Musically Speaking

The Real Mozart Effect? Part 4

The question posed in the previous article pondered the notion that music could have a positive effect on spatial cognition of youngsters (and oldsters for that matter). There is also a question as to why listening to Mozart, actually classical music in general, can have a positive effect on school performance in areas other than music.

Kodaly's students had studied practical music in the form of folksongs, and theoretical music in their dictation and notation of the songs for the first five years of their schooling. Even without instruments, the spatial relationships, mainly high and low, are demonstrated using the Curwen hand signals mentioned previously, and relating those signals to the tones heard by the ears, and feeling the sensations while singing.

At the point that the students begin to read music, they can easily see that the notes on the page are higher or lower according to a fixed point, a line, on the page. The spatial notion of up and down has been demonstrated, and experienced.

Not only do the notes occur at different positions relative to height on the page, they are presented in linear fashion from left to right, just as we read text. When reading text however, our eyes are required to follow a straight line, unlike in music, the eyes, and later the ears, must react to the highs and lows while keeping track of the linear movement.

Add to this the notion of note length. The value is governed by the design of the note. In general, notes are made up of a note head with or without a stem, and the stemmed notes are differentiated from other notes by virtue of being colored in, or not, and going further, flags can be added to the stems of solid notes diminishing the duration of the original by half for each additional flag. Dots can be placed beside notes adding an additional duration of half the original to the existing note value; a second dot can be added to that, giving the note another half of the duration of the previous dot. Confused? Well, you don't have to learn this all at once. Concepts are presented one at a time. Just as when one learns chemistry, we must understand 2+2=4 (and yes I have heard of the proof that shows otherwise, but that is beyond the scope of this article.)

Music notation as we read it today is essentially an *x/y* axis, using the positive *x* axis as the duration of a note, and the positive *y* axis as the pitch. Each point on the *x* axis represents a note duration, or fraction thereof, and each point on the *y* axis represents a half step, the smallest unit of pitch in Western music.

Note duration doesn't move linearly in music in the same manner as duration on the *x* axis. On the *x* axis, if each point represents a beat, then a note of four beats in length would cover the space of four points. In music however, a four beat note is represented by a stemless, unfilled note head. This four beat note, called a whole note, takes up the same linear space as a one beat note (a quarter note). Sixteen sixteenth notes (very common), are the same duration of the whole note. Because each note head is the same size as the note head for the whole note (four beats), you can imagine that sixteen notes will take up much more space than one note.

At this point we haven't even touched an instrument, and already we are faced with reading left to right, up and down, and rhythmic values that as the notes become smaller in duration actually take up more space than the notes with longer durations.

Kodaly's students have learned note values and pitch relationships for five years or so before they pick up an instrument or sit in front of a piano. Music has become second nature, and applying that which they have studied to the instrument in hand is reduced (in the beginning) to learning how to hold the instrument, where to put the fingers, and how to generate a sound. Their ears have already been trained to read the notes, the very same symbols they used in singing will be used playing their instruments. Beyond that, their ears have been trained to listen and to produce music. It is just one small step to turn that knowledge into instrumental music.

Now let's take a look at the teaching of musical instruments in this country. I will describe teaching piano, since that is what I know best.

The experience of a beginning student starts with teaching them the pattern of black and white keys on the piano. Obvious to most, but not necessarily to a five-year-old. At this point the student will learn to navigate from one set of two black keys to the next. Spatial concept! The noticing of the recurrence of white keys in relation to the black comes next. Spatial concept!

Next is the notion of up and down on a piano. It may seem intuitive to many of you because we are used to up on the piano being to the right, and down being to the left. You have witnessed countless people playing the piano and they move to the left when the notes are in the low range. It could be otherwise, but it isn't. The student has to rely on the teacher to demonstrate this concept, and accept it for what it is. There is no logic. Up now means "right" and down now means "left." This is great if you know your left from your right, but many young students are still solidifying this concept. Spatial concept!
Early on the students are taught the finger numbers one through five, beginning with the thumbs, and progressing to the pinkies. Laying your hands down on a table top, you can see that one to five on the right hand move toward the right (up) and that one to five on the left hand is toward the left (down). This said, imagine playing the notes C-D-E-F-G (upwards) using your right hand. The fingers would be 1-2-3-4-5. Conversely to execute the same keys using the left hand, the order of fingers would be 5-4-3-2-1. Spatial concept!

All this and we haven't even read any music. We have had no training of the ear, which should be the driving force in the creation of the music from within. Instead we will be taught to use our eyes to coordinate the fingers and produce the musical sound. We haven't had the training to make our musical experience come from within. Instead it becomes a game of learning refined motor skills to produce a sound, and an experience in which we remain the third party listener. There is nothing in our cultural world experience that teaches us these concepts. Yet we have seen that music is a major part of our lives. Kodaly realized that the front door to teaching music is through the brain (the ear) and not as third party participants in playing instruments in the external mechanized fashion that we teach in this country.

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