THE OPTIMUM ROLE OF MUSIC EDUCATION IN AN ERA OF INCREASED CURRICULUM REQUIREMENTS AND STANDARDIZED ACCOUNTABILITY

by

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<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>3</td>
</tr>
<tr>
<td>Chapter I: Introduction</td>
<td>4</td>
</tr>
<tr>
<td>Statement of Problem</td>
<td>6</td>
</tr>
<tr>
<td>Definition of Terms</td>
<td>7</td>
</tr>
<tr>
<td>Chapter II: Review of Literature; Music Education as Core Curriculum</td>
<td>10</td>
</tr>
<tr>
<td>Subtopic A: Results and analysis of various studies</td>
<td>12</td>
</tr>
<tr>
<td>Subtopic B: Evaluating the importance of music education</td>
<td>13</td>
</tr>
<tr>
<td>Subtopic C: Music and cognitive development</td>
<td>18</td>
</tr>
<tr>
<td>Subtopic D: Music in society</td>
<td>21</td>
</tr>
<tr>
<td>Chapter III: Results and analysis relative to the problem</td>
<td>24</td>
</tr>
<tr>
<td>Chapter IV: Recommendations and Conclusion</td>
<td>26</td>
</tr>
<tr>
<td>Areas for Further Research</td>
<td>28</td>
</tr>
<tr>
<td>Summary and Conclusion</td>
<td>28</td>
</tr>
<tr>
<td>References</td>
<td>29</td>
</tr>
</tbody>
</table>
Abstract

American Education is constantly refining and redefining due to educational, social and political interest and demands. The impact of ever-evolving corporate America also curves educational interest toward business, budget, and finance. National education standards and heavier foci on core curriculum have greatly affected the United States de-emphasis of other seemingly ‘abstract’ educational subjects such as Music Education. With a consistent increased demand on core curriculum, the importance of music education seems to be given less priority. This paper will seek to find the optimum role music education should portray in American Education. The purpose is to share findings in research collected on multiple intelligences, cognitive development, social interactions and various educational systems that value music education as part of core curriculum. Through a review of qualitative and quantitative studies, the accountability and importance of a proper music education and its place in curriculum becomes clear.
Chapter I: Introduction

Schools throughout America are looking toward national standards in curriculum and testing. However, through development of modern national standards, less emphasis has been placed on the importance of fine arts. National Standards strive to meet the basic core requirements, yet seem to narrow the curriculum. The fact that musical experience is inevitable and immediately accessible suggests the possibility that music confers numerous benefits on human beings (Miller, Taylor, & Williams, 1991). The many musical forms and mediums in society today aid in proof of music’s impact within the daily structure of our lives and in development of social interactions. Because the cognitive, psychomotor, and psychoneuro development of each child is facilitated through music, daily expressions through music are highly encouraged (Wozniak, 1994).

More and more, we are losing out on the virtues that an education in music and its disciplines teach. Modern educators are forgetting the call of the founder of our American school system, Horace Mann, who believed that music was essential to the education of the young for development of aesthetic appreciation, citizenship, and thinking (Miller & Coen, 1994).

“Music has existed from time immemorial…yet no one has been able to establish precisely when, where, why, or how music originated.” (Stolba, 1994, p.3) The development of music has inspired generations, evoked uprisings and has even themed our human artistic history. Throughout music history, one can develop a sense of trends and observe the manner in which music has been used, abused, and created to focus and shift societal movements (Coldwell & Goolsby, 1992). Through music, we can begin to understand popular culture and its many facets. The importance of Music Education
within curricula has also been discussed and supported within our nation’s congressional offices:

The U.S. House of Representatives unanimously passed Congressional Resolution 45, stating music instruction "is an important component of a well-rounded academic curriculum and should be available to every student in every school."

Congressional Resolution 45 comes at a time when those programs are targeted for cuts, despite the overwhelming evidence of music's benefit to learning. Central to the debate was the inclusion of music and arts education as part of the academic core curriculum in the federal No Child Left Behind Act. This Congressional endorsement restates the value of music education as a vital element in a quality education for all children. Research has consistently shown the wide-ranging value of music education to the full academic and social performance of young people. Specifically, studies show that early music training has a profound influence on children's ability to think critically and to reason. From reading scores to math performance to the ability and willingness to fend off use of illegal substances, music education, as well as participation in music-making programs, has proven to be central to a successful academic experience (Jones, 2005).

