

No known society has ever been discovered to exist without some form of music and many scholars believe that “music is so closely related to our humanness, that, like language, it developed in every culture on earth through man’s desire to communicate” (Hollinger, n.d., p2). Understanding the value and benefit of music in human society has been the subject of numerous research studies encompassing a wide variety of fields from sociology and psychology to neurobiology.

BENEFITS OF MUSIC EDUCATION

“A growing body of studies ...present compelling evidence connecting student learning in the arts to a wide spectrum of academic and social benefits. These studies document the habits of mind, social competencies and personal dispositions inherent to arts learning” (Ruppert, 2006, p.8). Evidence exists that links music education with increased critical thinking skills, increased ability to manipulate information in both working and long-term memory, and improved skills in cognition and attention for learning (Americans for the Arts [AFTA], 2011).

The benefits of music education do not apply only to students in school. Data also show that having arts training can have long-lasting effects that follow the student into adulthood. “Young people that had studied music or graphic communication are amongst the most employable of those that leave school at the earliest opportunity” (AFTA, 2011, p.11). One study reported that even “a limited period of music lessons (~3 years) during childhood fundamentally alters the nervous system such

that neural changes persist in adulthood” (Skoe & Kraus, 2012). Changes to the brainstem were linked to heightened auditory perception, increased executive function, and increased communication skills. Selected studies that support the various benefits specific to music education are summarized below.

Mathematics

- School-age children engaged in intensive music training had improved performance in abstract geometry tasks (Spelke, 2008)
- There appears to be a direct correlation between exposure to the visual arts (including music) and improvement in math calculation scores in children (Wandell, Dougherty, Ben-Shachar, Deutsch, and Tsang, 2008)
- Students who received academic music education to learn fractions scored significantly higher on posttests than those taught with traditional methods (Courey, Balogh, Siker, & Paik, 2012)
- Students involved in orchestra or band throughout middle and high school performed better in math during grade 12. The results were even stronger when students from low-income families were compared. Students involved in orchestra or band were more than twice as likely to perform at the highest levels in math as their cohorts who were not involved in music at all (Ruppert, 2006, p.13)

Reading

- Students attending an arts enrichment preschool showed higher levels of language development (measured by “receptive vocabulary”) than did students who

attended a comparison preschool (Brown, Benedett, & Armistad, 2010)

- Elementary school children who received music education demonstrated superior cognitive performance in reading skills compared to their peers who did not receive music education (SAGE Publications/ Psychology of Music, 2009)
- Children who trained in music or the visual arts showed improved phonological awareness, the ability to manipulate speech sounds, which is strongly tied to reading fluency. Moreover, the more music training they had, the better their reading fluency. This was an important finding because phonemic awareness is one of the most reliable predictors for how well children will eventually read (Wandell et al., 2008)

Standardized tests

- The duration of music lessons in childhood was positively connected with higher IQ scores. Children with 6 years of music lessons averaged a 7.5 point increase in their full-scale IQ score. This effect also extended into adulthood, but the correlation was smaller (Shellenberg, 2006)
- Multiple studies reported that high school students who participated in music classes were more likely to score higher on standardized mathematics tests such as the SAT. Researchers predicted that musical training in rhythm was correlated with the proportion, patterns and ratios expressed in mathematics (Ruppert, 2006)
- Texas students who participated in the All-State music programs have scored consistently higher than the state and national averages for the mean SAT score (25% and 27% respectively in 2017) (Texas Music Educators Association, 2017)

Perception and cognition

- Three-to-five-year-old children from low socioeconomic status families demonstrated significant gains in nonverbal IQ, numeracy, and spatial cognition after they had received music and attention training—compared to a regular HeadStart control group (Neville et al., 2008)

- One study found that children significantly improved their IQ scores in both verbal ability and spatial ability after as little as two hours a day of training in rhythm, pitch, melody, singing, and basic music theory for 20 days (Hamlin, 2012)
- A study of college-aged students found that those who had extensive (10 years) musical training did better in tests of verbal working memory than students with no musical training concluding that “musical training has the added benefit of training another cognitive skill, rehearsal, which has spillover effects onto cognitive tasks that engage verbal memory” (Jonides, 2008, p.13)

