-Rauscher, F. H., and Zupan, M.A. (1999)/ Classroom keyboard instruction improves kindergarten children's spatial-temporal performance: A field study. Manuscript in press. Early Childhood Quarterly*

Information provided by MENC: The National Association for Music Education, NAMM: The International Music Products Association and NSBA: The National School Boards Association.

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The results of these and other studies are available at <http://www.menc.org/information/advocate/facts.html>