U.S. Education Secretary, Rod Paige (2004) shared his support for the arts and music within America’s public schools with a two-page letter to over 1,600 superintendents, which urged them not to cut Art programs (American Music Teacher, 2004).
State and local communities were also excited regarding the directives to access funds in departmental and/or title funding programs that support arts education programs. The arts have been identified as part of the core curriculum in No Child Left Behind (NCLB) education legislation. Yet, the most recent governmental report *Tough Times or Tough Choices* (NCEE, 2007) leaves very little room for arts classes, even though it states that education must emphasize concepts and creativity, as it strives to prepare students for the American workforce. Arguably, students would receive a task and skill-oriented education with little to no individual formative evaluating and no individual expression and interpretation skills (Gerson & Miller, 2007). With the development of music and its educational values, one can notice the importance of musical intelligence within our educational structure.

This research project will address the role of music in education and society while seeking to build accreditation for music as part of core curriculum.

Statement of Problem

Music education has long been noticed as a form of ultimate expression and as a universal language. In more recent history, studies of its importance in cognitive development and impact on various other educational courses have emphasized the need for proper music education within school curriculum. However, even though a growing number of studies encourage more music within curriculum, music education has yet to be officially recognized as individually important and developed as an integral portion of mandated state curricula. With the decline of student enrollment and decreasing budgets in school districts, music has taken a ‘back-burner’ and has been devalued by becoming marginalized and simplified in many districts merely to support the development of other
areas of study. How in today’s society, and in the future, can we stress the importance and necessity of music education?

Definition of Terms

Cognitive Development - Cognitive development is the construction of thought processes, including remembering, problem solving, and decision-making, from childhood through adolescence to adulthood (Answers.com).

Core Curriculum - compulsory school subjects: the subjects that all students are required to study at school (http://encarta.msn.com/dictionary_1861688347/core_curriculum.html)

Corpus Callosum - The arched bridge of nervous tissue that connects the two cerebral hemispheres, allowing communication between the right and left sides of the brain (Answers.com).

Curriculum - All the courses of study offered by an educational institution (Answers.com).

Multiple Intelligences - this theory proposes that humans possess more than one type of intelligence. Popularized by Howard Gardner who suggested seven different types of intelligence (i.e., visual/spatial, verbal/linguistic, logical/mathematical, bodily/kinesthetic, musical/rhythmic, interpersonal, and intrapersonal), spanning three domains (i.e. the physical, cognitive and affective domains) (http://www.nald.ca/adultlearningcourse/glossary.htm).
Music Educators National Conference (MENC) - MENC is the world's largest arts education organization and the only association that addresses all aspects of music education (http://www.menc.org).

National Standards – "All states and schools will have challenging and clear standards of achievement and accountability for all children, and effective strategies for reaching those standards." -- U.S. Dept. of Education (www.ed.gov)

No Child Left Behind (NCLB) - The No Child Left Behind Act of 2001 (NCLB) reauthorized the Elementary and Secondary Education Act (ESEA) -- the main federal law affecting education from kindergarten through high school. NCLB is built on four principles: accountability for results, more choices for parents, greater local control and flexibility, and an emphasis on doing what works based on scientific research (http://answers.ed.gov).

Planum Temporals - an area of the cerebral cortex between Heschl's gyrus and the sylvian fissure that is involved in speech and is usually larger in the cerebral hemisphere on the left side of the brain (Dictionary.com).

Psychomotor Development - progressive acquisition of skills involving both mental and motor activities (www.thefreedictionary.com)

Psychoneuro Development – [the development] of or relating to the interrelationship of the nervous system and consciousness: relating to the mental functions of the central nervous system (dictionary.reference.com)
Qualitative Study – includes the use of focus groups and panels; in-depth interviews that are fairly self-explanatory; and case studies, diaries, and historiography (Kowalski, 2008).

Quantitative Study – the most commonly used in educational PR are content analysis and surveys (Kowalski, 2008).

