COGNITIVE AND EMOTIONAL INTELLIGENCE THROUGH MUSIC

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COGNITIVE AND EMOTIONAL INTELLIGENCE THROUGH MUSIC

A Project

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Abstract

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The project was an alternative culminating experience for a Master of Arts in Education: Curriculum and Instruction with an Elective Emphasis on the Arts in Education. The project followed Pathway I: Artist as an educator.

The author chose to further develop her skills as a guitarist. She believed it would enhance her teaching abilities in an elementary setting. Because of the music knowledge the author has gained, students now have the opportunity to participate in making music. From the various guitar styles the teacher has learned, they also have the opportunity to experience live music and music of different cultures. Another outcome of this project is that the author has become an advocate for the arts in her school and community.

________________________, Committee Chair
Karen D. Benson, Ph.D.

________________________
Date
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Chapter 1

INTRODUCTION

This Project was an Alternative Culminating Experience for a Master of Arts in Education: Curriculum and Instruction with an Elective Emphasis on Arts in Education. It follows Pathway I: Artist as Educator. The author chose to further develop skills as a guitarist. She has believed it would enhance her teaching abilities in an elementary setting. She was a former musician who had put away her guitar for many years; however, her love for the six-string instrument had always been with her.

As a public elementary school teacher today, the author found the arts to be disappearing in schools. Due to high stakes testing and large budget cuts, music teachers have been the first to be eliminated. Thus, many children have had the arts, a critical part of their curriculum, taken away without a choice. As a musician, educator, and former elementary student, she could not imagine a classroom without music or the arts. In elementary schools music teachers used to inspire students, including the author of this project, to learn piano, or other instruments of choice. Most elementary students were once privileged to be musicians, even if it was just for one hour every week in music class. Students desired to come to school because they anticipated a musical experience. Some of the most inspiring teachers found ways to incorporate music into the everyday curriculum. The lack of music teachers and tight budgets has motivated the author to earn a Master’s in education, focusing on curriculum with an emphasis in the arts in educations and to pursue the study of music again.
This project is important because the teacher will have developed as a musician to further enhance her teaching abilities. As a result of this project, the skills she developed as a guitarist were used in the classroom. Her guitar has become a teaching tool for academics as well as social skills. Students who are audio kinesthetic learners have an opportunity to learn the California Curriculum Standards in a new way. Students have the opportunity to be creative because of the music knowledge the author has gained. They have the chance to participate in making music. From the various guitar styles the teacher has learned, students now have the opportunity to experience live music and music of different cultures.

The ultimate goal for the teacher was to develop herself as an artist, so that she would be able to bring music to the classroom. She intends to motivate children just as she had been inspired as a child. Her students will have had the privilege of musical experiences in their elementary classroom. She hopes to energize the faculty she works with by showing them how important it is for students to have music and the arts returned to them. Another outcome of this project is that the author has become an advocate for the arts in her school and community.

The Procedure

This project involved the teacher and her mentor Doug Pauley. Mr. Pauley has been a professional guitarist for over 20 years. He has been in various local Jazz and Latin bands. He has also written and recorded many CD’s featuring other local artists. As a guitar instructor for 20 years, he has written his own music books for learning guitar.
He instructed at the Guitar Workshop in downtown Sacramento, where the author took guitar lessons.

The project was completed over six months, during which she took weekly, private guitar lessons at the Guitar Workshop with Doug Pauley. She was taught guitar styles in Jazz, Latin, and pop music. She learned new exercises to strengthen her fingers and her skills. Mr. Pauley also taught the author basic music theory and the history of each of the music styles. She continued to practice the guitar seven hours a week outside of the lessons. Every week she was learning new techniques and songs. Her final project, after six months of lessons was performing for a larger audience. At this culminating event the teacher shared her newly developed guitar skills. She played songs of different genres, which included jazz, Latin, and pop.

The teacher researched the scholarly literature in three main areas. First, she researched the theories and practices of the arts in education, including the work of John Dewey, Howard Gardner, and John Berger. They all have been supporters and advocates for arts in education. The second area researched was the relationship between music and the brain. She investigated how music activates both the right and left brains and could help students of different learning styles. The research also included audio intelligence, which is one of the seven multiple intelligences Howard Gardner researched and defined. The main question to guide this research was: How do the arts create opportunities for aesthetic experiences. The third area delved into the emotional benefits students gain from music involvement. The main question that guided this aspect of research was: How
does music affect the behavior of children in a classroom? How can music build a child’s emotional intelligence?

The methodology used for this project was narrative inquiry. The author kept a journal of her weekly progress and experiences through the six months of lessons. She also documented feedback from her guitar instructor, along with peers who responded to her progress. The data gathered, helped the teacher prepare for using the guitar and music in the classroom. It also allowed for self-reflection as an artist. She was able to see her growth as a guitarist from the beginning of her lessons to her final project.

Not only has this project further developed the teacher’s skills as a musician, but also as an educator. She is now able to expose students to live music and teach them how to be musicians. Since she has learned different styles of guitar, she also has the ability to introduce the students to different cultures through music.

The teacher has analyzed what she learned from this project through her narrative inquiry and documentation. The new knowledge gained will allow the teacher to incorporate guitar in the daily routine of the classroom. Furthermore, she has the ability to reach students who are audio and kinesthetic learners through music. The teacher has developed more ways to teach the California Standards by incorporating the guitar and music. Also, the teacher’s guitar playing in the classroom supports the creation of respect. Ultimately, the teacher has given the gift of music back to the students.

The teacher has researched how music benefits students emotionally and intellectually. Using her example of developing as an artist has encouraged colleagues to
incorporate music into their own classroom. She has exemplified that music inspires people of all ages, and she encourages other teachers to give their students opportunities to be motivated by music. The teacher has become an advocate for the arts and recommends that arts programs be brought back into schools. She has continued to share and create musical experiences in the classroom and in the community.

Definitions

Music is the organization of sound, or individual elements that categorize Music.

Rhythm is a dominant part of music characterized by time intervals or measured time. Also the duration of a series of notes, and the way they are grouped together into units.

Timbre distinguishes one instrument from another such as an oboe from a flute. It also describes the change of sound as the instrument moves across its range.

Pitch describes a sound wave frequency produced by an instrument such as 420Hz. It also answers the question, “What note is that?”

Melody is a rhythmically organized sequence of single tones so related to one another as to make up a particular phrase or idea. Also known as the main theme of popular songs.

Harmony is the simultaneous combination of notes in a chord, or of two or more instruments.

Bar Chords are chords that are struck when the finger of one hand holds down all the strings on the fret of the guitar.
Limitations

A limitation in the project was not being in a classroom teaching while taking guitar lessons, thus, the teacher was only able to research the academic literature for the benefits of music in the classroom and its effects on children.
Chapter 2

RELEVANT REVIEW OF THE LITERATURE

For centuries American public schools have been trying to find the best method to teach their youth. They educated the youth in many academic subject areas such as math, science and literacy so their students would be prepared to become productive members of society. They believed that the more knowledge poured into them would lead to more brain power, and the more academic subjects taught, the more the students would know. However the system of overloading the young people with information without having experiences has been a default in the system for centuries. The students have been expected to learn an abundance of academic knowledge without being given all the tools or experiences needed.

The tools left out of American public schools are the arts: music, dance, theater, and visual arts. The literature review first examines the theories and practices of the arts in education. Section two addresses music and its relationship to the brain, and section three explains the link between emotional intelligence and music. “Music and education have parted ways in many school systems. As music came to be an art-as opposed to a natural and instinctive human activity- it has been treated as a luxury rather than a necessity” (Fox & Perret, 2006, p. 2). Music has fostered both cognitive and emotional intelligence. Both are needed for people to become productive members of society. Music has been found to strengthen all lobes of the brain and make cross connections between the right and left side. Music has also been found to develop emotional intelligence, in
which one would learn how to identify and manage emotions. With the excessive emphasis on high stakes testing and demands for a “one size fits all” curriculum, public schools have failed to meet the needs of their youth.

Theories and Practices of the Arts in Education

John Dewey (1934) was one of the first of many educational philosophers to believe students learned best through experience. Dewey was opposed to the traditional approaches teaching in America during the early 1900s. Rather than pouring information into a child, Dewey believed students needed the opportunity of having an experience when learning. An experience is when one makes an emotional connection with an object or event pertaining to their past, present, and future. An experience entails multiple connections that cause one to be engaged and have a natural desire to learn (Dewey, 1934). When students experience excitement and joy, they will be engaged and become productive learners whether inside or outside the classroom. Having an experience, as defined by Dewey, leads to curiosity and inquiry. Thus, the child naturally learns to learn.

