

Reframing “Melodic Learning” As a Transformative Learning Construct

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The statistically significant improvement of over 1500 students using a reading intervention involving singing began my search for a broader hypothetical construct to explain these learning gains. The construct of Melodic Learning may well be the powerful force that can improve learning and sustainability for all learners not only of reading but across the curriculum.

Introduction

A statistician friend once crushed my excitement over some early research results by saying, “Two data points do not make a trend.” Several months ago while writing up a report for a University press release, I surveyed data covering 5 years and including over 1500 struggling readers at the elementary, middle, and high school levels. The data consistently supported major reading gains at all levels (Homan, 2011). I realized I was looking at the other extreme, not two data points, but years of cumulative data demonstrating the success of a specific reading intervention.

I’d always felt the intervention was successful because it involved singing and repetition. Singing is known to be motivating and there’s strong research support connecting repetition to enhanced fluency, and improved fluency to increases in comprehension (Rasinski, 2003). While I still believe that to be true, I started thinking there might be more at work here, something deeper and more pervasive that cuts across curriculum areas to a core base that might potentially enhance **all** learning experiences.

It’s very common in academia to become insular and focused on your own specific area of expertise. I decided to spread a much broader net as I looked for the hypothetical construct that might explain the strong and consistent student improvement resulting from the singing intervention.

Multi-modalities hold the power to be transformative

Consistent with learning theory, I started with the known and moved to the unknown. Multi-modality learning has been researched for over forty years reaching the same conclusion. As summarized by Baines, “When students invoke more than one sense [or modality], simultaneously or over a period of time, they tend to interact with the material more intensely and thereby retain what they have learned for longer periods of time” (Baines, 2008).

Multi-modality learning involves using auditory/aural, visual, kinesthetic and tactile modalities during the learning experience. Multi-sensory learning adds smelling, tasting, moving, touching, thinking, intuiting, and enjoying. A well-known example of the success of multi-modal learning is the PBS series Sesame Street. It was created to provide young children with the opportunity to experience and advance their emergent literacy through poems, jingles, chants, word games and singing songs. Several of the principles of literacy learning are interacting to maximize this learning experience. Rhyming and singing provide a high level of multi-modal interactions involving visual, auditory/ aural, and kinesthetic modalities. Rhythmic and tonal processing is also vital to the success of this learning process.

The well-researched success of Sesame Street in promoting early literacy skills lead to the additional programming for elementary aged students producing hits such as *Conjunction Junction* and *How a Bill becomes a law* (McCall, 1973). These songs are still remembered by a generation now well into adulthood.

The integration of multi-modalities creates more powerful and permanent learning outcomes. The simultaneous use of multi-modalities is like a turbo charger. It increases the torque for learning. At its core it requires students to be participatory in active learning. This provides a strong contrast to the current emphasis on skill and drill in far too many classrooms. The use of a multi-modal approach to learning appears to accelerate learning for all learners across all or most curriculum areas (Baines, 2008).

For years researchers approached modalities by trying to find each learner's predominant learning modality. We now have an abundance of research concluding that teaching to one modality is not an effective learning tool (Baines, 2008). However, utilizing multi-modalities in various combinations results in an enhanced learning effect, particularly for learners who have not been successful using more traditional approaches. Along with other elements, rhythm and tonality are embedded in the visual, auditory/aural, and kinesthetic/tactile modalities. They can play a vital role in helping to make learning easier. Learning theory and our own experiences provide evidence that we learn by and through patterns (Moffett & Wagner, 1991). The active use of auditory/aural, kinesthetic/tactile and visual elements intertwine to form patterns that enhance our ability to learn. The simultaneous use of modalities increase the patterns presented to the brain.

While the simultaneous use of all modalities has been documented to improve learning, music seems to have a special place in the modality toolbox. Music and singing have a unique relationship to learning and the brain (Levitin, 2006).

