



A Theory of Multiple Intelligences: Working with the Adolescent Brain/Voice

By Thomas Blue

Editor's Note: The following article is based on the author's interest session that was presented at the ACDA Michigan Fall Conference in October 2014.

When working with adolescent singers, teachers must approach classroom instruction with an understanding of the students' physical, social, emotional, and intellectual characteristics. With this knowledge, teachers have the opportunity to engage their students' minds using a multifaceted approach to guiding their music learning experiences. Adolescents' intelligence should be engaged using various strategies that connect the students with their music learning tasks. One approach is the application of Howard Gardner's multiple intelligence theory¹ as a guide to instructional planning, organization, and delivery.

Multiple Intelligence Theory

Gardner defines intelligence as "a bio-psychological potential to process information that can be activated in a cultural setting to solve problems or create products that are of value in a culture."² As music teachers, we have the opportunity to engage our students by allowing their intelligence areas to be activated and thus let them solve musical problems and create musical products that are relevant within the culture of the classroom, school, and community.

In *Intelligence Reframed*, intelligence is defined using seven descriptors.³ Each is outlined below, along with suggestions for implementation in the classroom. Some of the strategies mentioned here that have been used to engage these multiple intelligence areas may be ideas that could serve as an entry point, or they may be ideas that will reaffirm what is already being experienced in the classroom.

1. Linguistic Intelligence

Linguistic intelligence involves the potential to have a sensitivity to spoken and written language to accomplish certain goals. Lawyers, public speakers, writers, and poets are people with a high degree of linguistic intelligence. Have choral students work on a text analysis, poetry study, or a language study. For this to be relevant and engaging to students, the integrity of the music's text and the text's relationship to the composer's ideas and musical architecture must be considered. Students could do choral chants, write or explain the relationship of text to music, or write an explanation of the text's meaning.

2. Logical-mathematical Intelligence

Logical-mathematical intelligence has its potential in the capacity to analyze problems logically, carry out mathematical operations, and investigate issues

scientifically. Mathematicians, logicians, and scientists engage the logical mathematical intelligence. When engaging students and the logical intelligence area, a song's rhythm, its musical form, and the note value relationships within the piece could be explored. Within the rehearsal itself, a structured rehearsal sequence making use of structured sight-reading exercises and score analysis allow students to think and solve the musical score (musical problem) in a theoretical (scientific) way. Having students compare and contrast songs using music theory concepts can also give them opportunities to think logically.

3. Bodily-kinesthetic Intelligence

Bodily-kinesthetic intelligence entails the potential of using one's whole body or parts of the body to solve problems or fashion products. Dancers, actors, and athletes demonstrate this type of intelligence. However, this form of intelligence is also important for crafts persons, surgeons, bench-top scientists, mechanics, and other technically oriented professionals.

To help students engage the bodily-kinesthetic intelligence, the physical self can be activated through vocal and physical warm-up activities such as movement involving clapping, tapping, and the stepping of rhythmic patterns or pulses. By allowing students to move

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to the music through hand, arm, or body movements, they can become a physical representation of what appears on the music in the form of a rhythmic pattern, a musical phrase, or even the overall form and structure of the piece. Students can be taught to conduct simple patterns and begin to learn how you as the conductor/teacher engage in the music physically through gesture and facial expression and thus gain insight into how musical interpretation is demonstrated by the conductors in front of them.

Some ideas for warm-ups that provide students with physical connections to their music and their voices are outlined below.

Physical

- Stretches (arms, head, and neck)
- Rhythmic mirroring
- One, two, three, and four-pulse rhythmic canons
- Rhythmic snapping and clapping

Vocal

- Rhythmic vocalizations on neutral sounds in eighth- and quarter-note patterns such as the unvoiced consonants in duple and triple meters
- Lip trills
- Shout-sigh the phrase, "How are you today?"
- Shout-sigh or vocal imitation of the "Julia Child" voice on the phrase, "Today, we are going to cook..."
- Descending five-note scales starting in "head tone" for all voices
- Singing on the vowel sounds "oo, ee, oh, and ah"
- Grace Nash's⁴ Kodály pattern cards work well (if you have access or can find a set). Use imitation or in rounds.

areas (such as those of importance to sculptors, surgeons, chess players, graphic artists, or architects). Through written musical symbols, students can engage their visual and spatial intelligence and see how the musical score can become a visual score through its symbolic representations and poetic metaphors.

