THE LINK BETWEEN MUSICAL AND ACADEMIC ACHIEVEMENT OF YOUNG CHILDREN

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During the late twentieth century and early twenty-first century, it has been theorized that there is a link between musical achievement and academic achievement of young children. In support of this controversial view, many educators and music specialists now promote the relationship between parent, teacher, and child. The theory is: with cooperative learning experiences in the study of music in general and with a performing medium specifically, as the child grows musically, he likewise will grow academically.

Are there any correlations between the intelligence and a quality music education? Does the study of music build multiple intelligence and kinesthetic perception in the areas of language skills, mathematics skills and other academic skills? Does the study of music and positive mentoring build character, creativity, self-esteem and other personality developmental traits?

For years, dating back as far as the turn of the nineteenth century, proponents of public school education have believed that student participation in band, choir, and orchestra has a positive effect on academic achievement, self-discipline, citizenship, and even personal hygiene. A renewed interest in interdisciplinary study and interdisciplinary research has sparked this discussion among theorists again (Morrison, 1994; Anderson, 2001). However, with many programs, music is still seen merely as a time-filler and an unnecessary frill. One study by Saunders and Baker (1994) found that teachers favored those aspects that enabled them to present music as a supplement to other areas of study or as a recreational or transitional activity.

Proponents of music educational programs believe that successful music creates a more satisfied study body. Musical intelligence requires frequent instruction and clear instructional goals, not merely instruction as a casual transitional activity (Colwell & Davidson, 1996; Young,

2004; Eisner; 2003; Walker, 2005; Wilfriend, 2005). Because the instruction of music should not be a mere casual transitional activity, recent psychological research has been conducted concerning children's musical qualities at all developmental stages and how best to tap upon their individual talents. The prevailing notion among music educators is: *music is for all students*. Schools need curriculums which are constructed for all children regardless of their musical backgrounds or talents, races, genders, or educational abilities. The trend is to develop a mixed-ability approach where children are viewed as individuals, not stereotypical representatives of selected groups in society. Mills (1995) acknowledges the belief that there are differences in each child's musical background: admittedly, children from musically supportive backgrounds are more likely to become accomplished musicians due to their many musical experiences.

Crews (1975) cites research stating that children's emotions and muscles are not disconnected. "Music can free the child to move in disorganized ways without his being considered wrong or being incorrect. Through the study of music, the child can demonstrate to the teacher his perceptual-motor development. This type of development is necessary for children to learn in many other areas of the school curriculum.

The area of creativity also has interested music researchers over the span of several decades. The question has arisen for serious study; how do young children approach music? Kratus (1991) observes that young children explore sounds for their own pleasure rather than producing a product. Observations indicate that they are process-oriented, not product-oriented. Kratus summarizes his research by noting that creative musical activity can be divided into (1) exploration, (2) improvisation as a process, (3) improvisation as a product, and (4) composition.

Through the study of music, the child develops the academic attitude that the benefits of exploration are worth far much more than the eventual product.

The old argument is still unresolved concerning the chicken and the egg. Which came first? Are those in music studies highly creative because of music study or are they drawn to music study due to their inherent qualities of creativity? In one investigation where students were allowed to learn at their own paces, when it came to musical creativity and cognitive style, Schmidt and Sinor (1986) found that there were positively significant relationships cognitively on measures of tone, rhythms, and creative thinking.

Gordon (1989) suggests that music creativity cannot be taught. He advocates the teaching and fostering readiness for each child to fulfill his potential for creativity in music. He cautions that one's early musical environment has a powerful effect in determining the extent to which one can become musically creative. He warns that teachers should concentrate on teaching readiness for music creativity, not music creativity itself. The indirect approach over the direct approach is the most effective in the long run.

Moore (1990), along with Gordon agrees in the belief of teaching reading readiness for music creativity. He contends that creativity in students is enhanced by building on the natural process of sound exploration. The more the child is encouraged to be musically creative, the more willing he is to be creative in other academic areas of the curriculum.

