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# The Benefits of Music in Child Development

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Spring 2017

# The Benefits of Music in Child Development

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# The Benefits of Music in Child Development

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Senior Capstone  
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## **Abstract**

Music is a subject that does not limit children to simply having fun, although “fun” is an essential component when trying to engage children in learning activities. Music further enhances a series of transferable skills and can help children with their learning experience in other subjects. By being part of a fun activity such as music, children are able to acquire affective, cognitive, and evaluative skills, which will further reinforce a variety of areas of their development. When engaged in an activity where recognition and expression of feelings are required, they learn that having feelings is perfectly normal and that expressing them is valuable. They also learn to be sensitive to other people’s feelings, to appreciate them, and to have a positive attitude towards their feelings. Also, their cognitive domain is augmented. Retaining information and analyzing it is a very important part of many musical activities. This is also a skill that is acquired when encouraging children to memorize patterns and be able to repeat them. Being able to compare and contrast and distinguish important information from unimportant information will play a huge component of their development. Lastly, the evaluative domain is also amplified. Proficient and advanced motor skills, coordination, and physical movement are emphasized when engaging in musical activities. These activities help children separate body movements and will consequently result in effective motor-skill development. All of these skills will be crucial in not only their childhood, but also in adulthood, and they will help them engage in more enjoyable lifestyles and more effective learning pathways.

## **Introduction**

In the words of former U.S. President Bill Clinton, “Music is about communication, creativity, and cooperation. By studying music in schools, students have the opportunity to build on these skills, enrich their lives, and experience the world from a new perspective” (qtd. in “The Most Musical United States Presidents”). Music transcends the realm of sound into a world where we can experience life in a completely new level. Through music, we can acquire a multitude of skills that will set us on a pathway to excellence. However, the best results are seen when this journey begins in the earliest of our life stages: childhood. Because children are clean and absorbing canvases, metaphorically speaking, the results achieved extend beyond what we can imagine. Through musical experiences, children are given the opportunity to learn, develop, and practice an endless list of transferrable skill sets that they will carry with them for the rest of their lives. Music in general can help enhance this domain’s skills, whether it involves playing the music or simply listening to it (Kafol, Procedia, 96). The three main domains children begin to develop through music are the affective (feelings and character traits), cognitive (thinking, memory, comprehensive), and evaluative (physical, motor) domains, which are enhanced by engaging different activities that include listening, mimicking, playing, and even dancing. This capstone project focuses on the study of these skills acquired through musical experience and activities, includes two interviews with music students, and also provides a curriculum that includes a wide range of lessons that have as a set objective to attack different parts of these domains.

## **Affective**

### *Positive Character Traits, Personality Traits, and Healthy Social Skills*

In addition to the great technical knowledge that is learned through music training, music helps build positive character and personality traits. Engaging in musical activities also requires learning healthy social skills, especially when these are incorporated in groups rather than individually (Kirschner, Tomasello, 355). And as further suggested by further research,

Participating in musical groups promotes friendships with like-minded people; self-confidence; social skills; social networking; a sense of belonging; teamwork; self-discipline; a sense of accomplishment; co-operation; responsibility; commitment; mutual support; bonding to meet group goals; increased concentration and provides an outlet for relaxation (Hallam, 2)

For example, strong communication skills and teamwork skills are extremely vital when engaging in musical activities. Playing in a band, learning from a teacher, helping others when they need help with a part, or listening to others and encouraging others to continue to persevere are all musical activities that require these skills. All of these components require children to have a positive mindset and build positive relationships and social skills. Communicating concerns, being able to talk to others with respect, and also accepting personal mistakes without having a negative reaction is vital, and these skills are always encouraged, taught, and put to the test when engaging in musical activities. For example, when children are participating in a musical activity at school or at home, they learn that asking questions is not a sign of ignorance, but it is actually a positive attitude; additionally, even asking questions means learning strong communication skills

to be able to deliver their questions in a way it can be understood. Aside from this, they learn to be mindful of other children and how they learn, too. Some children may learn at slower rates, or have more trouble with something than another child; here, they learn to be understanding and encourage each other.