Socialization

- “Students who have arts-rich experiences in school do better across-the-board academically and they also become more active and engaged citizens, voting, volunteering, and generally participating at higher rates than their peers” (Catterall, Dumais, and Hampden-Thompson, 2012, p.5)
- Youth participating in arts activities (band, chorus, exhibitions of personal art work, etc.) were three times more likely to earn a bachelor’s degree (17 percent versus five percent) (Catterall, Dumais, and Hampden-Thompson, 2012)
- Arts programming not only increased academic performance of those students involved, but also decreased juvenile delinquency and drug use, increased self-esteem, and led to more positive interactions with peers and adults (Israel, 2009)
- The President’s Committee on the Arts and the Humanities (2011) found strong connections between arts learning from the earlier years and overall academic success and pro-social outcomes. Findings suggested that the arts’ role in developing competency may be especially important for students who otherwise feel isolated or excluded

MUSIC EDUCATION THROUGHOUT THE LIFESPAN

“Arts education in childhood is the most significant predictor of both arts attendance and personal arts creation throughout the rest

of a person's life" (Rocco Landesman, in Rabkin and Hedberg, 2011, p. 5).

A study based on the 2008 Survey of Public Participation in the Arts indicated:

- Reported rates of childhood arts education declined by 23% between 1982 and 2008
- Adults who reported having some childhood arts education were 2.4 times more likely to attend an arts event than those who had none
- Of adults who attended any arts activity in 2008, 57% received arts education as a child and 24% reported no childhood arts education
- Ethnicity was a significant factor, with white students being almost twice as likely to have any arts education as other ethnic groups
- Children of parents who had arts education as children were more likely to have private arts lessons and attend arts events

(Rabkin and Hedberg, 2011)

MUSIC EDUCATION IN PUBLIC SCHOOLS

Plato said, "I would teach children music, physics, and philosophy; but most importantly music, for the patterns in music and all the arts are the keys to learning" (Plato, as cited by Goodreads, 2017).

In 2016, the National Assessment of Educational Progress (NAEP) investigated the progress of American students towards meeting the national music standards that were adopted in 1994 (National Coalition for Core Arts Standards [NCCAS], n.d.). During the assessment, students were asked to evaluate and describe characteristics of music they heard, critique a variety of musical performances, and demonstrate knowledge of musical notation and music history. Specific demographic results from the 2016 survey are outlined below.

- 63% of eighth grade students took a music class in 2016
- Average music response scores of White students were 23 points higher than Hispanic students and 29 points higher than black students
- Female students scored 15 points higher on average than their male peers

- Students who were not eligible for the free lunch program scored 26 points higher on average than students who were eligible for the free lunch program (the free lunch program is often used as a statistical way to measure poverty in students)
- Private school students scored an average of 14 points higher than their public school counterparts
- Students who attended suburban, town, and rural schools scored higher on average than students who attended city schools

(Nation's Report Card, n.d.)

"For decades, arts education has been treated as though it was the novice teacher at school, the last hired and first fired when times get tough...The truth is that, in the information age, a well-rounded curriculum is not a luxury but a necessity" (Arne Duncan, US Secretary of Education, April 9, 2010 as cited in AFTA, 2011, p.5). A study of the status of music education available in public elementary and middle schools in 2009-2010 showed that:

- 89% of elementary schools with the highest poverty level (defined as 76% or more of students eligible for free or reduced-price lunch) offered music instruction compared to 97% of schools with 25% or less poverty
- 60% of music instruction was integrated with other arts programs in elementary schools with the highest poverty level compared to 49% in schools with the least poverty
- 81% of middle schools with the highest poverty level offered music instruction as compared to 96% at the lowest poverty level
- Of those middle schools that offered music instruction, 35% of those with the highest poverty level had 5 or more courses compared to 62% at the lowest poverty level
- 74% of middle schools with the highest poverty level used a written curriculum guide for music compared to 86% with the lowest poverty level

(National Center for Education Statistics, 2012)

According to Americans for the Arts (2011) "most high schools offer arts classes on an

elective basis only. Creative writing is the sole required course in more than half the districts. Fewer than one in 5 districts require a music class” (p. 7).

New Core Music Standards were adopted in June 2014 as part of the National Core Arts Standards “designed to guide the delivery of arts education in the classroom with new ways of thinking, learning, and creating” (NCCAS, n.d., p.4). Emphasizing music literacy, the standards focus on the three artistic processes of creating, performing, and responding:

- “Students need to have experience in creating, to be successful musicians and to be successful 21st century citizens.
- Students need to perform – as singers, as instrumentalists, and in their lives and careers.
- Students need to respond to music, as well as to their culture, their community, and their colleagues” (National Association for Music Education, n.d.).