Music researchers actively have been interested in the effects of positive mentoring in the study of music (Burton, S. 2004). In one report, Mullins (1985) states that she believes a positive attitude is the single most important quality effective learning. "A positive attitude is a result of years of acceptance, love and encouragement. It is a gift from many people. It is extremely important to understand and to nurture the development of self-esteem and self-

acceptance because it will help our students in all aspects of their education and their personal lives."

Modeling in music teaching has been of utmost importance in the research over the past few decades. Dickey (1992) comprehensively reviewed the research in this area and concluded that nonverbal instruction is clearly preferable to verbal descriptions in many areas of the music curriculum. Modeling is effective across a wide age distribution in the study of music and other areas of the curriculum. Modeling a positive attitude is a predominant theme in the research. In fact, this area is a crucial factor in the young child's success in music and other academic disciplines. The teacher must be interested and enthused about the world of music. Children will imitate these contagious qualities with positive role-modeling. "Active participation in music, by both the teacher and child, ignites the fire that stimulates further exploration and discovery of the world of music. This preparation must begin in the early childhood years."

Research is ongoing concerning the subject of musical aptitude of young children. It appears that musical aptitude is not developed or nurtured through mere exposure to music but through active participation in singing and moving to music. This is reinforced by the teacher. The teacher must be active too. The use of keyboards in classrooms has been an effective tool in active participation. In his research, Marcinkiewicz (1995) discovered that the introduction of piano keyboarding into elementary school music instruction produced a highly positive effect regarding children's sentiment toward school attitude toward overall learning in general.

Children's positive music experiences in the school environment result in healthy adjustment socially and self-esteem. Kay and Subotnik (1994) note that the study of music is not just for the gifted and musically talented; it is also beneficial for the entire school population. With positive role-modeling, the systematic study of music aids in the development of selfesteem, resulting in higher academic performance.

Kay and Subotnik also argue that teachers have traditionally focused on the cognitive talents of their students. The overall goals have been in terms of mastering the basic skills of reading and mathematics. The researchers advocate that parents and teachers should be integrated into the process of nurturing and identifying talent in the classroom. Teachers need an "expanded classroom concept where they develop the ability to see a wider range of talents among their students and to value the importance of full integration of the arts into elementary education."

It is not unusual for parents to notice musical talent even in their infants. Parents can be a vital part of the beginning process of encouraging this talent and explosion of musical growth beginning soon after birth. In one study, it was found that when parents sang directly to their infants, they did so at a higher pitch level, slower tempo and in a more emotionally engaging manner (Trehub, 1997). Trehub states that pitch is an important vocal indicator of emotion. Higher pitch is associated with happiness, affection, and tenderness. The researcher concludes that emotional expressiveness may promote and sustain reciprocal emotional bonding and ties between the parent and infant.

In addition to parental environmental influences, musical stimulation from the father is an important factor in music readiness and creativity. In a study of children's music ability, Doxey and Wright (1990) discovered a positive correlation between children's musical aptitude and fathers' encouragement. Other positive correlations focused on children's cognitive and creative abilities due to the cause and effect relationship of the father's stimulation with music.

On the other side of the issue, Andress (1980) advocates a vehement caution concerning modeling and imitation of adults. Many of today's educators valiantly attempt to promote a *learn to play* philosophy at the preschool and kindergarten levels. This too often results in an overwhelming amount of peer, teacher, and parental pressure. The pressure is to adhere to a superficial, low-level curriculum where the child learns minimal musical reading and notational skills. The uninformed adult makes the assumption that quality learning has taken place as the child can parrot right and wrong answers. "One of the most significant ways in which the child learns is through imitation, but imitation without understanding merely promotes a conditioned response that may fool the observer into believing that true learning has taken place."

