MTNA 2023
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The Power of the Visual in Teaching, Learning, and Performance

We tend to concentrate on *sound* when we teach, learn, or perform music. But the *visual* has a major impact on how students learn, how teachers teach, and how members of the audience actually hear a performance. What we hear is influenced by what we see. This session explains fascinating brain cells called mirror neurons and their impact on both the visual and the auditory in making music.

Mirror neurons and the power of the visual are discussed in depth in Chapter 9 in my book listed below: *The Musical Brain.* Additional resources can be found below.

Books

Iacoboni, Marco. 2008. Mirroring People: the science of empathy and how we connect with others. A fascinating book about one of the great neuroscience discoveries of the past 20 years.

Svard, Lois. 2023. The Musical Brain: what students, teachers, and performers need to know. See Chapter 9 for an in-depth discussion of mirror neurons. (See also the blog post, *I'm back – with a new book!* for a description of the book.)

Articles

Tsay CJ. (2013). Sight over sound in the judgment of music performance. *Proceedings of the National Academy of Sciences USA* 110(36): 14580-14585. (The reference list in this paper is an extensive list of research about the primacy of the visual.)

Tsay, CJ. (2014). The vision heuristic: Judging music ensembles by sight alone. *Organizational Behavior and Human Decision Processes* 124: 24-33.

Videos

Three-year old Jonathan conducting 4th movement of Beethoven's Fifth Symphony. No matter how well you know this piece, watching Jonathan conduct makes it sound even more exciting because our mirror neurons are mirroring Jonathan's excitement about the music.

Simon Rattle conducts 6 Berlin school orchestras – watch the students respond to Rattle.