Spatial-Temporal Reasoning - is the ability to visualize spatial patterns and mentally manipulate them over a time-ordered sequence of spatial transformations. This ability is important for generating and conceptualizing solutions to multi-step problems that arise in areas such as architecture, engineering, science, mathematics, art, games, and everyday life (dictionary.babylon.com).
Chapter II: Review of Literature; Music Education as Core Curriculum

Searching for articles and reports that oppose Music Education and/or Music education within Core Curriculum is difficult due to the overwhelming amount of positive, reinforcing data. Therefore, one could deduct that keeping (funding) and utilizing (schedule, performances and school functions) music education is the variance in determining stability and functionality within a school district.

In the 1990’s the Utah State Board of Education designed and implemented a new idea to utilize and develop music education within a core curriculum. Their music core curriculum represented the standards of learning for all students in grades 7 through 12 including the ideas, concepts, and skills that provide a foundation for subsequent learning. The curriculum guide describes the elementary and secondary school core curriculum and high school graduation requirements. Completion of the core guarantees entry into college or vocational-technical education through required course completion. The core guide offers intensive vocational-technical education, entry into research universities, and a released-time component through specialized options. An arts course chart illustrates the core art areas at different education levels. Mastery of the music core occurs when the student demonstrates the skills contained in one level sufficiently to move to the next level. Course descriptions of general music, beginning chorus, beginning band, and beginning orchestra provide information on the four core options for grades 7 and 8. After each course description, the core standards of the course and the objectives are listed. Grades 9 through 12 core options include music appreciation, intermediate chorus, intermediate band, intermediate orchestra, music theory, advanced chorus, advanced band, advanced orchestra, beginning dance, intermediate and advanced
dance, beginning theater, intermediate theater, and advanced theater. Core standards and objectives for each course follow the course description (Utah State Board of Education, 1990) Music as an integral part of the curriculum in Utah is currently still operating with an even stronger representation of educational values. The Utah State Office of Education reports:

The Utah State Music Core divides the goals of music education into four music standards which are Perform, Create, Listen/Analyze/Evaluate, and Discover Meaning. The standards organize the curriculum into manageable and related units and guide the student through a rich experience with music. Each standard is broken into objectives, each objective into indicators. The individual Core courses are presented in a portfolio format to facilitate student progress and to encourage the support of parents, teachers, and classmates (Utah Education Network).

Utah is one state now taking notice on the importance of music education within curriculum. In 2008, the Wenatchee School District in Washington adopted Music Education into part of their core curriculum. Utica Community Schools in Sterling Heights, MI is one of many schools with a growing interest and investment in music education. Magnet schools in Omaha have also designed similar music education values within their schools.

Omaha North High School had listed music as part of their core curriculum. In recent years, however, music was removed as part of the ‘core’ but this was mostly due to budget restrictions. Basic, mid-level and advanced courses in Chorus, Band, and Orchestra were also supplemented with all other educational music classes, such as: Jazz
Band, Marching Band, Pep Band, Music Theory classes, private instruction, music appreciation courses.

*Subtopic A - Results and Analysis of various studies*

Through observations and various published research findings, one can see a growing body of data which suggest that a more extensive formal music education would be highly beneficial to a student education as well as their cognitive development and the future ramifications of development. Studies such as:

- Profiles of SAR and Achievement Test Takers, The College Board, 1998; and,

- American Music Conference, 2001; and,

- Catterall, James S. Richard Chapleau, and John Iwanaga. “Involvement in the Arts and Human Development: General Involvement and Intensive Involvement in Music and Theatre Arts.” Los Angeles, Ca: The Imagination Project at UCLA Graduate School of Education and Information Studies, 1999

All are a part of this growing community of positive data for music education. In the 1998 McGill Piano Project, pattern recognition and mental representation scores were cited as significantly improved for students receiving keyboard instruction over a three-year period (Costa-Giomi, 1998). The McGill Piano Project involved a total of 237 second grade children over the three-year period. The project looked at the musical and mathematical correlations and differences in regard to musical keyboard training and innovative math skills with attention to pattern location skills. Costa-Gioma utilized a
combination of quantitative and qualitative methods of research through using a specific focus group age and utilizing various analytical testing and observation. Costa-Gioma concluded that the use of music and musical keyboard skills can greatly increase student’s cognitive developments and recognition of patterns. Rauscher (1999) reported a 27% increase in student achievement on proportional math and fraction tests for students who supplemented traditional instruction with keyboard training. In 2001, a report on college-bound seniors (CBSNR, 2001) linked music education to enhanced performance levels on the SATs:

