



by ADVANCED BRAIN TECHNOLOGIES

A practice of listening to acoustically modified music that improves brain function.



The Listening Program is practiced on a regular basis, 5 days per week. The duration of daily practice and of the overall program depends upon the needs and goals of the listener.



#### Ages 2 years through adults

- Executive Function
- Auditory Processing
- Communication
- Social & Emotional
- Sensory Motor
- Stress Resilience
- Creative Expression

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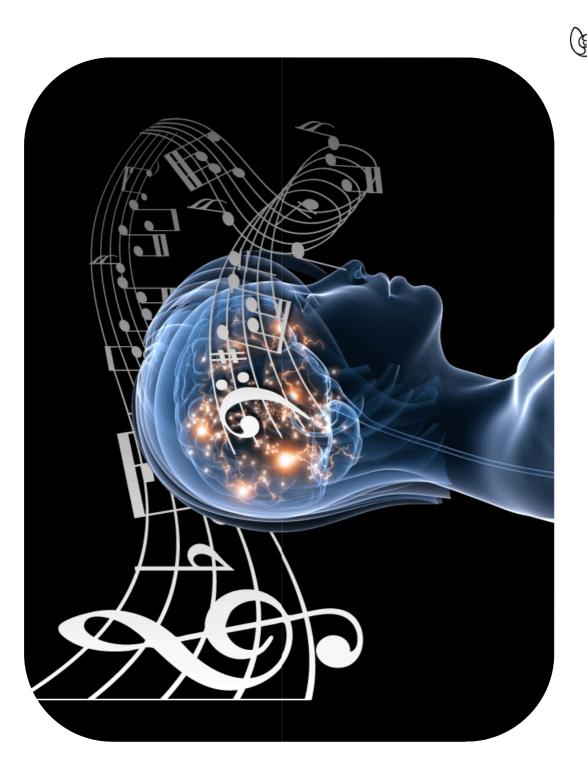
Effects of 'The Listening Program' on Children with Profound and Multiple Learning Difficulties