MUSIC EDUCATION IN TEXAS

Effective as of the 2015-2016 school year, all Texas school districts are required to provide instruction in art, dance, music, and theatre. Texas Essential Knowledge and Skills (TEKS) describe what every student should know and be able to do by the end of each grade level or course and include testing student’s proficiency level instead of grade level. This will allow students to be placed in classes based on ability instead of grade level in middle and high school programs (TEA, 2016).

In Texas, all elementary school students participate in music classes. The music enrollment rate drops in middle and high school where students are required to take only one fine arts course (TEA, 2016). Schools with more students involved in music (and other fine arts) courses attain higher overall academic ratings and higher graduation rates. Detailed statistics from a recent study include:

TEXAS PUBLIC SCHOOLS ACADEMIC RATINGS (2010)	
Academic Rating	Fine Arts Enrollment
6th-8th Graders	
Exemplary	73%
Recognized	75%
Acceptable	73%
Low Performing	60%
9th-12th Graders	
Exemplary	66%
Recognized	61%
Acceptable	60%
Low Performing	54%
(Texas Music Educators Association, 2011)	

TEXAS PUBLIC SCHOOLS GRADUATION RATES (2009)	
Graduation Rate	Fine Arts Enrollment
96-98%	68%
91-95%	59%
86-90%	56%
81-85%	57%
76-80%	54%
71-75%	54%
(Texas Music Educators Association, 2011)	

COMMUNITY MUSIC EDUCATION PROGRAMS

With many students not taking music classes during the school day, due to either lack of availability or lack of time in the schedule, community arts organizations are becoming a critical component in the education of young people. In 2014, the Texas Education Code was updated to include the provision that students can receive fine arts credit toward high school graduation requirements through participation in community programs. Stipulations for approval of community programs included:

- Commissioner of education approves the program
- Program must conform to TEKS requirements
- School district must document student completion of the approved activity
- Program must be organized and monitored by appropriately trained instructors
- Program may be on or off campus and outside the regular school day
- Students may not be dismissed from any part of the regular school day to participate in community-based fine arts programs (TEA, 2017)

Community music programs available in the Kronkosky counties of interest include:

- *Carver Community Cultural Center* (n.d.) offers African Drumming as part of its Carver School for Visual and Performing Arts
- *Children’s Chorus of San Antonio* (2017) provides several programs focused on singing in addition to its choral music program for 5- 22 year old youth
 - Neighborhood Choirs is a community outreach program providing middle school students free after-school choir classes on the South and West sides of San Antonio
 - Music Together (offered at various locations including Haven for Hope) is an early childhood music program for very young children and their parents/caregivers
- *Mid-Texas Symphony* (n.d.) provides several music education opportunities to students both in and out of the classroom
 - Community Music Academy which includes group lessons, a youth orchestra, and a youth choir
 - Children’s Concert Series which includes curriculum material and CDs provided to teachers to prepare students to attend special symphony concerts
 - Music Memory Competition where teams of teachers and students in musical knowledge
- *Guadalupe Cultural Arts Center* (n.d.) provides classes and workshops in various music disciplines for students ages 8 to adult
- *Musical Bridges Around the World* (2017) provides a free education outreach program, Kids to Concerts, which provides interactive concerts at schools that integrate TEKS standards
- *San Antonio Brass* (2016) provides music training to students in middle school, high school, and college through its Brass Ensemble Summer Training (B.E.S.T.) program
- *San Antonio Symphony* (2017) provides a variety of music programs aimed at families, children and music students

- Young People’s Concert Series provide co- curricular themes combining music and lectures
- Family Series concerts include pre-concert activities for children such as Meet the Maestro, musical crafts and games, and the Instrument Petting Zoo
- Open Rehearsals each season, students witness first-hand how a professional ensemble rehearses.
- *Urban-15 Group* (n.d.) provides in-house and outreach ensemble percussion classes
- *Youth Orchestras of San Antonio* (2017) provides a variety of music instruction to students of all levels
 - Nine orchestras (determined by skill level)
 - YOSA Summer Symphony Camp program includes classes in music theory, composition, conducting, and music technology
 - YOSA MÁS: Music at School is an intense school program on San Antonio’s west side and provides students in that area with instruction and instruments

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