John Dewey and Donald Arnstine are philosophers of similar educational theory. Though Dewey and Arnstine were from different generations, they both believed the current school system was not meeting the needs of the students it served. John Dewey (1934) believed students needed to have a purpose, connection, and aesthetics in building knowledge. Arnstine (1967) believed that the goal of education was to expose students to real life skills and to develop the dispositions to become curious and to learn.
The current school system in America considers four key points for curriculum in public schools: national survival, adequate personal lives, adjusting to complex changing environment, and preparing for careers. Through the organization of the chosen curriculum, students should be able to obtain the knowledge and skills to help in their understanding, maintaining freedom of thought, decision making, and having social interactions. However, those who do not teach have decided what knowledge is of most worth in public schools. The teacher must teach the mandated curriculum to all students in a way that meets the needs of low, medium, and high students. The students are then measured by set standards and standardized tests that their teacher did not created. These standardized measurements have caused a problem in public schools. Another philosopher, Elliot Eisner (1998), agreed when he said that students have not been acknowledged for their individuality, and they are expected to fit into a one size fits all mold.

Howard Gardner (2008) researched and proved that not all minds think alike. Gardner had researched and established the seven multiple intelligences: musical, visual/spatial, interpersonal, intrapersonal, kinesthetic, linguistic, and logical/mathematical (Gardner, 2008). Everyone has each intelligence, but some may be stronger in certain individuals than others. Knowing one’s own intelligences will help one understand how they learn best. For example, a student who performs well in athletics and enjoys movement is a kinesthetic learner. That pupil would learn best through movement and activity. A student who likes to draw and create is a visual/spatial
learner, and learns best seeing a diagram or creating a visual. Gardner acknowledged the unique, individual as important, and he criticized the notion of expecting students to all learn the same way and obtain the same information taught.

Arnstine (1967) would advocate that educators address the multiple intelligences of their students when creating lessons and teaching. In America, individuality is praised, yet it is hypocritical to want all students to learn the exact same way and produce the same outcome when performing on standardized tests. If it is known that every person develops knowledge at a different rate and time, does America expected their students to learn and retain the exact same knowledge? Ultimately, it is up to the teacher to implement skills and knowledge of what they feel is of most worth. Teachers should be a resource of knowledge for their students. Teachers should have the freedom to teach the existing knowledge to students in a way that is most effective to their students. Dewey would have supported Arnstine because Dewey opened his own school in Chicago, Illinois so that he could teach his students in ways he found best suited them through relevant experiences.

“Art denotes a process of doing or making” (Dewey, 1934, p. 48). Teaching the arts in schools will create opportunities for students to have an experience. In Dewey’s (1934) book *Art as Experience*, he does not directly discuss teaching, but addresses that one is able to have an experience through art. In an experience, one must make an emotional connection with their past, present, and future.
A painter must consciously undergo the effect of his every brush stroke or he will not be aware of what he is doing and where his work is going. Moreover, he has to see each particular connection of doing and undergoing in relation to the whole he desires to produce. (Dewey, 1934, p. 47)

In the above example, the artist is having an experience through the creation of his work. He is engaged and has the desire to complete the project. “Art is an expression of feeling imaginatively transmuted into form” (Dewey, 1934, p. 64).

Eisner (1998) saw the limitations students were given for expressing their knowledge. He noted that multiple-choice responses only exercised one way of thinking, which limited the mind. Eisner stated, “different forms of representation develop different cognitive thinking skills. The form of representation we use to represent what we think influences both the processes of thinking and its products” (Eisner, 1988, p. 47). Similar to Gardner’s (2008) multiple intelligences, different forms would have reached the array of individual strengths of each child. Forms could be of all modalities of art form such as visual arts, rather than multiple-choice responses to standardized curriculum. Students should have had the opportunity to interpret a concept and respond with a form that best suits them. This could be a painting, creative writing or performance piece. The arts require just as much cognitive thinking as a math problem. Any creator has to compose the knowledge, analyze and understand it, and with careful cognitive thinking, produce a representation to express the knowledge learned. Eisner (1998) considered the arts an important part of complete development of the mind.
Influenced by Dewey (1934), Eisner (1998) stressed the importance of creating conditions for students to have experiences in the classroom. Knowledge comes from experiences (Dewey, 1934). Through each experience concepts can be formed. To create a well-rounded mind, children need to be exposed to multiple forms of experience. This includes the arts. Eisner (1998) found that through art, students could be taught valuable skills in cognitive thinking. As in life, students can take multiple avenues to reach multiple solutions of a problem through the arts. The greater value is to teach children to think about approaches and possibilities and then to find the best possible solutions for them.

“Seeing comes before words. The child looks and recognizes before it can speak” (Berger, 1972, p. 7). Though a child does not have the words does not mean the child does not have the knowledge. Words are not the only way to express one’s knowledge. Berger continued to give the example “each evening we see the sun set. We know that the earth is turning away from it. Yet the knowledge, the explanation, never quite fits the sight” (Berger, 1972, p. 7). If asked to explain the sunset in words, one may feel limited in response. However, if given the opportunity to express the response through the arts it would be more just.

Dewey had similar beliefs to Berger when he stated, “Indeed, since words are easily manipulated in mechanical ways, the production of work of genuine art probably demands more intelligence than does most of the so called thinking that goes on among those who pride themselves on being ‘intellectuals’” (Dewey, 1934, p. 47).
Dewey’s point was that art requires as much thinking, if not more, as an essay response or mathematical problem. Deep cognitive thinking occurs when an artist is at work. The artist must make conscious emotional connections to reach the final outcome with the artist feeling satisfied.

Waldorf Education fosters many of Dewey’s ideas (1934).

In training the mind and training feeling, we must give particular attention to the individual characteristics of the child. As teachers, we must be capable of forming the instruction so the child does not simply receive something intellectual in the instruction, but enjoys the instruction in an aesthetic way….you can meet the child’s role in aesthetic needs if you bring yourself into correct relationship to the child’s feelings…. (Steiner, 2003, p. 28)

Emotion and learning go hand in hand. Just like in having an experience, the two cannot be separated. Dewey (1934) would advocate the opportunity of excitement and happiness is entailed into an experience while learning.

Education Through Music is a practice Dewey would advocate. Students are able to have emotion and experience through this teaching method. The song-experience-games- developed by the Richards Institute of Education, build a complete series of lessons around each song, and each developing cognitively and socially with the people who are involved for the beauty of the experience (The Richards Institute of Education, 2007). This also supports students who are kinesthetic, musical, special learners. Gardner
would also advocate for Education Through Music because it supports a multiple array of learners and give students the opportunity if multiple experiences.

John Dewey’s (1934) theories have shaped the minds of many educators and theorists of education over the years. Dewey’s ideas of creating an opportunity for students to make emotional connections and have an experience with what they were learning, students produced successful learning. He found they were engaged and wanting to learn more about the subject. Students were not sitting at a desk simply reading a book. Instead, students were having a more hands on approach by working on projects. Students were also given an opportunity to guide their own learning through the questions that arose as they were engaged. Dewey was concerned that public schools might not allow this method of teaching; therefore, he opened his own school. Dewey along with many other philosophers have addressed the need to modify the current education system. Incorporating the arts into education is a step in the right direction. Now it is up to teachers to start making a difference and teach in a way that is best suited for themselves and their students.

Music and the Brain

Until recently, music had been considered to simply activate one side of the brain. Art and music were thought to be processed in the right hemisphere of the brain, with language and mathematics in the left. For the past 10 years, neuroscientists such as Daniel J. Levitin (2006), A.D. Patel (2008), and Mark J. Tramo (2001) have done extensive research to locate the relationships of music and the brain. All three
neuroscientists discovered in their studies that “Music listening, performance, and composition engage nearly every area of the brain that we have so far identified, and involve nearly every neural subsystem” (Levitin, 2006, pp. 86-87).

In 2001, the Harvard Gazette reported the findings of Tramo’s (as cited in Cromie, 2001) studies concerning a “music center” in the brain. Tramo tested people listening to music with brain damage of either side of their brain to locate where music was active.

Tramo’s study found the following:

A human brain is divided into two hemispheres, and the right hemisphere has been traditionally identified as the seat of music appreciation. However, no one has found a “music center” there, or anywhere else. Studies of musical understanding in people who have damage to either hemisphere, as well as brain scans of people taken while listening to tunes, reveal that music perception emerges from interplay of activity on both sides of the brain. (as cited in Cromie, 2001, ¶ 6)

Studying the relationship of music processed by brain-damaged people was significant because it reformulated the theory of music processing in the brain. No matter which side of the brain had damage, the patients were able to process different elements of music (Cromie, 2001). The theory of music activating only the right brain had soon become a myth.
Human Biology and Music

Music has been a part of human biology since prehistoric time. Mothers across the world, as far back as one can imagine, have used soft singing to soothe their babies to sleep, or to distract them from something that has upset them (Levitin, 2006). Music can be traced in every culture around the world. Fox & Perret (2006) also agreed, “The ear is attuned to hearing melody from birth whether the melody is that of the mother’s lullaby or the tune of language spoken” (p. 15) As a human race, music has been a natural instinct, a part of our biology. Music has been a way of life for humanity.

