Pedagogical Aspects of Body Mapping and Somatosensory Training

Foundational Research

Wilder Penfield (1891-1976)
Penfield discovered dedicated neural networks of sensory and motor activity for specific parts of the body. These areas are called “maps”. Further research has shown that brain maps interact with each other in diffuse networks.

Alvaro Pascual-Leone (b. 1961)
The Brain that Plays Music and is Changed by It. Annals of NY Academy of Sciences #930 (2001)
Pascual studied non-pianists learning to play simple patterns on the piano. Through transcranial magnetic stimulation (TMS) he revealed changes in cortical motor outputs as a result of continued practice.
Dr. Pascual-Leone states:

"Forceful playing with the fingers bent and executing hammer-like movements is more frequently associated with overuse syndrome... This stresses the importance of proper, well-guided practice and illustrates the need for greater understanding of the neurobiology underlying music playing to define what proper practice actually is."

Pedagogical Applications for Accurate Body Mapping

Body Mapping pedagogy defines "proper practice" as music-making that is based on accurate information about how the body is designed to move. Movement in keeping with the design of the body becomes easier, freer and more fluid, thereby creating a foundation for injury prevention and embodied performance.

Injury Prevention: Students will understand:
* How the part and the whole are structured
* How the part and the whole integrate for support and movement
* How warm-ups can engage the whole body

Embodied Performance: Students will understand:
* Training the visual, auditory, touch and kinesthetic senses is essential
* The quality of sound is determined by the quality of movement
* Embodied musical rhythm improves with access to the whole body
* Focus inclusive of the self and the environment fosters better movement choices

Pedagogical Tools

* Drawing
* Studying anatomical structures
* Studying Body Mapping texts
* Locating structures on one’s own body

* Videoing and watching performance for movement
* Inquiry of conceptions of structure, movement and support
* Training attention and the ability to prioritize one’s focus
* Linking desirable sounds to optimal movement

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Related Research


Additional Resources

Andover Educators  
[www.bodymap.org](http://www.bodymap.org)

*The Body Has a Mind of Its Own,*  

*The Brain That Changes Itself,*  

*Handbook for Patients with Repetitive Strain Injuries of the Upper Extremity,*  

Publications by Poster Authors

*Body Mapping for Flutists: What Every Flute Teacher Needs to Know About the Body,*  

*Sensory Tune-ups: a guided journal of sensory experiences for performers of all ages,*  

*What Every Violinist Needs to Know About the Body,*  

Online Tools for Use in the Classroom

Go to [http://web.mac.com/flutibia/FLUTIBIA/Resources.html](http://web.mac.com/flutibia/FLUTIBIA/Resources.html) to download the following:

- **Hooking It Up:** getting arms connected  
  7 physical warm-ups that engage all arm joints and rotations in connection with the legs.

- **Teaching Strategies .pdf**  
  Examples of language and questions effective in coaching balance, awareness and body use

- **Safeguarding our Hands.pdf**  
  Strategies to protect hands from injury

- **Body Outline for drawing map.jpg**  
  Outlines of the body. Draw maps of skeleton, arm structure, and breathing in these simple outlines.