The neuroscience of music

The neuroscience of music is a relatively new area of research. My broader search led me to discover the work of Aniruddh Patel a Senior Fellow at the Neuroscience Institute in San Diego. He and others convincingly make the case for music as a part of every culture currently known to man as well as in our very distant past. In fact, he reports on a flute documented to be 35,000 years old! Music is, in fact, universal and uniquely human.

Dr. Patel's research (and the research of many of his colleagues) links music to linguistics, to early learning, to language learning, literacy learning and many other areas. The strength of the studies of music and the brain provide overwhelming support for the underlying construct I was seeking. While no name has yet been given to this construct, a reasonable label is "Melodic Learning".

Personalizing Melodic Learning

Arthur C. Clarke wrote of an alien race that lacked music in his 1953 novel *Childhood's End*. Oliver Sacks, a well known neurologist wrote fifty-three years later that he imagined these Overlords of Clarke's novel that were sent to earth to attend a rock concert completely incapable of understanding the impressive power of music on the human race. What is at the core of this power and how can it be harnessed to enhance learning?

Most people can relate to having a song or melody "stuck inside their head". Science has coined the phrase "earworm" to describe this phenomenon. As recently as 2005 researchers discovered that the earworm is engraved in the auditory cortex and is therefore available for instant retrieval. Industrial psychologists have made good use of this link between music and learning by creating catchy jingles to sell products. More recently earworms are being used in training products (http://earwormslearning.com/set_earworms.php).

From science fiction aliens to earth based researchers there appears to be ample evidence that human beings are uniquely musical and that our bodies are tuned for music from infancy.

History provides us with many examples of how music has been used to pass on information and in turn enhance learning in nearly every civilization. Australia's aboriginal tribesmen used songs to detail complex routes to important places. In Africa drums were used to communicate. Throughout Europe roving minstrels and troubadours sang ballads telling the news and politics of the day. Throughout the ages churches, temples and mosques chanted prayers to rhythms that had the power to etch religious words into the memory of the believers. The connection between music and learning runs deep inside our brains. The patterns re-enforce each other resulting in a greater learning effect (Sacks, 2007).

Adults and small children can recognize a wrong note in a simple melody. Imagine the simple five note opening to the Star Spangled Banner. If one of those notes is played incorrectly those who've heard the song before have the ability to instantly recognize that a note is wrong regardless of any previous familiarity with musical theory or any ability to play an instrument. In like manner there are standard chord progressions that westerners will recognize as "wrong" even though they have never heard them before. Researchers have linked the phenomena of identifying the wrong note and identifying the wrong word (syntactically), to the same part of the brain, thereby demonstrating how music and words are intertwined (Sacks, 2007).

Circling back to my research on struggling readers

As so often happens in life, the more I learn, the more I want to know. The statistically significant improvement of over 1500 students using a reading intervention involving singing does appear to have a deeper and more pervasive construct to explain their success. The research on the simultaneous use of multi-modalities and the newer robust neurological research on the music/brain connection to enhanced learning merge to create a new construct. This construct of *Melodic Learning* appears to provide a vital link. It may well be the powerful force that can improve learning and sustainability for all learners across the curriculum.

The next White Paper in this series will investigate in greater depth the elements contributing to *Melodic Learning*.

Works Cited

Baines, L. (2008). *A Teacher's Guide to Multisensory Learning*. Alexandria, VA: ASCD Publications.

Homan, D. C. (2011). *Continued Evidence of Positive Effects on FCAT Scores for a Non-standard Approach to Reading Intervention*. Tampa: University of South Florida, College of Education.

http://earwormslearning.com/set_earworms.php.

Levitin, D. J. (2006). *This is Your Brain on Music*. New York: Penguin Group.

McCall, D. (1973). *Schoolhouse Rock*. National ABC.

Moffett, J., & Wagner, B. (1991). *Student Centered Language Arts*. Boston: Houghton-Mifflin.

Rasinski, T. (2003). *Fluent Reader, The*. New York: Scholastic.

Sacks, O. (2007). *MusicoPhilia Tales of Music and the Brain*. New York: Random House.