Students who received music performance education scored 57 points higher on the verbal portion of the SATs and 41 points higher on the math portion. Students who received music appreciation education scored 63 points higher on verbal and 44 points higher on the math than students with no arts appreciation background.

Miller and Coen (1994) reported the following breakthrough information to prove the importance of music education.

Music Majors are the group with the highest proportion of acceptance to medical school, with a 66% acceptance rate compared to only 44% of bio-chemistry majors who were accepted (Phi Delta Kappan, 1994).

Subtopic B: Evaluating the importance of music education

Many school boards have been re-evaluating the importance of music education within their school systems. The Boston Board of Education discussed pursuing more involvement from music education as opposed to current curriculum, which only offered
music as an elective (Simpson, 2007). The resolve was to recognize music education as part of their current “MassCore” Curriculum, therefore offering a better designed, well-rounded core education. Massachusetts is currently far behind other states’ education, and the Massachusetts Educational Departments are now listening in to the importance of retaining and expanding music education. Reports given by teachers and business leaders suggest not only are music education students scoring higher on SATs, but the gap widens with each additional year of arts courses taken and increases essential and creative workplace skills in which 81% of corporate American is looking for. Yet, only 21% of corporate America has noticed these current skills in college graduates. The survey found skill deficits in key areas of teamwork and collaboration, critical thinking and problem solving, and oral communication (Rappaport, 2007); all of which are cognitively developed through a solid musical education background.

At-risk children also become positively affected when music education is implemented in their studies. The overall self-concept of at-risk children is significantly increased by participating in an arts program that includes music (Barry, 1992). Barry drew this conclusion through observation of student behavior and open discussion with teachers and students. Music’s positive influence was resoundingly clear through a students use of time during class and extra-curricular time as well. More time in music study and creation became less time for lesser detached activities.

Music teachers are cost efficient. Music teachers instruct more students in a single class than classroom teachers. So, if a school eliminates three music teachers, the school must then replace those three positions by at minimum of four classroom teachers. In an
effort to save money by dropping the music program, school administrators will actually spend more to replace it.

Research in music education also shows many correlations between the value of music education with educational learning of other subject matter. The value of music education correlating to learning the “core” curriculum includes the following (Royer, 1991):

1. Arts education leads to cognitive and basic skills development (Medeja, 1978; Milley, 1984).


3. High school music students have been shown to hold higher grade point averages (GPA) than non-musicians do in the same school (Horne, 1983).

4. The study of music produces the development of academic achievement skills (State of California, 1986).

5. Learning to play a musical instrument helps students to develop faster physically, mentally, emotionally and socially (Mueller, 1984).


7. Music lessons can lead to interest in academics (Olanoff & Kirschner, 1969).

8. Music education improves student listening skills (Kohanski, 1970).
9. Kindergarten basic skills achievement increases when music and other arts are added to the curriculum (Minicucci, 1981).

10. Music and arts enriched curriculum can be a factor in raising IQ scores for second graders (Mathison, 1977).

11. In reading for meaning, music students can out-achieve non-music students (Friedman, 1959).

12. Children who have received school keyboard music lessons score higher in mathematics and history than students not in the program, although their IQ scores are no higher than the other students’ IQ scores are (ESEA, 1969).

13. Receiving increased music instruction can lead to increased learning in mathematics (Malester, 1986).

14. Brain research shows that music and arts activities develop the intellect (Sinatra, 1986).

15. Research indicates that music instruction promotes academic achievement (Horne, 1983).

16. Many research studies that show a connection between music education and reinforcement for academic tasks (Madsen, 1981).

