ARTS EDUCATION: AN ESSENTIAL EXPERIENCE

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ABSTRACT

Arts Education: An Essential Experience

Doctor of Letters Dissertation by

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2019 was a monumental moment in history when New Jersey became the first state in the nation to provide universal access to the arts; 100% of the state's schools provide some form of arts education to students during the school day. The arts are essential to a child's development and to their overall well-being throughout their lifetime. Parents and community members must ensure the children receive a complete "well-rounded education" and that the arts do not fall victim to budgetary constraints. The arts chronicle life, cultural values, and beliefs for future generations and more importantly they help all to see, to hear and to feel.

In addition to the cultural benefits, cognitive, social, and emotional benefits occur through the different modes of delivery of arts programming. When the arts are integrated into our students' curriculum they contribute to effective and engaging learning for all students, particularly since our children do not all learn at the same pace and in the same way. Through the new field of neuroeducation, we are learning that as our students are engaging in arts activities and new experiences, their brains are developing new neural networks through a process called neuroplasticity. The arts in education have the potential to unlock all that is within our children, but we need support from the government and legislation. We are neither right-brained nor left-brained, therefore, since

we use both sides, we must encourage our children and provide them with opportunities in all areas of learning. This was recognized by the government when the arts were included in legislation as “equal to core subjects” in the No Child Left Behind Act and later rewritten to include the arts as part of a “well-rounded education” in the Every Student Succeeds Act.

Through the long hard work of advocates throughout the years, and through legislation that recognized the significance of the arts, students all over the nation. will one day have universal access to the arts and follow in the footsteps of New Jersey who is leading the way.

DEDICATION

To my sons, Joseph and Michael, who are my greatest blessings, and who inspire me every day. I love you more than you will ever know. I am proud to be your mom!

To my granddaughter Hailey, whom I love more than life itself. Always follow your dreams and follow your heart, for only then will you find true happiness.

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ACKNOWLEDGEMENTS

I have dreamed of this moment for as long as I can remember. I knew from the time I was a little girl that reaching this level of education would be the final rung on my personal ladder of success. This journey was not to climb the ladder professionally or for financial gain. This moment was just for me. My parents encouraged me to go as far as I could go in whatever I attempted, which led me to where I am today. I am eternally grateful to my mom, my best friend, who always encouraged me to follow my dreams, and who showed me what being a strong, independent woman meant. A mother's love never dies…I still feel it; and to my dad who taught me to work hard, to never give up and to keep playing that piano because he said so! I'm still playing! So thank you mom and dad, I am the person I am today because of you. I want to thank my boys, Joseph and Michael, for giving my life meaning and purpose. Without them my world would have been an empty place. My heart is full knowing my sons both have chosen women that love them as much as I do. I appreciate Jill and Sarah, who are such welcomed additions to our family. I want to thank my granddaughter Hailey; whom I absolutely adore. She has made my life complete. I cannot wait to see what great things the future holds for her. No words can express my gratefulness to Al, ex-husband, now my cherished friend who has been here through thick and thin and is always someone on whom I can count. Last, but not least, I want to thank Mary, my life's partner; there is no one else with whom I would want to travel through this crazy journey called life. Through all its twists and turns and ups and downs…she makes it all better. I extend my heartfelt appreciation to all for being a part of who I am.

I want to express my unending gratitude to Dr. Liana Piehler and Professor Robert Butts not only for their endless guidance, support and encouragement throughout the dissertation process but for sharing the love of what they do when they teach. Their passion and extensive knowledge in their respective fields comes through each and every class. I thoroughly enjoyed learning from them and sharing what I have learned with them. I feel privileged and honored to have them as my mentors and dissertation committee members.

I want to thank New Jersey City University, where I have been a member of the faculty for 37 years, for their partial financial support through their Career Development Fund, as well as Drew University for their Teacher Scholarship, which helped reduce the financial burden. Programs such as these make it possible to achieve dreams.

Finally, I want to thank the children. My children and ALL the children with whom I have had the honor and the privilege of teaching throughout my career. I have learned so much from every one of them. Starting with my own sons and their love of music and art, to my granddaughter who is showing me that music is absolutely inborn, and that everything can be art if you create it; and to my students who amaze me every day by overcoming cognitive and physical challenges that appear insurmountable. When other subjects cause them to say, “I CAN’T”, the arts enable them to say, “I CAN”. My students have taught me that when engaging in the arts, there are no limits. THANK YOU CHILDREN! Every aspect of humanity can be expressed through the arts and I am thankful to be able to share that fact with all who take the time to read my dissertation.

PREFACE

For the past 37 years, I have had the privilege of being a teacher of children and young adults with severe cognitive and physical disabilities in the same school. My first twenty-five years were spent as a special need's teacher in a self-contained classroom. The next ten were as a Music Specialist for the entire student body. The following two years a new position was created at the school and I became the Fine Arts Specialist where I also taught visual arts, drama, and media arts. I am well aware of the role the arts play in students' development, particularly students with special needs. The arts give a school life. The hallways come alive with the children's colorful masterpieces that come from their hearts. The singing in the hallways lifts the spirits of all who hear them, particularly since we are in a school filled with wheelchairs, crutches and leg braces, a place that some would call depressing. Movement is life. Who says someone in a wheelchair cannot dance? Our students move and groove whatever body part they can. Our students are happy, more confident, and ready to learn when they get back to class, with new neural networks forming from every experience they have as they engage in the arts.

My intent is to share how important the arts are not only to every child's development but to their life in general, and to share what I know works with my students. I am inspired by each and every child I have had the honor to teach, and my hope is that one day my granddaughter who is only 14 months old right now will one day be a part of an educational system that values, supports and encourages the arts.

INTRODUCTION

The purpose of this paper is to investigate the relationship of arts programs to motivation, self-efficacy, and creativity, as well as to examine the connection of the transference of skills to other domains, thereby improving cognitive, social, and emotional benefits. I will also explore the arts with their relationship to civilization, humanity, and life in general. I will concentrate on Fine Arts in my research, which will include art, music, drama, dance, and media arts. I will argue the fact that the arts are essential core subjects and need to remain a vital part of the curriculum in grades K-12. I will assert**:** The arts are not only a significant part of a child's development but rather a significant part of human life in general. I will question: If the Arts are such a significant part of human life, why are they not a priority in our children's education?

I will contend that arts integration, which is becoming popular in schools, should not be a substitution for sequential arts education, nor for arts educators, since according to Heffernan, Hojreh, Liscon, and Longo, (2018), we cannot have genuine arts integration without both (p. 10). In New Jersey, "the goal is to have arts-rich schools and districts. This requires a strong arts curriculum taught by certified arts teachers, opportunities for other content area teachers to employ arts enhancement strategies, and arts and non-arts content area teachers joining forces to employ arts integration strategies" (Heffernan et al., 2018, p. 10).

I will review a timeline of legislation (1964-present) that led to a monumental moment in arts history and will explore ways we can help New Jersey comply with this long-awaited piece of legislation.

I will research past and current innovators to determine if there is a connection between the arts and creativity and innovativeness. I will examine how studying the arts has the potential to help the next generation become the innovators and inventors who will help move our country forward in the 21st century. I will explore how the arts assist in the development of 21st century skills where creativity, collaboration and critical thinking skills are at the top of the list by examining studies such as those conducted by John Catterall. He found that we can help students become more positive young men and women capable of making their way in the world today and for the rest of their lives by encouraging them to create and share their imaginative work. My research will also examine how the new field of educational neuroscience makes a connection between scientific research and education, between scientists and educators, and about how they share information regarding how we learn and the affect it has on the brain. Education is not a one-size-fits-all endeavor. Children learn differently. Why is one child able to "get it" and the other child who is taught the same information totally lost? The more we know the better we can adjust our instruction. The arts would help them think and learn differently.

According to Sandra Ruppert (2006), "Arts learning experiences contribute to the development of certain thinking, social and motivational skills that are considered basic for success in school, work, and life. These fundamental skills encompass a wide range of more subtle, general capacities of the mind, self-perceptions, and social relationships" (p. 13). With the current trend of universal access to the arts becoming a priority in states across the nation, particularly in the tri-state area, the hard work, dedication and fight by researchers and advocates has not been in vain. Universal access means all New Jersey

students can take classes in some form of arts education as part of their regular school day. Advocates were fighting for this for a long time. The battle has been won, but the only way to win the war is to ensure arts programs do not fall victim to budgetary constraints, because doing so will be a detriment to students' development. Districts need to get the parents and community on board to realize the value of keeping a full time, not a visiting music and art teacher in each school. There are arts specialists that can be the intermediary between the music teacher/art teacher and the regular classroom teacher, but to have a successful arts integrated program we must have both. In addition to the arts specialist the classroom teachers need to be trained how to fully incorporate the arts into everything they do. This will ensure the students get the full benefits of the arts.

History of Research

President and Mrs. Obama were proponents of the arts. During his 2008 campaign President Obama created an Arts Policy Council. He invited artists, educators, cultural leaders, and advocates to help advise on policy matters related to the arts. According to Dwyer (2011), The President's Platform in support of the Arts stated:

> Reinvest in Arts Education: To remain competitive in the global economy, needs to reinvigorate the kind of creativity and innovation that has made this country great. To do so, we must nourish our children's creative skills. In addition to giving our children the science and math skills they need to compete in the new global context, we should also encourage the ability to think creatively that comes from meaningful arts education. Unfortunately, many school districts are cutting instructional time for art and music education (p. 8).

Districts were cutting instructional time for art and music, even though the No Child Left Behind Act (NCLB) which was signed into law in 2002 declared the arts as "core academic subjects". NCLB is a federal law that provides money for extra educational assistance for poor children in return for improvements in their academic progress. Major (2013) asserts that districts shifted priorities towards subjects assessed on

the standardized tests such as math, reading, science, English, and history because of NCLB, where they now had to measure and prove all students make "adequate yearly progress." Since these test scores were high stakes, much of the attention was focused on reading and math, which received the most amount of funding, at the expense of the arts (p. 6). This shift in priorities had a negative impact on the arts, which I will argue also had a negative impact on students' competencies and personal dispositions.

Hursh (2007) claimed that when the No Child Left Behind Act did not work out as planned, it was due to its "failure to live up to its promise of closing the achievement gap between white students and students of color" (p. 295). The other problem was that students were having trouble relating to their lessons since they were primarily focused on reading and math. The teachers just did not have room in their daily schedule to include lessons for fun or for cultural activities. They knew their jobs depended on the students' success in those specific areas and everything else was pushed to the side, including the arts.

Due to the failure of NCLB, the Every Student Succeeds Act (ESSA) was signed into law in 2015. Here they replaced the definition of the arts as "core academic subjects" to the arts and music, as part of a "well-rounded education". Darrow (2016) stated that "ESSA defined student success as more than just achievement in core academic subjects and listed the arts and music as examples of a 'well-rounded education', and also pointed out that time for instruction in the arts was also 'protected time' thanks to ESSA" (p. 43). Just the fact that classes in the arts have received the status of having "protected time" shows the significance of these programs. But few states have formally incorporated the

arts into their accountability systems. So, although the possibility and potential are there for the arts to be an everyday part of the students' curriculum, it just is not a priority. Why? Districts across the nation, based upon financial decisions, had to cut Fine Arts Programs out of the curriculum. Due to funds being scarce and highly sought after, and the fact that Common Core and STEM curriculum courses--an acronym for science, technology, engineering, and mathematics--were a priority, school districts chose to cut off funds to all non-tested subjects considered less important.

In 2006, prior to NCLB and ESSA, the National Academies of Sciences, Engineering, and Medicine, defined by the National Academies Press (2021) as, "private, nonprofit institutions that provide expert advice on some of the most pressing challenges facing the nation and world" (para 2), were worried about the downswing of our nation's educational system. Our students were not excelling in STEM courses. Our country's success depended on our students being prepared to enter the workforce and become leaders in the global economy. "Congress responded by passing the America Competes Act in 2007 which authorized funding for stem initiatives in kindergarten through graduate school" (Sousa & Pilecki, 2013, p. 1).

Researchers were proving that studying the arts would help develop useful skills and enhance creativity and innovativeness in STEM. "With some deep reflection, it becomes clear that the thorough study and application of the scientific, technical and mathematical principles embodied in STEM subjects required skills that can significantly be enhanced by training in arts related areas" (Sousa & Pilecki, 2013, p. 2). From what we have seen through innovation and invention, art and science go well together, since both involve discovery.

A new field called cognitive neuroscience is adding its discoveries to what we already know about learning and how we come to know, validating how the arts add value to STEM. “Implications from recent brain research findings like the exciting evidence that creativity can be taught further support the integration of arts related topics into STEM courses as well as STEM topics into art-centered courses. The new collaboration is between educators in STEM and educators in art so that STEM adds an A for STEAM” (Sousa & Pilecki, 2013, p. 3).

The evolving field of neuroeducation, also called educational neuroscience, looks at the interactions between biological processes and education. Hardiman, Magsaman, McKhann and Eilber (2009) contend that this fascinating scientific field investigates the learning process in terms of “how children learn and what practices promote and sustain it” (p. 3). A meeting of the minds, so to speak, where researchers in cognitive neuroscience, education and related disciplines gather to explore interdisciplinary approaches and share new and exciting information. Knowing how children learn and what we can do to promote that learning is invaluable to teachers. Neuroscience has taught us how our brain is not a onetime creation and that it is forever changing. Neuroscience explains how the brain can rewire itself and form new neural pathways through a process called neuroplasticity which can enhance the learning process. Research is finding a definite connection between the arts and neuroplasticity. “Theories of the brain exist that help us understand what is going on in the brain when we do art” (Jensen, 2001, p. 3).

According to Hardiman et al. (2009), in 2008 The Dana Arts and Cognition Consortium funded by the Dana Foundation, a private philanthropic organization with

particular interest in brain science, immunology and education shared their findings on several three-year studies. They investigated the effects of early arts training and their potential to rewire the brain to enhance learning (p. 3). "They found 'tight correlations' between arts training and improvements in cognition and learning….The purpose was not to determine whether students need the arts but rather to explore how studying the arts might enhance creativity, cognition, and learning" (Hardiman, et al, 2009, p. 3). In my research I explore this possibility.

Ruppert (2006) wrote that research shows when the arts become a part of a student's school life, dramatic improvements in attendance, attitudes, abilities, and grades occur, and additionally measurable gains in motivation, and achievement in reading, writing and math occur as well (p. 8). Participation in the arts has a positive impact on students in many ways; it prepares them cognitively, socially, and emotionally for the future. It helps to nurture inventiveness and creativity, builds self-esteem, and provides a sense of accomplishment, not to mention it relieves stress. The arts connect students with their own culture as well as with the rapidly changing world. The arts also help students connect with the past, documenting a history of humankind that without them we would never have known. All these skills and knowledge support growth in academic achievement.

Richard Riley, Secretary, Department of Education states, "The *Champions of Change* researchers discovered, learning in the arts can not only impact how young people learn to think, but also how they feel and behave" (Fiske, 1999, p. 9). Research has been able to measure an increase in student motivation, confidence, self-esteem, and creativity using the arts in schools.

James Catterall, founder of the Centers for Research on Creativity (CRoC), studied creativity throughout his career. He was an advocate for the role of the arts and creativity to transform our world for the better. Imagine that! Something as simple and pure as creativity can change the world. If we could just get parents and districts on board with that concept, what a wonderful future we would be able to predict for our children.

Our schools need to prepare the whole child to enter the world ready and equipped to meet the challenges they will ultimately face in keeping up with the rest of the world in the 21st century. The future of our country, and civilization depends on it. Eric Jensen, who specializes in brain-based research and student achievement, states, "The arts are not only fundamental to success in our demanding, highly technical, fast-moving world, but they are what makes us most human, most complete as people. Arts contribute to our growth as human beings" (Jensen, 2001, p. vii). I believe what he meant by that was the arts bring out our innermost feelings. What makes us different from animals is our ability to feel and to express emotion, and the arts bring all our emotions to front and center. Our emotions are a driving force that propels us to action. Happiness, love, joy, hate, sadness, anger, fear, anxiety, desire; we can soothe these emotions though the arts or we can express them through the arts. Singing, dancing, painting, acting it out; whether an observer or a participant, the arts can make a difference in one's life. All of this contributes to our growth as human beings and help us to move forward, in a better light, in this fast-paced world of ours.

Jensen and Catterall both realize the significant impact participation in the arts has and the role it plays in preparing our children. They both believe participation in the arts can improve attendance, lessen the dropout rate, enhance creativity, provide a greater

cultural awareness and send graduates out into the world more prepared for the workplace of tomorrow. According to Hardiman (2016) Catterall found that students from low-income schools who had more opportunities to engage in arts programs and activities than peers without the same experiences were more likely to be successful in completing high school, attaining higher grade point averages, and were more likely to enroll in college. The arts were also a greater link to them becoming more involved in community activism and expressing greater interest in current affairs. The National Endowment for the Arts also found this relationship between children in low-income communities, arts education, and various measures of higher academic achievement (p. 1917).

Catterall, in his Imagination Project as it was called, discovered that students "highly involved in arts programs" fare better in other subjects too and are much less likely to drop out of school or become uninterested in school. Catterall's study also shows that students from low-income families who participate in the arts are more likely to do better academically than those who do not. A group of leading educational researchers were given a task of examining the impact of arts experiences on young people. Their report, *Champions of Change: The Impact of the Arts on Learning* initiative in cooperation with The Arts Education Partnership and The President's Committee on the Arts and the Humanities explored why and how young people were changed through their arts experiences. *Champions of Change* (Fiske, 1999) reported seven studies that showed a connection between high levels of arts participation and higher grades and test scores in math and reading and included Catterall, Chapleau and Iwanaga's (1999) study of 25,000 students. Catterall et al. (1999) assert they can now see the connection with the

arts and how to keep children in school, and how to help them succeed. This is our ultimate challenge as educators, even though "the research did not definitively explain the differences shown, "nor was it able to attribute student successes unequivocably to the arts" (p. 4). Fiske (1999) states what they did find was that arts-involved students do better on many measures, their performance advantages grow over time, and that these two general performance comparisons hold for low socio-economic children (p. 11).

Richard Riley, Secretary, Department of Education, and member of The President's Committee on the Arts and the Humanities, states:

> The arts teach young people how to learn by giving them the first step: the desire to learn. *Champions of Change: The Impact of the Arts on Learning* also shows that the arts can play a vital role in learning how to learn, an essential ability for fostering achievement and growth throughout their lives (Fiske, 1999, p. 9).

Children with strong feelings of self-efficacy are not quitters and try hard in all they do. They are confident they will succeed and will overcome any obstacle in their way. "Research has shown that what students learn in the arts may help them to master other subjects, such as reading, math or social skills. Students who participate in the arts learning experiences often improve their achievement in other realms of learning and life" (Ruppert, 2006, p. 8).

The Imagination Project (Catterall et al. 1999) examined the effects that arts education had on cognitive transfer to other non-arts-based disciplines.
Through research I found a valid connection between the arts, science, inventions, and innovative ideas. We need to educate our students about some of history's most famous people who saw no boundaries between the arts and sciences. I wanted to highlight successful people throughout the ages to whom the students could relate and would want

to emulate; from artist/inventor Leonardo daVinci, during the late 1400s to Steve Jobs during the early 2000s.

This research is important to me. I feel very strongly about the arts in schools. I have seen firsthand how the arts had an impact on my students cognitively, socially, and emotionally. Arts for Art's sake is especially important but there is so much more to it as I hope to convey in this dissertation. Our goal as educators is to help every student reach their full potential and to be aware all children do not learn in the same way. We must reach them through their senses to truly ensure every child gets a fair chance to succeed. This is where arts integration would fit in, weaving the arts into their lessons so all students have a chance to learn in their own way. We must teach them to question, to wonder, to admire, to dream, to take chances, and to believe in themselves. Children who participate in the arts have a better chance at success in the future since it sparks creativity, imagination and so much more. Our children are the next generation of inventors and innovators. I can only imagine what they will come up with and what the future will look like.