Also, musical activities teach a sense of responsibility and discipline (Montgomery). One great example is when a child is learning to play music. Learning an instrument or sight-reading music is not an easy task to learn. Often children feel discouraged because they feel it is too difficult to achieve. However, learning is a process that requires daily practice, and this requires responsibility and discipline, and, additionally, teaches children to even take care of their instruments with maintenance and cleaning (Montgomery). Children are taught to challenge their moods, their time management, and even their own personal conflicts, whether it is doubt, uncertainty, or negativity. They learn to push through and break through, and they learn that if they are responsible and disciplined, they can learn anything. Some children even notice this change in their lives; they relate their sense of responsibility with music with other subjects they have to learn. For example, Interviewee I states:

I feel like I am much more responsible. Like when I am doing the math, I know that I don't know everything but I do know that I am going to try. That's just like a piano; I am going to try my best to learn it. Even though I know I might not do it right, I'm still going to try. (Appendix I)

She has been able to apply the sense of responsibility she has learned to other important subjects.

Lastly, amongst the most beautiful of results is the building of self-confidence (Hallam, 18). When progress begins to be evident, children gain a sense of success, of achievement, and empowerment. When they hear their first successful note, or when they achieve playing a piece that might have seemed impossible at the beginning, or when they finally perform in front of an audience and they receive praise, children understand that hard work pays off and that achieving goals is certainly a possibility in their life. Interviewee I proudly shared that her musical performances have helped her face other fears, like reading out and has come to realize that “[she’s] got this” (Appendix I). On the other hand, Interviewee II mentioned that although his confidence was already strong before he began learning music, he has noticed that music has given him the extra push sometimes when he has needed it (Appendix II). Learning music can be difficult, but when goals are achieved, it opens a door of self-confidence and achievement.

### *Feelings, Emotions, and Creativity*

When children engage in musical activities, children learn to identify their feelings and emotions since the “creation of music expresses inner thoughts and feelings and develops the musical intelligence through understanding of rhythm, pitch, and form” (Brewer). Aside from learning to understand musical language, by expressing their feelings, children become aware of the connection between music and feelings. Children learn to associate what they feel with what they are listening to or what they are playing. For example, “slow tempos are associated with low-arousal sad music, while fast tempos are associated with high-arousal happy music” (Schellenberg, Krysciak, & Campbell; Webster & Weir). Additionally, in a Western tonal context, “the minor mode is



associated with sadness, whereas music in the major mode induces happiness” (Deliège & Sloboda,; Hevner,; Sloboda,; Webster & Weir). Both tempos and musical modes or scales influence the way children feel but they also help children learn to identify what they feel, and consequently, learn to express their feelings through musical activities.

Because “creation of musical compositions offers a pathway to expressing personal feelings and beliefs in the language of musical sound by enhancing imagination” (Brewer), encouraging students to be creative through music will also help identify and reflect their emotions. One of the activities that can be incorporated in a lesson with the objective of teaching children to successfully identify and communicate their feelings creatively is a “Translation of Feelings” activity. Although there are similar versions of this activity<sup>1</sup>, I have modified the activity to where children are asked how they feel. Do they feel happy? Sad? Mad? Thoughtful? Depending on their response, play a simple chord progression in key, whether major or minor, that portrays that specific feeling and ask them to listen to the chord progression. Then, after they have listened to the simple chord progression, ask them to follow along with a melody that expresses their feelings and encourage them to not use words. There is no right or wrong answer. Encouraging them to “mess around” or “play around” freely without the fear of “making a mistake” or perhaps “sounding bad” will enhance their willing to explore music and explore their feelings. This method can help “young children engage in music as an exploratory activity, one that is interactive, social, creative, and joyful” (Kemple, 2004, 31). Children will become comfortable with the expression of feelings and will learn that reflecting

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<sup>1</sup> Hatch, Cheryl. "Preschool Feelings Theme." *Preschool Plan It*. N.p., n.d. Web. May 2017.

their feelings through music is a positive experience, regardless of the feeling that is being portrayed.

## **Cognitive**

### *Listening Skills and Auditory Processing*

Furthermore, incorporating music in any kind of activity will require children to challenge their cognitive skills. One vital cognitive skill that is used in musical activities is listening and processing auditory information. In music, many things are occurring simultaneously, and our ability to process them “depends on our prior musical and linguistic experiences. This knowledge is implicit, learned through exposure to particular environments, and is applied automatically whenever we listen to music or speech” (Hallam, 6). What this means is that auditory processing becomes second nature through exposure. When children are exposed to music, they learn to process multiple and simultaneous pieces of information without actually premeditating the analysis. For example, in orchestral music, there are many instruments playing at the same time, and many of the instruments are playing different parts of the piece. While the violins are playing one tone, the violas might be playing another at the same time; meanwhile the cello plays a different one, and all three string instruments might be playing completely different rhythms, while the timpani is playing a rhythmic pattern, while an acoustic bass establishes a particular beat and tempo, and so on. In other words, there is a wide range of notes, rhythms, instruments, dynamics, and even interpretations within a single piece of music, and when heard as a whole, it might become difficult to capture everything that is happening accurately. With practice though, processing this load of information becomes