17. Eye-hand coordination needed to learn to write can be developed by learning to play an instrument (Wishey, 1980).

18. Disciplinary problems are reduced in school systems, which have arts programs (Arts, Education and Americans, 1980).
19. Personal expression is encouraged through performance in the arts (Oklahoma State Department of Education, 1980).


Asmus’s study, among a cornucopia of educational evidence backing up the importance of music education, points directly to a proof positive view of music’s impact on cognitive development. Edward P. Asmus of the University of Utah, as quoted in MENC’s *Soundpost* and other sources, has documented a direct correlation between the number of music teachers per 100 students and SAT and ACT scores (MENC, 2002). The greater the music teacher to overall pupil ratio directly corresponds to higher scores on nationally standardized academic achievement tests. The relationship of music education to test scores suggests that music education plays a powerful role in the overall educational process.

Royer (1991) concluded that music majors have the highest rate of admittance to medical school, higher than any other subject area including biochemistry, chemistry and physics. The article quotes data from a Rockefeller Foundation study and concludes by suggesting that students eager to be admitted to medical school should be music majors.

Throughout arts education in the past 50 years, much research and studies have concluded that music education dramatically improves scores in other areas of performance including “Core” course. Music education is also proven to richly improve attention and expression skills (life-long) and healing effect (including self-discipline and diligence).
Jim Henson, television producer and puppeteer, once said, “Music is an essential part of everything we do. Like puppetry, music has an abstract quality which speaks to a worldwide audience in a wonderful way that nourishes the soul.” With music being so inherent in universal connection to one another, and in educational values, one can reasonably deduct that music is far more important that mere audio entertainment. Music’s impact on cognitive and social development also ‘strikes a chord’ in the core of individual being and the comprehension of a rising global economy.

Subtopic C: Music and cognitive development

Music has been proven to have a significant impact on cognitive development of individuals, and yet music remains only a secondary educational proponent. Researchers demonstrated that brain scans of musicians showed a larger planum temporals (the region of the brain related to some reading skills) and a thicker corpus callosum (the bundle of nerve fibers connecting the two halves of the brain) in musicians than in non-musicians, particularly in those individuals who began their music instruction before the age of seven (Schlaug, Janke, Huang, & Steinmetz, 1994). Sight-reading music and playing music scores have been both proven to activate all four regions of the brain simultaneously (Sergent, Zuck, Tenial, & Macdonall, 1992). The research on music, cognitive development and other brain functions has withstood scrutiny and has collaboratively proven the developmental impact of music within individuals.

In 2005, the Roland Music Education Company put forth on their website, a page containing multiple quotes from multiple places in regard to scientific study of music.
education’s impact on cognitive development. The page recites educational quotes such as the following six integral points:

1) “There is a direct correlation between improved SAT scores and the length of time spent studying the arts. College-bound seniors who have had school music experience scored 52 points higher on the verbal portion of their SATs and 37 points higher in math (89 points combined) than those without arts instruction.” –Profiles of SAR and Achievement Test Takers, The College Board, 1998

2) “Studies have linked active music making with better language and math ability, improved school grades, better adjusted social behavior and improvements in “spatial-temporal reasoning.” –American Music Conference, 2001

3) “In an analysis of U.S. Department of Education data on more than 25,000 secondary school students (NELS:88, National Education Longitudinal Survey), researchers found that students who report consistent high levels of involvement in instrumental music over the middle and high school years show “significantly higher levels of mathematics proficiency by grade 12.” This observation holds regardless of students’ socio-economic status, and difference in those who are involved with instrumental music vs. those who are not is more significant over time. –Catterall, James S. Richard Chapleau, and John Iwanaga. “Involvement in the Arts and Human Development: General Involvement and Intensive Involvement in Music and Theatre Arts.”
4) “A research team exploring the link between music and intelligence reported that music training is far superior to computer instruction in dramatically enhancing children’s abstract reasoning skills, the skills necessary for learning math and science. –Shaw, Rauscher, Levine, Wright, Dennis and Newcomb, “Music training causes long-term enhancement of preschool children’s spatial-temporal reasoning.” Neurological Research, Vol. 19, February 1997

5) “Researchers at the University of Montreal used various brain imaging techniques to investigate brain activity during musical tasks and found that sight-reading musical scores and playing music both activate regions in all four of the cortex’s lobes; and that parts of the cerebellum are also activated during those tasks.” –Sergent, J. Zuck, E. Tenial, S., and MacDonall, B. (1992). Distributed neural network underlying musical sight reading and keyboard performance. Science, 257, 106-109.