President Obama, a proponent of the arts, who knew the way to win the future was through the arts, stated in his 2011 State of the Union Address that "The first step in winning the future is encouraging American innovation…" (as cited in Dwyer, 2011, p. 13).

As advocates continue to stress the significance of the arts in school, New Jersey is leading the way. In 2019, New Jersey became the first state in the nation to provide universal access to arts education for all public schools. Along with celebrating this milestone, it is imperative we in the community show support and make sure the schools

can comply with the law. President Kennedy once said, “The life of the arts, far from being an interruption, a distraction, in the life of a nation, is very close to the center of a nation’s purpose…and is a test of the quality of a nation’s civilization” (Baurlein & Grantham, 2009 p. 9). We own him a ton of gratitude for having the vision of the government supporting the arts.

CHAPTER ONE

The Arts, Society, Civilization, and the Government

The arts are what differentiate us from other animals. They help us get in touch with our feelings and desires, strengthen our sense of identity, allow us to experience the world, and to share our emotions with others. The arts connect students with their own culture as well as with the wider world. The arts chronicle life, cultural values, and beliefs for future generations. They are the cultural legacy of humanity, existing long before we can even imagine and will exist long after we are gone. "The legacy of ancient cultures that remains on the planet today is pretty much only what those cultures created in the way of the arts and architecture and literature and music" (Larson, 1997 p. 21).

We are still finding evidence of the past: what will we leave behind to tell our story? Therefore, it is imperative to make the arts in education a priority. What we teach our children now about the arts will help secure our cultural legacy for generations to come, will encourage and enable them to seek out and appreciate the legacy of the past, and will teach them to be innovative, creative leaders and members of a cultured society.

There are developmental benefits from participating in the arts, particularly to a growing child, which I will address in the next chapter. However, there is a benefit that I do not think most of us even realize exists, a benefit that tells us who came before us in ancient times, who they were as a people, who we are today, and who our global brothers and sisters are. The arts are a part of our ancestry and a part of our history. They hold a key to unlock all that existed prior to the written word. Pablo Picasso said, "Painting is just another way of keeping a diary" (West, 2014, para 1). There is a saying that says you need to know where you came from to see where you are going. A civilized society needs

to recognize the significance of the arts as it relates to our past, present, and future. We need a government to help nurture and sustain the programs required to continue to educate us about our past, help us create the present, and to help us not only document the story of our lives for future generations, but to encourage the study and use of the arts, particularly in our schools to develop caring, innovative, creative, out of the box thinkers who will take us into the next century and beyond.

Americans for the Arts (2014) posted this video retrieved from https://www.youtube.com/watch?v=6RuT_Wbd-0A of President Barack Obama who spoke at the Whitehouse after the first ever Turnaround Arts Talent Show in 2014. President Obama said, "the arts are central to who we are as a people and they are central to the success of our kids." I included the following video link because I thought it was a powerful moment for the arts to be validated by the President of the United States and it was encouraging to see him as he spoke with all the children who had just performed surrounding him (Americans for the Arts, 2014, (0:04-0:14).

What is it that connects us as a people, to our heritage, to our culture, and to our past? What is it that connects us as a society and as a civilization? What connects us to our innermost human experiences and to our humanity? All three questions can be answered with the same response - the arts. "Art and culture are fundamental elements of a society, essential means by which people shape their identity, explain their experiences, and imagine the future" (Sidford, 2011, p. 1). They are the fabric of our culture. A world without the arts would be a very dark, sad, empty place. Music, dance, paintings, sculpture, drama, architecture, and poetry, all included in the arts, "define what we mean by civilization" (Williams, 1991, p. 1). I love going to the Metropolitan Museum of Art in

New York City. It is where people can truly experience the art of ancient Egypt. Seeing their art in person allows one to be immersed in the Egyptian culture and to become a part of their civilization for that moment in time. I brought my children to the ancient Mayan ruins of Chich'en Itza. What a wonderful journey into the past. My sons walked up the steps of the Great Pyramid of Kukulkan and ran in the arena where the Mayans played their sacred ball game which was a battle to the death of the losing team. The ballgame goes back 3,500 years ago and is believed to be the first organized game in the history of sports; something they will never forget. We were face to face with pigment of colors on Mayan walls that were thousands of years old. I took them to the Louvre Museum where we were able to see the actual brushstrokes of famous artists like DaVinci and sculptured masterpieces by Michelangelo. There is nothing like seeing ancient artifacts and famous artwork up close rather than from a book or on a computer. Our schools and parents need to make it a point to take their children to museums and actual sites when possible. It is how we can connect with culture and more importantly with humanity.

Families in our society come from all around the world and have traditions from their home countries that help identify who they are. They have every right to honor their past and their homeland by eating traditional cultural foods, wearing traditional clothing, listening to music of their country of origin and by displaying their native land artwork as decor in their homes. Parents need to ensure their culture will survive.

According to Georgios (2018), only by raising the children's awareness about tradition, will they become conscious of their country's history. By getting in contact with their cultural heritage, they can recognize how the past is connected with the

present. Being aware of their cultural identity helps them substantially create their present and plan their future with confidence. “Only by learning their history and culture, can children turn elements of yesterday into powerful weapons for today and tomorrow” (pp. 109-110).

Times have changed and America has gone from a “melting pot” where immigrants all assimilated into our American culture and way of life, to a “salad bowl” where everyone maintains their individual identity while becoming part of our nation. They are keeping tradition alive through their music, their dance, and their art.

People need the arts to help identify who they are, but democracy needs the arts too. Sidford (2011) wrote, “The arts animate civil society. They increase our compassion for others by creating creative ways for us to understand and deal with differences. The arts protect and enrich liberty, the human dignity and the public discourse that are at the heart of a healthy democracy” (p. 1).

Many would ask why the government has anything to do with the arts. The government can help protect the cultural heritage of the country. In 1960 President Eisenhower assembled a commission charged with developing an outline of coordinated national policies and programs for the next decade. The commission affirmed with confidence that, “the arts are a vital part of human experience. In the eyes of posterity, the success of the United States as a civilized society will be largely judged by the creative activities of its citizens in art, architecture, literature, music and sciences” (Gauthier, 2003, p. 145).

After his election in 1961, President Kennedy became the moving force behind governmental support of the arts during his administration. Gauthier (2003) noted that the

early years where the federal government finally supported the arts were known as “The Camelot years” (p. 143). It is no surprise to me that President Kennedy who was the force behind government support for the arts was a fan of the Broadway Musical. In fact, the reference to the term “the Camelot years” became a signature for the whole Kennedy era. Brigance (2003) wrote that it came from John F. Kennedy’s favorite last line in a song from the Musical “Camelot” – “Don’t let it be forgot that once there was a spot, for one brief shining moment that was known as Camelot…there’ll be great presidents again…. but there will never be another Camelot…This was Camelot…Let’s not forget” (p. 2). Four days after JFK was buried, journalist Theodore White interviewed Jacqueline Kennedy and she told him JFK’s favorite song, the one he listened to every night was from his favorite Broadway musical *Camelot* (p. 2). The media ran with that and the rest is history. I included this information to show the impact the arts can have. Look at how the words from a Broadway Musical song defined an era.

Prior to the Camelot years and leading up to that point in time, the United States Office of Education was established in 1867 but did not take action for 95 years in regard to the arts. It was not until 1962, when the status of government support for the arts changed with the establishment of the Cultural Affairs Branch within the Office of Education, thanks to President Kennedy.

According to Baurlein and Grantham (2009), as America was struggling to rise from economic deprivation because of the great depression, in 1965, The Congress of the United States and President Lyndon B. Johnson created the National Endowment for the Arts, NEA to embody hope to the American people. Its purpose was to nurture American

creativity, to elevate the nation's culture, and to sustain and preserve the country's many artistic traditions (p. 18).

Art is significant to society in that it serves to fulfill our sense of beauty and wonder about the world, and provides an outlet for creative expression, and documentation of history. The value of the arts and culture to society can be traced all the way back to the beginning of humanity. Archaeologists in Slovenia found a Neanderthal flute made from the thigh bone of a young cave bear, dating back 60,000 years ago. "It is the oldest known musical instrument in the world, the first instrumental sound of humanity and to this day the best evidence for the existence of music in Neanderthals" (Neanderthal flute, 2020, para. 10).

Image Credit: Museum of Slovenia (Neanderthal flute, 2020, Fig. 1)

The photo was retrieved from https://www.nms.si/en/collections/highlights/343-Neanderthal-flute. The flute is now a permanent exhibition in The Slovenia National Museum, and is a testament that Neanderthals were capable of not only of creating music, such an abstract and uniquely human activity, but that they had the intelligence to create

an instrument using such precise measurements and specific technique to create those melodic tones (Neanderthal flute, 2020).

Davois declared, for a Palaeolithic find to be declared a musical instrument it must be able to be played (as cited in Turk et al., 2018, p. 696). The flute has four finger holes with four different pitches that match four notes of the traditional scale we use in music today, known as the diatonic scale. According to musicologist Bob Fink, the notes of the flute "are inescapably diatonic and will sound like a near-perfect fit within ANY kind of standard diatonic scale, modern or antique" (Rizzi, 2020, para. 7).

These holes were the center of a heated debate as to whether this was just a gnawed-on bone or an intentionally made instrument. Skeptics believed the holes were made by carnivores. Extensive tests using CT scans and microscopic examinations were carried out, specifically on the holes. Then the femur was reconstructed, and its playing position was reoriented. A musical experiment was conducted by musician, sculptor, and craftsman Ljuben Dimkaroski who reconstructed the musical instrument and reinvented how it is to be played, which can be heard when viewing the link below. I included this next paragraph which is taken directly from my resource since it exemplifies the significance of the arts and how they help us to learn about our earliest civilizations. Turk et al. (2018) state:

> According to Dimkaroski the scientist who studied the femur experimentally, the left femur of a juvenile cave bear was chosen intentionally. The size and shape of the bone, equipped with holes, blowing edge, and a bell-shaped opening optimally fit the lips, palm, and fingers. The holes, their size, and distribution must also have been deliberately planned. Blowing directly on the sharp blowing edge on the mouthpiece produces the sound. If the blowing edge were not sharp, the range of the instrument would be reduced in the higher and lower registers, and noise would appear in the tone. The shape of the left femur and its torsion fits the position and anatomical characteristics of the right hand during playing, and, thus, fits a right-handed musician perfectly. This led to a conclusion that four

> holes, their size, and distance between them, together with the notch on distal end and blowing edge comprise a system that enables a wide variety of sonority and melodic movement. Such a system could not have emerged accidentally: it was intentionally and consciously created (p. 699).

This information radically changes our understanding of Neanderthals and offers a unique insight into Neanderthal cognitive abilities and behaviors. It is apparent they utilized sophisticated thinking skills, evaluative thinking, and creativity--all higher order cognition--and that they were innovative and sensitive people capable of expressing themselves so artistically. The exact opposite of what we portrayed Neanderthal man to be--primitive dimwitted, hominids with inferior intelligence. "Hominids are any of a family (Hominidae) of erect bipedal primate mammals that include recent humans together with extinct ancestral and related forms and in some recent classifications the great apes such as the orangutan, gorilla and chimpanzee" (Merriam-Webster Collegiate Dictionary, n.d.). Because the Neanderthals fall into that category, many people, even to this day believe in the old stereotypical image of the primitive, unintelligent caveman.

Therefore, the discovery of this flute was so significant, as it sheds new light on who the Neanderthals were as a people. I include the following link: *Neanderthal Bone Flute Music* retrieved from https://www.youtube.com/watch?v=sHy9FOblt7Y to share the heavenly sound of the Neanderthal Flute and hear its story (Jakopin, 2010, 0:06 -8:37).

The prior short film's full title is *Playing the Neanderthal Flute of Divje Babe*, and is authorized by Saso Niskac; music is performed by Luiben Dimkaroski; and the scientific adviser is archaeologist Dr. Ivan Turk (Jakopin, 2020, para. 1). The original flute is a treasure and must be kept in a safe and secure environment within the Slovenian National Museum. Playing such an old relic could potentially damage it; therefore, in the

video above, one hears Slovenian musician Ljuben Dimkaroski play Albinoni's Adagio in G Major played on a clay replica made by the Slovenian National Museum. I included this video clip because I thought it would be a profound, emotional experience for my readers to enjoy hearing what the first instrumental sounds of humanity sounded like.

It is quite amazing that an instrument from thousands and thousands of years ago, (60,000) can produce music that follows a modern-day musical scale. This video is an awesome journey into the past and gives us insight into an ancient civilization that apparently had a similar knowledge and appreciation of music that we do today. The ability to use tools, regardless of how primitive they were to create the holes for pitch, shows us they had a higher level of thought processes. Neanderthals are an extinct species and part of the story of human evolution. They were a species that were our closest human relatives. Once again, the arts are the ties that bind us and tell a story of the past. "Neanderthal man is long since dead and gone. His fate, as far as we are concerned, is to illuminate the process of our own origin and nature" (Jordan, 2001, para. 7). We can learn much about the past civilization from the art and music of the Neanderthals, our closest ancient human relatives. The flute from Divje babe is of exceptional importance in understanding the cultural and, indirectly, the biological development of our ancestors.

In 2012 Cave paintings on the walls in Indonesia were believed to be the oldest in the world dating back 43,900 years ago and considered to be the world's first picture. It was a painting of a deer/pig like creature with a curly tail. "Hidden away in a damp cave on the 'other' side of the world, this curly-tailed creature is our closest link yet to the

moment when the human mind, with its unique capacity for imagination and symbolism, switched on" (Marchant, 2016, para. 8).

I thought it was interesting to see how they were able to pull out the animal's images using digital tracing of the rock wall. Below is the panorama view *Hunting Scene at Liang Bulu' Sipong 4* found on the walls of a cave in Sulawesi, Indonesia from 43,900 years ago, retrieved from http://www.sci-news.com/archaeology/cave-painting-therianthropes-07902.html. The top image shows a photostitched panorama of the rock art panel; the bottom image is a digital tracing of the rock art scene (News Staff, 2019, Fig. 2).

Once believed to be the oldest cave painting in the world.

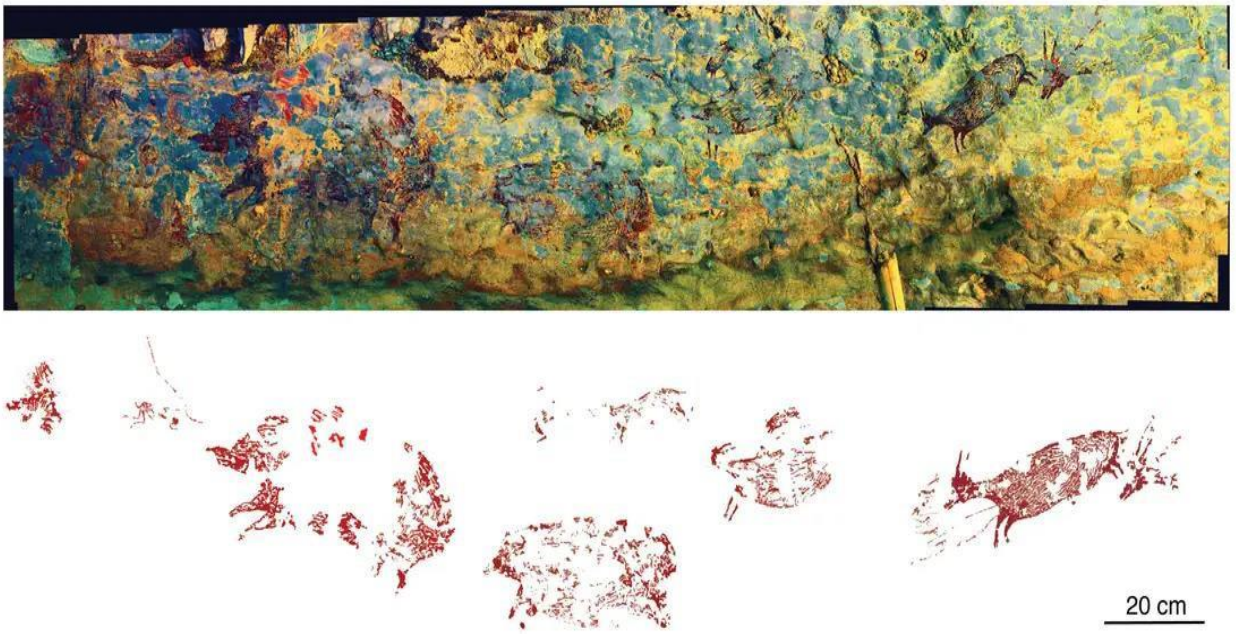


Image credit: Adam Brumm, Ratno Sardi, and Adhi Agus Oktaviana (News Staff, 2019, Fig. 2)

Prior to this finding there was no evidence that humans had the ability to think like we do today. This was a turning point in learning about the minds of our early ancestors. But we were soon to find out there were even earlier cave paintings.

There is a belief based upon Hoffman and others' uranium-thorium dating of carbonate crusts, that it is possible that three separate sites in Spain contain cave paintings that must be at least 64,000 years old, the oldest dated cave paintings in the world. "They predate the arrival of modern humans in Europe by at least 20,000 years, which suggests that they must be of Neanderthal origin" (Hoffman et al., 2018, p. 912). The finding suggests that the extinct hominids, once assumed to be intellectually inferior to humans, may have been artists with complex beliefs. According to Marris (2018), "Paola Villa, an archaeologist who studies Neanderthal culture at the University of Colorado Boulder, is aware that Neanderthals have an undeserved reputation as moronic brutes. Since their bodies were "archaic" in the sense of having features of older hominids — such as heavier bones and pronounced brow ridges — everyone assumed they were "behaviorally archaic" as well. "They were stereotyped as knuckle-dragging dimwits," she says ("Neanderthal Artists Made Oldest Known Cave Paintings" 2018, para. 10). These cave paintings prove that they are just as smart as humans.

"The following is a photograph of a cave painting. The picture on the left shows *Panel 78 in La Pasiega.* The photos were retrieved from https://www.cbc.ca/news/technology/neanderthal-art-1.4378719 . The ladder shape dates to older than 64,000 years and was made by Neanderthals, but it is unclear if the animals and other symbols were painted later. On the right is a drawing of Panel 78 by Breuil et al. (1913)" (The Associated Press 2018, Fig.1).

Panel 78 by Breuil et al., (1913). (The Associated Press, 2018, Fig. 1)

I included the following link *Neanderthal Origin of Iberian Cave Art* retrieved from https://www.youtube.com/watch?v=0H_wFNfrMmU because I felt it would provide an authentic experience walking into the past and would provide an opportunity to see Panel 78 in La Pasiega. Without someone standing next to the paining it would be impossible to determine its size. We can see the cave painting of the ladder is in reality, lifesize (Rogers, 2018, 0:44-2:22).

As evidenced by the findings in Indonesia and Spain, there is a wealth of information on prehistoric civilization and culture that existed long before words were ever written. Discovering ancient artwork is like finding a priceless page in history.

The arts hold the key to learning about civilization's past, about our great country's past, and about the past of other cultures and heritages. American civilization is quite diverse. We are truly a melting pot, mixing cultures from all around the world, each fighting to preserve and advance its own identity by sending its own messages and

images. Williams (1991) notes that we know that many of the surviving images from past civilizations exist in visual form (p. 2). They tell a story of certain times that without it would not, nor could not be told. It would be lost forever to future generations. “All peoples, everywhere, have an abiding need for meaning to connect time and space, experience and event, body and spirit, intellect and emotion” (Mahlmann, 1994, p. 11).