The oldest musical instrument could be traced back to a 35,000-year-old vulture-bone flute. The artifact was discovered by an archeological team led by Nicholas Conard, in the Ach Valley of Germany, in 2008. “Music may have been one of the cultural accomplishments that gave the first European modern-human (Homo-sapiens) settlers an advantage over their now extinct Neanderthal-human (Homo-neanderthalis) cousins, according to the team” (Owen, 2009, ¶ 9). The ancient flutes are evidence for an early musical tradition that likely helped modern humans communicate and form tighter social bonds. Music has continued to have a large role in the lives of all humans. Many may recall themselves tapping their foot to the newest pop song, without much thought, but in second nature. According to Harvard scientists, “No human culture is known that does not have music” (Cromie, 2001, ¶ 22). The human brain has the biology for music.
Which Parts of the Brain are Activated by Music?

The significance of music in human culture piqued Levitin’s interest. He wanted to explore the science of the human obsession, music. Levitin (2006) was a professional musician in his youth. He further became a sound engineer and record producer for artist. A passion for music and science led Levitin to studies of music and the brain. Levitin currently runs a laboratory for Musical Perception and Cognition at the McGill University. He has published *This is Your Brain on Music* (2006) and *The World in Six Songs* (2009). In Levitin’s first book, he explained in detail, how the human brain processed music. The human brain is divided up into four lobes – the frontal, temporal, parietal, and occipital- plus the cerebellum. Planning, self-control, and making sense out of complex signals that our senses receives were associated with the frontal lobe. The posterior of the frontal lobe and parietal lobe have been associated with motor movements and special awareness. Hearing and memory correlated with the temporal lobe. Cerebellum was involved in emotions and planning of movements. The occipital lobe is associated with vision (Levitin, 2006). Levitin (2006) found the following:

Different aspects of music are handled by different neural regions- the brain uses functional segregation for music processing, and employs a system of feature detectors whose job is to analyze specific aspects of the musical signal such as pitch, tempo, timbre, and so on. (p. 86)

Listening to music starts below the cortex in the cochlear nuclei, the inner ear. It then travels through the brain stem, the cerebellum then travels to the auditory cortices of
both sides of the brain. The frontal lobe tries to make sense of the complex sounds of the song. Then the temporal lobe would be activated, as it identifies the familiarity of the song or style and places it into memory. Following along with the rhythm or tapping to music activates the cerebellum’s timing circuits (Levitin, 2006).

Performing music involves the frontal lobes for planning of one’s behavior. This would include the motor cortex in the posterior part of the frontal lobe along with the sensory cortex. The sensory cortex provides feedback after one plays a key on their instrument. Reading music incorporates the visual cortex in the occipital lobe. Language centers are activated in the temporal and frontal lobes when listening to or recalling lyrics of a song. Deep in the cerebellum is where human emotional response to music occurs. Just as Tramo claimed there was no “music center,” Levitin (2006) claimed the same findings “…there are regions that perform component operations, and other regions that coordinate the bringing together of this information” (p. 87). These findings support that music processing had always occurred throughout many areas of the human brain.

Eric Jensen (2000), former middle school teacher, professor, and member of the Society for Neuroscience and New York Academy of Sciences, also wrote a book explaining music and the brain. He explained his findings of music processes, right versus left brain. Jensen stated rhythm notes activated the Broca’s area of the cerebellum. Harmony activated more of the left hemisphere of the brain than the right. Timbre activated the right side of the brain. Pitch activated the precuneus, located on the left back of the brain. Melody activated both sides of the brain. Jensen’s (2000) research was
parallel to Levitin’s (2006) in that he found music to activate all four lobes of the brain including the cerebellum. Yet, Jensen’s (2000) research looked specifically at characteristics of music interaction of the right or left hemispheres of the brain and not just the different lobes. No matter how each scientist analyzed their studies, it is clear music and the brain have a complex interaction among all lobes, including both the right and left sides of the brain.

Music, Language, and the Brain

It has been said that music is a universal language. If looked at more closely one could find commonalities between the two. Both music and language have rhythm, melody, syntax and affect. Syntax refers to discrete element and principles of combination. Affect would be emotions. Anirudduh Patel (2008), of the Neuroscience Institute, is one of the leading researchers of music, language, and the brain. He is currently the president of Music Perception Organization. Patel’s primary area of research is of the relationship of music and language. He has published many studies and most recently published, Music, Language, and the Brain in 2008.

Patel’s (2008) study looks at the correlation of music and language. He organized a study to discover which parts of the brain were stimulated when listening to music versus listening to language. Patel found the same areas of the brain were stimulated in language and music. He tested the brain’s reaction to listening to a sentence with incorrect grammar or out of context words. The results were then compared to listening to a melody with an out of place note or chord. In both cases the brain slowed down or
paused when this interruption of flow occurred. The broches area of the brain is a shared resource for processing music and processing language (Patel, 2008).

Patel (2008) has also looked closely at the rhythm of speech compared to the rhythm of music. In language there would be specific sounds, such as long and short vowels. Similar to language, music would be arranged in short and long sounds with a note measure. Music and language are not so different after all. Brains process them in the same way.

Is Music a Reading Teacher?

In the mid 1990s, Peter Perret and Janet Fox started a music program for an at-risk school in Winstonson, North Carolina. The purpose of the program was to find if interaction with live classical music and musicians could help children learn. Every week a quintet would visit elementary classrooms of primary grades, first through third. The musicians would play together in front of the class and then teach a mini lesson on a specific element of music. The children were never taught how to play an instrument. They were simply taught how to listen to music and specific qualities of music, such as pitch, rhythm, and timbre.

After three years of musical visits by the quintet, the students’ test scores had improved drastically across all areas including reading. The quintet had also worked closely with the teachers to support what the children were learning each week. Learning to listen was one of the first lessons taught to a second-grade class, because humans take in information all the time from their ears. Often humans hear, but they do not listen (Fox
This study shows the distinction between hearing and listening and the significance of its role in listening. Music offers many access points to other funds of knowledge. Music has complemented and reinforced language and reading skills for the students in Winstonson, North Carolina.

Spoken language is a natural process of the human species and supported the first writing system began 35,000 B.C. by the Sumerians to record agricultural products. Human beings could remember thousands of words, but were incapable of learning and remembering thousands of abstract symbols to represent them. Written language only worked when it began to use symbols to stand for particular sounds used repeatedly in many combinations in thousands of words. In Fox and Perret’s (2006) book *A Well-Tempered Mind: Using Music to Help Children Listen and Learn*, they acknowledged that every language had different amount of basic sounds called phonemes. English would have 44 phonemes, and many African languages could have as many as 200 phonemes. The word *cat* is made up of the phonemes /k/, /a/, and /t/. The English alphabet has 26 symbols, but a symbol can represent more than one sound.

The quintet used music to help the at-risk children understand language and reading skills. Just as Patel (2008) noted in his studies, music and language were made up of long and short sounds. By the quintet teaching children how to identify elements of music, they reinforced skills needed to process language and to learn to read and write. Music and language both rely on the perception and processing of assembled units with temporal and tonal features that are associated with unique symbols-notes in the case of
music, letters in the case of language. Both music and language are multisensory (Fox & Perret, 2006)

Fox and Perret (2006) found music to be an excellent teaching tool for reading and many other subject areas. Learning that music is made up of different sounds helped children learn and better understand the sounds of language, just as Patel’s (2008) studies showed that, language and music activate the brain similarly. This supports the notion that music could act as a reading teacher.

Music in the Classroom

Music was once considered a very different brain process from language. Today, due to recent studies, neuroscientists have found music and language to be more correlated than ever imagined in the past. Music and language stimulate the same areas of the brain, right and left. Whether listening to a conversation or listening to music, both the right and left hemisphere of the brain was activated.

There is an importance of learning music related to learning language. From birth, children are exposed to sounds of language, and by nine months are able to imitate and articulate these sounds of their culture. Children gradually learn to use the sounds of their culture and form spoken language. Through school education, children learn to read and write language (Harris, 2009). According to Edwin Gordon (2003) the process of development entails four stages, listening, speaking, reading, and writing. It is important for young children to have as much exposure to music and language to help fully develop all four stages, and become successful learners. Through listening, speaking, reading and
writing, schools teach curriculum to their students. Whether the subject is math, science, history, or language arts, students must be able to have all four skills developed to be successful learners.