6) “Researchers in Leipzip found that brain scans of musicians showed larger planum temporale (a brain region related to some reading skills) than those of non-musicians. They also found that the musicians had a thicker corpus callosum (the bundle of nerve fibers that connects the two halves of the brain) than those of non-musicians, especially for those who had begun their training before the age of seven.” –Schlaug, G., Jancke, L., Huang, Y., and Steinmetz, H. (1994). In vivo morphometry of interhemispheric asymmetry and connectivity in musicians. In I. Seliege (Ed.), Proceedings of the 3d
Frances H. Rauscher, through her many studies on music and cognition suggested that music education may be an illuminating catalyst for cognitive development and spatial-temporal reasoning within students. (Rauscher, 2003)

Subtopic D: Music in society

The Music Educators National Conference (MENC) meets every year to discuss new development, current trends, and continued study of music education. The four primary benefits of Music Education, as seen by MENC, includes the study on success in society; success in school; success in developing intelligence and success in life (regarding society and vocation). (Lasko & Rarus, 2002) Through these four primary benefits, MENC looks to hone in on the educational factors in music that aid in the development of such benefits as they seek for continued definition and refinement of every musical goal and objective as presented on the national level. MENC has regulated and implemented national standards in music (voice and instrumental) for each level of education and cognitive development. Each content standard also includes achievement standards with various goals and outcomes for each grade level. These national standards are:

1) Singing, alone and with others, a varied repertoire of music.

2) Performing on instruments, alone and with others, a varied repertoire of music.

3) Improvising melodies, variations, and accompaniments.
4) Composing and arranging music within specified guidelines.

5) Reading and notating music.

6) Listening to, analyzing, and describing music.

7) Evaluating music and music performances.

8) Understanding relationships between music, the other arts, and disciplines outside of the arts.

9) Understanding music in relation to history and culture. (MENC, 1994)

These nine content standards have defined music education throughout America, and have thoroughly identified the progressive developmental stages for each age level.

America should and must look at various models for success in music education, including looking at models from other countries. MENC is the principle voice in the United States, but is still not fully understood by music educators, let alone the board, legislators, and policy makers.

“The notion that music is principally to be “enjoyed” is characteristic of Westerners, and much of the music…has purposes far beyond enjoyment. Music is seen as great significance in religion and in the integration of society. Music identifies clans and social classes, confirms political status, expresses communication from the supernatural, and cures the sick. Thus, while readers will want to know how the musical pieces of the world’s cultures are put together and what general principles of composition may dominate in a given society, perhaps it is even more important for them to understand each culture’s ideas of what music is, what music’s powers are,
how music relates to other aspects of life, and how music reflects important things about the people and their view of the world.” (Nettl, Capwell, Bohlman, Wong & Turino, 1997)
Chapter III: Results and analysis relative to the problem

During research, I became inundated with the amount of evidence regarding the importance of music education. There are a plethora of scientific studies and music content standards with which to grasp the overall impacting nature of music studies, such as previously mentioned on page 19 within the ‘six integral points’.

Research has also brought up possible concerns over the validity of various studies and their longevity or inherent value to education. Such is the case with a particular section of focus from the University of North Carolina at Greensboro studying ‘Research Agenda’:

First, one notices that the total number of studies having to do with music or the arts is quite small. Our knowledge base concerning the impact of music on home, school, and community is very limited. Second, the age of some of the research data gives one pause. Although it is perfectly true that older studies may be very insightful, it is also quite true that society and the schools have changed dramatically over the years. (Hodges, 2003)

Also, a concern arose when locating actual and current implementation of music education as part of ‘core’ curriculum within K-12 education. While there are multiple districts and a handful of states that allow music education as ‘core’, the numbers of schools offering more of a focus in music curriculum are declining do to multiple factors such as stringent regulations from NCLB, school budget and declining enrollment.