Some things just cannot be expressed verbally or explained, but the arts are a way to convey that connection. “The arts are how we talk to each other. They are the language of civilization – past and present – through which we express our anxieties, our hungers, our hopes, and our discoveries. They are our means of listening to our dreams – of expressing our imagination and feeling” (Williams, 1991, p. 1). Music can have that effect on people. They can be brought to tears or have their mood elevated out of sheer joy from what they are listening to. Similar effects occur when looking at paintings, as we empathize with the content of the picture, we can feel sadness in the pit of our stomach and feel our eyes swell with tears, or we can see the beauty and feel our hearts burst with joy. This is possibly due to past experiences and/or an emotional connection and emotional reaction/response we have with a particular piece of art or music.

According to Jenefer Robinson (2005), who wrote *Deeper Than Reason: Emotion and Its Role in Literature, Music and Art,* “an emotional response is a physiological response that is caused by a non-cognitive affective appraisal” (p. 157). It is a response that is not based on conscious intellectual activity when judging something as having an affective quality, such as being pleasant/unpleasant, likable, exciting/boring, or comforting/frightening. When we see art or hear music, most of us get a feeling inside without really thinking about it. It just happens. A quote from the

famous German composer Ludwig van Beethoven touches on this point, in a rather sexist way, but he is a product of his time and it was not proper for a man to show his sensitivity, but he could show passion. "…Emotion suits women only, music should strike fire from the heart of man" (Beethoven, 2016, para. 104). He is aware of how music influences us emotionally, in one way or another. Both music and art can evoke emotions that the artists themselves are feeling. A Russian writer and one of the world's greatest authors Leo Tolstoy is quoted as saying, "Art is not a handicraft, it is the transmission of feeling the artist has experienced" (Oxford Dictionary of Quotations, 2009). We can get information from scholars about the topic of the arts and emotion, but nothing is as valuable and trustworthy as hearing words from the artists themselves.

Whether the work of art was created hundreds of years ago or today, regardless of how old a work of art is, the feelings conveyed are still the same. The feeling does not have to be verbally expressed; it is conveyed through the art. Being able to critically assess what we read, see, and hear is a skill that is nurtured through the study of the arts. This will help us to "interpret accurately the signals of other cultural groups in search of our common humanity…. this ability to make judgements will also teach us to construct sound value systems for any event or object, whether it is art or not" (Williams, 1991, p. 2). Take for example, Picasso's famous painting Guernica in 1937. This was his reaction to the Nazis' bombing of the town of Guernica during the Spanish Civil War, depicting the suffering of innocent civilians because of the tragedies of war. The feeling of devastation and pain do not have to be spoken in words; the paint on the canvas does the talking. Picasso's lack of the use of vibrant color and massive size of the piece are also a part of the story.

Photo credit: Joaquin Cortes/Roman Lores. (Lesser, 2017, Fig. 1)

I included this particular image of Picasso's *Guernica* retrieved from https://www.artsy.net/series/stories-10-art-historys-iconic-works/artsy-editorial-guernica-picassos-influential-painting to show the magnitude of the painting, which you can see based upon the height of the visitors viewing the painting at the Museo Nacional Centro de Arte Reine Sofia (Lesser, 2017, Fig. 1).

A 2005 report by the Rand Corporation about the visual arts argues that the intrinsic pleasures and stimulation of the art experience do more than sweeten an individual's life. According to the report, they "can connect people more deeply to the world and open them to new ways of seeing," creating the foundation to forge social bonds and community cohesion (Smith, 2009, para. 2).

The arts connect us to our innermost human experiences and to our humanity. Learning about the art and music of the past helps us to understand the culture of our ancestors, and the ancestors of others throughout the world. The arts reflect history and unlock the past, help document the present and ensure that future generations are

provided with reminders of what was, what is and can help them create, imagine, and determine what can be.

In my opening paragraph I mentioned the importance of government involvement in the arts and how we need its help to nurture and sustain the programs required to continue to educate us about our past, help us create the present, and to help us document the story of our lives for future generations. This is not a new concept. Many leaders of our great country have taken a stand in favor of the arts, the arts in general as well as the arts in education. George Washington said, "The arts and sciences are essential to the prosperity of the state and to the ornament and happiness of human life. They have primary claim to the encouragement of every lover of his country and mankind" (Bauerlein and Grantham, 2009, para. 1). President Kennedy, one of the biggest proponents of the arts and probably had the most influence on the arts even to this day, said, "The life of the arts, far from being an interruption, a distraction, in the life of a nation, is very close to the center of a nation's purpose and is a test of the quality of a nation's civilization" (Bauerlein and Grantham, 2009, p. 9).

Our government has a responsibility to the people of our country to help strengthen our culture and at the same time make positive connections with our friends and allies around the world. This can be done through the arts as utilized by President George Bush who believed in that concept. According to Williams (1991), President Bush wrote these words in a letter regarding an American Art Exhibition, "Fine Arts transcends differences and cultures, providing a bridge between peoples that fosters better understanding among nations...It is my sincere hope that all those who view this exhibition will gain a deeper understanding of the dreams, and the timeless truths that

form a common bond among members of the human family" (p. 1).

While George Washington may not have had any idea how involved the Government would become in the Arts when he made that statement, Kennedy surely had insight when in 1961 he further recognized the significance of the arts to the national well-being, and Obama made sure the legacy continued. The Arts have such an impact on who we are as a people and tell us about our past as well as give insight into different cultures around the world. Mahlmann (1994) asserted, "If our civilization is to continue to be both dynamic and nurturing, its success will ultimately depend on how well we develop the capacities of our children, not only to earn a living in a vastly complex world, but to live a life rich in meaning" (p. 11). They need to learn to love, to feel, to sing, to dance, to be innovative and to create. Conventional academics are not the whole of human intelligence. "We often need to think logical, but our deepest thoughts and judgments are also touched by values and feelings, by intuition and rapport, and by the very sensuousness of living. These are what the arts are about" (Burnaford, Aprill & Weiss, 2001, p. xix).

The Arts are a big part of the foundation and framework of our culture. Advocates for the Arts know this and have been fighting to make the arts a priority in schools for years and years. How can we NOT teach our children about our rich and cultural heritage, something that is so vital to the success of our country and to civilization? They would also be missing out on the cognitive, social, and emotional benefits they would reap from participating in the arts. The battle to not only keep the arts in education has been ongoing, but to make it a priority is even more of a struggle. When we are aware of the benefits of the arts, yet we keep them from our children, we are doing them an

injustice. “Understanding the context of the arts and their possibilities will lead to an informed and broadened perception of them and will place the arts in the mainstream of the human struggle for a better and humane tomorrow” (Fowler, 1996 p. 5). In 1965, President Kennedy’s dream became a reality when President Johnson signed the National Foundation on the Arts and the Humanities Act establishing the National Endowment for the Arts and the National Endowment for the Humanities. Congress included this affirmation as the second section of the act in the “Declaration of Purpose”. It stated:

> A high civilization must not limit its efforts to science and technology alone but must give full value and support to the other great branches of man’s scholarly and cultural activity. Democracy demands wisdom and vision in its citizens and...must therefore foster and support a form of education designed to make men masters of their technology and not its unthinking servant. The practice of art and the study of the humanities require constant dedication and devotion and... while no government can call a great artist or scholar into existence, it is necessary and appropriate for the Federal Government to help create and sustain not only a climate encouraging freedom of thought, imagination, and inquiry, but also the material conditions facilitating the release of this creative talent (Baurlein & Grantham, 2009, p.19).

This Declaration of Purpose is a testament and a commitment by our government that the arts are valued and need to be encouraged and sustained right alongside technology and science. As far back as 1965 the government recognized that the arts were just as important as science and technology, yet it was never made a priority in the educational system.

Federal Laws that would specifically address the arts in education would be passed and amended many times throughout history. It was not an easy road and it is still a battle, but we are making strides and in 2020 schools in the US will provide universal access to the Arts. The arts are essential for our society, economically, historically, and academically so it makes sense that there is governmental involvement.

The following is a Timeline on Arts Education and Federal Legislation that led to a monumental moment in history in which New Jersey became the first state in our nation to offer universal access in the Arts in our schools.

TIMELINE: Arts Education/Federal Legislation from 1867 - 2020

Details of Events:

From 1867 to the present, arts education was always recognized by the government as having significant value to society, and every organization, act and piece of legislation that was passed brought us closer to securing the arts' rightful place in education. Below is found the consequential events (highlighted) that occurred throughout the years.

1867 - The **Office of Education** was established. "It was originally created as the Department of Education, however, due to a concern that the Department would exercise too much control over local schools, the new Department was demoted to an Office of Education in 1868." Even though the office was established, the federal government took little action on behalf of arts education and research until 1962, when the status of government support for the arts changed with the establishment of the Cultural Affairs Branch within the Office of Education (*An Overview*, 2010, para. 4).

1870 – Daley (2002) states that Massachusetts's legislature passed an act authorizing the teaching of drawing in public schools. **The Massachusetts Drawing Act**, prepared by John White, made the provision of free drawing classes for women, men, and children mandatory in all communities with populations over 10,000. As a result of this act, twenty-three cities provided these classes for their communities. The Massachusetts Drawing Act of 1870 also made it mandatory for state schools to incorporate art as one of

the required subjects taught in the classroom. This act helped to produce draftsmen, who in turn would aid the economy (*The History of Art*, n.d., para. 1).

1960 - With the election of President John F. Kennedy, enthusiasm for America as a nation dedicated to the arts seemed poised to become a widespread movement. In 1961 he **recognized the significance of the arts to national well-being** when he sent Labor Secretary Arthur J. Goldberg to settle a pay dispute between the Metropolitan Opera in New York and the American Federation of Musicians. On announcing the resolution of the conflict, Goldberg called for government subsidies to the performing arts and proposed that businesses join with labor in supporting the arts (Bauerlein & Grantham, 2009, p. 5).

1962-The Cultural Affairs Branch providing important support for arts education was established by the United States Office of Education (established in 1867). Prior to 1962 the federal government took little action on behalf of arts education and research, and if there happened to be any support there is no visible record of any outcomes from it. "Finally, the government designated a specific unit to support the arts. However, earlier in 1949 the Office of Education showed some interest in the arts on behalf of the government. A single person was given two tasks, first was the responsibility of keeping track of what was going on in the arts from Pre – school to graduate school level, and to monitor happenings in the arts, and secondly, they had to connect with various art institutions, museums, performing groups, professional associations, and art councils. Unfortunately, there was minimal funding for support of the programs and there is little to no evidence it even existed. What it did do was secure and hold a place for the arts in the U.S. Office of Education" (Gauthier, 2003, p. 143).

1964 - President Johnson signed the **National Arts and Cultural Development Act** creating the **National Council on the Arts**, the first federal agency to be established by law to: “provide such recognition and assistance as will encourage. and promote the Nation's artistic and cultural progress” (Bauerlein & Grantham, 2009, p. 15).

1965 - President Johnson signed the **National Foundation on the Arts and the Humanities Act** establishing the **National Endowment for the Arts**, also known as NEA which is an independent federal agency whose funding and support gives Americans the opportunity to participate in the **arts**, exercise their imaginations, and develop their creative capacities and the National Endowment for the Humanities, also known as NEH which supports research, education, preservation and public programs in the humanities. NEH grants typically go to cultural institutions, such as museums, archives, libraries, colleges, universities, public television, radio stations and to individual scholars (Bauerlein & Grantham, 2009, p. 18).

1965 - **The Elementary and Secondary Education Act** of 1965 (ESEA) was originally passed as part of the Lyndon B. Johnson administration’s War on Poverty campaign. Improving educational equity for students from lower-income families by providing federal funds to school districts serving poor students was the original goal of the law, which still stands today. Since 1965 ESEA has been reauthorized eight times, most recently in December of 2015 when lawmakers revamped No Child Left Behind and renamed it the Every Student Succeeds Act. Each reauthorization brought changes to the program. Despite the changes, its central goal remains improving the educational opportunities and outcomes for children from lower-income families (Paul, 2016, para. 1).

1980s - **Discipline Based Art Education:** the subject centered approach to art education became formalized as **DBAE.** Infusing the curriculum with content and structure, art educators sought to validate art instruction in public schools by making art instruction more like instruction in other subjects. It promoted education across four disciplines within the arts: art production, art history, art criticism and art aesthetics. Advocates for this approach believe that art education is for all students and not just those that demonstrate talent in making art and should be taught by certified art teachers (Dobbs, 1992, p. 7).

1982 - Created under President Reagan, **the President's Committee on the Arts and the Humanities (PCAH)** is an advisory committee to the White House on cultural issues. The PCAH works directly with the Administration and the three primary cultural agencies — National Endowment for the Arts (NEA), National Endowment for the Humanities (NEH) and the Institute of Museum and Library Services (IMLS) — as well as other federal partners and the private sector, to address policy questions in the arts and humanities, to initiate and support key programs in those disciplines and to recognize excellence in the field. Its core areas of focus are arts and humanities education, cultural exchange, and community revitalization (Dwyer, 2011, para. 1).

1994 - Goals: 2000: Educate America Act was a standards-based education reform project started in the 1990s which identified the arts as "core subjects" equal in importance to the academic subjects, English, mathematics, history, civics and government, science, and foreign languages, and mandating their teaching in grades K-12. Because of this act, the National Visual Art Standards were created (Fowler, 1996 p. 1).

1994 – **Uniform Standards for the Arts** were created. What students must know and be able to do are identified in these standards. They "must usher each new generation onto the pathway of engagement, which opens in turn onto a lifetime of teaming and growth through the arts. It is along this pathway that our children will find their personal directions and make their singular contributions. It is along this pathway, as well, that they will discover who they are, and even more, who they can become" (Mahlmann, 1994, p. 12).

2001- The Partnership for 21st Century Skills, a national organization serving as "a catalyst to position 21st century skills at the center of U.S. K-12 education by building collaborative partnerships among education, business, community and government leaders" (Bishop, n.d., para. 1). This will ensure that all students are prepared with the rigorous content knowledge and broad curricula they will need for college.

2002 - No Child Left Behind Act (NCLB) which was signed into law in 2002 declared the arts as "core academic subjects". Districts shifted priorities towards subjects assessed on the standardized tests such as math, reading, science, English and history because of NCLB, where they now had to measure and prove all students make "adequate yearly progress." Since these test scores were high stakes, much of the attention was focused on reading and math, which received the most amount of funding, at the expense of the arts (Major, 2013, p. 6).

2007 -America Competes Act - Congress responded to a concern by US National Academies about the declining state of education in our country particularly in the areas of science, technology, engineering, and mathematics (STEM). It set up three major federal agencies responsible for funding basic research in the physical sciences and

engineering- the National Science Foundation (NSF), the Department of Energy's Office of Science (DOE/SC) and the National Institute of Standards and Technology (NIST) on a seven – yearlong doubling path. The bill also strived to enhance science, technology, engineering, and mathematics (STEM) education at all levels, as well as to improve the U.S. innovation system (*Competes Act*, n.d. para. 1).

2008 - President and Mrs. Obama were proponents of the arts. During his 2008 campaign President Obama created an **Arts Policy Council.** The President's Platform in support of the Arts stated:

Reinvest in Arts Education: To remain competitive in the global economy, America needs to reinvigorate the kind of creativity and innovation that has made this country great. To do so, we must nourish our children's creative skills. In addition to giving our children the science and math skills they need to compete in the new global context, we should also encourage the ability to think creatively that comes from a meaningful arts education. Unfortunately, many school districts are cutting instructional time for art and music education (Dwyer, 2011, p. 14).

2011 - Reinvesting in Arts Education: Winning America's Future through Creative Schools. A landmark report requested by the President's Committee on The Arts and the Humanities, that was an in-depth review of the current conditions of arts education, including an update of the current research base about arts education outcomes. It also contained an analysis of the challenges and opportunities in the field that have emerged over the past decade, and contained recommendations to federal, state, and local policy makers (Dwyer, 2011, p. 9).

2012 - The President's Committee on the Arts and Humanities launched **Turnaround Arts**, which has expanded to 68 schools across the country. Turnaround Arts aims to impact underserved elementary and middle schools through arts education programming that is specifically designed to address the systemic challenges facing these high-poverty school systems. Turnaround Arts was developed out of the findings and recommendations of the landmark report Reinvesting in Arts Education: Winning America's Future Through Creative Schools published by the President's Committee on the Arts and the Humanities in 2011. "Its focus is on improving school climate, deepening instruction, and increasing student parent engagement as a pathway to improved academic achievement" (Stoelinga, Silk, Reddy & Rahman, 2015 p. v).

2015 - Every Student Succeeds Act replaced the No Child Left Behind Act., the Every Student Succeeds Act, (ESSA), was signed into law in 2015. Here they replaced the definition of the arts as "core academic subjects" to the arts and music, as a "well-rounded education". ESSA defines student success as more than just achievement in core academic subjects and lists the arts and music as examples of a "well-rounded education" (Darrow, 2016, p.44).

2020 - Universal Access to the Arts. New Jersey leads the way. Universal access means all New Jersey public schools provide some form of arts education and every student that attends a public school in New Jersey has the opportunity to participate in arts education programs as part of the regular school day. In a video clip where Gov. Murphy announced this news, he stated that100 percent of NJ schools now offer programs in the arts. He also stated that NJ schools were ranked #1 in the United States and he attributes it to its arts programs (*New Jersey Becomes,* 2019, para. 2).

It is clear from examining the historical timeline, that progress has been slow in making the arts a priority in our schools, but it has been steady. It is not from a lack of interest or from lack of belief in the value of the arts and its significance to our past, to our culture and civilization, and well as to the educational benefits it brings to the younger generation getting ready to lead our country into the future. Baurlein and Grantham (2009) quote John F. Kennedy who said, "The life of the arts, far from being an interruption, a distraction, in the life of a nation, is very close to the center of a nation's purpose...and is a test of the quality of a nation's civilization" (p. 9). He made it very clear: We must be ready to make our mark on civilization and leave a page in history through the arts like our ancestors did! The First Lady, Michelle Obama who chaired the President's Committee on the Arts and Humanities, stated, "Arts education isn't something we add on after we've achieved other priorities like raising test scores and getting kids into college. It's actually critical for achieving those priorities in the first place" (*Hispanics and Arts*, 2015, para. 1). She knew that the arts were not something we teach a child after they became successful; we must teach them the arts to help them get there. That starts in school and I believe should be taught with the same effort and commitment teachers put forth when they teach all the other subjects.

We need to look at the connection between the Arts/ culture, civilization/history, society/government, and education if we are to prepare and inspire the next generation. They are all part of the ties that bind us as a people. We need to teach the things that bring us closest to the heart of our cultural experience, the Arts, which in turn will help the future leaders to find their strengths and talents, to develop self-confidence,

independence, and a sense of identity. Through the arts they will learn to develop social and moral responsibility, to be tolerant and understanding of cultural diversity, and more importantly, the arts will help them reach their potential to be contributing members of society who value our democratic system.

The government has implemented many acts and laws to make sure the arts are recognized, valued, and appreciated by the people in our great country. In addition, legislation specifically addresses the arts in education, which have typically been seen as frivolous and not as important as academic subjects and finally places them on an equal level of importance as core academic subjects. The arts are key and play such an important role in human life. Williams (1991) argues, "If we do not teach our children to look and understand what they see, haven't we failed to prepare them for life in contemporary society? Aren't we sending them into the modern world without a complete education" (p. 3)? The government has finally realized that fact and New Jersey is leading the way as the first state to offer 100 percent Universal Access to the Arts in Education. As far back as 1965, Harold Howe, Commissioner of Education, had an interest in the connection between the arts, society, and education. He was an advocate of involving the artist in the process of arts education in the general educational system, not just in arts education. The commissioner was a true visionary--way before his time. Arts Integration will be discussed in future chapters. Gauthier (2003) noted that Howe believed, "if we cultivate a sensitivity to aesthetics in every student, we will produce a generation of businessmen, housewives, civil servants, computer programmers, journalists, veterinarians, radio-TV repairmen, and dental technicians who will remake the face of America" (p. 156).