Today many students struggle with reading skills. Test scores across the nation demonstrate poor performance in reading. Low standardized test scores became a national concern which caused the “No Child Left Behind Act of 2001” (NCLB) (U.S. Department of Education [USDOE], 2002) to be enforced in all public schools across the United States. NCLB required individual states to develop assessments in basic skills to be given to all students in certain grades, if those states are to receive federal funding for schools (USDOE, 2002). “The added pressure of bringing students who are below grade level reading, to grade level has not been a simple task. The current curriculum for teaching reading skills seems to let students fall between the cracks,” stated Tenley Willock (personal communication, October 10, 2009), a veteran elementary school teacher of 20 years. Music could be what is missing in schools.

Willock further explained her frustrations with the current curriculum and often finds herself using music as a way to reinforce skills in her classroom. Through a song she has written, Willock’s students easily learn the process of photosynthesis. Willock claimed her students remember songs and lyrics quite easily and enjoy learning through music, along with the science textbook. The students also write out the process in their own words, but music is the glue to keep all the information retained (T. Willock, personal communication, October 10, 2009).
Willock is not the first teacher to use mnemonic devices in the classroom. This is a teaching tool that has been used for many decades. According to Eric Jensen, there are two ways in which music develops and enhances a human's memory system. First, music activates the brain’s attention system by increasing attention to sound, timing, and perception, while embedding emotional content. Second, music activates and strengthens multiple memory pathways for implicit and explicit memory (Jensen, 2000). Retention and recall have been found to improve greatly through music. Orla Hayes (2009) did a study using melodic and rhythmic mnemonics to improve memory and recall in elementary students in content areas. She compared classrooms that used mnemonic devised to those that did not. The mnemonic devices were tested in three grade school classrooms. Children were taught songs with academic content related to their current curriculum. The fifth grade class was taught the parts of the brain. The third grade class was taught multiplication of sevens, and the first grade class was taught the parts of a plant.

Hayes had each class practice the song everyday for a couple weeks. Students were given a written test on the content learned. In all grade levels, students who had melodic mnemonics had much higher test scores than the students who were taught only through lecture (Hayes, 2009). Hayes claimed “Mnemonic instruction gives students tools they can use to better encode information so that it is easier to recall later on” (p. 7).

Music is a valuable teaching tool that has promoted cognitive skill and development of the brain. Music has helped bridge connections between the right and left
sides of the brain along with the four lobes. Neuroscientists discovered that the human brain has the biology for music. When music was incorporated into all school subjects, children had stronger foundations for concepts being taught. For many students, music has filled the gap and been the glue for learning subjects such as math, science, reading, and so on.

Music and Emotional Intelligence

Music has the ability to promote social and emotional development of human beings. For centuries music has been created and used in social settings such as in ceremonies, war, celebration, and other creative outlets to manage life’s challenges. Neuroscientists and doctors have recognized and acknowledged the power music has had on the human psyche. Therapists around the world have begun to use music therapy to help children and adults cope with fears and anxiety, and to promote positive self esteem. Music could be used as a tool to promote emotional intelligence amongst the youth. Emotional intelligence has included skills that encompass understanding and managing emotions. When emotional intelligence has been developed, a person may encounter improved self-esteem, self expression (verbal-non verbal), increased appropriate social behavior, and reduced tension or anxiety. For humans to be productive members of society, emotional intelligence must be developed (Jensen, 2000).

Emotional intelligence is developed in the orbital frontal lobe, parietal/temporal lobes and the mid brain. Developing emotional intelligence begins with a simple sensory activation, which creates neural networks. Neural networks occur mostly in the cortex,
but also throughout the brain. In these networks, neurons may connect up to fifty thousand other neurons through feedback (Jensen, 2000). Jensen (2000) further explained,

Playing of music accelerates and enhances the ability of learners to make rapid emotional assessment and to act accordingly. While listening to music may create more moods in a shorter time, it also encourages and enhances our own mood identification. (p. 46)

These neurons have created webs of emotional connections throughout the human brain. Music can generate a wide range of emotions and emotional response, in which someone could be moved by music. “It’s what humans do with feelings that counts most, and the interplay between the feelings we have and our interactions with the world is critical” (Jensen, 2000, p. 47). Jensen (2000) also explains that emotional intelligence may be more important to human success than cognition, since relationships, school issues, school climate, and dropout rates have been impacted.

“Although for centuries many philosophers have tried to divorce reason and passion, it doesn’t work. We human beings are feeling creatures. Our emotions color what we do, and how we do just about everything,” stated Fox and Perret (2005, p. 160). Children should be taught how to understand and deal with emotions, along with cognitive skills for a complete development of the mind. Identifying the wide range of human emotions would be the first step to developing emotional intelligence. Music exposure could help children identify and manage their emotions. Fox and Perret (2006)
found young children to be excellent at identifying emotional tones in music. In a study of bringing a music quintet to the elementary classroom weekly, Fox and Perret (2006) discovered that kindergarten and first grade children were able to develop emotional vocabulary through music. Most children at age five to seven have limited ideas of emotion and use words limited to happy, sad, scared, and mad. However many words for human emotion could be better expressed through most kinds of music. Once children can identify and understand their emotions, they can be taught to better deal with them.

Self Expression

Music is a verbal and nonverbal form of expression. When children feel an emotion, they express their feelings through movement. This movement can range from no communication and becoming a hermit to physically harming someone. Many children today have been labeled with emotional disorders. “Emotional disorders are characterized by many behavior problems: suicide attempts, anger, withdrawal from family, social isolation from peers, aggression, school failure, running away, and alcohol/drug use” (Merrell, 2004). Teaching children how to manage emotions through musical expression is a safe and healthy outlet. Music could help children cope with the hardships and changes of life. Writing song lyrics and the use of metaphors could aid healthy communication. For example, sounds produced by percussion instruments could be developed as a metaphoric way of communication, to express fear, sadness, anger, and other emotions claimed the Music Therapy Association of British Columbia (2009). A child could pound a rhythm on the drum to physically release aggressive feelings.
Appropriate Social Behavior

“Music is also useful for stimulating socialization and verbalization, and can often provide a common starting place for discussion and self-disclosure, as well as increased group awareness and cooperation,” says the Music Therapy Association of British Columbia (2009, ¶ 2). Music can provide a common ground outside themselves which can bring peers together. Music enables children to better draw out, unify, and perform in school interactions. Through music social relationships can be strengthened. Education Through Music (ETM) is a program partly created to promote positive interaction between peers. The ETM program uses English language folk songs and play to promote inter/intra-social interaction between peers. Richards Institute of Education and Research claimed:

The nature of the play in ETM, combined with the interconnection of song, language, and movement, is inherently compelling and intriguing. Additionally it lays the foundation for an environment that is safe and nurturing, naturally stabilizing the emotional-cognitive system. With a stabilized emotional-cognitive system, the intellect is free to fully develop. (The Richards Institute, 2007)

Many of the songs used in ETM require children to have physical interaction such as clapping together or skipping arm in arm. The playful song-games guide students into appropriate social interaction. Students have the opportunity to interact with peers they normally would not. The children also learn to feel safe around each other by building relationships through music-play.
Child aggression in school has increased along with violent behavior and has become a major concern. It has been found that aggressive children are more likely to display antisocial and violent behavior at a later age. Controlling aggressive behavior should be a part of children’s emotional socialization in school (Choi, Lee, & Lee, 2008). In South Korea, researchers investigated the effects of music intervention on aggression in children with highly aggressive behavior. Forty-eight children were put into a music intervention group or an untreated control group. For 15 weeks the music intervention group received intervention twice a week for 50 minutes. After the 15 weeks, the music intervention group had significant reduction in aggression while the control group had no behavior change. The music intervention program led the students through four phases. The phases were building rapport, accepting/understanding emotion, expressing inner anger by playing percussion instruments, and accepting changed status/support themselves (Choi et al., 2008). After the music intervention students had less aggressive behavior, which lead to more positive relationships with their peers.

Relaxation

Music has been used in many settings to set the mood, from restaurants to films. For example, in a movie action scene, some may have heard a techno song that got their minds excited and adrenalin rushing. The quick beating rhythm of the song triggers the ear and excites the mind. In an exclusive upscale restaurant, one may have heard soft classical music. This music was used to set a calm and romantic mood for the diners. In both cases, music has been used to provoke mood and emotion. Music has the power to
arouse or relax, create a feeling of happiness or sadness, and even physiological states of heart rate and blood pressure (Chalmers, Olson, & Zurkowski, 1999).