**Helen Francis** 



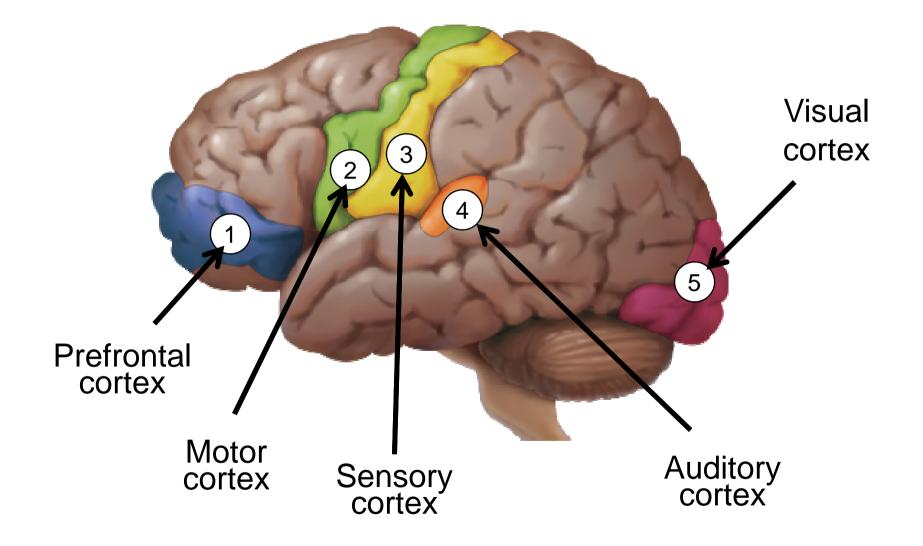






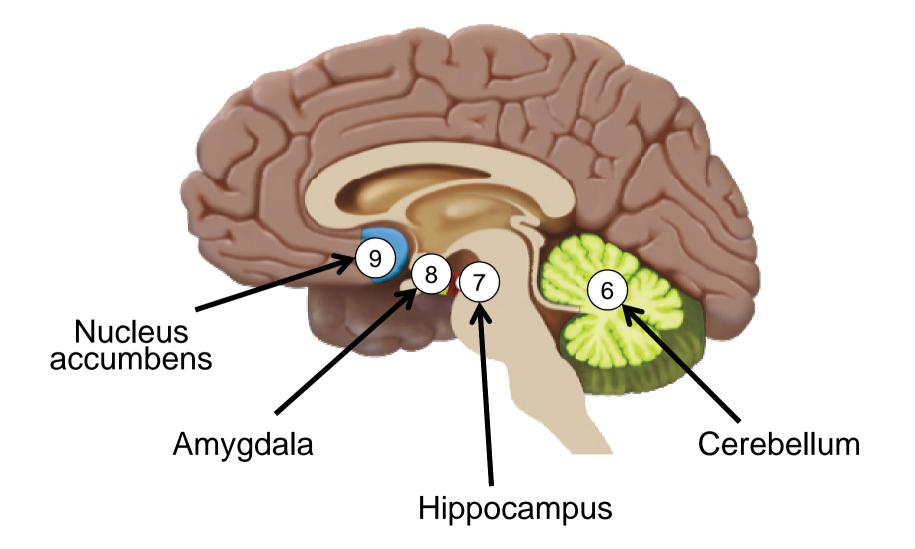


# The Musical Brain

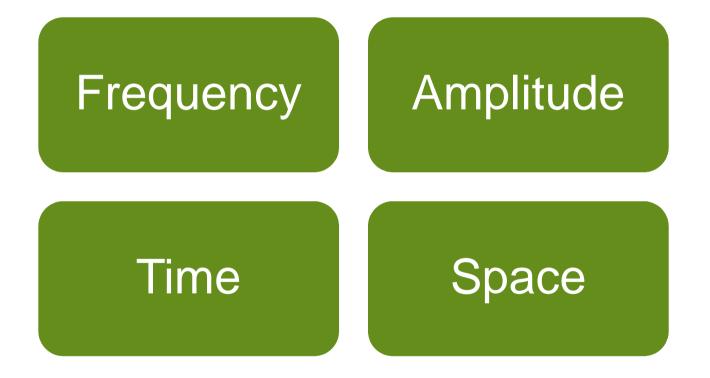


Source: D.J. Levitin and A.K. Tirovolas/Annals of the New York Academy of Sciences 2009; Image: Charles Floyd.

# The Musical Brain



# **Psychoacoustic Foundation**





### Auditory Skills Training

- Frequency perception
- Amplitude perception
- Auditory temporal processing
- Sound localization
- Auditory attention
- Auditory discrimination
- Auditory anticipation

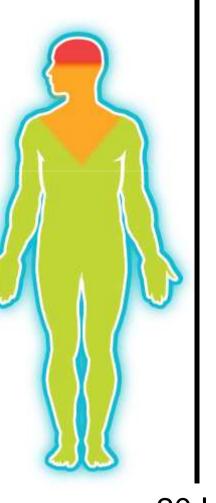
- Auditory closure
- Auditory figure ground
- Auditory cohesion
- Auditory memory
- Auditory scene analysis
- Binaural integration



### **Music Frequency Zones**

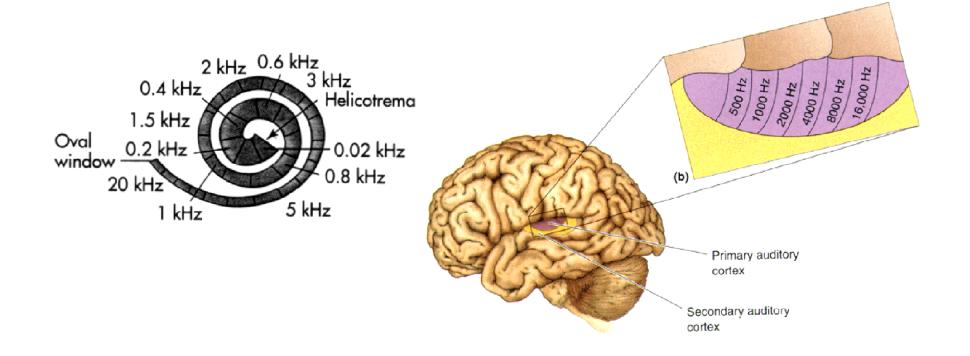
Zone	Music Frequency Focus	Feels
Red	Middle, High	Energized
Orange	Middle	Focused
Green	Low	Grounded
Blue	Low, Middle, High	Balanced

20,000 Hz



20 Hz

#### **Tonotopic Map**





Sources: Neuroscience: An Outline Approach, Anthony Castro | icg.harvard.edu/~psy1-s/ lectures/06sensation/

#### **Neuroacoustic Signal Processing**

Spatial Surround®

Spatial Surround® Dynamic

Dolby Headphone®

Active Listening Training<sup>™</sup>

Active Listening Training Sweeps<sup>™</sup>

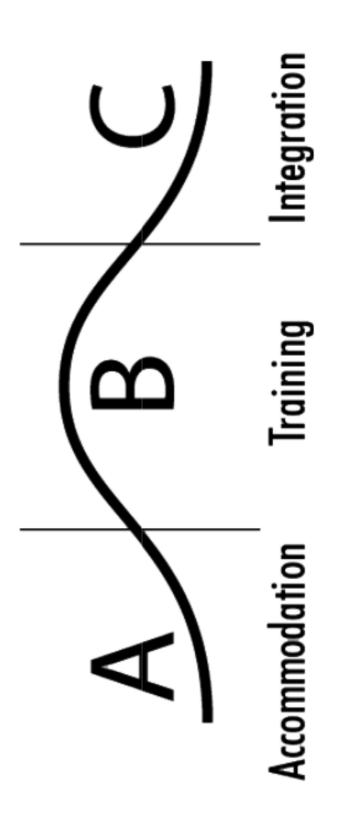
Filtration

Audio Bursting

Blends







# Brain Plasticity

The brain can change in response to experience provided with sufficient frequency, intensity and duration.