Before we could even get into the fact that the arts are extremely beneficial to our children's development, cognitively, socially, and emotionally it was important to develop an understanding of the bigger picture of their significance as to how the arts relate to life in general. "The arts are not only fundamental to success in our demanding, highly technical, fast-moving world, but they are what makes us most human, most complete as people. Arts contribute to our growth as human beings" (Jensen, 2001. p. vii). If school's purpose is to prepare our children for life and to be cultured, capable human beings, then we cannot neglect to include in our schools the very essence of what humanity is.

CHAPTER TWO

Benefits of the Arts and Arts Education

The benefits of the arts and arts education have an impact on all students, including the diverse learner, not only in the arts, but in all aspects of their education, and in their lives. "Arts education has a role to play not only in building artistic skills, but also in building critical competencies and mindsets that can be transferred to other subject areas, and as an important part of the overall development of young people" (Farrington et al., 2019, P. 7). Part of the overall development of young people includes developing cultural competence and 21st century skills which are essential for success after school life and can be accomplished through participation in the arts throughout a child's educational career.

The role the arts are playing during the writing of this dissertation is quite significant. They not only provide cognitive benefits but social and emotional benefits as well, which are desperately needed for so many. Both adults and children alike are using the arts to cope with the sad reality we are experiencing at this moment in time. Among its many other benefits, the arts have the potential to alleviate stress, to elevate our mood, to help us feel less isolated and more importantly they allow us to express and share our emotions.

The COVID pandemic has certainly challenged society in so many ways, especially the way it has affected the arts, and the education of our students. To access the arts during this time we have to rely on technology for most of it. People are required to stay home to stay safe. All non-essential facilities and buildings which typically house the arts are off limits or shut down. Concerts and Broadway Shows are streaming online,

virtual tours of art galleries are the new norm and group dance classes are held right in our living rooms. Not only has technology been the saving grace for the arts, but it has also come to the rescue of our educational system. Schools had to find a new way to educate their students.

Remote teaching and learning hit us all at once and had everyone scrambling to figure out how to effectively teach our students. Zoom, Google Meet and Seesaw became our virtual classrooms. We needed to keep our children safe, while still meeting their educational needs. Overnight, everything changed for our students, cognitively, socially, and emotionally. Everyone, not only the children needed something to stimulate them, to excite them, to keep them connected and focused, and to help relieve the stress related to this whole ordeal. Technology and remote learning were the solution to this crisis. Remote teaching allowed me to continue providing art and music classes to my students, something they so desperately needed. Our educational system has been temporarily reshaped for most students. Finding a solution is nothing new; Sahin (2009) tells us "throughout human history, education has been shaped by the societal needs of the societies in which it is set" (p. 1465).

Circumstances change and people learn to adapt. In the case of my severely multiply- disabled students, they needed something to connect to, to keep them coming to school remotely every day. I found out firsthand that my students as well as their parents needed the arts to make that happen. I am the Fine Arts Teacher at my school and believe it or not, I had just about the entire school and their parents show up for my art and music classes which were scheduled for twice per week. Some showed up every day! The regular class teachers had limited and sporadic attendance for their classes. But my arts

classes were full. We drew pictures, we painted, we sang, each child played piano and guitar, all remotely. We even had a family talent show online. The arts had a definite impact on my students and their social/emotional well-being during this pandemic and their parents reaped some benefits as well.

Participation in an arts education program has a positive impact on students in many ways: The arts connect students with their own culture as well as with the wider world. It prepares them cognitively, socially, and emotionally for the future. Through education in the arts, students will develop 21st century skills. These essential skills will enable them to succeed in a world that requires cultural competence, adaptability, reasoning, more creativity and innovation, and less reliance on facts and data. Sahin (2009) asserts that to cope with the demands of the 21st century, as our students enter the workforce and become part of the global economy, they need to know more than traditional core subjects; "they need to know how to use their knowledge and skills by thinking critically and applying their knowledge to new situations, analyzing information, comprehending new ideas, communicating, collaborating, solving problems and making decisions" (p. 1465). Education in the arts can prepare our students to meet these expectations.

The arts have a positive impact on children's lives, and they change for the better. To find out why and how this happens, a group of educational researchers were charged with examining the impact of arts experiences on young people. They developed the *Champions of Change: The Impact of the Arts on Learning* initiative, in cooperation with The Arts Education Partnership and The President's Committee on the Arts and the Humanities. Aware that in order to gain the public's support for the scarce funds

available, the researchers needed proof that something special happens when music, art, drama, and dance become a part of a child's life. They collected evidence from well-established models of arts education to determine why the positive changes occurred, and how they would be able to share it with other programs to make them more effective as well. It was their hope that this report would provide an explanation to the skeptics on how and why young people were changed through their experiences in the arts (Fiske, 1999, p. 7).

The *Champions of Change* researchers found that the arts alter learning experiences because:

The arts reach students who are not otherwise being reached (Fiske, 1999, p. 12). I believe children who do not show up for school are at the greatest risk for failure or in dangerous situations. For many students, the arts are the only reason they go to school. It may just be that the student who has no interest in going to school to learn academics only shows up to sing in the choir, to learn to play the trumpet in the band or to dance in the school play.

The arts reach students in ways that they are not otherwise being reached (Fiske, 1999, p. 12). In my opinion the student who is the problem child in math class, the troublemaker in science class who is constantly failing suddenly becomes the star student in Art class or Drama class most likely because he was not being engaged in those other classes. The arts were able to pull them in and draw out the best in them.

The arts connect students to themselves and each other (Fiske, 1999, p. 12). I believe painting, drawing, or creating a piece of art is truly personal and comes from their

inner being. Students are drawn to one another's work. They learn from one another, form bonds and can relate to each other's work.

The arts transform the environment for learning (Fiske, 1999, p. 12). We know when the arts are at the center of the students' learning environment, the culture of the school changes across the disciplines. They are less divided, and all become connected.

T**he arts provide learning opportunities for adults in the lives of young people** (Fiske, 1999, p. 12). We have learned that an adult helping a child in the arts provides themself with an opportunity to explore and learn along with the student. We are never too old to continue learning, which is a great example for the children.

The arts provide new challenges for those students already considered successful (Fiske, 1999, p. 12). We know when students get bored when they are not learning something new. With the arts there is always something to learn and perfect.

The arts connect learning experiences to the world of real work (Fiske, 1999, p. 12). We have learned that skills learned through the arts transfer to the real world. Coming up with ideas, following through on them, making them work, and communicating them are the steps to success in the workforce.

Since its creation in 1982, one of the core areas of The President's Committee on the Arts and Humanities has been arts education. President and Mrs. Obama were big proponents of the arts and agreed with these findings on how art experiences can change young people. During his 2008 campaign President Obama created an Arts Policy Council. He invited artists, educators, cultural leaders, and advocates to help advise on policy matters related to the arts. The President's Platform in support of the Arts stated:

> Reinvest in Arts Education: To remain competitive in the global economy, America needs to reinvigorate the kind of creativity and innovation that has made this country great. To do so, we must nourish our children's creative skills. In addition to giving our children the science and math skills they need to compete in the new global context, we should also encourage the ability to think creatively that comes from a meaningful arts education. Unfortunately, many school districts are cutting instructional time for art and music education (Dwyer, 2011, p. 14).

Districts cutting instructional time for art and music will be addressed in one of the chapters to follow. To remain competitive in a global economy our future leaders, entrepreneurs, corporate employees, and workers, right down to small retail businesses must be knowledgeable of and interact effectively with people of different racial and ethnic backgrounds especially since:

> The global economy transformed the way we do business. Companies have diverse customers from around the world with different backgrounds and the internet has created an equal playing field for international competition. As a result, businesses develop and market products and services cross-culturally. Cultural competence is crucial for companies and employees to succeed in the global marketplace (Doing Business, 2018, para. 1).

Cultural competence, one of the 21st century learning skills is not only crucial for businesses to succeed in the global economy, but also essential for our students to develop cultural competence to be accepting, caring citizens, workers, and leaders of diverse communities throughout our great nation.

Promotes Cultural Identity/Cultural Competence

Through the arts, and arts education we learn to understand and to develop our own cultural identity, as well, develop an understanding of other cultures around the world. We also learn about our ancestors in a prehistoric time long before the written word. The arts are the bridge that connects cultures, and unifies us as a nation and as a people. Our children need to be reminded they are all part of one race, the human race. The arts can help us accomplish this. Ijdens, Bolden and Wagner (2017) tell us that

"Arts education has an important role to play in the constructive transformation of educational systems that are struggling to meet the needs of learners in a rapidly changing world characterized by remarkable advances in technology on the one hand and intractable social and cultural injustices on the other" (para. 4).

Music and art from other countries are everywhere we look in the United States. Many people have become so used to hearing it and seeing it that they have become oblivious to it, particularly in diverse inner cities. This could be something positive since not noticing it as different means it is accepted.

I teach in Jersey City, a very diverse inner city where they started the Jersey City Mural Arts Program in 2013. The innovative program supports and promotes local, national, and international artists while reducing graffiti and transforming Jersey City into an outdoor art gallery. All the murals are painted on buildings and walls, some ten stories high. The students residing in town are exposed to beautiful, larger than life artwork that truly represent the various cultures and heritages of the community. The artists have the freedom to express themselves however they choose to. I think the following two pieces of art I chose painted by local artist Lissanne Lake (2015, 2019) represent not only Jersey City but represent life the way it should be in all places. The pieces entitled *Community, and Diversity* were retrieved from https://www.jcmap.org/our-murals/ ("About Us", n.d.). Looking at the content, we see why they are perfect. They both depict people of all ages, all races, all genders, all sizes, all colors, walking together peacefully in the community. What a beautiful thing to look at when walking or driving through the city.

Community [Wall Mural]. Photo credit: Lake, L. 2015 @ JMAP (About us, n.d.)

Diversity [Wall Mural]. Photo credit: Lake, L. 2019 @ JMAP (About us, n.d.)

Our students come from all over the world, and families from the various ethnic groups tend to live in areas where people of a similar culture and heritage live. Jersey City is a multicultural city, but much like the "salad bowl" I mentioned in the previous chapter, although the families moved to a big city in America, they tend to move to certain areas where they can keep their traditions, cultures, and ways of life, and feel connected to those of the same culture. It allows them to keep their identity, know who they are and where they came from. This also pertains to people who were born right here

in America. They have strong family ties and connections to family heritage, and they choose to live in an area with people who share the same values, traditions, and cultural beliefs. Many of the people of Jersey City have chosen to live in specific sections of town - the Italian section, the Black section, the Hispanic section, the Indian section, the Muslim section, and a mixed section where people of all cultures reside.

People are sensitive about their culture and heritage and we need to be mindful of people's differences. Just because someone has dark skin does not mean they are African American or identify as African American; they could be from other countries such as Haiti, Jamaica or from the Caribbean Islands to name a few, so we must be careful not to group people by our perceptions. Just as most Hispanic and Latino Americans speak Spanish, but not all Spanish speaking Americans are Hispanic or Latino.

Jersey City is a diverse community where all are welcome. There are multi-ethnic people living in separate neighborhoods, living alongside one another, and working towards getting along. Architecture, clothing, furniture, food, artwork, and music all tell us about who lives in each specific area. They/we all have a cultural identity. The children all go to school together. The arts, specifically the type and styles of art enjoyed by each community show us that although we may appear different on the outside, we are still very much the same on the inside, in how we think, how we feel, and how we act.

Hoffman Davis (2008) wrote that the arts illuminate and provide the opportunity to celebrate difference; they also represent the transcendent human connection. We sing, we create objects, we make marks, we dance. We are human beings. Children respond to the humanness of the arts; it connects them to a world of others with whom they become

one (p. 76).

If we are not familiar with each other's differences, we cannot fully understand who each of us really are, and we may even feel uncomfortable with each other, and this is what causes a cultural divide. Ndungu-Case who conducted a TED TALK *Celebrating Diversity Through the Arts,* retrieved from https://www.youtube.com/watch?v=53I2vwd3yb4, stated, "Music, dance and an open mind are essential ingredients to creating a beautiful life where people of all backgrounds can reach across their differences and find joyful common ground" (TEDx Talks, 2015, 6:38-6:55). I included this video because it is about an immigrant mother making sure her children who were born in the United States were exposed to her culture and heritage from Kenya. They would not get exposed to this culture in school and there was nowhere outside of the household for her children to learn it, so she started a program herself. This should solidify my point about teaching cultural diversity in schools.

Embracing diversity and accepting and affirming cultural differences is essential for our teachers. They need to recognize that those differences are not barriers meant to divide and keep students apart. They should be seen as assets and opportunities for our children to share so they can grow and learn from one another. They must help their students value their identities and teach them to embrace each other's culture and heritage. This can be done effectively through the arts, where cultural pride is promoted and equal learning opportunities are provided through a curriculum filled with diverse arts programs, activities, and opportunities, such as multicultural days where each culture is recognized and celebrated. Eisner (1994) pointed out that "...one of the aims of art

education is to enable all out students to gain meaningful access to what the peoples of all cultures have created" (as cited in Adejumo, 2002, p. 38). However, according to Adejumo (2002) there is a big concern:

> "…the challenges of representing works of art from diverse cultures without profound knowledge of the contexts of their production. To develop true appreciation for minority cultures and their art, and respect for students from those cultures, the target group may have to be exposed to the cultures and their art through direct and extensive interaction. This could be done through student-exchange programs (which may be local, national, or international) and peer or adult mentors sharing of cultural knowledge with an individual or a group over an appreciable period of time" (p. 34).

Schools need to mindful of this important issue. Sensitivity, respect, and appreciation should pertain to all students, but would have more of an impact on students who identify with the culture of the lesson being taught. Students from another country, or heritage will surely value learning about their culture in school through the arts and will feel a sense of pride as others learn about their culture. Yet to make it authentic, accurate and sincere it should come from someone who knows the culture extensively or who is of that heritage. I as a teacher cannot just pick up a book, read about India and Indian culture and then teach the students about Indian art, music, or their heritage. Unless I lived in India, experienced their culture and way of life, or studied it extensively, I would not be qualified to teach about something I learned from a book or teacher's manual. The students who identify with that heritage could possibly be turned off by the lack of sincerity and authenticity and could have a "what do you know about that?" attitude. Could I, as a teacher, teach that lesson? Of course, I could, but as Adejumo, (2002) suggests it would be a challenge. He believes students should be exposed to a culture and their art from someone who is extensively experienced in that culture (p. 34). So, I could possibly teach the lesson, and then bring in a guest speaker. Another example would be a white teacher teaching African American students about racism and the

Apartheid in South Africa. Unless that teacher experienced it firsthand, the sentiment of the students would be the same as my prior example. The "what do you know about that, how can you tell me about something you have no clue about?" attitude will surely come out. Schools need to make sure all students' cultures and heritages are respected. Students who feel valued, affirmed, safe, and have a strong sense of self and cultural identity, are students that are ready and willing to learn. This can only have a positive impact on student achievement. I have included a video entitled Celebrating Cultural Identity Through the Arts, where we see a group of young ladies learn about their Mexican heritage. The program that assures students about who they are, helps them explore and discuss their roots and fosters a multicultural connection, not just through books but through live experience and interactions. Hearing directly from the students about how they feel about the program and what they have learned is powerful,
so I included the video *Celebrating Cultural Identity Through the Arts,* where the young ladies share their experiences, retrieved from
https://www.youtube.com/watch?v=DhCQqIC1xw0 (Edutopia, 2020).

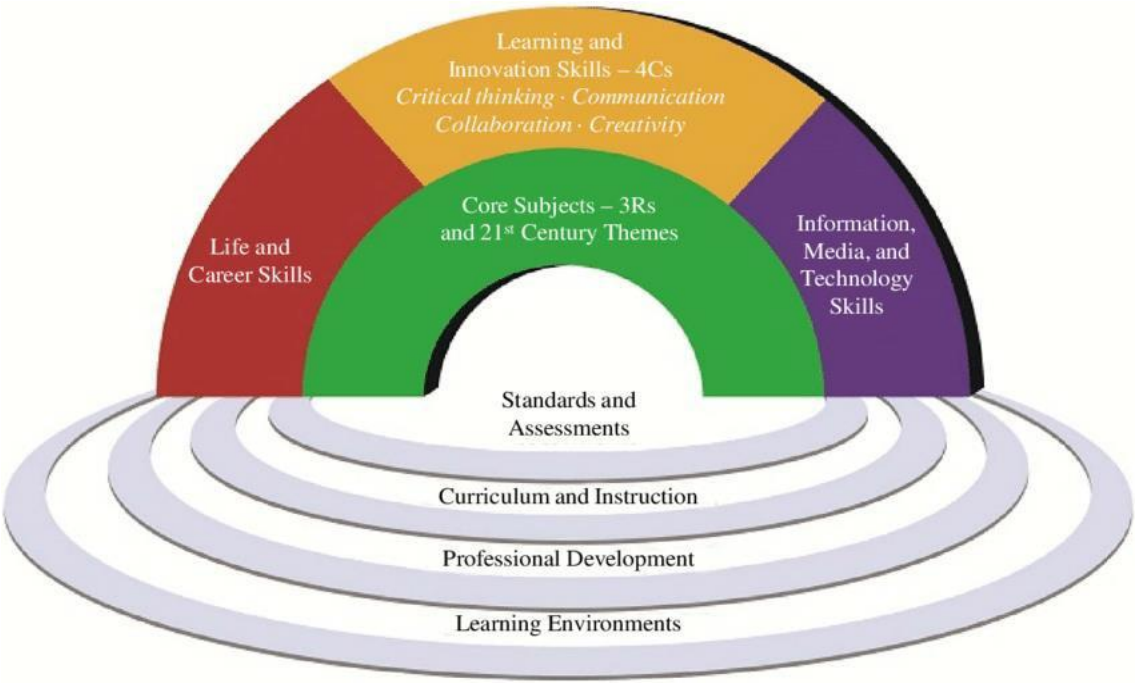
Hoffman (2008) wrote that during the "progressive era of education in the early twentieth century influential thinkers talked about meeting the needs of the 'whole child' and preparing them for life in the real world, after school." They believed that children needed emotional balance, which was as important as doing well in school. Then with the launch of the space rocket Sputnik by the Soviet Union in the 1950s came a shift in thinking that our children needed to be prepared to "advance our nation to new frontiers" (p. 93). That thought is still very much alive much to the detriment of our students, where the arts have become marginalized and thought of as a frill. The race is on and our

schools appear to have forgotten about teaching the "whole child" but rather teach to a test. It is not about teaching for emotional balance along with academic success, it is about teaching our children to be competitive in a global economy. We need to get back to the concept of teaching the "whole child" how to live not only in a competitive world, but in a world where people accept and embrace differences, and feel connected to one another, which in the long run will help them be successful in a global economy. Thankfully with the Every Student Succeeds Act of 2015, where the arts are recognized as core subjects and the law states that children need a "well-rounded" education, we as a nation are going back to the concept of teaching the "whole child". The arts can accomplish this task. Promoting cultural competence and cultural identity is one of the significant reasons to keep the arts in education and is a major benefit of the arts. Sputnik definitely sparked a change in our country's educational focus and we certainly need to make sure our students are receiving the best education they can receive in math, science and technology. Yet we need to remember that participating in the arts can help a child develop skills that will assist the students in achieving goals in other academic areas as well as help to create outstanding, compassionate, contributing members of our cultured, civilized society.