In 2000, a North Dakota school was having difficulty controlling behavior in the school lunchroom. Supervisors claimed the children committed misbehaviors such as yelling, hitting, and throwing food on a daily basis. As a possible solution, the supervisors played classical music with slow rhythm for three days and recorded the results. When classical music was played, the noise level dropped six decibels, seven percent. Behavior interventions dropped from 20 students per lunch period to seven students per lunch period (Chalmers, 1999). By playing music in the lunchroom, the children had less misbehavior and a lower noise volume.

Music played at 60 beats per minute has been shown to produce a state of relaxation in both children and adults. It is speculated that because the 60 beats approximates the ideal resting heart rate for the human body, a type of entrainment occurs that allows listeners to slow down their heart rate to match the musical beat. (Chalmers, 1999, p. 2)

Within all the studies and research that has been done for music and the mind, researchers have found that music changes the overall emotional health of the child. In the case of the loud lunch time, the music not only relaxed the students, but social behavior was improved as well. When children are able to use music as self-expression, they release emotions and are also able to become more focused, confident, and display appropriate social behavior. While cognitive skills are important, healthy social,
emotional development may be even more important for children to become productive members of society (Zur & Johnson-Green, 2008).

**Improved Self Esteem**

Positive self-image and confidence can also be the key to a child’s success in the world. For many adolescents, acquiring self-concept and identity can be confusing. The struggle for a self-identity can often result into negative attitudes or negative self-image. Music Therapy Association of British Columbia (MTA of BC) found that “Gaining musical skills, working toward a music performance, and participating in listening and writing activities aimed at greater self-awareness can all contribute to increased self-esteem” (MTA of BC, 2009, ¶ 2). With greater self awareness and confidence adolescents could see themselves as more capable of successfully completing life’s tasks and becoming a productive member of society (MTA of BC, 2009).

Fox and Perret (2006) found that one of the strongest messages guest musicians sent was that there is rarely one right solution, or just one way to think about something. A passage of music may evoke a different image in the mind of each child in the class, and every one of them is correct (Fox & Perret, 2006). A piece of music could have sounded sad to one child and scared to another, but both are correct. Fox and Perret’s quintet members had infused their teaching with their artistic values. Children received positive feedback through the music lessons, and it began to develop their self-esteem. The musicians were able to create an atmosphere of affection, pleasure, appreciation, and
affection. Children felt safe and confident to share their ideas and explore emotion through music.

Another value children could learn from music is respect for individuality and individuals. “When you don’t have to focus on finding the one right unique self, learning and life are more varied, interesting, exciting and beautiful” (Fox & Perret, 2006, p. 163).

For a moment it makes us feel larger than we really are, and the world more orderly than it really is. We respond not just to the beauty of the sustained deep relations that are revealed, but also to the fact of our perceiving them. As our brains are thrown in overdrive, we feel our very existence expand and realize that we can be more than we normally are, and that the world is more than it seems expressed former musician, Robert Jourdain. (Fox & Perret, 2006, p. 164)

American public schools have cut most music and play activities. There has been an obsession with speed and time. “Focus on chronological rather than on developmental age became the standard in the United States because it allowed administration to supervise teachers, as students moved up through the grades” (Zur & Johnson-Green, 2008, p. 295). Schools have been organized by the fear of being “left-behind” (Rogoff, 2003). With higher standards, schools have developed a fear of not spending enough time on academics. American schools have compared themselves to those in Japan, who tend to have longer school days and a longer school year (Huyvaert, 1998). However, in Japanese schools, more time is spent on free play and social learning through peers. “In Japan, academic achievement comes second to empathy and social learning,” (Zur &
Johnson-Green, 2008, p. 295). Americans have been correlating the amount of time spent on academics and academic achievement. Americans have developed the idea that more time spent on academics, the higher students’ achievement would be. However, Flemish Belgium contradicted this idea by only having 160 days in a school year. It is ranked fourth in the world for academic achievement. Flemish Belgium proved academic achievement could not simply be linked to the amount of time spent in school (Zur & Johnson-Green, 2008). Because of NCLB (2002), learning through musical free play has been eliminated and replaced by set time blocks of academic learning. “Giving children time and space in which to grow socially, emotionally, and cognitively may rely upon their daily participation in music making, which, in turn, may set the foundation for healthy development throughout the life span” (Zur, 2008, p. 295).

“The human brain comes into the world only partly developed but ready to be hooked up. It needs interaction with the external environment-sensory input-to complete its development” (Fox & Perret, 2006, p. 75). After children have been exposed to a music lessons or music play, teachers have noticed children were actively listening, their attention spans improved, they were better able to follow directions, and they retained information (Fox & Perret, 2006).

Music has been a part of every human culture and has been an important part of emotional development. May Angelou said

Recognized or not, directly or obliquely, music is a major factor in the life of every human being. The ear is attuned to hearing melody from birth, whether the
melody is that of the mother’s lullaby or the tune of language spoken. Spirits are increased by the gift of music. (as cited in Fox & Perret, 2006, p. ix).

Music has been integrated into education for centuries. Yet today, music and education have parted ways in most schools. “As music came to be regarded art – as opposed to a natural and instinctive human activity – it has been treated as a luxury rather than a necessity” (Fox & Perret, 2006, p. 2). With the development in neuroscience of music, research has found music as a part of the human biology. When one listens to or plays music, cross connections are made between all lobes of the brain. Music can help build strong bonds in the brain, which lead to cognitive development. Music also helps children with social and emotional development. Through music play children are exposed to positive interactions with peers allowed self-expression. Children can learn how to manage emotions through music and build self-esteem. Through music, teachers can create the opportunity for children to have aesthetic experiences. Music is necessary in the classroom, as it is in the biology of the human race. There is no culture known to man that does not have music.
Chapter 3

THE PROJECT

This Project is a Culminating Experience for a Masters of Arts in Education: Curriculum Instruction with an Emphasis on Arts in Education. The Project follows Pathway I: The artist as an educator. The author has taken six months of guitar lessons to improve her guitar skills with the goal of better serving her students by integrating music into the classroom everyday. The methodology used for this project was narrative research; therefore, Chapters 3 and 4 are written in first person.

Studying narrative is the study of the ways humans experience the world. Stories have been an oral tradition cross culturally for generations. Oral tradition and family stories are a form of history and social studies (Clandinin & Connelly, 2000). In every culture there has been a significance and importance of telling one’s story. “…telling and retelling stories about themselves refigure the past and create purpose for the future” (Connelly & Clandin, 1998, p. 24). To tell of one’s expertise the listener gains opportunity to learn from the storytellers past. This may include veteran teachers sharing their stories to the future generation of teachers. Narrative research is both a phenomenon under study and a method of study, “teaching and teacher knowledge as expressions of embodied individual social stories and we think normatively as we enter into research relationships with teachers, create texts, and write storied accounts of educational lives” (Connelly & Clandinin, 2000, p. 4). Narrative inquiry is a powerful method of study in that one human can learn from another’s meaningful experiences. “Narrative inquiry has
been considered as an alternative mode of thinking and learning. Narrative inquiry is a way of understanding, organizing and communicating experience” (Heo, 2004, p. 230).

Grounded Theory is also used by the author in chapter 3 and 4. According to Glaser and Strauss (1967), “grounded theory is derived from data and then illustrated by characteristic examples of data” (p. 5). Using grounded theory, the author collected data of her improvement on the guitar through instructor feedback, personal experience, and other feedback from friends and family. Using the gathered data, the researcher was able to generate a theory and explanation of what had occurred over the six months of guitar instruction. Through the collection and analyzing of data she found patterns of improvement through practice and a new system of learning new concepts and songs.

Personal History

I had aspired to become a teacher since I was five. I enjoyed all my teachers in many ways, but I had my favorites. The teachers who have influenced me most, were those who taught outside the text books. The teachers who gave me hands on projects were my favorite. They made learning exciting and engaging. Through those projects the learning stuck with me. To this day, I can recite the preamble of the United States Constitution because of a song we sang in fifth grade. I can identify all types of polygons and their dimensions because of the geometric town called poly-hedraville that my sixth-grade class built on a refrigerator box. I can tell about the underground railroad and Harriet Tubman, because I became her for a day in the fifth grade wax museum. While I cannot tell much about what I learned directly out of the textbooks, I do remember the
projects, songs, and hands on activities from elementary school. I had many teachers who created opportunities for aesthetic learning experiences. Because of those teachers, I learned to love learning. As a teacher, I yearned to create the same positive and impacting experiences my teachers gave me in elementary school.

The elementary school I attended had many opportunities for experiencing the arts. We had a balance of academics and creative arts. The knowledge I gained about the arts in elementary school have continued to use into my adult life. Art docents came to our classroom regularly. We learned how to use different media and how to create many unique types of arts and crafts. We also had opportunities to learn different styles of creative writing. In second grade, poetry was introduced and soon became a hobby of mine. I continue to write poetry as an outlet to express emotions I have bottled up inside. I also had a music teacher in elementary school who helped me discover that I could play and create music. She taught me how to read music and to play the xylophone. I truly enjoyed playing music in elementary school and found a passion for it.