School districts financial concerns have been one clear-cut cause for the declination of music education. Today, most schools are becoming growingly concerned with finances for education, and music program have become an easy target due to the
‘less tangible’ effects and outcomes. Since financial concerns are burdening music programs, organizations such as MENC have been able to step in and provide a better scientific base with more ‘solid’ figures to uphold music education.

Also, a related issue, the decision to pursue No Child Left Behind (NCLB) has placed music in a tough position as well. NCLB has set forth new standards in education that strive to push American education toward a more capitalistic setting. An emphasis on those core subjects that will aid in America’s international competitiveness have been granted more reprieve than that of music education. While music education remains a portion of NCLB development, it has been marginalized to a mere shadow of its true educational importance. Aside from poor curriculum focus within the new national education programs, NCLB has also failed to show proper support in funds and implementation – creating an even more complex concern for the future of music education.
Chapter IV: Recommendations and Conclusion

Recommendation

Music education offers a unique viewpoint into the human struggle for knowledge and the pursuit of a well-rounded and balanced comprehension of subjects. Since music supplies an endless stream of patterns, tonality, timbre, inflection and a growing number of educational and societal values, the desire to pursue music from multiple angles becomes a learned necessity. School districts cannot deny the positive impact that a decent music program can have on student population as well as faculty, staff and the community. As schools look to the future and fall under scrutiny of increased stringent curriculum requirements and standardized accountability, they must recognize the balance of tangible and intangible benefits of music education. It is only through a continue study of music education that we can truly fathom the relational values already prevalent within the measure and composition of the musical structure.

Current national standards for music education should be seen as a necessary stepping stone from which to broaden our understanding and help lay a foundation for continued study and cross-disciplinary usage. Many elementary teachers, aside from music education instructors, are given a rudimentary lesson in how to teach simple music values to students. General education teachers entice students to develop rhythm and inflection. Students are guided to utilize music as a tool for memorization and fun. Although positive values are begin enforced, only the surface of music appreciation is being highly utilized. Stronger recommendations for the role of music education and theory should be sought after beginning prior to the early elementary years of a student.
Colleges and universities, in developing education degrees, should require a more stringent focus within the instruction of music.

Toddlers, head start, early fives and pre-school age children should be placed in an early educational system that encompasses a more theoretical approach with music incorporated throughout the curriculum. Beginning within these youthful years, brain receptors, neurons and nerve ending are wildly expanding the cognitive functions to develop relational patterns of awareness and comprehension. This neural ‘net’ is critical in the proper development of the mind. The more connections made in early years, the better the opportunity for further, expanded educational comprehension in the future. Once an early core of musical values is incorporated, the process should continue throughout a student’s elementary and secondary education.

Aside from the more traditional coursework of band, choir, orchestra, theory and appreciation – a new stage is now set for further incorporation of music’s cross-cultural and cross-disciplinary inclusion. With a greater base knowledge of musical values, other educational subjects may come to light with more ease. Due to an increased amount of developed receptors, brain functions may more easily access the proper receptors to engage and relay new knowledge for other subjects such as algebra, physics, science and language.
Areas for Further Research
Cognitive function of the human mind develops beyond age 20.

“Prefrontal cortex (PFC) undergoes one of the longest periods of development of any brain region, taking over two decades to reach full maturity in humans (Stuss & Knight, 2002).”

The impact of a more in-depth music education and theory curriculum from Head Start programs through secondary education requires further research. Music theory majors and neurologists could collaborate on the study, affect and effect of an early music and theory program on students. This study and experiment should utilize a variety of musical aspects as well as take into effect other factors that may impacting the nature of the study such as: demographics, race, gender, culture, various educational components, etc. The study must be a combination of qualitative and quantitative efforts. Through multiple approaches, the study characteristics and effect-size could be gathered through use of a meta-analysis to offer the best possible conclusions.

Summary and Conclusion
While gathering, correlating, organizing and relating research relevant to my study on Music Education as core curriculum, my original thoughts on the important and impacting nature of music education were supported. My hope is that through continued research and development that the educational system in the United States (and elsewhere) will recognize, support and continually strive to achieve better educational standards within music education and utilize music education within a networking support structure for further individual and societal growth and expansion.
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