FACILITATES IN THE DEVELOPMENT OF 21st CENTURY SKILLS

In 2002, there was a concern that American Education was failing graduates because they were graduating without skills needed to be productive in the Digital Economy. Schools were relying on the 3 R's and it was not enough, which resulted in an organization being formed, called the Partnership for 21st Century Skills, also referred to as the Partnership or P21 (Kivunja, 2015, p. 225). The Partnership who published a report *Learning for the 21st Century*, believes that for students to advance their learning in core

academic subjects, 21st century skills must be integrated into K-12 education. The Partnership developed the *Framework for 21st Century Learning*, also referred to as the *Rainbow*, which describes all the essential skills, knowledge, and expertise a student will need to master to succeed in work and life. It was developed to help teachers integrate skills into the teaching of core academics. I included the diagram to show the concepts of *the Rainbow* which was retrieved from https://www.researchgate.net/figure/The-rainbow-or-framework-of-21-st-century-skills-source-P21-2015b_fig2_272356548 (Kivunja, 2015, Fig. 2).



The Rainbow or Framework for 21st Century Learning Skills (source: P21, 2015b) (Kivunja, 2015, Fig. 2)

The essential skills to the framework are: **1. Learning and Innovation Skills** (The Four C's: critical thinking, communication, collaboration, and creativity) **2. Life and Career Skills** (Flexibility, leadership, initiative, productivity, and social skill s) **3. Information, Media, and Technological Skills aka Literacy Skills**. These skills are learned across the expanded core subjects, which include English, reading or language arts, world languages, arts, mathematics, economics, science, geography, history, government, and civics (Kivunja, 2015, p. 231).

The Partnership believes, "To cope with the demands of the 21st century, students need to know more than the core subjects. They need to know how to use their knowledge and skills" (Salpeter, 2008, p. 1). Students may have knowledge, but how they use it is even more important. To be successful in life after school the student needs to be able to handle these situations. Stauffer (2020) asks these important questions: Can the student think critically, by solving a problem or come up with a solution? Can they think creatively and keep up with the times? We live in a fast-paced world, out with the old ideas, in with the new. Can they collaborate and work cooperatively with a partner, or in a group? They must put their ego aside and be able to work as a team member. Can they communicate? Being able to talk effectively to express your ideas and concerns is essential in the workforce ("Learning Skills: The 4 C's").

The Partnership elevated the status of these skills to "the 4 C's—super skills" for the 21st century because they are essential to help students develop skills for increased productivity, creativity, critical thinking, problem solving, communication and collaboration, not only while still at college but even more importantly, later in their daily lives after graduation (Kivunja, 2015, p. 236).

Just as all the core subjects fall under the umbrella of the 3R's, all the 21st century skills fall under the 4 C's (Bishop, 2008, Learning and innovation Skills). Fusing the core subjects with the 4 C's - communication, collaboration, critical thinking, and creativity, is one of P21's central goals. This "fusing" requires an interdisciplinary approach to teaching and learning since "the 4 C's aren't content, they're skills for gaining content" (3 Simple Steps to the 4 C's, 2020, para. 1). They help the teacher teach a subject, such as science, where we need to think critically. The student needs to analyze, evaluate, and explain, and they must make decisions and come to conclusions. Thus, the teacher is helping to develop these skills which in turn will assist in their science lessons. How do the arts fit into this scenario?

There is a major connection between the arts in education and the 4 C's. Arts-based instruction and Arts integration, which will both be discussed more thoroughly in the following chapter, are ways the core subjects can be fused with the 4 C's, which will enable students to develop knowledge in both an art form and another area of the curriculum, as well as develop skills in the 4 C'**s** (Silverstein & Laney, 2020, para. 9). The following is my example of Arts-Based instruction where skills transfer from art class to science class: When a student is looking at a particular work of art, a painting for example, they analyze every square inch of line and form, looking for details such as brush stroke, which medium was utilized, what colors were used. They critique and evaluate the technique. They try to explain what they think the artist was trying to convey to the viewer. These skills that the student learns in art class can transfer over to science class where they must analyze data from a science experiment, evaluate which methods worked best and explain the results.

Here are two of my examples of Arts Integration- integrating the 4 C's using arts integration in a science and a history lesson following *The 3 Simple Steps to the 4 C's* (2020) suggestions (para. 1-3).

1. *3 Simple Steps* (2020) suggests the teacher should first introduce and model a concept, then encourage the students to think **critically** and **creatively** about it. Students are then required to visually represent a concept, by making a sketch, a diagram, or some other form (para. 1-3).

My example for science/visual arts is: Students will create a visual representation of the seasons - a drawing, graph or other visual, using whatever art materials they have available I think this is a fantastic opportunity for the children to get creative. They must figure out what items around the house they can manipulate to create a visual that represent snow, rain, leaves, trees etc, anything that represents the seasons. Crayons and paint are ok, but 3D visuals are preferred, and the choice is all theirs.

2. *3 Simple Steps* (2020) suggests the teacher will provide students with a topic. They are required to share ideas and choose one idea that they will dramatize in a public service announcement, which they will act out in front of the class which would encourage **communication and collaboration** (paras. 1-3). My example for History/Drama is: Students will create a public announcement on the importance of voting in an election. This is a great opportunity for students to learn self- confidence, and support for one another as well since they will be performing in front of the class. Peer support and encouragement are so very important.

As shown in the prior two examples, the 4 C's are some of the outcomes/benefits of arts integration, making it a perfect 21st century learning skill.

Our American culture is still downplaying the significance of the arts in the lives and future of our children. The National Task Force on the Arts in Education was formed to help people realize if we are to ensure our children receive a well-rounded and complete education they must participate in the arts in school. "The College Board's Board of Trustees charged the task force to develop and articulate a vision for arts education in the United States with the hope that the College Board will use its considerable resources and influence to achieve and sustain an integrative vision for the arts in education" (College Board, 2009, p. 3). The Task Force's goal was to rethink education in the United States. They envisioned the arts as an everyday part of a student's academic life. They believe if we do not do something to ensure our students learn through the arts, where they will reap the benefits from learning about other cultures, as well as be provided with chances to develop their innovative thinking skills, our educational system will continue to be in crisis, with our students falling behind other countries in every subject. It is a certainty that they will be ill prepared for life in the 21st century (College Board, 2009, p. 3).

The National Task Force on the Arts in Education claimed: "Arts experiences play a vital role in developing students' capacities for critical thinking, creativity, imagination and innovation. These capacities are increasingly recognized as core skills and competencies that students need as part of a high-quality and complete 21st- century education - one that includes learning in and through the arts…" (as cited in Silverstein, 2020, para. 2).

Why is creativity so imperative to be successful in the 21st century? The Partnership for 21st Century Skills is emphatic that creativity and innovation have a

major influence in the Global Economy. If we cannot keep up in our digital world it will be difficult to survive. “Technology has taken over almost every aspect of our lives, our economy is fueled by information and driven by digital technologies” (Kivunja, 2015, p. 229). We must make sure our children’s creative, imaginative side is nurtured and encouraged, for they are the dreamers, innovators, and creators of the future. They must be provided with opportunities throughout the school day to participate in activities that incorporate the arts into their curriculum for this very reason.

P21 states, “The importance of creativity and innovation being a foundation for the essence of survival of humans was well articulated by other leaders in the field such as De Bono (1995) who said, there is no doubt that creativity is the most important human resource of all. Without creativity, there would be no progress, and we would be forever repeating the same patterns” (as cited in Kivunja, 2015, p. 229). Children do not like to be told what to do. They like to figure things out for themselves. They do not like to do it the teacher’s way, where all students in the class follow the same cookie cutter method. Children are independent thinkers. “Being able to think independently is the basis of creativity. It is also an engaging way to learn” (Fowler, 1996, p. 49). A child being forced to follow the teacher’s directions stifles their creativity. I can remember very clearly being in the seventh or eighth grade, and we had to do a big report on the human body. We had about a month to do it. I was so excited about this assignment. Instead of the typical written report, I drew the systems of the body and labeled and described all the parts and functions of each system. I even color coded the parts and the labels, and each system had its own chapter. I was so excited. I turned it in thinking that was the best paper ever. Much to my surprise I got a big red F on the paper. When I asked why, the

teacher said I did not follow her directions regarding the assignment. Instead of praising my innovative approach or even simply acknowledging it, at the very least, I was punished for my creativity and independent thinking. Motivation promotes learning, and I was so motivated, that I went above and beyond, and learned so much more than any of the other students in the class. Yet that did not matter to the teacher. What mattered to her was that I did not follow her directions. That dampened all my motivation and enthusiasm for the rest of the year. There is a time and place for following directions and a time and place to think out of the box. Following directions will only get us to one place. Thinking outside the box will take us to places unknown. Let us teach our children to search for the unknown and provide plenty of opportunities to do just that.

James Catterall, founder of the Centers for Research on Creativity (CRoC), studied creativity throughout his career and was an advocate for the role of the arts and creativity to transform our world for the better. He believed in teaching students to be innovative, creative thinkers and problem solvers to help keep our country on top. Catterall's book, co-written by Jaye T. Darby, *The Fourth R: The Arts and Learning*, discusses human creativity and the conditions that can promote imaginative approaches to learning, design, and problem solving. He also wrote *Doing Well and Doing Good by Doing Art* which helped advance the arts, and arts education friendly policies in the United States and around the world. It was used by advocates in their fight to make sure every student received fair and equal access to arts education. Research has proven "The Arts", particularly the "Fine Arts", provide our youth with all the skills needed to keep up in the 21st century.

Learning in and through the arts is rewarding and an incredible learning experience for all. It truly meets the requirements of a "well-rounded" education as mandated by legislation in the Every Student Succeeds Act, which addresses the needs of all students.

ARTS EDUCATION BENEFITS THE DIVERSE LEARNER

Education is not a one-size-fits-all situation. Children are diverse learners and we as teachers need to find out how each of our students learn best. Collet points out that with an increased awareness of how the use of multiple intelligences help the learner understand, it is important to note that children retain 24 percent of what they hear, 40 percent of what they see, and 70 percent of what they learn through multisensory experiences (as cited in Harris, 2008, para. 11). I cannot think of a better way for a child to receive the benefits of a multisensory experience than to participate in an arts education program. Simonnet and Modrick (2010) point out, "Arts education favors and supports various teaching techniques and strategies to accommodate each learner's unique way of accessing curriculum, processing information, and demonstrating their understanding" ("Learning through the Arts"). Visual, auditory, kinesthetic as well as tactile learners can benefit greatly from music, art, drama, and dance through arts integration and differentiated instruction also known as DI. Tomlinson states that "DI provides an opportunity to plan curriculum and instruction that honors each student's needs and maximizes their learning capacity by meeting them where they are and assisting them in the learning process" (as cited in Simonnet & Modrick, 2010, "Differentiated Instruction").

If we look at Howard Gardner's Theory of Multiple Intelligences, we will see that

he makes it quite clear that children possess different minds and various cognitive strengths which cause them to remember, understand and learn differently. Gardner suggests that visual/spatial, bodily/kinesthetic, musical, interpersonal, and intrapersonal intelligences should get the same as verbal and logical-mathematical intelligences (as cited in Simonnet & Modrick, 2010, "Learning through the Arts").

Arts education favors the application of Multiple Intelligences as it supports learning styles that are interrelated to the intelligences identified by Gardner. For example, students could undertake the following activities while studying a painting:

Linguistic Intelligence: (Simonnet & Modrick, 2010) My suggestion would be: Have the students write a story/a poem that the painting inspires.

Logical Mathematical: (Simonnet & Modrick, 2010) My suggestion would be: Have the students measure the frame of the painting or counting certain objects in the painting.

Visual Spatial: (Simonnet & Modrick, 2010) My suggestion would be: Have the students draw a character or part of the painting observed.

Musical: (Simonnet & Modrick, 2010) My suggestion would be: Have the students identify a music piece that the painting inspires or play an instrument.

Physical: (Simonnet & Modrick, 2010) My suggestion would be: Have the students make the painting become alive by acting out the story they see in it.

Inter-Personal: (Simonnet & Modrick, 2010) My suggestion would be: Have the students discuss the composition of the painting in a group.

Intra-Personal: (Simonnet & Modrick, 2010) My suggestion would be: Have the students explain the emotions they feel while looking at a painting to see if they

understand the emotions felt while looking at the painting.

After careful examination of the examples listed above, we see how arts education has the potential to cross over the curriculum, fusing with the core subjects, and the 4 C's facilitating the acquisition of 21st century skills. All children do not learn in the same manner or at the same pace, and many have strengths in different areas; therefore, by infusing the arts into lessons in other domains each child is provided with an opportunity to be successful at some point.

STUDIES ON TRANSFERENCE OF SKILLS TO OTHER DOMAINS

Do the arts benefit other academic pursuits as well as life skills? There still are many questions regarding the transfer of arts education skills. Catterall & Dorn noted that "While there have been some dramatic failures to find what has been defined as transfer, there also have been some dramatic successes (as cited in Burton, Horowitz & Ables, 2000, p. 229).

Six studies and their results related to the transfer of arts education skills.

1. Champions of Change; the Impact of the Arts on Learning,

Airulla (2004) wrote that the landmark document *Champions of Change; the Impact of the Arts on Learning* was published by the Arts Education Partnership in 1999. It provided two years' worth of evidence on the causal relationship between the arts and academic success. *Champion of Change* is a document in response to the calls of No Child Left Behind; therefore, many of its programs target "at risk" students, though the results are generalized to the greater population (p. 28).

Study Results:

Individual studies from seven teams of researchers investigating the impacts/outcomes of young people's involvement in arts education across a range of contexts were included in *Champions of Change* (Fiske, 1999). According to Bolstad (2010), one study, by Catterall et al. (1999), The Imagination Project analyzed a large dataset of 25,000 students from the late 1980s to early 1990s. It examined the effects that arts education had on cognitive transfer to other non-arts-based disciplines. The results showed that students with high levels of "arts participation" outperformed "arts-poor" students in a variety of academic learning according to the analysis of student data from eighth to tenth grade and from tenth to twelvth grade (p. 15). Catterall, also discovered that students "highly involved in arts programs" perform better in other subjects too and are much less likely to drop out of school or become uninterested in school. They found that students from low-income families who participate in the arts are more likely to do better academically than those who do not (Fiske, 1999, p.11). The research was not able to accredit student successes unequivocally to the arts. In fact, the research did not discuss anything having to do with achievement in the arts, but what they found was a connection to positive peer associations accompanying involvement in the arts (Catterall, Chapleau, & Iwanaga, 1999, p. 4).

An analysis of the NELS:88 survey established, for the first time in any comprehensive way, "that students involved in the arts are doing better in school than those who are not for whatever constellation of reasons. Compendia of research on academic achievement going back three decades argue that the motivation and success of one's peers has an influence on how a youngster does in school" (Catterall et al., 1999, p. 4).

2. Gaining the Arts Advantage; Lessons from School Districts that Value Arts Education

In 1999, *Gaining the Arts Advantage; Lessons from School Districts that Value Arts Education* compiled case studies and profiles of school districts that made the effort to incorporate arts education in the curriculum. The purpose of the study was to identify the conditions and practices that create and sustain district wide commitment to arts education for all students (Longley, 1999, p. 7). Although the study was to identify conditions and practices, the findings, if all put into place and adhered to, could lead to intensified benefits in all areas of learning.

Study Results:

These were the conditions that were identified. Longley (1999) emphasized, a level of agreement among formal and informal leadership in the community and school on the importance of arts education is essential. Community members, board of education members, superintendent, principals, and teachers all have to support the policy of arts education for all students. They must make their programs known throughout the community to secure support and funding for them (p.12). This ties in with the results from the next study I will examine. With administrative support and teacher professionalism, it is likely that the beneficial effects of arts learning have the potential to be intensified in all areas.

3. Teacher's College Study

The purpose of the 2000 study at *Teachers College*, Columbia University was to determine if cognitive skills developed through arts-such as higher order thinking- have an effect on learning and thinking in general, as well as on other subject matter domains.

They designed a study that sought to examine a diverse sample of programs and practices across a range of 12 different types of schools involving over 2000 children in grades four, five, seven, and eight (Burton et al., 2000, pp. 252-255).

Study Results

This is one of many studies investigating the topic of transfer to show the importance of the arts in serving other disciplines. Their data took away some of the uncertainty about whether the arts are core or just supportive to learning, across the curriculum. "They found solid evidence that learning in and through the arts is continuous, yet distinctive from the other subject" (Burton et al., 2000, p. 255). One subject is not more important or more advantageous than the other. They were not able to find clear evidence that the arts transfer to other disciplines, nor were they able to point to specific effects of transfer; however, they determined it did suggest that a relationship exists between learning in the arts and other disciplines. Cognitive skills developed through arts, such as higher order thinking, have an effect on learning and thinking in general, as well as on other subject matter domains (Burton et al., 2000, pp. 252-255). According to Burton et al. (2000),

> Arts learning, involving as it does the construction, interweaving, and interpretation of personal and socio- cultural meaning, calls upon a constellation of capacities and dispositions that are layered and unified in the construction of paintings, drawings, poems, musical compositions, and dances. Many of these same competencies and dispositions are implicated in other subject domains where they coalesce in equally distinctive forms: mathematical, scientific, linguistic - in the organization of different kinds of meaning, insight, and under-standing. What is critical is not that capacities and dispositions transfer, but that they are exercised broadly across different knowledge domains and that no subject has prior rights over any other subject. To diminish one is to diminish the possibility and promise of them all (p. 255).

Students pull from a variety of knowledge, skills, and abilities they possess, whether they are creating or participating in the arts or if they are working on an

experiment in science class. According to their study the researchers feel it is not so significant that skills are transferred from one domain to another but rather that the skills are utilized to their fullest potential in whatever subject the students are engaged in. No subject is dominant over the other, nor should one get priority before the other. They are all equal in terms of significance to a student's education.

Burton et al. (2000) stated they also found that administrators who are supportive of the arts and teachers who are competent, innovative and show pride in their students' projects and performances help to intensify the beneficial effects of arts learning (p. 254).

The study may not have shown clear evidence of transfer of skills learned in the arts to other domains, but the researchers determined there is a relationship between the arts and other disciplines. Burton also suggests that skills learned in other subjects may travel back to the arts. This is a concept we rarely hear about.

> Together with Gardner's (1983) more situated theory of multiple intelligences, neuroscience has given us a broader picture of the human mind actively creating connections and associations across a broad front of stimuli - or across intelligences. Thus, there is no reason to believe that learning from other subject disciplines does not in some fashion also 'travel back to enhance arts learning' (Burton et al., 2000, p. 228).

4. Critical Links

In 2002, *Critical Links*, a survey of research on the links between the arts and cognitive skills was published by The Arts Education Partnership (AEP). AEP, a national coalition of arts, education, business, philanthropic and government organizations, demonstrates and promotes the improvement of America's schools and the essential role of the arts in the learning and development of every child. There were 62 studies in

Critical Links that covered the transfer of arts education skills in dance, music, drama, visual arts and multi arts to other academic and social development.

Study Results:

A meta-analysis of 17 studies on student involvement in multi-arts learning in various areas were included in Deasy's 2002 *Critical Links* compendium. Six of these were reported in Fiske's 1999 *Champions of Change* compendium. Horowitz & Webb-Dempsey wrote an essay in 2002, stating that the 17 studies when combined show evidence of the outcomes of arts learning in terms of specific measurable academic skills, and in terms of more general capacities of the mind, self-perception, and social relationships. They found a common ground across the different studies linking arts learning with the development of creativity, empathy, expressive skills, self-confidence, and perseverance. It is important to note that they suggested qualitative studies that examine how learning in the arts interacts with learning in other areas of the curriculum (Bolstad, 2010, pp.18-19).

Horowitz and Webb-Dempsey wrote, "The positive cognitive, personal, and social outcomes emerging from this collected research represent capacities central to the goals society typically articulates for public education, productive social membership, critical and higher-order thinking, and commitment to the skills for lifelong learning" (as cited in Bolstad, 2010, pp. 18-19).