an easy task. Training a child to listen and pay attention to all the simultaneous components of the piece can help them distinguish different timbres and parts at the same time, but most importantly, can help them apply these skills to any other subject where listening may be required, for example, in language processing. Two Stanford University studies “discovered that musical training helps the brain work more efficiently in distinguishing split-second differences between rapidly changing sounds that are essential to processing language” (Treitl, 2005). Decoding language and speech becomes second nature, too. It becomes less difficult to understand speech patterns and language because it is a skill that is already being put to practice in music.

### Memory Skills

How about when we require the child to not only listen to the piece but also memorize it? Children are often taught that sheet music will not always be available, and thus, memorizing pieces is very important. Memory skills are developed and are guided in musical training. Whether they are learned by memorizing patterns, or being able to retain notes in mind for long periods of time and then being able to execute them with their instrument, children are constantly putting their memory skills to practice. Children learn to make connections, whether rhythmic, melodic, or theoretical, with other subjects, too, helping them remember a wide range of information both musical and particular. In this case, Interviewee I confirms that, “Yes, [music] helps. Like when I am doing the math, right? It’s like what I do when I am doing piano.” She is able to remember what she knows about music by retrieving memorized musical information and applying it to another subject (Appendix 1). Whether learning simple rhythms or basic scales, memory

will play a huge component in their musical development. For example, when studying or learning other subjects, some children have found that background music helps them remember information. Background music creates a positive learning environment and also enhances the possibilities to build connections between information and music (Boyd). For example, a child might try to remember what song was playing while learning a subject and will build that connection, making remembering that piece of information easier. Interviewee II reinforces this idea with her experience, “music has helped me, cause, like, say I want to memorize something if a song is playing in the background, I think of that song, and then I think of that moment, and like it helps me connect and memorize things more smoothly” (Appendix 2).

#### *Multiple Subject-Related Transferable Skill Sets and Problem Solving*

When participating in music activities, children are required to put multiple skill sets to use. For example, when children are learning a rhythm, they are required to listen and mimic patterns. They have to pay close attention to the beat that is being taught, and they have to retain that pattern in their head before they can actually execute that rhythm. Executing the rhythm demands some kind of eye-hand-ear coordination. Children begin to notice that rhythms are but patterns and they begin to feel more confident when executing the rhythm. Here, multiple skills were exercised in one simple musical task, and they were put to practice simultaneously!

On the other hand, learning music requires learning new skills. For example, learning to read music requires counting beats, which often requires subdividing, which requires some kind of numerical and fraction knowledge. However, most children do not

know what fractions are, so they must come to learn about fractions without actually knowing that they are learning fractions! For example, some level-decoding skills, which are skills used when decoding the relationships between sounds and letters, listening skills, and mimicking skills will always be required in different kinds of subjects. Children may be born with the potential and ability to decode sounds and words; however, music education can help enhance what already come naturally (Novak Djokovic Foundation). Music will enhance these skills in order for children to learn a variety of subjects, from math to reading literature or learning a new alphabet, children will be able to use these skills and apply them anywhere. All these skills, whether they are skills that already have been learned and are now in process of amelioration or are skills that have not yet been learned, will become a special and unique package of knowledge and transferrable skills that children will be able to apply to other subjects because not all children are exposed to music activities.

Another great cognitive skill children acquire by participating in musical activities is problem solving. According to *Moving Bodies, Building Minds* by Michelle L. Marigliano and Michele J. Russo, movement also promotes strong critical-thinking, successful problem-solving skills, and furthermore, a “think before you act” life lesson (Marigliano and Russo, 44). Often, reading music or playing a piece can become frustrating because it requires decoding rhythms and tones. The decoding process requires analyzing the notes and rhythms and interpreting them through the instrument for which the music is written. But what happens when decoding becomes difficult? When the rhythms are abstract and are difficult to read? Or when there is doubt of what note should actually be played? Different ways to decode the music must be found,

whether it is subdividing or writing down what is obvious and signaling what is not yet understood. Children learn to seek different ways to figure out what is uncertain and thus learn to develop problem skills.

