Music & the Brain: Writing Words Through Music
Engage and Inspire Every Student

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Today’s Goals

1. DISCOVER the Science Behind Music, Writing & the Brain
2. IDENTIFY ways to enhance LAL through music
3. EXPLORE Musical Neuroscience
Dr. Oliver Sacks
Oxford, NYU, Columbia

Dr. Daniel Levitin
Doctor of Cognitive Psychology, Musicologist and Producer for many bands including The Grateful Dead

Dr. Charles Limb
Yale, Johns Hopkins University, UCSF

Gregory Pavliv
Combining what we know with the results we want to see in students through musical neuroscience.
Nationally renowned K-12 music education thought leader, international keynote speaker on the benefits of music education and innovator of research on music and the brain.

Vocal Music Director of Glen Ridge High School with over 15 years experience. My cross-curricular student-written musical project was featured in the Emmy Award-winning documentary, “Classroom Close-up”.

Functional Purposes of the Brain

(as understood prior to 1990)

With the discovery of FMRI in the early 1990’s, science has discovered remarkable facts about our brains.
My Challenging Question...

Is a word prompt as modeled in the thinking of pre-1990’s medical knowledge serving our students 30 years later?
Anatomy and Functional Areas of the Brain

Functional Areas of the Cerebral Cortex

1. Visual Area: 
   - Sight
   - Image recognition
   - Image perception

2. Association Area: 
   - Short-term memory
   - Equilibrium
   - Emotion

3. Motor Function Area: 
   - Initiation of voluntary muscles

4. Broca’s Area: 
   - Muscles of speech

5. Auditory Area: 
   - Hearing

6. Emotional Area: 
   - Pain
   - Hunger
   - “Fight or flight” response

7. Sensory Association Area

8. Olfactory Area: 
   - Smelling

9. Sensory Area: 
   - Sensation from muscles and skin

10. Somatosensory Association Area: 
    - Evaluation of weight, texture, temperature, etc. for object recognition

11. Wernicke’s Area: 
    - Written and spoken language comprehension

12. Motor Function Area: 
    - Eye movement and orientation

13. Higher Mental Functions: 
    - Concentration
    - Planning
    - Judgment
    - Emotional expression
    - Creativity
    - Inhibition

14. Functional Areas of the Cerebellum

14. Motor Functions: 
   - Coordination of movement
   - Balance and equilibrium
   - Posture

Frontal lobe: 1, 2, 3, 4, 5
Parietal lobe: 6, 7, 8, 9, 10
Occipital lobe: 11, 12, 13
Temporal lobe: 14
Cerebellum: 15
Brain stem: 16
Pituitary gland: 17
Respiratory centers: 18
Inferior View: 19
Sagittal View: 20
Lateral View: 21
Superior View: 22

Gregory Pavliv
What did this exercise do?

The Setup
Association (2)

The Timer
Visual (1)

The Music
Hearing (5)

Language
Broca’s Area (4)

Higher Function (13)
Musical activities stimulate every part of the brain.
The discovery of FMRI technology has forever altered any argument over the impact of music on the brain.
Since the 19th century, the Broca’s area was thought to be the language center of the brain. In 2015, researchers found that ‘looking for a language area of the brain is fruitless’ because the brain does not process in segments, it processes simultaneously.

And in this study, the Broca’s area was shown to process music and language at the same time.
Functional Magnetic Resonance Imaging

Blood Oxygen Level Dependent imaging

FMRI

BOLD
Dr. Charles Limb

Examination into the Neural Substrates of the Cerebral Cortex, 2008
We have the best selection of slides on the market.
How can we Enhance Language Arts Through Music?

Mechanics of song, yes… But what of music as a key?
Language Arts with Music

Music as the Source

• Lyric Analysis
• Songwriting
• Lyrics for Vocabulary
• Written Music Critiques
• Using a Song as a Writing Prompt

Music as the Tool

• Time Period Association
• Character Understanding
• Outlining the Plot
• Reflecting the Mood
• Memory Association
Language Arts Resources Incorporating Music

For Language Arts Teachers AND for Music Teachers looking to incorporate music across the curriculum

- **Teaching Channel Examples**

- **Pinterest Postings**

- **Edutopia**

- **International Literacy Program**

- **Hot Chalk**
  - http://lessonplanspage.com/musicliterature-htm/
Music Prompts Workbook