In the sixth grade, I began to take piano lessons from a neighbor. I found the piano to be quite challenging. After six months of lessons, I decided the piano was not for me. I still had an appreciation for music and began to support local artists. As I began high school, many of my friends were starting garage bands. I often attended their practices after school. The guitar fascinated me. Watching my friends play rhythmical melodies on the guitar made me want to learn to play the instrument. On my 16th birthday
my family pitched in to buy me an acoustic guitar and lessons. It was one of the greatest gifts ever given to me.

I took my first lessons through an adult community program. It was a group lesson taught in the evenings at my high school. The instructor was a folk guitarist. He taught me the basic chords and guitar strumming. The guitar was a challenge at first, but my perseverance helped me build a foundation for the instrument. From that class, I learned to play a variety of folk and children songs. After the six weeks of community lessons, I was happy I could play simple songs like Wild Thing, La Bamba, and Puff the Magic Dragon. But I had a desire to play songs that were more current.

After the community lessons, my dad signed me up for private lessons at a local music store. I had a young male instructor who was more attuned with the style of music I liked. He taught me how to read music and use certain exercises to strengthen my fingers. After a few months of lessons, I no longer had transportation to get there. If I wanted to continue guitar, I would be on my own to teach myself and learn more.

As I had the internet at home, I began to look up songs online. The internet had many databases for guitar music with chords and lyrics. I learned about a new way to read guitar music called Tablature or TABS. TABS are pictographs of a guitar neck with finger positions so the player could learn to play a chord or note without ever learning to read music. This was very helpful for me, especially when I needed to learn a new chord. Through TABS, I taught myself to play current songs by my favorite bands. Some of the
songs I wanted to play seemed too complicated and I felt like I was in a rut. After playing the same songs repeatedly, I came to a plateau with my skills.

My dad heard about a really great blues guitarist who gave lessons near my dad’s work. I began to take lessons with the blues instructor and was eager to learn more about the guitar. Learning the blues was different than folk and rock. Blues music has a unique rhythm with mostly barred chords used in the songs. Barred chords were more challenging than the basic chords because of my small hands. I had to do exercises to stretch my fingers so that playing the blues was more manageable. I enjoyed learning this style for a few months, but again I had to quit lessons. I had an after-school job that was not able to give me the time off for lessons.

I continued to learn songs from the online TABS or from my friends. Over time, I began writing my own songs. I put together simple chord patterns with poems I had written. Creating music brought me joy and became an outlet for me in high school. After high school, I continued to play my guitar, but came to another plateau. I struggled with playing new songs. The new songs required so much time and practice. College and work kept me very busy which left little time for guitar. Since I did not practice regularly, my fingers became weak along with my skills. I easily forgot how to play songs. I could remember parts of songs, but not a complete song. My guitar began to collect dust. I still loved everything about the guitar, but I did not make time for it.

In 2007 I graduated with a multiple subject teaching credential from California State University of Sacramento (CSUS). I was offered a job teaching fourth grade in a
South Sacramento public school in the same school district that generated so many wonderful school memories. In fact, the school where I would teach was only a few miles from the elementary school I attended. Finally, I had the opportunity to become like the remarkable teachers in my past. I was ready and eager to provide the kinds of experiences I had in elementary school. To my disappointment, there was a strict curriculum mandated by the district and the state. I was required to follow the strict guidelines for the lengthy lessons of the Open Court reading program, the Scott Foresman math text, and district formatted exams. The demands of the daily test-prep overtook any time for aesthetic experiences. Public school had changed since I was in fourth grade, when I had been fortunate to have the arts incorporated into everyday activities. The arts and projects had made learning engaging and exciting for me. I believe that having these experiences taken away from children today is unfair to them.

To help bring the arts into the classroom, I frequently played background music to lighten the mood for the children. I tried to be as creative as possible with the mandatory scripted lessons. The hands on activities I provided engaged students most. Sometimes they desired to be in the classroom during recess, working on class projects because they enjoyed them. I wanted to create more aesthetic experiences for these children, but I had limited resources. At one point, I discovered the school where I taught was growing smaller, and I would be let go because I was the most recently hired. Leaving saddened me. I had become attached to my students and the school. Although I was not sure where
I would work the next year, I was thankful for the experiences I had with my fourth graders.

After my first year teaching, I reflected on the successes and struggles of the school year. I felt discouraged by the pressures of NCLB (2002) and was frustrated by the mandatory test prep for standardized testing. The loss of significance of the arts in public schools was disheartening. Something had to be done, and I wanted to change things. Teaching under the current public school demands did not fit the type of teacher I had aspired to be. As I tried to figure out my future plans, I thought about returning to school for a Master’s degree. I had saved an earlier email from a past professor that had information about attaining a Master’s in Curriculum and Instruction, with an Emphasis in Arts in Education from CSUS. The program was to start the following fall. I acted quickly and enrolled in the program.

While I attended the program, I did not teach. Instead, I took the time to reevaluate my teaching. Through the program, I was given the opportunity to study the arts in education and choose an area of study. Music had always been my passion. Learning more about music could better prepare me to incorporate it into the daily class routine and lessons, enabling me to development aesthetic experiences for the children. For my project, I chose to further develop my skills as a guitarist, because I believed it would enhance my teaching abilities in an elementary setting. I further studied music and its effects on the brain both cognitively and emotionally.
My project began in May 2009 by my taking private guitar lessons every week and journaling my experiences. These lessons continued for six months, definitely improving my guitar skills. When I first began lessons, I could only play parts of songs I learned in the past. I did remember basic chords along with barred chords. After fifteen minutes of playing guitar my fingertips were sore. My fingers were weak. I knew I had a lot of practicing to do to get where I wanted to be. My guitar instructor, Doug Pauley, recognized that I had played guitar, in the past, but was just rusty. The first song Pauley taught me was an Amy Winehouse song. It consisted of five barred chords. I was familiar with a few chords, but had to learn the others for the first time. I had trouble making a few chords sound clear, yet after the first thirty minute lesson, I was excited to begin my journey.

Practice, Practice, Practice

After my first lesson, I wrote in my journal with capital letters “PRACTICE! PRACTICE! PRACTICE!” This would continue to be an ongoing struggle in my journey. My instructor recommended I practice the guitar thirty minutes every day. Though this does not seem difficult, it was. Practice was the only way to improve my guitar skills over the next six months. Practicing regularly would improve my finger strength, coordination, and ability to play multiple styles of music.

When I first began guitar lessons in May, my finger strength was very weak. After 15 minutes of practicing, the steel strings of the guitar had imprinted indents along my fingertips. This was quite painful but my fingertips needed to build calluses. Through the
pain I continued to practice. After a few weeks I noticed my fingers becoming dry at the
tips and the skin beginning to peel. My fingers were no longer delicate looking, but rather
rough. Oddly, it gave me some satisfaction to see signs of my hard work and practice. I
could no longer grow out my fingernails and had to cut them regularly on my left hand. If
I did not cut my nails, I would not be able to produce a clear note when holding down the
guitar string against the neck.

Finger Strength

On July 28th, I wrote that I had practiced for an hour. However, I was frustrated
with my fingers becoming sore and unable to produce clear chords. My fingers had
improved in strength over a few months, but I needed more strength. I had to continue to
practice to build tougher calluses. In September, I wrote “I wonder if my fingers will ever
get use to the thick steel strings pressing into them. I truly feel I’ve lost the nerve endings
in the fingertips of my left hand.” The loss of the nerve endings and tough skin has
allowed me to play for longer periods and produce a clearer sound.

New Chords

By May, I knew how to play about 10 chords. Of those 10 chords, I could identify
six of them correctly. I could play a few barred chords, but did not know the name of
them. My instructor was excited that I was familiar with barred chords. He said that on
the guitar, there are multiple ways to produce the same sounds. The bar chord and
traditional “F chord” sound exactly alike when strummed. Pauley explained that it comes
down to preference and style of the player. Since I knew most traditional forms of guitar
chords, he wanted to give me more options when playing. He also found bar chords to have easier transitions between one another when playing. He taught me an Amy Winehouse song called “You Know I’m No Good.” There were six different chords total. The song consisted of both basic and barred chords. I knew the name of some of the chords, but could not remember how to play them. After reviewing the chords for 15 minutes with my instructor and practicing chord positioning, I was able to play each chord.

As soon as I returned home from my lesson, I began to practice the new material. I reviewed the chords. They did not sound perfect, but my goal was to memorize them. I played each chord repeatedly by taking my fingers off the chord and then placing it back on the guitar neck and strumming. After 20-50 times of doing this exercise, the chord would be locked into memory. I could eventually place my fingers correctly on the strings of the chord without looking. My hand would just know how the chords were supposed to feel. It was as if my hand had a brain of its own.