## **Evaluative**

### *Motor-Skills, Coordination, And Physical Movement*

When children participate in musical activities, they learn and enhance their motor skills, coordination, and physical movement. For example, when a child is learning to play music, they are required to train multiple body parts to be independent. If they are learning to play the piano, both hands will eventually start to play different notes and rhythms simultaneously, the right foot presses the sustain pedal and maybe the left foot taps the beat; meanwhile, the eyes are reading a score, and the pianist might be singing or counting! When engaging in circle time sing-alongs that, for example, require finger movements such as “Itsy Bitsy Spider,” “children practice their hand and finger control -- a skill necessary for writing and handling small objects” (Music Activities Teach Important Skills to Children in Child Care).

Although this is a skill that is acquired with time and practice, children can improve their body coordination. Interviewee I states that learning to play piano has helped her “work much better with [her] fingers now” (Appendix 1). For example, children can learn to keep time with their feet while playing their instrument, or they can learn to dance to a beat and coordinate body parts separately. Interviewee II confirmed this:

Well, I feel like I can keep improving on that, but I do feel like I have improved because, like, the whole keeping the beat with your foot and playing something

with your hands, I used to not be able to do that, but like now, I have that in my mind and it's simple to do. (Appendix 2)

Interviewee II recognized that there was still room for improvement; however, a positive change has already begun to occur in his body coordination.

### **Conclusion**

When children are part of musical activities, not only are they having fun, but they are also standing in the light of knowledge. They learn, adopt, and put to practice endless skill sets that may be transferred to other subjects and areas of their lives. From their affective domain to their cognitive and evaluative domains, children progress positively with time, practice, consistency, and perseverance. It is crucial to understand that along with these possibilities, acquiring new skills will always require time, responsibility, and most importantly, patience. No skill is ever acquired without these factors, and even if at times children become frustrated with the obstacles and challenges learning new skills bring, understanding that consistency is crucial will play a defining factor in their musical development, and furthermore, in their general development in each domain. The sooner and the more consistently musical activities are incorporated; the better results will be achieved.

## **Suggested Curricula**

The following curricula will allow children to participate in a variety of developmental activities that will help with specific criteria. These activities will require some kind of musical activity, whether it is affective, cognitive, or evaluative. Children will be required to either play an instrument, dance to music, or find creative ways to express, communicate, or respond to the activities musically. Although maracas are suggested in this activity, they can be replaced with other instruments or with other body movements such as claps, foot stomps, or finger snapping. Each activity includes age suggestions, goals, objectives, a list of required materials, directions and procedures, learning styles, and lastly, a series of assessment questions that may help identify the level each child is reaching. All of these activities can be modified depending on age groups and learning styles.



Activity One: Affective

Title: How Do You Feel When You Listen to This Song?

1. Type of Activity: Circle Time and Music
2. Age Group: 3-4 years old
3. Group Size: Small, Medium, Large
4. Goals: To encourage children to express their feelings and communicate them through musical execution

Objectives:

- a) For children to learn the relationship between tempo and feelings. Ex: Fast may mean excitement while slow may mean sadness.
  - b) For children to learn the relationship between loudness and/or softness of music, and feeling. Ex: Soft may mean secretive while loud may mean anger.
  - c) For children to learn how to identify their feelings and to learn how to express them.
  - d) For children to learn to identify the feelings of others and how to empathize with them.
5. Materials Needed:
- Maracas
  - Variety of music: slow songs, fast songs, quiet songs, loud songs

6. Directions and Procedures:

Call for circle time. Each child must have their own maraca. Ask the children to engage the activity by communicating the feelings you say: If you are happy, shake your maraca fast and loud! If you are sad, shake your maraca slow and quietly. If you feel sleepy, shake your maraca slowly. If you are excited, shake it really loud! Then, play a song for them and ask them to shake their maraca according to what the song makes them feel. Repeat with every song until children learn to identify their feelings and to communicate them with their maracas. Ask children to describe what they think their fellow classmates feel by what they observe from others: Are they shaking their maracas fast or slow? Loud or soft? What do you think he or she is feeling right now? What can you do to make them feel better?

7. Learning Styles:

Visual: Children observe other children's reactions.

Auditory: Children listen to the song.

Kinesthetic: Children use their hands to play the maracas.

8. Assessment:

Informal: Is the child able to identify his or her feelings with accuracy? Can he or she identify the feelings of others? Can he or she perceive the feeling a particular song is conveying? How do they respond to the feelings others have?

Activity Two: Affective

Title: Simon Says!