Bolstad (2010) emphasized they should not just rely on current approaches and should seek out new, more advanced and innovative research methods to "further understand the contribution of arts learning, including arguing for more well-designed

qualitative studies that explore how learning within the artistic domains interacts with learning in other disciplines" (p. 19).

5. Study of the Brain

There have been recent *studies of the brain (unnamed)* according to Hallam (2010) that shed light on how participation in musical activities causes the cerebral cortex to self-organize skills in that area and has the potential to transfer those same skills to other activities if the process involved are similar. This is something our brain does automatically; however, sometimes a situation may arise where we need to think about how we can use a skill we have already learned (p. 1). For example, when reading music, it is important to understand the connection between notes and fractions to count the music correctly. There are a certain number of beats in each measure and each note has a value like fractions. Because the processes are similar, I believe this is an instance where our brains automatically transfer counting skills which ties in with what Burton et al. (2020) meant when they suggested that skills learned in other subjects may travel back to the arts. Counting, dividing, recognizing patterns and more in both music and math travel back and forth. "The transfer of learning from one domain to another depends on the similarities between the processes involved. Transfer between tasks is a function of the degree to which the tasks share cognitive processes" (Hallam, 2010, p. 5).

Studies of the brain are fascinating, particularly as we are learning more about the brain and how we learn. Educational neuroscience also known as neuroeducation, an emerging scientific field and a new discipline of the mind, brain and education will be discussed in one of the chapters to follow.

Study Results showed shared cognitive processes in:

A. Literacy

1. According to Hallam (2010), speech and music share many processing systems. Learning to read is impacted by musical experiences which enhance processing, which has an impact on the perception of language (p. 1). It is about a child's ability to distinguish between the pitch and sound of music, which can transfer to the sounds of speech and assist in the development of language, which in turn can transfer to the sounds of letters when developing reading skills.

2. Hallam (2010) states structural auditory patterns based on timbre differences between phonemes are used when speaking. Perception of these patterns is enhanced through musical training. Learning to read successfully depends on developing phonological awareness which relies heavily on the perception of those patterns (p. 1). Speech, language, reading, and musical training are interconnected.

3. Hallam (2010) reported, "The ability to remember words through enlargement of the left cranial temporal regions is enhanced by learning to play an instrument. Musically trained participants remembered 17% more verbal information than those without musical training" (p. 1). I believe this ability to remember more may be because someone playing an instrument has to remember so many things at one time. Musicians develop this skill because they must look at the music, remember the note names and the values of the notes, remember where the notes are located on the instrument, for example where the keys are on the piano that coincide with the notes on the page, or they must remember the fingerings to each note on their wind instrument while counting and breathing properly. I believe that remembering so many things at once must develop parts of the brain since neural networks are forming all the time.

4. According to Hallam (2010), “Rhythmical performance has benefitted children experiencing difficulties with reading comprehension” (p. 1). I assert this could certainly be due to the fact that following a rhythmical pattern or beat requires a smooth flow and to comprehend reading there must be a rhythmic flow of the words. There is a pattern of stress and intonation in language known as prosody which also applies to reading. Choppy reading disrupts the ability to understand what one is reading. Helping a child with rhythmical performance could result in improved reading comprehension.

B. Numeracy

Hallam (2010) wrote that children receiving instruction on rhythm instruments scored higher on part-whole math problems than those receiving piano and singing instruction suggesting transfer is dependent on the extent of the match (p.2). This is possibly due to the direct connection between rhythm and patterns which are exclusive to playing a drum or rhythm instrument. Piano, singing and other musical instruments also involve melody and pitch which generally do not have anything to do with math.

C. Intellectual Development

According to Hallam (2010), intellectual development, particularly spatial reasoning is impacted by learning to play an instrument, which can lead to a sense of achievement; increased confidence; an increase in self-esteem; self-discipline; and provide a means of self-expression. When learning is difficult, students also learn how to persist in overcoming frustrations. Motivation for learning in general may increase, thus supporting enhanced attainment (p. 2). Learning an instrument takes time and perseverance. Students who practice an instrument until they get a piece of music right,

learn how to work through their frustration and not only emerge as better musicians but have a heightened sense of confidence and self-esteem.

6. Shakespeare & Company Research Study

The *Champions of Change* compendium (Seidel, 1999) completed the *Shakespeare & Company Research Study* which focused on drama education involving older students learning with Shakespeare and Company. Project Zero, an educational research group at the Graduate School of Education at Harvard University, took on the task of researching the company's education programs in 1995. The purpose of the research was to investigate what the students were learning, the nature of the learning environments created in the company's programs and the pedagogy at the foundation of those learning experiences (p. 95).

Study Results:

The researchers concluded that the success of the program came from the fact that the company did not simplify the text. "This respect for complexity is, perhaps, the deceptively simple core of a pedagogy, and teaching the students that there was no 'right interpretation' or 'one way' to play a part" (Seidel, 1999, p. 97). What brought students to the highest levels of literacy was the actual performance techniques of acting out the scenes with feeling and emotion after going over the various interpretations of the very complex text. "Many participants also noted that their experience as active readers of complex texts in these programs was relevant well beyond the specific work they did with Shakespeare's plays - in entering math and physics texts as well as approaching other literature" (Seidel, 1999, p. 97). The researchers found the arts provide a perfect setting for multi-faceted and deep learning experiences in social and personal growth and

the development of high order thinking skills through the highest levels of literacy (Seidel, 1999, p. 105). The students realized the significance of reading the actual text written by Shakespeare and not having it watered down. It was a major sense of accomplishment for them. These students were able to “get it”. They related to what they interpreted Shakespeare’s words to mean to themselves. One student said, "If you really read through all of the plays, you come across all of life's major issues and problems.… Another student noted, “If you just take it for what you are saying, and not explore its whole worth, then that's not true to Shakespeare” (p. 98). This is personal growth for these students to realize that fact.

Kempe (2001), whose study was similar to Seidel’s, investigated the links between drama and literacy promoting the view that “literacy involves more than simply translating the marks on the page into sounds” (Bolstad, 2010, p. 27).

Much like the results from Kempe’s and Seidel’s studies, I found from personal experience that my students learn best when being totally involved in the whole process, only in my situation it was with music, not drama; however, lyrics are part of literacy, so it is very relevant. When they learn lyrics to a new song, the words are just words until we discuss each line and figure out together what the lyrics mean, or what they think they mean. We take the song apart and put it back together line by line, very similar to what Shakespeare and Company did with their students in Project Zero. One of the students in Seidel’s study described the text of these plays as a puzzle to “fragment, take apart, and fit together again” (Seidel, 1999, p. 82). They were then able to transfer this process when reading texts in math and physics. My students’ cognitive level is extremely low so

there is no physics class, however, what they learned can transfer into their math and reading lessons.

Kempe concludes that “drama can make a major contribution to the development of literacy by providing a collaboration in which experiences and ideas are shared and different interpretations of the sensate power of words are celebrated” (Bolstad, 2010, p. 27). This is very similar to the students in Seidel’s study who received the highest level of literacy by performing the scenes and interpreting them based upon their understanding of the text. This enabled the students to connect with the text in a personal way since there was no right or wrong way of interpreting what was written.

DEVELOPMENTAL BENEFITS: COGNITIVE - SOCIAL -EMOTIONAL

High quality arts education can produce outcomes in the following areas: achievement, motivation/engagement/attendance, habits of mind, social competencies. Student achievement occurs when the student receives higher scores in math and reading on high stakes tests, and the skills they learned through arts education transfer to learning in other academic areas. As students’ motivation increases, they become more engaged in class activities, their attendance improves, they become more focused, they develop higher aspirations, and they take more intellectual risks. Dwyer (2011) states: As students develop habits of mind through the arts, they develop an ability to work with others, develop an ability to integrate multiple skill sets and they are more able to deal with ambiguity and complexity. They also develop critical and creative thinking skills and develop an ability to problem solve. As their social competencie**s** develop so does their self-confidence. They develop an ability to collaborate and work as a team as well as develop social tolerance (p. 16). These 21st century skills are going to

benefit them as they enter the workforce in their after-school life. These are the outcomes we hope for when we provide our children with a well-rounded education.

Research has proven the cognitive benefits of the arts in education and shows that when the arts become a part of a student's school life, it helps to nurture inventiveness and creativity; also, dramatic improvements in attendance, attitudes, abilities, and grades occur. Measurable gains in motivation, and achievement in reading, writing and math occur as well (Rupert, 2006, p.10). When students feel good about what they are creating in their arts classes, it is understandable that their attitude in general is improved, making it more likely that they will attend school and will be more motivated to succeed in other classes. The more they are successful, the harder they will try to repeat that good feeling of achievement.

Research initiatives of the past decade have linked arts participation to cognitive growth, and academic skills, including the strengthening of long-term memory and reading ability (Gazzaniga et al. 2008), creative thinking skills, and writing fluency (Deasy et al. 2002), which can be seen in this *Champions of Change study* by Burton et al. (1999). They found in this study of over 2,000 pupils attending public schools in grades four–eight over a two-year span, in four American states, there were significant relationships between rich in-school arts programs and creative, cognitive, and personal competencies needed for academic success. Fiske (1999) states that one of the major findings that came out of the *Champions of Change* research was that the playing field can be leveled for children from disadvantaged circumstances when they learn in and through the arts (p. 11). Children who come from higher socio-economic groups may have the advantage of a family that is able to provide the extras regarding activities in the

arts. Students from disadvantaged homes may not have an instrument at home to play, they may not have the materials needed to complete art projects, they may not have a CD player or device to listen to music, and they may not have a parent that is able to devote time to nurture their talents due to other pressing obligations. The student may come from a stressful environment at home. Participation in the arts in school can help alleviate some of these issues, thereby leveling the playing field. Fiske (1999) asserts, "students in 'high-arts' groups performed better than those in 'low-arts' groups on measures of creativity, fluency, originality, elaboration and resistance to closure—capacities central to arts learning." They also scored higher in terms of non-arts subject teachers' perceptions of those children's academic competencies (e.g., expression, risk taking, imagination). High-arts students were also more likely to think of themselves as competent academics, and believe they did well in school in general, particularly in language and mathematics (p. 51). This all happened because the students were provided the opportunity to participate in creative arts activities and engage in new experiences which as we know creates new neural pathways that help in the development of other skills. Teachers' perceptions of students affect also how they treat the children, sometimes on an unconscious level. If they think a student is imaginative, and a risk taker and persistent, they look at the child as someone who is a good student and perhaps deserving of more attention.

SOCIAL/EMOTIONAL BENEFITS

"The arts make a significant contribution to helping all students achieve success in school, work and life" (Ruppert, 2006, p. 17). While schools are concerned with ensuring students graduate with 21st century skills which include arts education to enhance school engagement and academic learning, they are also interested in the outcomes that reflect a broader set of concerns related to social-emotional development. We certainly want our children to be educated and be prepared for the workforce, but we cannot forget to teach them to be humane, benevolent, tolerant, and accepting. It is part of providing our children with well-rounded education. We must teach the next generation to get involved in their communities to make this world a better place. "In a country that is rich in diversity and deeply divided socially and politically, with stark and widening economic inequality, many are calling upon schools to teach empathy, social responsibility, civic engagement, and skills to communicate with one another across differences" (Farrington, et al., 2019, p. 6).

Participating in the arts has the potential to instill and bring out all these qualities in our children. Eric Jensen, who specializes in brain-based research and student achievement, states, "The arts are not only fundamental to success in our demanding, highly technical, fast-moving world, but they are what makes us most human, most complete as people. Arts contribute to our growth as human beings" (Jensen, 2001, p. vii).

The arts provide a wide range of opportunities for social-emotional experiences as well as developing social-emotional competencies. Arts in education builds confidence, self-efficacy, self-expression, develops empathy, relieves stress, builds self-esteem and a

sense of identity, and provides a sense of accomplishment. “Motivation is also crucial in how well children perform at school. Motivation is closely linked to self-perceptions of ability, self-efficacy, and aspirations. If active engagement with music increases positive perceptions of self, this may transfer to other areas of study and increase motivation to persist” (Hallam, 2010, p. 15). This is exactly what I said earlier. A student who doing well is motivated to continue and this could cross over to other areas. An unmotivated child feels like there is no reason to try and nothing to work towards.

Children find success when participating in the arts. Particularly when they participate in group art activities. They teach and learn from one another. They are their own biggest supporter as well as their biggest critics. They motivate one another. They want each other to succeed whether performing in the school choir, the school band, or the school play. They learn to work together to get it right. The more they are praised by one another, the more they get motivated, the more motivated they are the harder they try to do even more. It is a wonderful cycle. Self-esteem and self-efficacy rise and when they are feeling good about themselves in their art classes it may encourage them to keep up the momentum in their other classes. Catterall, Dumais and Hampden-Thompson (2012) state that arts participation has additionally been linked to positive social outcomes, including overall engagement in school, increased graduation rates and increased community engagement and pro-social activities (p. 8).

Jensen and Catterall both realize the significant impact participation in the arts has and the role it plays in preparing our children. They both believe participation in the arts can improve attendance, lessen the dropout rate, enhance creativity, provide a greater cultural awareness, and send graduates out into the world more prepared for the

workplace of tomorrow. Catterall found that students from low-income schools who had more opportunities to engage in arts programs and activities than peers without the same experiences were more likely to be successful in completing high school, attaining higher grade point averages, and were more likely to enroll in college. The arts were also a greater link to them becoming more involved in community activism and expressing greater interest in current affairs. The National Endowment for the Arts also found this relationship between children in low-income communities, arts education, and various measures of higher academic achievement (Hardiman, 2016, p. 1917). This ties in with the findings of the *Champion of Change* researchers which were discussed earlier in detail, where the arts reach students who are not being reached, that the arts reach students in ways that they are not otherwise being reached, and that the arts connect students to themselves and each other (Fiske, 1999, p. 12).

Our ultimate challenge as educators is to keep children in school and to help them succeed. Richard Riley, Secretary, Department of Education, and member of The President's Committee on the Arts and the Humanities, states:

> The arts teach young people how to learn by giving them the first step: the desire to learn. Champions of Change: The Impact of the Arts on Learning also shows that the arts can play a vital role in learning how to learn, an essential ability for fostering achievement and growth throughout their lives (Fiske, 1999, p. 9).

The desire to learn is what keeps them coming, particularly the desire to learn through the arts, because they find success in the arts with like-minded students. James Catterall describes how the attitudes of young people toward one another are altered through their arts learning experience (Fiske, 1999, p. 12). They form bonds with one

another, and they are impressed and motivated by their peers' artwork. Children with strong feelings of self-efficacy are not quitters and try hard in all they do, and they can be positive role models to classmates. “Research in the USA has also shown that involvement in group music activities in the high school helps individuals learn to support each other, maintain commitment and bond together for group goals” (Sward, 1989 as, cited in Hallam, 2010, p. 18). We see this in the *Champions of Change* study by Oreck, Baum, and McCartney (1999) where a majority of students achieved a high level of success focused on a group of economically disadvantaged students who were labeled “at risk for failure.” The research methodology included extensive interviews with students, teachers, arts instructors and parents, observations, and collection of academic data over two years. They participated in an urban talent development in music and dance. The students experienced success because they became committed to the classes because they enjoyed them. The self-regulatory behaviors they learned and used to be successful in the arts helped them develop positive identities and enabled them to develop resilience. It was not the product/the performance that would be considered a success here. It was the process; the gratifying experiences that the students went through together which enabled them to develop a positive sense of self-worth.

“Researchers from a range of disciplines have demonstrated that the process of student learning is inextricably social and emotional. Learning in the arts is no exception” (Farrington et al., 2019, p. 7). We all learn through observing others. If we have positive experiences, we are more likely to enjoy going to school and learning. Teachers of the arts know that observing, analyzing, and understanding art and its production and context builds many social emotional learning competencies. Students motivate one another, they

cheer each other on and empathize when something does not work out as planned. Students creating a project, singing in a choir, or rehearsing for a play provide feedback and support to one another. They can be brutally honest and tell you your painting is awful, or your voice is terrible, but in their next breath offer suggestions on how to make it better. This is how they learn from one another. They also learn empathy watching each other not be so kind at times. When listening to music or looking at a painting, students learn to identify a range of feelings that are evoked in them. With practice, they can expand the initial feelings they express, as well as learn from their classmates. Making music together and collaborating on art projects is beneficial to the development of social skills and can contribute to health and well-being throughout the lifespan and can therefore contribute to community cohesion providing benefits to society. This can happen:

> Whether in school or out of school, in self-directed learning or through peer-to peer interactions. The social-emotional component is the relational, meaning-making, and self- management aspect of the art process, class, or experience that can be shaped by both action experiences, encountering, tinkering, choosing, practicing, and contributing; and opportunities for reflection: describing, evaluating, connecting, envisioning, and integrating (Farrington et al., 2019, p. 15).

Farrington et al. (2019) notes that in some circumstances, the effects of arts participation can be negative. After what they perceived as a performance or showing that did not go so well, youngsters may be left feeling vulnerable and embarrassed believing that they have no talent at all. For the rest of their life, they may intentionally avoid any of the arts that they associate with these painful feelings. This may also cause them anxiety in other areas of life due to a lack of self-esteem and self-worth (p. 8). This is where a caring teacher and the empathy of classmates is paramount. A student who

experiences a negative effect needs to be reminded that there are no mistakes in the arts. This is one area in life where the creator is entitled to be different, unique, quirky and use their artistic freedom to let their work be whatever they want it to be - no explanation or excuses necessary.

Research has shown that students who have worked through challenging situations they were facing, and who feel comfortable and safe in their arts classes, develop more trusting relationships with their arts teachers than with other teachers. Many students are motivated to remain involved in the arts, which may even lead to them staying engaged in school as well, due to the positive relationships they formed with their arts teachers and the fact that they get such great enjoyment and fulfillment from their could lead to other positive students' outcomes as well, not only in social-emotional competencies but in all aspects of their life (Farrington et al., 2019, p. 20).

I see firsthand how the arts affect my students both socially and emotionally. The children I teach are severely multiply disabled and their academic success is extremely limited. They cannot wait to come to art class and music class. When involved in the arts my students feel they can be successful. It does not matter if what they are creating is a masterpiece to the viewer; it is a masterpiece to them because they created it. That is how I make them feel, and what I have taught them to believe. When I first exposed my students to the music of John Cage and the artwork of Pablo Picasso, it proved to them that although the music they make and the artwork they create may be different, it is just as important. This has done wonders for them emotionally. Their confidence and self-esteem rise with every piece of artwork I display, and with every performance are a part of. They come to my class ready to share their ideas, support one another, and to cheer

each other on. They go back to their homeroom class feeling good about themselves and so much more confident than when they entered the room. Heightened self-efficacy is a definite outcome of participating in the arts. One of the critical research findings of the *Champions of Change* was that “learning in and through the arts can help 'level the playing field' for youngsters from disadvantaged circumstances” (Fiske, 1999, p. viii). They were generally referring to children from a lower socio-economic group; however, I believe my students with severe disabilities also fall into that category of disadvantaged circumstances. The arts certainly “level the playing” field for them. This is one area where they can compete with children who are non-disabled and feel just as proud and successful. My students are not dis-abled, they are differently abled, and the arts afford them an opportunity to show that. The arts are truly a game changer.

CHAPTER THREE

Modes of Delivery in Arts Programming

When we talk about arts education, we need to make sure we do not get it confused with art education. The singular term **art education** specifically refers to teaching and learning of art that we can see such as painting, sculpture or photography: two- and three-dimensional media. The plural term **arts education** includes arts learning in all the different disciplines such as dance education, drama education, music education as well as art education. Then there is the bigger picture where the art disciplines have a role in non-arts classrooms and subjects. In this case we would use the term **arts in education** (Hoffmann Davis, 2008, p. 14). Many people think these are interchangeable and they are not.