Some chords were similar to ones I had previously learned and were easy, while others could be more challenging. Practicing chords was not always fun, but I thrilled when I finally got it. I have petite hands; therefore learning to hold down strings on the guitar would often feel awkward. One chord might have my fingers across three frets and from low to high E. My fingers stretched as far as possible to reach the notes, but would become weak in doing so. The only solution was to practice. The more I practiced a chord position, the easier it became. What once felt foreign to my petite fingers began to
feel natural. Every week or so Pauley gave me a new song to learn, and every song had one chord or more that I had not learned. Over the course of six months, I had learned 32 new chords.

Chord Transitions

Chord transitions are important because they create the flow of a song. Chord transitions occur when your hand has to switch from one chord to another on the guitar. When transitioning between chords that are similar the transition is easier to make. For example, transitioning from a G to a C chord is just the movement of two fingers shifting down a string. Other chord changes can be much more difficult because they require movement from one end of the guitar neck to the other. My guitar instructor gave me a few strategies to help me with smoother transitions. When learning a new chord, he would have me strum the one chord and then strum the next chord back and forth. At first I would struggle between the two chords. Sometimes my fingers would be in the wrong position creating a foul sound. I would want to transition at a faster speed right away, but would be reminded to slow down until my fingers and hands got more comfortable with the transition. My instructor would encourage me to practice challenging transitions by themselves before playing the whole song. These were all useful hints to having smoother transitions. Of course, they all involved practice. Even after practicing a transition for five minutes, I could hear and feel the improvement. The small accomplishment of a smooth chord transition brought me much joy and confidence. This made practice more fun and exciting. My instructor would often comment on my improvement when I
returned for lessons the following week. Even if I did not play the song perfectly, Pauley commented on how great it was that I kept playing and did not let the small mistake stall me.

**Strumming Patterns**

Once I had a few chords down and chord transitions, I could work on various strumming patterns. Strumming is when you glide your fingers or guitar pick across the strings of the guitar to create a full sound. Strumming patterns can be simple to complex. A simple strum would be just a down strum on the beat 1-2-3-4. This is very basic and reminds me of folk or children songs. A strum becomes more complex when an up-strum is added, and this is how the hundreds of strum patterns are derived. The up-strum allows the guitarist to create a more complex sound with a chord. I have been fortunate that every song my instructor introduced to me had diverse strumming patterns. To help me learn the strum of a new song, we would first use the very basic down strum of 1-2-3-4 just to get familiar with the sound of the song and chords. He would then play with the correct strumming, and I would follow along. He would encourage me to watch him strum and try to mimic the movement and sound on my own guitar along with him. Difficult at first, my ear would somehow pick up the strumming pattern. My hand somehow knew when to strum softer or harder. This truly amazed me because if someone asked the specifics of how I was strumming, I would not be able to explain it. I just knew that was how it was suppose to sound. Sometimes my guitar teacher would show me using symbols of up or down. For example, v v v ^, would mean strum down, down,
down, up. This would help me reference the strum when I returned home to practice. Yet even with these symbols as guides, it was hearing someone else play the strum that was easiest for me to follow. One particular strum that I had trouble with was from the song “I’m Yours” from Jason Mraz. The song is strummed down, up, and down muted. To create a muted sound, I had to learn to lift my fingers up slightly so that when I strummed, the sound was muted. I then pressed my fingers firmly back down on the guitar for a clear sound. I have always liked this song and its unique sound. The muted strum helps make the song catchy and unique. This song took a couple of weeks before I could create the correct rhythm on my own. If I had the music to play along with or my instructor, I then could strum correctly. I often muted on the wrong part of the strum or added too many strokes. After a couple of weeks of practicing, I had it down. I could play the pattern on my own and was thrilled. The best part was when I played the song for my instructor, and he played the solo. It was a great feeling to know I could hold my own while my instructor played along with me.

Tempo/Rhythm

With strumming comes tempo and rhythm. They are the speed or the groove of the song. Once I had a strumming pattern down, I had the new challenge of keeping a consistent tempo. As I played “I’m Yours,” I started the song with a moderate speed and by the end moved into a faster tempo. Pauley was the first to bring this to my attention. He said it was common for musicians to struggle with tempo. He told me about a time he went to the recording studio with his band. They flew through the recording time and
seemed pleased. However, when they returned the next day, they were disappointed that all the songs sounded very rushed. They did not keep a consistent tempo. In the next recording session, the musician brought in a metronome. A metronome is a device that clicks the tempo so one can follow along and stay consistent. If played correctly with the metronome, a performer begins not to hear it because the strumming is in sync with the beeping sound.

Singing While Playing

Singing while playing the guitar can be another challenge. Finding the correct coordination between playing the guitar and singing the melody correctly is more difficult than it seems. Your brain has to find an exact coordination between your hands and your vocals. Memorizing the song on the guitar was helpful before singing, because then I could focus on just the lyrics. It is like rubbing stomach and patting your head at the same time. Some songs have you change chords at the end of a phrase and others change in the middle of a word. Timing is the key. When given the Amy Winehouse song to learn, I immediately wanted to sing while I played. I had gotten better at the chord transitions, but when I tried to sing, the transitions did not match the singing. I became frustrated by how awkward the song sounded with the random pauses and choppiness. After that, I realized I needed to master the song before singing along. However, learning the lyrics was another task that required practice. At first I printed song lyrics from the internet. I looked at the printed lyrics as I played and tried to memorize the words. The chorus was always the easiest to learn because it was repeated throughout the song. The
verses took longer to learn. Not only did I practice singing while playing, but also
listened to a recording of the song. I played the song over and over at home and in my car
while singing along. The recording was a great tool for learning lyrics, but I still
struggled. I brought this up to my guitar instructor. He suggested writing out the lyrics by
hand. He knew many singers who struggle with learning lyrics and found writing them
out helped set them into memory. Taking Pauley’s advice, I went home and wrote out the
Amy Winehouse song lyrics. To my surprise it really did help. This is like learning
spelling words or vocabulary in school. Combining auditory, visual, and kinesthetic
elements to a new concept helps the brain to better understand what is being taught.

I then could go back and learn to play the song while singing. I really enjoy
singing while I play since some songs are the same chord pattern repeated. For example,
the Jason Mraz song “I’m Yours” has the same rhythm and chord pattern through the
verses and chorus; yet, it can sound boring after a while. When singing along with the
guitar, the vocals create a whole new element that adds variety to the song. The voice
becomes another instrument.

Learning a New Song

I found patterns in the steps needed for me to learn a new song. Before playing in
front of people I had many steps to go through in learning a new song. First, my guitar
teacher would give me a new song to learn. He would have me listen to it and follow
along with my eyes on the sheet music. We would go over all the chords used in the song.
If there were a chord I did not know, we would go over how to play it. If there were a
particularly difficult part of the song, I focused on just that small section. Then I could
return to the whole piece. I would also play along with the recording at home and then
play by myself to test if I had the correct rhythm and tempo. Once I memorized the
chords and transitions, I could then learn the lyrics. The most important part to learning a
song was practice, even if it was only for ten minutes. The more one plays the song the
more it becomes second nature. The body can internalize the song and bone can play and
sing along without much thought. Below are the basic steps I took to learning a song.

1) Learn each chord in the song
2) Practice transitions between chords
3) Practice chord rhythm and tempo of the song
4) Learn lyrics and practice singing along while playing

Fear and Courage

The second biggest challenge was getting over the fear of playing with an
audience. Playing the guitar had been my artistic outlet, but I had been afraid to share that
with anyone including my family and roommate.

For some odd reason, I always had this fear of playing for people. I thought I was
not good enough or that I would make a mistake and ruin the song. All these fears would
run through my mind if there was an audience present. If no one was around, I could jam
as if I were a rock star. However, the moment my roommate came home, I shut my door
and played as quietly as possible. My family and friends frequently asked me to play. I wanted to, but could not get the nerve.

This past September, the Arts in Education Masters Cohort took a trip to the Marin Headlands. We were asked to bring any instruments, art supplies, or anything that inspired us. I had been taking guitar lessons for four months and felt confident in my skills. Still, the thought of playing in front of my peers brought scary chills. Sadly, I left my guitar behind and made my way to the Bay Area. The first night there, we had a campfire. One of our instructors had a guitar and played as we sang along. It was so much fun. All the songs were simple and everyone had a great time. No one cared how skilled a guitarist she was. That alone gave me a bit more confidence in my ability to play guitar. I wished I had brought my guitar, but I was not quite ready to play for everyone. At the same time, I also realized if I played songs people could sing to, I would not feel alone playing. This is something I began to think about frequently.