A singer's spatial intelligence can be explored and demonstrated through an understanding of how a singer's proximity to another singer allows him or her to function within the ensemble in different ways based on where they stand, whether it be in mixed formation, sections, close together, far apart, multiple rows, or in a semicircle. Experimenting with spatial proximity in relationship to how their sound presents itself acoustically as singers and to the audience provides students another opportunity to discuss this intelligence area. The spatial intelligence also allows for an exploration of the choral art in comparison to other forms of art, such as painting and sculpture, and how each form uses time and space to present an idea. By having students experiment with musical ideas through art—such as creating visual images or representations of what they think the music might look like on paper, whether realistic, impressionistic, or expressionistic—music can become more visual, such as in one, two, or three-dimensional art forms.

5. Interpersonal Intelligence

Interpersonal intelligence is the intelligence potential that appears as an outgrowth of what is done daily with regard to group rehearsal, sectional time, choral festivals, or competitive programs and tours. It denotes a person's capacity to understand the intentions, motivations, and desires

4. Spatial Intelligence

Spatial intelligence features the potential to recognize and manipulate the patterns of wide space (those used, for instance, by navigators and pilots) and the patterns of more confined



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of other people and, consequently, to work effectively with and to have a sense of empathy for others. Salespeople, teachers, clinicians, religious leaders, political leaders, and actors all use an acute interpersonal intelligence.

Students become aware of their interpersonal intelligence through their experiences as soloists or ensemble members. As students become more familiar with their interactions with each other and their own intentions, motivations, and musical desires, they can become more engaged in their relationship with the music being performed. These interactions and life experiences can translate into more meaningful performances, because the students now have a personal connection with the music. If students do not make the music/ poetic connection, then the process of music making will have little impact upon their lives. Why is it that students are drawn to or make better connections with certain songs and not others? Why is it that students seem to have a better sense of ensemble with certain pieces?

6. Intrapersonal Intelligence

Intrapersonal intelligence is revealed through individual or solo work more so than within the choral experience. This intelligence involves the potential to understand oneself and have an effective working model of oneself, including one's own desires, fears, and capacities—and to use such information effectively in regulating one's own life.

As a soloist, students have the opportunity to make their music making more personal or relevant. Students can become more internally aware of how they relate to their music and what the music means to them specifically. Within the ensemble setting, opportunities for journal reflections, self-evaluations, rehearsal, and performance critiques

allow singers to be more reflective and intrapersonal about their music making. Through experiences with the intrapersonal intelligence, students can set goals that reflect their individual desires musically.

7. Musical Intelligence

Musical intelligence has been presented last because its application is the most obvious within a choral music setting. This intelligence potential entails skill in the performance, composition, and appreciation of musical patterns. A student's skills in performance, composition, and appreciation of musical forms are present almost daily within the classroom and should not be taken for granted. Teachers need to make a conscious effort to challenge their students to think like performers, think and be music critics of their individual and group work, and to appreciate their work as the work of an artist.

Further Thinking

Teachers may find it helpful to ask the following questions of themselves and their students before, during, and after each multiple intelligence strategy or ap-

proach. Asking these questions provides the singer with a means of focusing and directing his or her thoughts in a nonmusical way and thus engage their musical thinking in a more in-depth sense of connectedness and relevance to their lives and to the lives of those who listen and experience their art. Students may want to then take a piece of music that they are working on and ask people who are in these various professions how they think about or approach a particular piece of music.

- How would a linguist, a writer, or a literature person approach this text? (Linguistic)
- How would a composer or theorist think about this musical score? (Logical-mathematical)
- How would a conductor think? How would a dancer think? (Kinesthetic)
- How would an artist think and express musical ideas in relationship to time and space? (Spatial)
- How would an actor think about and express a piece of music? (Interpersonal)

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- How would an individual think or reflect on music and its impact upon his or her life and relevance to the world? (Intrapersonal)
- How would a musician think when in the roles of a performer, critic, or audience member? (Musical)

Creating Artistry Approach for Teachers

To further extend the ideas of the musical intelligence, Henry Leck presents an approach that when applied will engage students' musical intelligence. In the first chapter of his book *Creating Artistry through Choral Excellence*,⁵ Leck calls them "tools for the trade."⁶ By using these tools, teachers can create a classroom that engages the musical intelligence.