According to Dwyer (2010), there is a wide disparity in arts programming throughout our country. Some schools are rich in the arts, while there are many others with little to no arts learning opportunities. In many cases, the students who need it the most are the ones who get it the least. Most of the districts trying to meet the needs of the students and the challenge of getting more arts into the schools all provide services in different ways (p. 10). Some provide standards-based sequential instruction while other schools provide formal and informal arts integration programs. The various methods of Arts instruction are arts included, arts infused, arts based, arts integration and arts extra methods. All methods include one of the arts and non-arts subject matter but the subject that takes the lead of the lesson varies in each.

In 2008 the President's Committee on the Arts and Humanities looked at the conditions of arts education and completed a detailed study of recent research on the

documented benefits of arts education and identified opportunities for its advancement. The results showed “positive educational outcomes associated with arts-rich schools, they also found enormous variety in the delivery of arts education, resulting in a complex patchwork with pockets of visionary activity flourishing in some locations and inequities in access to arts education increasing in others” (Dwyer, 2011 p. v).

Based upon the needs and opportunities they found in their study, this is what the committee recommended to advance arts education, to strengthen the evidence base for high quality arts education, and to ensure that the arts reach all students from K-12, particularly those students in underserved communities:

1. Build collaborations among different approaches (Dwyer, 2011, p. vii). I believe schools need an environment filled with creativity. To do this schools, state and federal agencies should work together to develop connections between classroom teachers trained in arts integration, arts specialists working on standards-based approaches, and project-based teaching artists. The arts are not just for fun, or busy work during a teacher’s prep period where random lessons are taught without a goal and objective in mind. Teachers need to be trained how to incorporate the arts effectively into their lessons. Arts specialists must use the standards for each grade level when preparing and conducting a lesson and visiting teaching artists must work on projects where the students gain skills that will help them solve a wide array of problems, not just the problem at hand, which encourages authentic work and creativity. This could also include a project they are working on with the students based upon whatever subject or topic the classroom teaching is working.

2. Develop the field of arts integration (Dwyer, 2011, p. vii). From what we have learned schools need to train their teachers and provide professional development in arts integration. Being skilled in the arts does not come naturally to some teachers. There are certain sequential skills that must be learned not only by the students, but by the teachers as well, in order to integrate the arts effectively, and that is why it is essential teachers get proper training and also have continuous contact and support from the arts specialists. The training would also benefit teachers that use the other methods of arts delivery as well since most teachers feel they are not talented and lack confidence in the limited skills they have.

3. Expand in-school opportunities for teaching artists (Dwyer, 2011, p. vii). In my opinion, who better to share their talents and expertise than working local artists! Such fantastic rarely used resources are right in each school's own backyard, waiting for an opportunity to share their creativity with young eager to learn minds. Talented artists working together with educators would surely help create new and improved, stronger arts education programs in our public schools.

4. Utilize federal and state policies to reinforce the place of arts in K-12 education (Dwyer, 2011, p. viii). I believe if we want our country to be able to compete with other nations, we must help our students develop their creative and innovative sides by creating legislation that requires the arts as part of the daily curriculum. This was a recommendation from a study in 2008, where at that time the arts were merely "allowed to be an expenditure of a comprehensive education" (Dwyer, 2011, p. viii). It is unfortunate that, at that time the arts were just a line on a financial budget that required permission.

In 2015, “states were looking at ways to leverage the Every Student Succeeds Act to support arts education, from highlighting places in the law where the arts can play a positive role in a student’s academic outcomes to making transparent how and when students can access the arts during the school day” (Tuttle, 2019, p. 9). The arts are no longer just “allowed” but have a legitimate place in the budget because of federal law in many states. However, even in 2020 although there has been a lot of progress in legislation, particularly in New Jersey, where in 2019 they became the first state in the nation to provide universal access to the arts in all public schools where all students were guaranteed to be provided with an opportunity to participate in one or more of the arts during their school day other state still need to get on board.

5. Widen the focus of evidence gathering about arts education (Dwyer, 2011, p. viii). We have learned that the progress of students learning in the arts needs to be documented to help stakeholders make informed arguments and decisions regarding impact and equitable access. The more data the better.

In looking at the recommendations of the President’s Committee on the Arts and Humanities they are all significant, and all related. It is my belief that in order to advance arts education effectively all five recommendations need to be in action at the same time. There cannot be arts integration without collaboration of educators and arts specialists. Collaboration with local artists takes the arts in education to another level, and how fortunate are the students who get to reap the benefits of programs with local artists. In order to ensure all students, receive benefits of the arts in education we need to utilize state and federal policy which has the ability to mandate arts requirements. To justify mandating requirements in the arts state and federal governments needs to see evidence

that these programs are effective and produce desirable outcomes. They need to see data especially in the areas of developing creativity and enhancing engagement in schools.

It may have taken some time for these recommendations to be acted upon and come to fruition, but I believe Jersey City, the city in which I teach, is a good example of where everything the committee envisioned is finally happening:

> The President's Committee on Arts and Humanities envisions schools in cities and towns across our nation that are alive with the energy of creative thinking and fresh ideas, full of art, music and movement. All of our research points to the success of schools that are "arts-rich," in which students who may have fallen by the wayside find themselves re-engaged in learning when their enthusiasm for film, design, theater or even hip-hop is tapped into by their teachers. More advanced students also reap reward in this environment, demonstrating accelerated learning and sustained levels of motivation (Dwyer, 2011, p. viii).

The cultural and arts scene is alive and vibrant in Jersey City and this is reflected in its schools, although at the time of this writing, (2020-2021), the COVID-19 pandemic has temporarily put a halt on all arts activities in and out of schools. However, the city has a plan to keep the arts alive during this time and to keep it flourishing for the future through their Arts Education Committee. They have a wonderful informative website which includes the following: "The Arts Education Committee's mission is to facilitate relationships among families, schools, arts and community organizations, and arts educators. They connect and provide youth/adults with opportunities to learn about and train in the arts and communicate and emphasize the importance of arts education. The committee works to integrate arts into the existing community programs, facilitates relationships between arts programs and JC Public Schools and secures supplemental funding for in-school programs" (JCAC Arts Education Committee, 2020, "About Us").

Even though there are many methods to deliver arts in education, so many children are still losing out and are not provided with opportunities to participate in arts

programs. In the long run not much has changed in how the arts have been delivered. Inequality existed and still exists in arts programs throughout our nation. Budget cuts continue to be a deciding factor in whether the arts stay or go. Despite legislation stating all children are entitled to a "well- rounded" education which now includes the arts as core academic subjects, states have still been slow to ensure all children have access to the arts. However, there is one major difference. In September of 2019 New Jersey became the first state in the nation to require all schools provide "universal access" to the arts. All children in New Jersey public schools are to be provided with an opportunity to participate in one or more arts programs throughout the school day. The New Jersey Student Learning Standards were rewritten in 2020 and it laid out the required plan for students in Visual and Performing Arts. The time has finally come where the arts are truly recognized and valued, and schools will be held accountable to ensure that the standards are being met in Visual and Performing Arts.

It is very important to include New Jersey's **Introduction**, **Mission**, and **Vision Statement** for Visual and Performing Arts. It solidifies the state's commitment to 21st century teaching and learning as New Jersey shares its vision of a well-designed sequential arts program in the five art disciplines that will empower students for the future.

Throughout the years, starting in 1996 when New Jersey's State Board of Education first adopted learning standards in Visual and Performing Arts, the arts were viewed as "an essential part of the academic curriculum for the achievement of human, social, and economic growth. The separate arts disciplines -- dance, music, theatre, and visual arts -- were viewed as one common body of skills and knowledge, with a focus on

general artistic concepts and themes rather than on the individual art forms, providing a document that was easily accessed by all arts educators, regardless of discipline" (New Jersey Core Curriculum Content Standards, 1996, para. 1-5).

There were only six standards at that time, all the same from K-12. It stated that all children require and must be provided with an opportunity for a meaningful arts education. The standards are reviewed and revised every five years but there were no revisions in 2009 in the Visual and Performing Arts standards. However, in 2014, the arts standards were revised. The wording changed from the arts being an essential part of the curriculum to students must be provided with equitable access to arts instruction. It went on to elaborate that equitable access would be achieved when the four arts disciplines -- dance, music, theatre, and visual arts -- are offered throughout the P-12 spectrum. Thus, the goal of the standards is that all students have regular, sequential arts instruction throughout their P-12 education. They were still seen as one common body of knowledge and skills. It was not until 2019 that the New Jersey Student Learning Standards for Visual and Performing Arts (NJSLS-VPA) described the expectations for literacy and fluency in five artistic disciplines: dance, music, theatre, visual arts, and media arts. Media arts which cultivate both artistic abilities and technological aptitude was added. It now declares that each artistic discipline has independent skills, knowledge, and content, where the arts are interdependent, connected, and inclusive. "The NJSLS-VPA are designed to guide the delivery of arts education in the classroom with new ways of thinking, learning, and creating" (New Jersey Learning Standards-Visual and Performing Arts, 2020, p. 1).

The standards were revised in 2020 to include media arts in their arts program. In this age of tech savvy children when so many are captivated with new media, incorporating media arts study into the school day will most likely boost the connection between in-school and out-of-school learning and could inspire active learning. “Media arts is a unique medium of artistic expression that can amplify and integrate the four traditional art forms” (New Jersey Learning Standards-Visual and Performing Arts, 2020, p. 2). Media arts is a unique medium of artistic expression that can amplify and integrate the four traditional art forms.

2020 New Jersey Student Learning Standards -- Visual and Performing Arts

Introduction:

Throughout time, the arts have served as a distinctive vehicle for self-discovery and a means of understanding the world in which we live. As the state of New Jersey continues to transform public education to meet the needs of a changing world and the 21st century workforce, capitalizing on the unique ability of the arts to develop creativity, critical thinking, and innovation skills is critical to the success of our students. The arts infuse our lives with meaning on nearly all levels—generating significant creative and intellectual capital. They inspire creative and critical thinking and encourage acceptance of diversity. A well-designed sequential arts program promotes responsible decision making, enhances self-awareness, builds self-esteem and self-management skills, and helps students build relationship and collaboration skills: all of which are essential to prepare New Jersey students for postsecondary success (New Jersey Learning Standards-Visual and Performing Arts, 2020, p. 1).

The New Jersey Student Learning Standards – Visual and Performing Arts which are designed to promote lifelong artistic literacy and fluency and are guided by the following:

Mission:

"To empower students to develop creative and critical thinking, social-emotional competencies, and intellectual and expressive abilities that will allow them to become active, contributing members of a global society. This mission has been the same since the standards were first adopted in 1996" (New Jersey Learning Standards-Visual and Performing Arts, 2020, p. 1).

Vision Statement:

"All students will have equitable access to a quality, arts education that leads to artistic literacy and fluency in the artistic practices of the five art disciplines as a mechanism for: **Performing, Responding. Creating, Connecting and Evaluating**" (New Jersey Learning Standards-Visual and Performing Arts, 2020, p. 1).

> ● **Performing, Presenting, or Producing,** as artistically literate individuals, by expressing and realizing creative ideas and implementing essential technical skills and cognitive abilities significant to many aspects of life and work in the 21st century.
> ● **Responding** to artistic ideas and work with personal meaning and cognizance of the ability of the arts to address universal themes, including climate change.
> ● **Creating** new artistic work reflective of a variety of ethnic, racial, and cultural perspectives
> ● **Connecting and Evaluating** how the arts convey meaning through all arts and non-arts disciplines and contexts of our global society (New Jersey Learning Standards-Visual and Performing Arts, 2020, p. 1).

The vision got more focused throughout the years. It went from just being available to students, to being equitable. In 2019 it changed from the arts being seen as one common body of skills and knowledge, to each artistic discipline having independent

skills, knowledge, and content. The state recognized that the arts are interdependent, connected, and inclusive. The new standards are geared towards arts integration in every classroom, to encourage and help develop new ways of thinking, learning and creating.

It is not hard to comprehend why the arts have been marginalized for so long when they are seen as a pleasurable pastimes, nonacademic, and irrelevant to employment and economic growth. Being viewed as separate from the main responsibility of formal schooling where the emphasis is on the 3 R's the arts were just never given the credit and respect, they deserve.

There is so much more to learn than what conventional academic education can provide (Burnaford et al., 2001, p. xix). Much of what we know about life and living can be taught in and through the arts. They will help students view things through a different lens and create moments where the lightbulb finally turns on in a child's brain. Participation in the arts will give each student a different perspective in all aspects of life and will provide access to creative ways of learning and knowing. Children can be taught about the phases of the moon or how the earth rotates and revolves around the sun through a class lecture or from reading a chapter in a book, but they may not fully grasp the concepts. The arts can help a child further understand that the crescent shape of the moon or a sunrise and sunset are just illusions with scientific explanations.

For instance, to help my students understand the concept of what appears to be the rising and setting of the sun we made a replica of the sun and the earth out of styrofoam balls connected by wire. We used different sized balls and painted them to look like the sun and the earth. Then I demonstrated how the earth rotates on its axis to the east while

the sun stands still, to show how the sun appears to rise and set every 24 hours depending where one is located on earth. I put a big dot on the earth to show where the students are on the earth as it rotated so they could see how the sun appears to move from their viewpoint. This similar activity will be used to demonstrate how the four seasons are the result of the tilt of the earth on its axis as it revolves around the sun. Using a hand-over-hand technique with the projects they helped create, the students got a chance to move the earth further reinforcing the concept of the rising and setting sun. For my students, by modifying the lesson to their cognitive ability and physical limitations, providing them with a visual/concrete image to compare the size and colors of the sun and the earth, and using lights on and off technique as the earth rotates and revolves around the sun the students were able to get a better understanding of the concepts I was teaching, thanks to the use of the arts integrated into my lesson. Imagine a science lesson where the teacher is trying to explain a DNA strand without a colorful visual to go along with it. A teacher can have the students recreate that visual, or even better, have the students create a 3D DNA strand using different colored yarn or strips of paper. The arts provide access to these creative ways of learning and knowing and are crucial to a student's academic success.

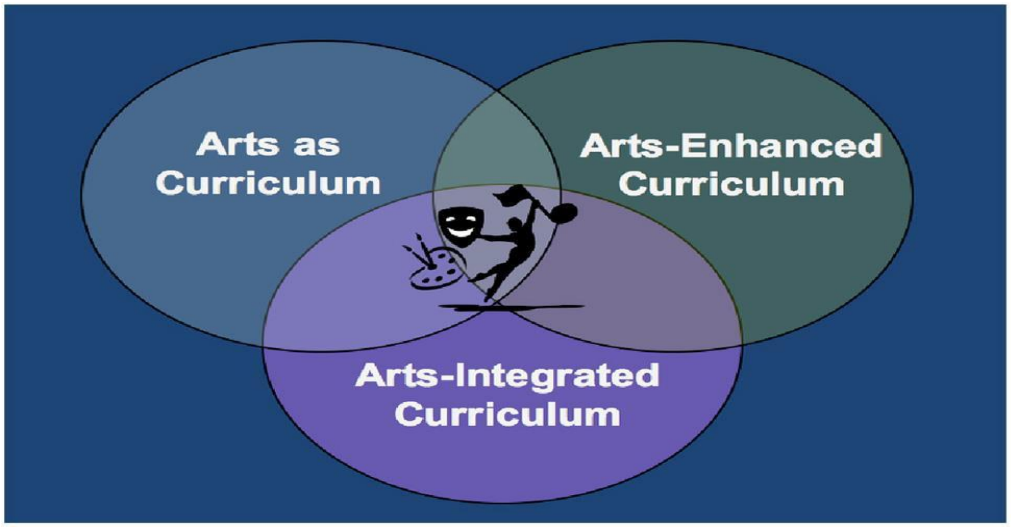
Conventional schooling can help most students develop academically, but sometimes a child may have other abilities that are missed because the school does not value them; in turn, the teachers do not pay any attention to them. Certain students may not be able to write a detailed paragraph about a story they read, but they may be able to provide all the details through a painting or drawing. If a teacher does not make that connection about a student, the child misses out. His drawing may be the best way to

assess his comprehension level. Discovering these other abilities could have made a world of difference for at-risk students whose strengths were not in the academic area but rather in the arts areas. “There is growing evidence that standards of achievement rise through a broad and balanced curriculum that includes the arts, in which children are able to play to their strengths and to make connections with what they know” (Burnaford et al., 2001, p. xx).

When the arts cannot be provided directly to the students as separate specialized classes in each of the arts areas, there are other methods that can ensure the students participate in the arts in some way during their school day. There are three variations or categories in which the arts are delivered in schools, and it is important that teachers and schools know and understand the difference because this can help them make informed choices about the programs they offer (Silverstein and Layne, 2020, “The Arts in Schools: Three Variations”).

DELIVERY OF THE ARTS

The Arts in Schools: Three Variations of arts delivery are depicted in the following chart from the Kennedy Center Webpage retrieved from https://www.kennedy-center.org/education/resources-for-educators/classroom-resources/articles-and-how-tos/articles/collections/arts-integration-resources/what-is-arts-integration/ (Silverstein and Layne, 2020, Fig. 1). They are three separate methods, yet all connected, since they provide arts to the students during the school day in one form or another using one of the three methods.



Silverstein and Layne, 2020, Fig. 1

In the **ARTS AS CURRICULUM** category, the method of arts delivery would be called **ARTS INCLUDED.** Here a school would most likely have a music teacher, art teacher, dance teacher, drama teacher, and media arts teacher all certified in their areas for grades six - Twelve. However, in New Jersey, regular elementary classroom teachers who hold a P-3, K-5, or N-8 teacher's license and who are not certified in any of the arts can teach the arts, but cannot do so for more than half of their school teaching hours per day (New Jersey Core Curriculum Content Standards for Visual and Performing Arts, 2019, 8-9).

In the arts included method of delivery the arts are taught for "art's sake". Each specific arts class is given a time slot and taught within the students' daily schedule and objectives in each of the arts disciplines must be adhered to. It is looked upon as an equal to non-arts classes, where neither class is more significant than the other. Hoffman-Davis states that "arts included is a prerequisite particularly for the arts-based method" (Hoffman Davis, 2008, p. 18).

The students may have classes in one or all the disciplines. These classes are taken as seriously as other core subjects. Success is when the students move from beginner to intermediate to advanced levels. All schools are not able to provide classes in each of the arts disciplines; some do not provide any arts classes at all. Therefore, schools turned to other methods of delivering the arts to students.

In the **ARTS-ENHANCED CURRICULUM** category, the arts are used as a strategy or means to support other curriculum areas. There are no clearly stated or detailed objectives in the art form. There are several methods in this variation:

ARTS INFUSED

The arts infused method of delivery is when the arts are "infused" into the curriculum. In this case, artists or works of art are introduced into arts and non-arts activities to give them new life or significance (Hoffman Davis, 2008, p. 17). Regular classroom teachers bring outside pieces of music or art into the classroom, as well as musical instruments to supplement a lesson. Opportunities for movement, dance, and drama are also provided. Incorporating the arts into lessons has the potential to create "aha" moments for the students that may not have occurred without them. For example, teachers can use a recording of African - American Spirituals that can be played while discussing slavery during Black History month. My students learned about slavery from black spirituals such as "Wade in the Water" and "Follow the Drinking Gourd". Throughout the years I played these songs during our class discussions on slavery, and the music and lyrics really helped the lesson come alive. It is one thing to lecture to the students about slavery and it is another thing for them to hear songs played and to really listen to the music and lyrics that were secret messages to help the slaves escape. Another

example of an arts infused lesson involves recycled materials. It is called Recycled Art, also called 'junk art' made from discarded materials brought in from home and is another great way to infuse the arts to give the students a whole new perspective when doing a lesson on preserving the environment. The lesson can be carried over to another day for the class to make their own recycled art from the recycling bins in the school. It was a common daily occurrence for students to enthusiastically show me something they saved for our next recycled "art project". This was a testament to the fact that the arts excited them, made an impression on them, and that they were thinking about future lessons. I did not ever hear a student talk with anticipation about reading from their social studies textbook.