1. Type of Activity: Music and Movement
2. Age Group: 3-4 years old
3. Group Size: Small, Medium, Large
4. Goals: To motivate children to follow directions with precision, promptness, and enthusiasm.

Objectives:

- a) Children learn the difference between dynamics and tempo speeds (loud/soft, slow/fast).
- b) Children learn to follow directions with accuracy.
- c) Children learn to respond to requests with promptness.

5. Materials Needed:

- Maracas
- Ample area for children to move around

6. Directions and Procedures: Assemble children in an ample area where they can move safely and freely. If children are not familiar with the game “Simon Says,” give a demonstration of how it is played. Proceed with the game. Give orders that will include the maraca, examples: Simon says, “jump and shake loud!” Simon says, “Sleep and do

not shake your maraca!” Simon says, “Play your maraca in the air!” Simon says, “Twirl and shake!”

7. Learning Styles-

Visual: children observe and copy “Simon” and other children

Auditory: Children listen for directions

Kinesthetic: Children execute the orders given using their maracas

8. Assessment: Informal- Are children able to listen to directions successfully? How well do they follow those directions? Are they able to accurately execute the orders? Are they able to play with other children and respect them while playing? Are children able to recognize that trusting those directions is okay?

Activity Three: Cognitive

Title: Copy and Shake!

1. Type of Activity: Music and Movement
2. Age Group: 3-4 years old
3. Group Size: Small, Medium, Large
4. Goals: To teach children to listen to patterns and to be able to copy them with accuracy

Objectives:

- a) Children are able to successfully listen for patterns.
- b) They are able to retain rhythmic patterns in their mind until prompted to execute.
- c) Children are able to memorize rhythmic patterns

5. Materials Needed:

- Maracas
- Creative patterns (these can be improvised or can be from a rhythm book)
- Ample area

6. Directions and Procedures: Call the children to an ample area. Each child must have their own maraca. The class facilitator asks children to copy his or her pattern. A rhythmic pattern is demonstrated with a maraca, for example, 2 quarter notes followed by 1 half note. Children copy the rhythmic pattern with their maraca. If the patterns are

copied with rhythmically accurately, the facilitator moves on to a new rhythmic pattern. If not, the pattern is repeated. Continue to do so, rewarding the children every time and encouraging children to try again if a mistake is done. A verbal reward can suffice; however, incentives such as stickers can really excite children. To practice memorization, children can be asked to listen to a new pattern, but to play the one demonstrated before. Rhythmic patterns may need to be modified if age or musical levels differ.

#### 7. Learning Styles-

Visual: Children observe the facilitator's patterns.

Auditory: Children listen to a pattern.

Kinesthetic: Children use their hands and arms to play the maraca.

8. Assessment: Informal- Are children able to listen to the pattern and retain it? Are they able to repeat the pattern with accuracy? Are children able to memorize patterns and play them accurately without the need of reminders? If reminders are needed, how many were needed? With practice, did the number of reminders needed decrease?

Activity Four: Cognitive

Title: ABC's

1. Type of Activity: Circle Time
2. Age Group: 3-5 years old
3. Group Size: Small, Medium, Large
4. Goals: To teach children the ABC's by using the ABC's Song

Objectives:

- a) For children to memorize their ABC's through by listening and singing to the song
- b) For children to be able to recognize the letters and communicate them by decoding syllables with maracas
- c) For children to learn to make connections between language and music

5. Materials Needed:

- Maracas
- Ample area for circle time
- ABC's song with a picture of each letter

6. Directions and Procedures: Call for circle time. Each child must have their own maraca. Play the ABC's song and ask children to shake their maracas every time the letter is heard or said, "A is Apple. A-A-Apple!" Repeat the song and have them identify

every letter according to a picture of the example of the letter. “What letter is this? A -A- Apple!” shaking their maracas on each “A.”

#### 7. Learning Styles-

Visual: Children look at the pictures of each letter.

Auditory: Children listen to the ABC’s song and pronunciation of each letter.

Kinesthetic: Children use their maraca to emphasize the sound of the letter.

#### 8. Assessment: Informal or Formal

Either individual or group assessment can be conducted by observing children and their response to each new letter. Are they recognizing the letters? Are they able to make connections between the letters and the sounds?? How many letters are they able to identify successfully? Which ones are confusing? Has the song made the process of memorizing the ABC’s easier?



Activity Five: Evaluative Motor skills

Title: Dance, Dance to the “Cha-Cha Slide” (Wood, 1998)

1. Type of Activity: Music and Movement
2. Age Group: 3-4, 5-7 years old
3. Group Size: Small, Medium, Large
4. Goals: To engage children’s motor skills through music and dance and to be able to listen to directions successfully.