- There should be the creation of a good mental focus through warm-up activities and rehearsal strategies, many of which have been mentioned here and in numerous other articles on rehearsal.
- There should be a positive approach to posture or body alignment such as those ideas presented in various body-mapping books along with appropriate breathing techniques for singers, including ideas presented in places such as Barbara Conable's *The Structures and Movement of Breathing*⁷ and *The Musician's Breath* by James Jordan.⁸
- There should be attention paid to the most appropriate use of vocal ranges for adolescents.

A view shared by this author was presented in an article by Kenneth Phillips in the *Choral Journal*.⁹ Phillips states that the challenge is not the voice changing but that "music teachers are often unfamiliar with the pedagogy for instructing students in singing during their adolescent years." He suggests that girls should make use of their entire voice range, not just the soprano or alto parts, and likewise the boys should sing in the proper vocal register(s) for their stages of vocal maturity. Phillips continues: "The limited-range concept is at the core of what I believe to be a fundamental problem in working with the boy's changing voice." Finally, he offers this alternative to the "limited range" concept:

"In the early stages of voice change, I recommend cultivating only two vocal registers—upper (male alto) and the lower (chest). Boys can be taught to shift from the chest mechanism to the alto mechanism (and vice versa) at around e1. The solution: teach students to sing in all three vocal registers: upper, lower, and then, middle."¹⁰

- There should be an understanding of the correct use of the resonating chamber through warm-ups and rehearsal strategies that address understanding the vowel sounds and the best placement for each with regards to the music.
- There should be an insistence on intonation accuracy through the use of solfeggio, Curwen hand signs,¹¹ use of unison, and harmonic exercises for chord-tuning.
- There should be the encouragement of buoyancy in the sound. This can be achieved through students engaging in kinesthetic activities combined with vocal warm-ups and within the music being sung.

- There should be the teaching of music reading skills through a systematic sight-singing method.
- There should be an understanding of the music through the music's musical architecture: How the music is structured using a score analysis and a thorough analysis of the musical text and its literary and poetic devices should be taught.
- There should be discussion regarding the communication of the text and what the story or stories are. Students are given the opportunity to stretch their linguistic intelligence if solo or choral texts with multiple meanings are selected.
- There should be music chosen that represents high-quality literature by reputable composers along with texts by the great writers and poets of literature.

Selected Repertoire

Table 1 is a list of repertoire selections recommended by the author that have provided opportunities for the engagement of the adolescent brain and their intelligences. This repertoire list provides teachers with selections in which the vocal ranges are appropriate for middle school and early high school singers, and many offer the opportunities for the voices to shift between vocal parts that are comfortable for them. (For example: the changing voice could move between the tenor and alto parts.) In addition to the comfortable ranges, the texts of some of these selections are from well-known poets. The texts of many of the pieces will resonate with middle school students because of their relevancy to life, and



Table 1

Title	Voicings	Composer/Arranger	Publisher
Ain't Gonna Let Nobody Turn Me Round	SSA	Rollo Dilworth	Hal Leonard
The Boat Madrigal	SSA	S. Porter	Phantom Music
Come, Celebrate This Day	SSA	Adriano Banchieri/ arr: Patrick M. Liebergen	Alfred Music Publishing
Elijah Rock	SSA	Rollo Dilworth	Hal Leonard
Hashivenu	SSA	arr: Ruth Dwyer	Colla Voce
Keep Your Lamps Trimmed and Burnin'	SSA	Laura Farnell	Hal Leonard
Stars	SSA	Larysa Kuzmenko	Boosey & Hawkes
Three Choruses for Female Voices	SSA	Bedrich Smetana	Roger Dean Publishing
Wintertime	SSA	Audrey Snyder	Hal Leonard
Yuletide Is Here Again	SSA	arr: Ron Jeffers	earthsongs
A Song Sung Once	SAB	Amy F. Bernon	Heritage Music Press
Ma Navu	SAB	arr: Audrey Snyder	Hal Leonard
Mairi's Wedding	SAB	arr: Bob Chilcott	Hal Leonard
My Heart Now Gives Itself to You	SAB	Orlando diLasso arr: Rentz	BriLee Music Publishing
O bella fusa	SAB	Orlando di Lasso arr: S. Porterfield	Heritage Music Press
She Sings	SAB	Amy Bernon	Heritage Music Press
Shine On Me	SAB	arr: Rollo Dilworth	Hal Leonard
At Twilight	SSAB	Audrey Snyder	Hal Leonard
If Music Be the Food of Love	SSAB	arr: Andy Beck	Alfred Publishing
Welcome Sweet Pleasure	SSAB	Thomas Weelkes/ arr: Crawford R. Thoburn	Belwin Mills Publishing Corp.
The Bells	SATB	Frank Ahrold	Alfred Publishing
Cantate Domino	SATB	David Brunner	Boosey & Hawkes
Cantate Domino	SATB	Hans Leo Hassler	CPDL #24771