Another emphasis in the research is in the interwoven goals of the overall public school curriculum. There must be awareness that curricular goals for the schools are contained in a vacuum. The scope and sequence of all goals should correlate and feed into each other. The team approach among faculty and parents in public schools cannot be over-emphasized. It is important collectively for everyone to work together to create a new awareness amongst the students and the community. This awareness should expand knowledge and create feelings of appreciation for the many types of music which ultimately develops the whole person. Music is an integral part of every culture that needs to be understood and appreciated by all persons (Campbell, 2002; O'Flynn, 2005). Elementary school is the time to begin this awareness (Andress, 1980). Hoffner (1988) adds that, "in general, people have little understanding of purposes and the value of music education. Their ignorance permeates all levels of the school system (parents, students, administrators, and board members)."

Music should be part of the daily curriculum and integrated throughout many of the subject areas. All students regardless of culture, gender, or race should benefit from the

expression and appreciation of music. Music spans the gaps between culture, genders, and prejudice. Music can produce emotion in everyone. The integration of music into the history curriculum allows students to actually feel the mood of that period of time by the feeling that music creates within them (Hoffner, 1988).

The systematic study of music also can result in cultural literacy. In a paper presented at the Annual Conference of the Southern Association on Children under Six, Ball (1991) discussed music in the preschool setting. He believes that the teaching and singing of folk songs is an avenue through which cultural literacy can be explored. Visual, kinesthetic, and aural stimuli increase children's vocabulary. Ball believes that the study of music should not be isolated from other curricular subjects in the public schools.

Cultural literacy is closely related to multicultural education (O'Flynn, 2005). Expanding children's musical horizons is one effective and useful way of accomplishing the expanding goals of multicultural education. "Music from other lands and ethnic groups can go unappreciated unless early childhood educators accept responsibility for familiarizing children with it" (Dixon, 1996).

Dixon also states, "The arts provide necessary opportunities for children to develop creativity and perceptual awareness, and furthermore provide significant possibilities for students to experience success in ways that might not otherwise be available to them. Students of any color or ethnicity, students of any language, any gender or almost any handicapping condition can experience music in their own minds and hearts."

Many students who experience problems with academic success may find success and acceptance through the study of music. Once this success is attained through music, there is motivation to be successful in many other areas of the curriculum. Music provides the

opportunity to reach all students, some whom may never be reached through any other area of study. Dixon strongly advocates the importance of the teacher's role in providing these opportunities for students.

Klinedinst (1991) investigated the combining factors involved in musical achievement and academic achievement. It was found that scholastic ability and academic achievement tests were leading predictors of musical performance achievement. Klinedinst also concluded that socioeconomic status and self-concept played prominent roles in student retention. This study did not investigate the reverse effects of musical achievement on academic achievement.

One study showed the effects of music instruction on reading instruction. Sullivan (1979) concluded that there is a positive relationship between factors in music ability and language reading ability. There were some indications that music instruction enhances auditory discrimination skills. Apparently, some music programs have an enhancing effect on reading performances through their development of listening skills and attention span.

The acquisition of listening skills and attention span can enhance other academic skills such as problem-solving. "The process of conceptualizing is the means by which individuals organize their sensory experiences. Concepts allow a person to generalize, to differentiate and categorize classes of objects, qualities and relationships. They provide individuals with tools for problem-solving" (Bergethon & Boardman, 1979). The ability to conceptualize empowers the individual to use progressive learning where the student builds new learnings on previously acquired conceptual organizations.

In general, many educators agree that concept development is more than providing for mere rote memorization and the learning of facts. In order for conceptual knowledge to be useful for the learning, it must be based on individual exploration and in an experimental setting. With this type of fertile musical environment for the child, intellectual development most likely will follow (Bergethon & Boardman 1979).

The home and school can be bridged through multiple intelligences. The concept, *multiple intelligence* is viewed as the many facets of one's intellectual abilities. The study of music is an opportune place to test this theory. Very few educators, if any, would refute the premise that all children are different and have distinct personalities, preferences and tastes. Their learning styles are as different as the colors in the rainbow. Gardner's well-known theory of multiple intelligences enables innovative educators to discuss the positive strengths in all children thus planning for appropriate learning strategies for a more effective classroom environment (Reiff, 1996).