Objectives:

- a) Children are able to follow directions and distinguish between movements.
- b) Children can successfully coordinate their body movements according to the song’s directions and use their body parts independently (sway, skip, hop, jump).
- c) Children are able to positively interact socially with others and respect others.

5. Materials Needed:

- Maracas
- “Cha-Cha Slide” song
- Ample area for dancing

6. Directions and Procedures: The children are gathered in an ample area where they can safely and freely move. The “Cha-Cha Slide” song is played and children follow the

directions given in the song. Children can shake their maracas when the “Cha-Cha-Cha” move is instructed.

#### 7. Learning Styles-

Visual: Children observe other children and facilitator as they also follow and imitate movements.

Auditory: Children listen to the song for directions and beat.

Kinesthetic: Children dance and play to the song.

8. Assessment: Informal- Were children able to successfully listen to directions and move according to instructions? Were they able to coordinate body parts successfully? Were their motor skills put into practice by using different parts of their body differently, whether separately or simultaneously? Were children able to interact and dance with each other with respect, without hurting others or themselves, and without making fun of anybody?

Activity Six: Evaluative Motor skills

Title: Yogi Bear Yoga

1. Type of Activity: Circle Time
2. Age Group: 3-4 years old
3. Group Size: small
4. Goals: Teaching children body coordination by engaging them in physical, relaxing movements.

Objectives:

- a) Children are able to move their bodies successfully and independently.
- b) Children learn to be aware of “space.”
- c) Children are able to distinguish one position and/or movement from another.

5. Materials Needed:

- Maracas
- Slow and Relaxing ambient music
- Ample area

6. Directions and Procedures: Call for circle time. Have them sit arm-length apart. Ask children to follow your directions: Stretch like a star! Crunch like a rollie-pollie! Touch your toes with you fingers, but make sure your knees don't bend like a mountain. Keep

them as flat as a calm ocean. Open your hands and stretch your fingers wide apart!  
Continue to direct the children in various stretching and crunching positions, using every part of their body: fingers, toes, etc. Make them aware of their classmates next to them, helping them make sure they do not hit each other by accident or hurt themselves when stretching! At the end of the activity, have children shake their maracas instead of clapping as they congratulate each other for such an awesome job!

#### 7. Learning Styles-

Visual: Children observe facilitator's movements and copy them.

Auditory: Children listen to directions and listen to the relaxing music.

Kinesthetic: Children stretch and crunch when directed.

8. Assessment: Formal or Informal- Were children able to move each part of their body independently? Were they able to keep special awareness? Were they able to copy the facilitator's movements successfully? Did they have trouble with certain movements and positions? Were they able to relax? Were children mindful of fellow classmates and respectful of their own space?

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## Appendix 1

### Capstone Interview - 9 year-old Interviewee I - 4th Grader

Conducted 2/22/17

Dulce-Paola Ixtupe: Do you feel like you have learned something in music that has helped you learn other things? Like for example, maybe one topic in music has helped you learn how to read better, like read stories or read words better or rhythms or something like that.

Interviewee I: Hmmm... Let's see. Well I do play piano, right? So, I have learned the chords, like my brother has helped me with chords. You teach me how to read the chords, or how to clap the rhythm and how you read that rhythm. So yeah I think so that music has helped me with my reading better. Now I am reading much better.

Ixtupe: Cool! Do you think it's because you are learning to pay attention to one topic more?

Interviewee I: Yes.

Ixtupe: How do you think it helps you?

Interviewee I: Like when I have to focus on one thing in music. Like you say, "Do this or work on that" or we go in sections, one part and then the second part. Yes, I am going to get much better in that when it comes to reading words or reading for my piano.

Ixtupe: Do you think it has helped you use your fingers independently more?

Interviewee I: Yeah! I can work much better with my fingers now.

Ixtupe: How about your listening skills?

Interviewee I: Yes, because with music for example when I listen to the drums, I know which part we are on, or the piano or violin, I know which part we are on.

Ixtupe: So, what is going on in your mind when you are listening?

Interviewee I: In my mind I am thinking, ok this is where we are so that means that this is the sound that I have to do first, I just have to listen to everything...

Ixtupe: You mean you have to listen as if you were a sponge or something and have to grasp on to everything?

Interviewee I: Yeah! Like a sponge! I have to listen to everything at the same time.