Your PDF includes enough for 16 unique lessons. Be sure to pick up your complimentary teacher resource CD.
Your Turn

Let’s select a lesson and try it out, right now, in real time.
Lesson Plan #7: Mind Forest

**CD Track 7**

**Objective:** Complete the musical word prompt using the given composition

**Materials:** Music Prompt CD (MAESTROGAP "Symphony") & Music Prompt Paper

**Sequence:**
1. Prepare the students by giving out the Music Prompt Blank for this lesson.
2. Instruct students what they will see in the music and write a story based on what they have in the piece of music.
3. Play Track #17 in its entirety then tell students they will have a minute of silence, but continue writing.
4. Replay the Track in its entirety.
5. Students should then be given a moment to finish their thoughts or to finish editing their work before it is collected.

**Assessment:** This should be based on the demands of the specific subject area. For example, if being done in a L.A. or other writing studies class, all aspects of the writing including grammar, style and length should be assessed. However if being done in a class NOT regularly assessing writing as a music class, the assessment should be based on relevancy to the music and effort placed into the work.

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Lesson Plan #11: Dog Walking

**CD Track 11**

**Objective:** Complete the musical word prompt using the given composition

**Materials:** Music Prompt CD (MAESTROGAP "Symphony") & Music Prompt Paper

**Sequence:**
1. Prepare the students by giving out the Music Prompt Blank for this lesson.
2. Instruct students what they will see in the music and write a story based on what they have in the piece of music.
3. Play Track #11 in its entirety then tell students they will have a minute of silence, but continue writing.
4. Replay the Track in its entirety.
5. Students should then be given a moment to finish their thoughts or to finish editing their work before it is collected.

**Assessment:** This should be based on the demands of the specific subject area. For example, if being done in a L.A. or other writing studies class, all aspects of the writing including grammar, style and length should be assessed. However if being done in a class NOT regularly assessing writing as a music class, the assessment should be based on relevancy to the music and effort placed into the work.

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Lesson Plan #13: Gali-Mah

**CD Track 13**

**Objective:** Complete the musical word prompt using the given composition

**Materials:** Music Prompt CD (MAESTROGAP "Symphony") & Music Prompt Paper

**Sequence:**
1. Prepare the students by giving out the Music Prompt Blank for this lesson.
2. Instruct students what they will see in the music and write a story based on what they have in the piece of music.
3. Play Track #13 in its entirety then tell students they will have a minute of silence, but continue writing.
4. Replay the Track in its entirety.
5. Students should then be given a moment to finish their thoughts or to finish editing their work before it is collected.

**Assessment:** This should be based on the demands of the specific subject area. For example, if being done in a L.A. or other writing studies class, all aspects of the writing including grammar, style and length should be assessed. However if being done in a class NOT regularly assessing writing as a music class, the assessment should be based on relevancy to the music and effort placed into the work.

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Lesson Plan #16: Me

**CD Track 16**

**Objective:** Complete the musical word prompt using the given composition

**Materials:** Music Prompt CD (MAESTROGAP "Symphony") & Music Prompt Paper

**Sequence:**
1. Prepare the students by giving out the Music Prompt Blank for this lesson.
2. Instruct students what they will see in the music and write a story based on what they have in the piece of music.
3. Play Track #16 in its entirety then tell students they will have a minute of silence, but continue writing.
4. Replay the Track in its entirety.
5. Students should then be given a moment to finish their thoughts or to finish editing their work before it is collected.

**Assessment:** This should be based on the demands of the specific subject area. For example, if being done in a L.A. or other writing studies class, all aspects of the writing including grammar, style and length should be assessed. However if being done in a class NOT regularly assessing writing as a music class, the assessment should be based on relevancy to the music and effort placed into the work.
Dr. Oliver Sacks

Renowned neurologist Oliver Sacks was a physician, best-selling author, and professor of neurology at the NYU School of Medicine.

He is the author of many books, including Musicophilia, Awakenings, The Man Who Mistook His Wife For A Hat, On The Move, and Gratitude.
Reverse engineering music curriculum to target its impact on students across other subject areas can happen right now.

The future is not left brain versus right brain. And this type of initiative requires NO investment. It only requires acceptance.
Stay in touch

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Don’t forget to complete your evaluation to get your certificate
THANK YOU!!! :-)

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