The following day we had some relaxation time between class sessions and two other peers brought out their instruments. One was a violinist and the other a flutist. As a listener, I had so much joy hearing them play. I appreciated their generosity in sharing such beauty. Even though they would hit a wrong note or miss a beat, here and there, it did not matter. The music still sounded wonderful. At that moment I realized I had been greedy in keeping my music to myself. How could I not share my love for guitar with others? Playing guitar is not about being a perfect musician, but rather bringing joy to those around me.
During the retreat at the Marin Headlands, I did not play for my cohort. When I returned home from the trip, I was eager to pick up my guitar. Immediately, I began to practice and play. When I heard my roommate come home, my first reaction was to close my door. Then I remembered what I had learned, so I challenged myself to continue to practice and not focus on the idea of listeners. Of course, I made mistakes, but I realized it was okay and part of the process. I continued to play for 30 minutes and then headed downstairs for a break. My roommate had been downstairs reading. When I walked by her, she commented on my playing. She said I sounded pretty good and enjoyed listening to me play. At that moment I felt very proud of myself. I did it. I played for an audience, and she enjoyed it.

I have continued to play for family and friends, although I still get a little nervous. When that happens, I focus on sharing the music and not allowing myself to worry over mistakes. Now when I practice and my roommate is home, I play loud enough so she can hear. I do not worry about anyone judging me, and I just focus on the meaning or feeling of the song. My goal is to continue practicing and to play for my cohort at our end of the program celebration. I now feel and understand that music is a gift that should be shared.
Chapter 4

REFLECTIONS AND RECOMMENDATIONS

As I reflect on this project, it is amazing to see how much I have grown as a musician. My passion for the arts has also become stronger. Intuitively, I knew arts were important, and now I have the rich background of research and experience to support my ideas. Children need the arts to aid their cognitive and emotional development.

When I first began guitar lessons in May, I could only play 10 chords from memory. I was familiar with a couple of rhythmic patterns, and I knew how to play folk or simple pop punk songs. I did not have any songs memorized. I also had weak fingers that felt pain after 10 minutes of practice. Picking up my guitar only occurred once every few months. The only time I did play my guitar was when I was alone. I was insecure about my guitar skills and lacked the courage to play for an audience.

I wanted to improve my skills and to learn to share them with others. Signing up for guitar lessons was the first step in this journey. My instructor, Pauley, was a positive role model and encouraged me to push myself and take risks. I began practicing regularly. With every song I learned was a new guitar style and skill. Immediately I learned new chords and chord progressions. My finger strength began to build with calluses on my fingertips. With the little growth I made each week, the guitar became exciting again. I felt eager to accomplish new tasks such as a tricky rhythm or guitar solo. Practicing was not always easy and could seem tedious. Some days were busy with work and errands, or I felt too tired to pick up the guitar. I noticed that if I skipped on
practicing, it slowed down my progress. To make up for the lost practice, I would have to practice extra long the next time. I learned that it is better to pick up my guitar ever day even if is only 10 minutes of scale exercises. I learned the importance of practice.

After the six months of guitar lessons I had evolved as a musician. My finger strength allowed me to play guitar for up to an hour before they became sore. I learned how to play 30 new chords. I could play a variety of styles of music from pop, Latin, and jazz. I learned a total of 20 songs.

After attending the Marin Headlands retreat with the Masters of Art Education cohort, I realized making mistakes was a part of the learning process, and it was okay. When I heard fellow classmates play their instrument with mistakes, it did not matter. They were sharing their musical gift, and I appreciated their courage and generosity. Making mistakes is part of the process. With this new mindset, playing with an audience became easier. I could play for my roommate, friends and family. I gained confidence and courage from this project. This fear of playing for an audience was necessary to overcome, because I wanted to be able to play the guitar for my future students. I wanted to share the gift of music with them.

The things that stand out were the confidence and courage I developed through this process. I realized music is a gift that should be shared. Playing the guitar brought me joy, and it made me feel good to bring the same joy to others. All along the biggest critic had been me.
I plan to use the guitar in my classroom regularly. There is a need for music in students’ lives. I will use the guitar for creating classroom bonds by playing and singing with the students every day. This could be a good morning song to begin the day or a goodbye song at the end of the day. The guitar will be used to support academic material. We will sing the spelling words to help memorize them. Transitions, when shifting focus from one subject to another, could be more effective if a song is played between them. Students will know they have time to cleanup or organize to be ready for the next subject until the end of the song.

Playing the guitar for the students will expose them to live music. Also, they will have me as a role model to show how music is important for cognitive and emotional development. For example, I will teach them that music can be an outlet for dealing with emotions such as joy, fear, or anger. I will teach students that elements of music such as tempo, rhythm, timbre, and loudness can be related to a type of emotion or feeling. For example, a soft guitar solo could bring out feelings of calmness or sadness. A fast rhythmic guitar song could bring out feelings of excitement or anger. Through exploring music and its emotional connection, students will learn how to identify an array of emotions and use music as an emotional release. I would further have the students involved in creating music with rhythmic instruments such as small drums, shakers, bells, and tambourines.

As a class, we can create music together. Students will have the opportunity to explore music and learn to problem solve with their peers. For example, I may have the
class in groups of four to create a rhythmic pattern and then share with the class. Students will come together collaboratively to create a final product. The collaboration will help give the children feel significant to the group and bond with their peers. Students will also gain positive self-images by feeling they are contributing to the class through music.

Students will see that it is okay to make mistakes, because it is likely I may not play a song perfectly.

When the guitar is used to reinforce academics, I will have adapted to the learning styles of some students who are of spatial, bodily kinesthetic, and musical intelligences (Gardner, 2008). Through guitar playing, I can set up opportunities for aesthetic experiences. When teaching math multiplication facts, I can play the guitar and sing the facts with the class. Song can be incorporated as a mnemonic device for new concepts learned in all subjects. Students will be engaged and eager to learn when we sing and I play the guitar.

In the future I will continue to play the guitar regularly at home and for friends and family. I will also continue taking guitar lessons to further develop my skills as a guitarist. In my classroom I would like to study the effects of music and the arts on the children. After teaching for a few years, I would like to write a book or other publications about the importance of music and the arts in the classroom. I will become an advocate for the arts at my school and community. I feel inspired and want to make a difference for the public school children in California.
It was important to have done this project for myself, but also the children. Through the project I evolved by gaining confidence and courage within myself. It is important for the children to see the effort and commitment it takes to learn a new skill. When children are struggling to learn a new concept, I will remind them of how many times a baby falls before it can walk. I will further explain how much I have to practice to learn a new song. Yet if I practice for enough time, I am able to learn the new guitar song or skill.

Many children today have grown up in a fast paced environment and are accustomed to instant gratification. They become quickly frustrated in school when they do not learn or understand a new concept immediately. It is unfortunate that this impatience has led to children losing confidence or giving up on learning. My experience exemplifies for students that learning is a process that does not always happen instantly. I can create conditions that allow them to learn personal values such as appreciation for music and the arts. This could occur through class reflection after listening or creating music and other artistic tasks. I could ask students how music and the arts are a part of their lives outside of school and help them learn music and the arts are a part of every human culture.

From my experiences and the knowledge gained from this project, I have recommendations for teachers, principals, and school districts. The following recommendations would help ensure the arts are put back into public school curriculum and education.
Every school teacher should gain more education to learn about the philosophies that underlie the importance of arts in education. Teachers need to connect with resources to bring the arts into their schools by attending conferences or seeking assistance from local artists and art agencies. The arts need to be integrated with both academics along with having time set aside for the arts as standalone subject matter. Teachers must advocate for the arts in their communities.

Principals need to encourage the arts at their schools. They need to apply for grants so that the schools can receive additional money for art supplies and personnel. Principals should have fundraisers for the arts and get the whole community involved. For example, the school could have the students create art pieces and use their work for an art sale.

The school districts need to allow time for the arts in the school day. The Visual and Performing Arts (VAPA) standards need to be mandatory in the district. Music and art teachers need to be at every school. The district should offer more art workshops for their teachers and principals. The more educated the staff becomes in the arts, the more likely the arts will be implemented into public schools.

Exposure to the arts in elementary school seeded my love for the arts. When I returned to elementary school classroom as a teacher, I was saddened by the lack of exposure the children had to the arts in public school. Fortunately, I took the opportunity to further explore education and curriculum development in the arts through the MA program at CSUS. Over the two year program I have become more knowledgeable in the
philosophies, Visual and Performing Arts Standards, and teaching strategies for the arts. I also had the opportunity to improve myself as an artist, a guitarist. I plan to apply all that I have learned in the MA program to my future students, school and community.
REFERENCES