Ixtupe: How about at school? Do you think your listening skills have improved at school?

Interviewee I: Yeah... A little bit.

Ixtupe: How?

Interviewee I: How? Like when my teacher talks or sometimes I can't hear her too much but reading, I like reading, right? So, the piano skills and everything I am learning in piano, like reading music is helping me become better at reading. But in class, I am doing really good, now.

Ixtupe: Do you feel like this is helping you understand better now in class? Like you're improving?



Interviewee I: Yes.

Ixtupe: But do you believe it has to do with you learning music? Or is it something else that is helping you improve?

Interviewee I: I think it is music.

Ixtupe: How is it helping you with your memory? Do you feel like music is helping you memorize things faster? Or is it the same?

Interviewee I: Yes, it helps. Like when I am doing the math, right? It's like what I do when I am doing piano. I remember piano and math, I know that I know everything. Like when we go on stage, I remember the chords, I know that I have to be listening...

Ixtupe: Right, cause you have to know what's going on.

Interviewee I: Yeah, yeah! I have to listen and memorize. That's why I remember in my brain, it's like, "Okay, I am ready," even if I was shy for a moment, like when I know that I messed up upstage, I know it's okay.

Ixtupe: Do you think going upstage made you feel brave?

Interviewee I: Yeah, like when you start playing, you look at everybody but you have to think that nobody's there and you just play.

Ixtupe: Did you feel scared when you were going to go upstage at first?

Interviewee I: Yes, but when I did it, I was like, “Wow!” I was surprised because I was like, “I am doing it well!”

Ixtupe: It felt good right?

Interviewee I: Yeah!

Ixtupe: Definitely! It always feels good to conquer a fear. When you know that you were scared of it, but you still go up, and when you get down, you feel like, “Hey, I got this!” So it is good!

What are some things that you feel like you learned from music and that you can use anywhere else in life? Like, for example, do you feel like music has helped you with your teamwork? Or communicating with your friends better? Or do you feel like it has taught you to be more responsible or disciplined because you know you have to sit down and practice?

Interviewee I: I feel like I am much more responsible. Like when I am doing the math, I know that I don't know everything but I do know that I am going to try. That's just like a piano, I am going to try my best to learn it. Even though I know I might not do it right, I'm still going to try.

Ixtupe: And last question. Do you think music has helped you be more confident?

Interviewee I: Yeah, yes. So like imagine when we have to go upstage, right? And with music? I like music! I like to sing and play. So every day at school, I know it's not going

to be easy to read good, so it's really good because it's really fun and makes me confident there when how to read good and do math well.

Ixtupe: Yeah! See? The awesome thing about music is that if you can learn how to play an instrument, you can learn to do anything in life because learning to play an instrument is not easy, playing music is not easy, but it's fun to do it. So, if you can learn to play an instrument, to listen better, to memorize better, and conquer your fears, even when you feel scared of going upstage, you think, "It's okay, I know I got this," right? Like if you ever feel scared that you have to read in your classroom...

Interviewee I: Yeah! In class, we always have to read a chapter book or something like that out loud and everyone else is quiet, and if when it's my turn to read out loud, I'm like, "Hmm, yeah, I got this, it's alright."

Ixtupe: Do you think it was like that before you started your music classes or playing music?

Interviewee I: No, like imagine when I was doing a presentation in third grade, I was like, "Oh no...It's my turn now." And then when I had to talk about my presentation, I would just look at the board and my teacher would say, "You have to look at the people." I would just feel like I really needed help right there. But then I would just talk and then finish, and yeah...

Ixtupe: So, if you could tell your teachers at school or your friends about how much music means to you or to learn an instrument, would you do it?

Interviewee I: Yeah, I always tell my friends, “Look, just do piano, it’s gonna be really fun.” Or like friend, Jessica, I told her to do piano because I know that she’s going to do good in piano, and she did! She’s practicing.

Ixtupe: Have you seen any improvement in your friend?

Interviewee I: Yeah, she showed me with her hands at school and I was like, “Wow, she’s good!” She’s learning the chords and everything, she’s really good.

## Appendix 2

### Capstone Interview - 14-year-old Interviewee II - 8th Grader

Conducted 2/22/17

Dulce-Paola Ixtupe: Do you think music has helped you learn other subjects or taught you any skills that you can use in other subjects? Or do you feel like it hasn't had an effect?

Interviewee II: I think it has helped me.

Ixtupe: How?