Gardner holds firm to the belief that intelligence is much more complex than can be reflected by a single test score. Test scores in our Western society primarily have emphasized the linguistic and logical, mathematical intelligence of students (Weinburger, 1998; Alterumuller, 2003), By informing parents of other various forms of intelligence in the learning process, parents can be informing, cooperative collaborators with teachers. Parents can be instrumental in encouraging different activities in music to discover and nurture their child's own intelligence, both musically and academically. Parents know their children best: they can accurately describe to the teacher what their child does best in the home setting (Reiff, 1996).

Along with putting value in the multiple intelligences of children, music educators advocate that music is one of these facets of the intellect. Lazdauskas (1996) notes that in quality music programs where self-esteem, self-discipline and creativity are encouraged, there is marked improvement in the core subjects of mathematics, reading and other basic skills. It is ironic, though, that one of the first programs to be eliminated is music when budgets are cut. Unfortunately, according to Lazdauskas, the music program is viewed by many systems as a non-essential way to break up the day much like the seventh inning stretch in an American baseball game.

However, not all schools see music as a frill, but rather as a justified academic program, which reaps big dividends. In many school systems using an interdisciplinary or whole-language approach, music naturally tends to facilitate this type of whole person approach. The use of folk songs, native dances and use of instruments is a motivational way to draw the entire curriculum into an integrated approach. It is time for school administrators and boards of education to view music as a unique opportunity for giving a new perspective and adding to children's learning in all subject areas in the curriculum guide. Balance is the key. Through the balance of academics and the arts, school will eventually begin to graduate creative, disciplined and **whole** young men and women (Laxdauskas, 1996).

The National Center for Educational Statistics, a branch of the Department of Education, has conducted research concerning the instruction of music in turning out well-rounded whole persons. In 1990, this branch gathered responses from and information about more than 18,000 high school sophomore from about 1500 of the nations public and private schools. Of these students, 22.3 percent identified themselves as *participating* in a school-based musical activity. In the study, 49.6 percent of the respondents were male and 50.4 percent were females. In this study, the term "musical achievement" was defined operationally as being recognized or honored by their school or community for any specific achievement. Questions asked were: Were you elected as Class President or officer in your class? Have you received any academic honors? Are you on the honor roll? In these areas, it was found that students received a high degree of

success when compared to students not enrolled in school-based music programs (Morrison, 1994).

What is the aesthetic aspect of music education and how does it affect other programs in the school? Aesthetic education is "...the study of the nature of art and artistic properties. It involves perception, reaction; it leads to the development of aesthetic sensitivity' (Burnsed, 1993). In essence, aesthetic education enhances individual existence and a society's cultural development. Strong music and arts programs enhance the learning environment of any school. It makes school more attractive to attend because of the pride and identity for the entire school community. J Overall, quality music programs tone up the entire school

School administrators, teachers and parents must come to grips with the statement: *Music study in itself is an academic discipline* (mark, 2005; Orzolek, 3004). There is a very high level of cognitive and effective learning in quality music programs. Music performance also encourages and stimulates psychomotor development and learning. Some research indicates that when the arts are integrated carefully into the core curricula, overall academic achievement is affected positively. Even in inner-city schools where violence and crime prevails, vandalism and truancy are lessoned (Burnsed, 1993).

In conclusion, during the late 1970's there was much call for a *back to the basics* in the curriculum. Many disciplines not including the three R's were discontinued in the public schools. In many cases, the most threatened program was the music program. Today, the tide is turning. Educators and parents are beginning to realize more fully the importance of music instruction. There continues to be a great need for short-term and longitudinal studies concerning the benefits of music study. Zimmerman (1984) believes that future studies are vital

in delivering knowledge about young children's music development to professional child caregivers.

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