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Table 1 continued


Title	Voicings	Composer/Arranger	Publisher
My Shepherd Is the Lord Most High	SATB	Haydn M. Morgan	Remick Music Corporation
Oh, What a Beautiful City	SATB	arr. Rollo Dilworth	Hal Leonard
Rise Up, My Love, My Fair One	SATB	James McCray	National Music Publishers
Ride the Chariot	SATB	arr. André Thomas	Hinshaw Music
Freedom Is Coming	SSA/SATB	arr. Henry Leck	Walton Music
Ave Maria	Unison/SA/SAB	Julio Dominguez	Walton Music
Come Gentle Spring	Three-part mixed	F. J. Haydn arr. S. Porterfield	Heritage Music Press

the relationships of the texts to other subjects will foster a sense of interdisciplinary connectedness. The repertoire also provides the teacher with pieces that are varied in their difficulty level. Because the list contains various difficulty levels, the selections provide an opportunity for the students to grow musically as they progress from unison to multi-part singing, and several pieces can be used to teach solfège and the application of sight-reading strategies. In general, the pieces presented will provide the teacher with several pathways of approaching choral music through the use of multiple intelligence strategies and thought processes.

Key Thoughts

Teaching so that students' brains are engaged consistently should include instruction that is teacher focused such as the Socratic Method¹² or student directed such as those ideas used in the constructivist classroom. The classroom structure should be quick-paced, structured, intentional, musically purposeful, and increasingly challenging to students.

The repertoire should be meaningful, age appropriate, and increasingly challenging; and the part-singing should evolve from and involve unison to multi-part music. Music reading should include sight-reading examples from the music presented in class and examples that are teacher and student composed.

In closing, Gardner states in *Intelligence Reframed*: "I much prefer occasions where students can perform their understandings publicly, receive relevant critiques, and go on to enhance their performances and their understandings."¹³ As choral conductors and educators, we must present our students with opportunities to demonstrate their multiple intelligences and the engagement of their brains' full potential through performances and relevant classroom experiences where students can be performer, critic, and audience member. 

Thomas Blue is choral director at Rochester Adams High School and Van Hoosen Middle School. TBlue@rochester.k12.mi.us

NOTES

- ¹ See <http://howardgardner.com/multiple-intelligences/>
- ² Howard Gardner, *Intelligence Reframed: Multiple Intelligences for the 21st Century* (Basic Books, 2000), 33-34.
- ³ Ibid., 42-43.
- ⁴ See: Grace C. Nash, *Creative Approaches to Child Development with Music, Language, and Movement* (Alfred Publishing, 1974).
- ⁵ Henry Leck, *Creating Artistry through Choral Excellence* (Hal Leonard, 2010).
- ⁶ Ibid., 2-4.
- ⁷ Barbara Conable, *The Structures and Movement of Breathing: A Primer for Choirs and Choruses* (GIA Publications, 2000).
- ⁸ James Jordan, *The Musician's Breath: The Role of Breathing in Human Expression* (GIA Publications, 2011).
- ⁹ Kenneth Phillips, "The Changing Voice: An Albatross?" *Choral Journal* 35, no. 10 (May 1995): 25-27.
- ¹⁰ Ibid., 27.
- ¹¹ See: <http://cmcd.faculty.ku.edu/acdapres/curwendiatonic.html>
- ¹² See: <http://www.criticalthinking.org/pages/socratic-teaching/606>
- ¹³ Gardner, *Intelligent Reframed*, 114.