Interviewee II: Basically in music, you know how music can be in a different language, right? So when learning a language, you can think of a song in a different language because it's super easy to memorize a certain song, and that helps you memorize the language. So, like you listen to a song and you figure out what it means, and then because you can play that song over and over again in your head, you can figure out what each word means, like step forward in a language when learning it.

Ixtupe: So, you realize, like for example, the ABC's, the melody to learn the ABC's is the same in French, Spanish, and English? Why do you think there's a melody involved when learning the ABC's?

Interviewee II: Because the melody helps you remember it. The song gets stuck in your head, even if the pronunciation is different, yeah. It helps you.

Ixtupe: The following is a statement where I argue that music can help cognitive skills such as listening, and motor skills improve. Do you think you can agree or disagree with any of these aspects? Have you noticed an improvement since you have started to engage music learning regularly?

Interviewee II: In memory, I think it has helped me with memory quite a bit because I don't have the best memory, for some reason. Like yeah, I can remember math problems and stuff, but my actual memory, it's not my strongest. But music has helped me, cause, like, say I want to memorize something if a song is playing in the background, I think of that song, and then I think of that moment, and like it helps me connect and memorize things more smoothly.

Ixtupe: Have you ever used music to memorize vocabulary words? Like, even maybe with spelling or information?

Interviewee II: Yeah, when I was smaller, yeah. You know, I would always use the little songs we had to memorize things. Like the "Head, shoulders, knees, and toes song?" It helps you keep something in mind, or as I was saying with the language thing, it helps you memorize different words of the language.

Ixtupe: The reason why I am asking you is because when I was in elementary and middle school, we used to have like vocabulary tests and often times it was really difficult for me to memorize the vocabulary words or the way they were spelled and what they meant, so what I would have to do was from the word, I would pull out a letter that I could connect to the meaning and I would make up a little melody or a little rhythm, so for example, I

would clap out “Em-Pa-Thy,” in a simple beat and then I would sing, “Em-Pa-Thy means Fee-Lin’ in the Shoes of somebody else. Kind of, you know what I mean? So, I would use that method, and during the test, I was literally nodding my head, thinking back to the little song I had created. Cause that just made it easier for me.

Have you ever used something similar to that?

Interviewee II: Ummm... Yeah, actually. Kind of similar to what you’re saying about little beats to remember different words, or like, even when I want to memorize a number. Like, let say you want to memorize the number 1-1-3-5, you start saying it in a beat pattern, and you just keep doing that in your head, right, and you keep it there, and then when you need the number again, that little beat comes back, you’re like, oh, 1-1-3-5, and there you go, you memorized it.

Ixtupe: How about with your motor skills? I am really curious. Music involves a lot of simultaneous body coordination; different extremities of your body are doing different things. For example, in piano, you’re controlling your fingers, your eyes are probably reading music and looking where your fingers are going next, and so on. So there’s a lot of things that are going on in your body when you are engaging music. So have you seen an improvement or do you think it’s relatively the same? Or...?

Interviewee II: Well, I feel like I can keep improving on that, but I do feel like I have improved because, like, the whole keeping the beat with your foot and playing something with your hands, I used to not be able to do that, but like now, I have that in my mind and it’s simple to do.

Ixtupe: You mean it has become a lot more, automatic?

Interviewee II: Yeah, yeah. So yeah, I think it has helped me quite a bit with my motor skills.

Ixtupe: So, music helps build positive character traits, right? Like maybe teamwork, discipline, a sense of responsibility, self-confidence or social skills, do you feel like there has been a change within you since you have been practicing music regularly?

Interviewee II: I think in the self-confidence aspect it has helped me. Well, my confidence was already something strong compared to others, but it has given me that little push sometimes. Then with teamwork, music involves a lot of teamwork,, depending on the instrument or even in singing or choir, you have to be connected to everybody, like, “Okay, we are going to do this and you do this, and it helps build you build your teamwork skills, and even sometimes, your leadership skills, depending if you have to take over and things like that. So yeah, I think it has helped me quite a bit with those aspects because it teaches you that in a team, you don’t force people to do things. It helps you see how people react to certain commands and requests, for like the future, like if you have a business or something, and you want to like, know how to tell them to do things without hurting them.

Ixtupe: Yeah! It’s really interesting that you say that because it kind of takes us back to those, transferable skills, you know? You’re learning this right now in music, but you’re already thinking, “I could use this in my future and in a subject in my life that might not involve music.” Your business might not involve music completely, but you’re already



thinking that you could use those leadership skills and social skills in your business or in your future.

Interviewee II: Yeah.