As a vehicle for fostering academic success among diverse learners, arts-infused learning holds tremendous promise (Lorimer, 2011, p. 3). Regarding my arts infused lessons, I found that my students were eager to see what new song or art activity I would come up with for each new lesson. Even though it was the arts aspect that motivated them, they ultimately learned the non-arts subject matter in the process.

The fact that art- infused learning holds tremendous promise is evident in the following Urban Middle School/City School Case Study where data was collected from eight schools in southern California: however, this study highlights the findings from five middle level classrooms in two schools. The purpose of the study in 2007 was to:

> To address arts education disparities in middle level schools, this study explores evidence that infusing the visual and performing arts into language arts, math, science and history/social studies courses is a pedagogical approach that meets the developmental needs of early adolescents and fosters a relevant, challenging, integrative, and exploratory curriculum for all learners (Lorimer, 2011, p. 1).

This study, whose curricular emphasis is arts-infused learning in the core subjects, focused on English learners, multi-racial children, multi-ethnic children, and children from low socio-economic households. According to Lorimer (2011), observation and interview data showed a picture of positive outcomes from the arts -infused experiences at these five schools. Students became more persistent, motivated, and engaged in lessons that provided opportunities to learn through different modes and methods that mattered to them, that challenged them, provided opportunities to explore and that unified the disciplines (p. 7).

Schools are faced with many issues and challenges regarding making sure they are maintaining an innovative and effective curriculum, meeting teachers needs in terms of professional development, allocating resources for training and planning time with arts specialists, and most importantly making sure the students' needs are met, particularly as it relates to students who lose out on arts opportunities because they are placed in remedial courses. "Despite the fact that no single solution can solve the challenges associated with inequitable educational policies, findings from the prior case study indicate that arts-infused learning contributes to effective and engaging learning for diverse student populations" (Lorimer, 2011, p. 8-9).

Children, particularly disadvantaged youth who may be dealing with family, social or economic issues, can be affected emotionally, drastically impacting their confidence and their ability to learn. They need to feel free enough to try new things even when they are not sure how it will turn out. They need something to motivate them to try. They should not have to fear being wrong or not doing it correctly. With the arts there is no right or singular way of doing something. If they are creating it, then it is their way.

"The productive nature of the arts transforms learners' perceptions of themselves as productive citizens. The arts give learners a sense of agency - of being able to make things that matter happen in the world" (Burnaford et al., 2001, p. 20). Students that feel helpless and out of control can take control of what they create in class and can feel a sense of accomplishment and pride that they did it their way. This child may not show up for a lecture or to take a test, but they will be there on the day that they know a project is going to coincide with their math, science, history lesson. The arts have the power to dramatically change students' concepts of themselves, their school life, and their lives in general for all the reasons mentioned above.

Stevenson and Deasy (2005) pointed out that "Infusing the arts on a regular basis in all curricular areas provide not only rich, relevant, and engaging learning experiences, but also empowers and transforms disenfranchised youth" (as cited in Lorimer, 2011, p. 2).

The following is a display of how the arts can easily be infused into a math lesson. This lesson, *Engaging in Arts Infused Learning*, (Carton, 2017) was presented at Learning Forward's Annual Conference in 2017 by elementary school teacher, Michelle Carton. I included this image because it clearly breaks down how arts concepts can be infused in a math lesson using common core state standards. It was retrieved from retrieved from https://twitter.com/AkGlobalTeacher/status/937712335065624577. (Carton, 2017, Fig. 1).

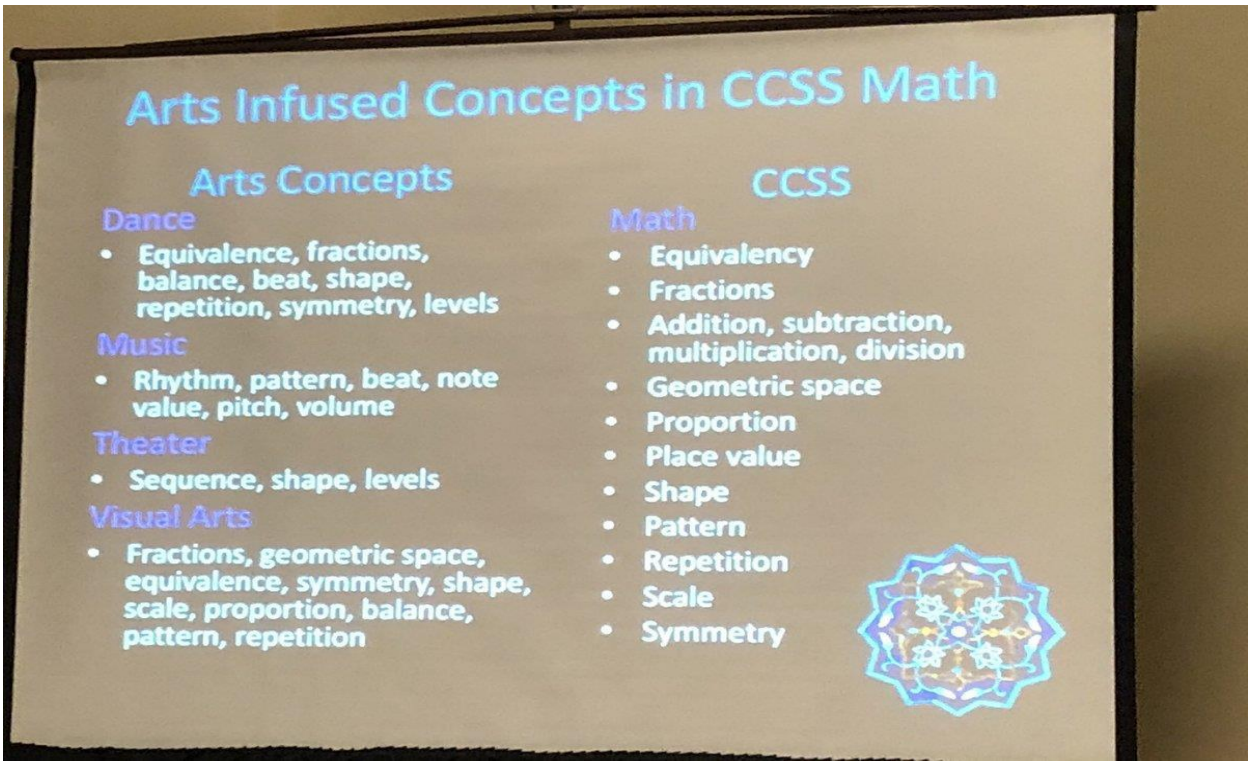


Image: Carton, 2017, Fig. 1

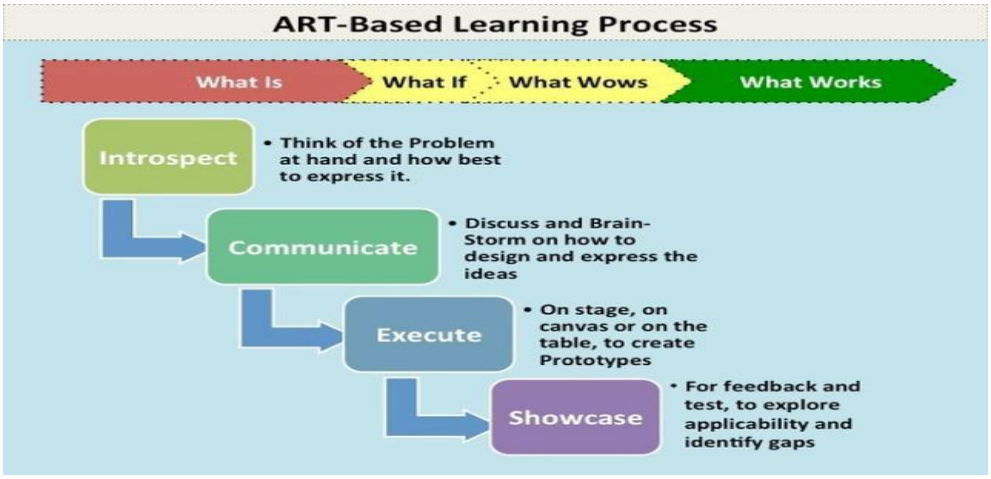
ARTS BASED

The Arts Based method of delivery is where teaching and learning are based on the arts, using artistic skills, practices, and experiences to encourage learning. “The arts supply the content for what is learned and provide a window through which non-arts subjects are explored” (Hoffman Davis, 2008, p. 14). There is vigorous sequential instruction in each of the art forms when the lesson is arts based. Similar elements and approaches shared by the various arts areas, which include knowing through doing and creating, allow children to learn to express thoughts and feelings through various expressive forms such as voice, movement, and actions. “Arts-based activities are employed as a means to teach other academic areas or concepts in non-arts content (e.g., shaping the body like a particular letter to enhance emerging literacy through dance or movement)” (Hardiman, 2019, p. 26).

In arts-based learning experiences teachers, as well as students need to remember the goal of the lesson is not about the product but the process. Helping the students develop skills to plan, design and construct an idea from beginning to end, and watching them grow creatively is one of the reasons arts-based learning is so important. A great way for students to learn science and math skills is to experiment with line, form, movement, and shapes as they manipulate various art materials. Students who are provided with an opportunity to experiment with watercolors and dish soap and learn to add a few drops at a time to create their own formulas for their perfect color and consistency, or who add salt to their paper to get different textures are headed in the right direction to experiment with chemicals and other materials to become the scientists of the future. Social studies lessons, which in the eyes of some students are viewed as boring, have new meaning when rather than giving an oral presentation on a specific event in history the students create a dance to tell the story, or create a song by writing the lyrics, composing the melody and using different instruments to represent different characters or places related to the event. For an exciting Language Arts lesson students can create a collage, 3D sculpture, or even create a dance, or an instrumental piece to describe vocabulary words.

For these arts-based lessons to be effective, it is important to remember that sequential instruction should be taking place in the arts and the students should already be familiar with the techniques and materials to be used in the arts-based lesson. A child who has not had prior lessons in how to use a paint brush, who has never learned about composing a simple melody, or is not familiar with basic dance steps and moves will not be able to get the full benefits of the arts-based lesson.

An arts-based learning process, which I included to show the steps in the process, looks like the example below which was retrieved from: https://learningrenaissance.wordpress.com/2016/05/0/art-based-learning-implementation-strategies/.



D'Souza, 2016, Fig. 1

My example for Language Arts for my cognitively impaired students who had sequential art instruction in art class and already knew how to cut, glue and worked with collage materials.

Introspect: What is:

What word should we choose? How can we portray the vocabulary word HAPPY?

Communicate: What if:

Should we make a collage? What could we put in the collage to show? Should it be flat or 3 dimensional?

Execute: What wows:

A beautiful 3 D collage placed on a table. It contains a face with a huge smile and bright white teeth made from pipe cleaners, cotton balls and chicklet gum. All around the

face various items representing happiness to the artist are glued to the collage. An ice cream cone with glittered cotton for the ice cream, balloons on a string, a tissue paper flower, a rainbow made from cut and glued pieces of multicolored construction paper and a huge sun made from painted paper plate plates all contributed to the success of this project.

Showcase: What works:

Observers were asked: What word do you think this project represents?
If the observer says HAPPY, then the student's project was successful. They truly knew the meaning of the word "happy" because they were able to portray it through the arts.

The following terminology for the last method of arts delivery I am about to discuss is frequently used for all the methods of arts delivery, except for arts included, which are the arts specials, individual classes in each of the arts. Teachers who are not fully knowledgeable in this area of instruction often refer to a lesson that includes any of the arts into their lesson as Arts Integration. It cannot be called arts integration unless it meets certain criteria.

Arts Integration

When the arts are taught via **ARTS-INTEGRATED CURRICULUM** the method used is called **ARTS INTEGRATION,** an approach that incorporates the arts into other core curricula where objectives are set in both the art form and the other subject. An approach refers to *how* whereas an activity refers to *what*; therefore, arts integration is an approach and not just an activity because it refers to how something is taught rather than what is taught. "This approach to teaching is grounded in the belief that learning is actively built, experiential, evolving, collaborative, problem-solving, and

reflective. These beliefs are aligned with current research about the nature of learning and with the Constructivist learning theory" (Silverstein and Layne, 2010, p. 2-3).

Constructivist practices that align with arts integration practices include:

1. **Drawing on students' prior knowledge** (Silverstein and Layne, 2010, pp. 2-3). A student needs to use what they have already learned in prior lessons to be able to actively participate. They may need to have prior knowledge in mixing paint colors so they can paint the sky, or they may need to know how to interact with other performers when reading a drama script.

2. **Providing active hands-on learning with authentic problems for students to** solve in divergent ways (Silverstein and Layne, 2010, pp. 2-3). Students need to be face to face with a problem or situation where they can come up with creative ideas by exploring many possible solutions. They should be provided with opportunities where they will be pondering, "If we do this, that will happen, if that happens, we can try this.

3. **Arranging opportunities for students to learn from each other to enrich their understanding** (Silverstein and Layne, 2010, pp. 2-3). Students are motivated by one another and get ideas from one another. They need time together to share what they know and to let new ideas sink in.

4. **Engaging students in reflection about what they learned, how they learned it, and what it means to them** (Silverstein and Layne, 2010, pp. 2-3). Teachers should provide an opportunity for students to internalize new information and to form opinions about it.

5. **Using student assessment of their own and peers" work as part of the learning experience** (Silverstein and Layne, 2010, pp. 2-3). What can students take away

from the comments and opinions of their peers? Criticism can be a powerful force to make improvements, and compliments can encourage a repeat performance.

6. **Providing opportunities for students to revise and improve their work and share it with others** (Silverstein and Layne, 2010, pp. 2-3). Making something even better the second time around, is empowering and rewarding, when we are allowed to show it off.

7. **Building a positive classroom environment where students are encouraged and supported to take risks, explore possibilities, and where a social, cooperative learning community is created and nurtured** (Silverstein and Layne, 2010, pp. 2-3). At school, students need to feel happy and confident in a safe, comfortable space where they are allowed and encouraged to try new things with their peers.

I believe in this theory of learning and how it relates to arts integration. Present the children with a project, a problem or a situation and let them figure it out on their own. If we as teachers tell them what to do, how to do it, or how to figure it out, then we are not preparing them for the real world where they will be left on their own, to fail or to succeed. They need to think about the task at hand and determine the problem, look back on their past experiences, collaborate with one another, brainstorm and be creative in coming up with a plan.

There is usually more than one way to accomplish something. We need to encourage divergent thinking in our classrooms to prepare our students for life in the real world in the 21st century. Runco and Acar (2010) state that "Divergent thinking requires creative ideation, i.e., the generation of many (fluency) and different kinds (flexibility) of original ideas (originality)" (as cited in van de Kamp, 2017, p. 11). Divergent thinking

starts as early as the problem finding phase, when the task concerned is explored and defined, and the process continues for as long as people keep exploring creative solutions (van de Kamp, 2017, p.11). Convergent thinking is also important in the classroom during arts integration, when we want the students to remember and reapply a certain technique in any of the arts. Sometimes they need to draw on stored information. So, both forms are important and need to be developed, but divergent thinking needs to be encouraged and fostered because the answer is not always right in front of the students' eyes or stored away neatly waiting to be retrieved. They must come up with it on their own. The arts will develop that skill not only to be used in the classroom, but for the rest of their lives.

In arts integration, teaching and learning are intensified in both areas and students are held accountable for learning in both areas (Silverstein and Layne, 2020, p. 7). Use of this method gives the arts equal time with non-arts subjects, neither taking the lead, where in arts-based methods the arts take the lead (Hoffman Davis, 2008, p. 16). Because both subjects have objectives, they need to be able to be paired and have something in common, some form of connection that the student can use to make sense out of the lesson and project.

It is important to remember that arts integration should focus on the process not the product. When the students figure out what it is they are working on, and what the goal of the lesson is, the rest is up to them. Their ideas, their collaborative efforts, and their mistakes, are all part of the learning experience. The sky is the limit as to what they could devise. Silverstein and Layne (2010) state, "The heart of arts integration is engagement in the creative process. Arts integration requires that students do more than

repeat a song, copy an art project, or follow directions. They must create something that is original and of value" (para 27). I feel there is no room for following directions in the creative process. A student cannot design and produce something original if they are following guidelines. Therefore, divergent thinking is so important, and arts integration helps to develop this skill, where thoughts and ideas flow freely. "The basic activity in the initial phase of a creative process is divergent thinking: the ability to produce a diversity of responses to an open-ended problem (Guilford,1959 as cited in van de Kamp, 2017, p. 11). Imagine the freedom a young child must feel in being allowed to follow their hearts. Sometimes we have ideas that we believe in, but we cannot try them, or act upon them. We must hold back on them because we don't have the liberty to follow our hearts but rather, we have to follow the directions or the rules. Engaging in arts integration is a time when a student can put their heart and soul into coming up with a solution or a product. Initially children may feel they are not creative, and lack confidence, but once they get going, they learn quickly how many ways they can do something and how many ideas they can come up with to solve a problem.

Students are not alone in lacking confidence. For so many teachers, arts integration does not come easy to them and preparing lessons can be a daunting task. Lessons are available online, at no cost, in all grade levels and for most subjects, so teachers need not fear that they do not know what to include in a lesson. It is all laid out for them step by step. Creating the lesson does not make a teacher successful or effective. Getting the children excited, interested, involved, and engaged is the essence of a successful, effective teacher. Therefore, I encourage teachers to find arts integrated lessons that work with the standards that are required for each subject in each grade level

and have fun with them. The following is a sample arts integration lesson plan in Art and Math, Grade K-1 retrieved from The Arts Institute for Arts and Steam-Lesson Plans (Categories of Color, 2020, “Lesson Process”).

Arts Integration: Categories of color: Art & Math

Lesson Overview:

Ask students what their favorite color is and create a list on the board. Create a simple graph that outlines how many students like each color.

Have students find examples of objects in the room that contain their specified favorite color. Bring all the objects back to a central location in the classroom.

LESSON PROCESS

Step 1: Lay out a large piece of black bulletin board paper and lay out all of the items students found in the center.

Step 2: Ask students to begin grouping all objects together that have similar colors in piles along the length of the black paper. Do not tell students where to put the objects. Instead, allow students to inspect each object and determine for themselves how to categorize the colors of each object.

Step 3: Once students have categorized all objects, ask them to observe each pile and describe the similarities and differences within the colors. Then, have students create a label for the pile’s overarching color. Allow them to be as creative as possible – names like “watermelon” or “breezy” are fine.

Step 4: Transition students back to their seats or tables. Provide them each with a set of markers, crayons or colored pencils and blank paper.

Step 5: Ask students to select a color group from the black paper and then choose crayons, markers or colored pencils that best represent that color group.

Step 6: Experiment with ways to create different colors using the same crayon, marker or colored pencil and various pressures.

ASSESSMENT:

Provide students with large-block grid paper.

Have students divide the paper into quarters and in each quarter, fill in the blocks with the same color using different pressures.

Label each quarter with the category color name.

Assess students on their use of color and their categorization of similar colors in each quarter.

This is a great lesson in divergent thinking, part of the Constructivist learning theory which is in alignment with arts integration. The students are thinking creatively and figuring out what to do and how they want to do it on their own, not following specific directions from the teacher. The best part of this lesson is that although the teacher did not create or develop the lesson, once they determine what the goals/objectives of the lesson are in each of the subjects they are able to find a lesson already prepared for them to get right to it. Arts integration lesson plans are available, so I encourage teachers to find them and use them.

Arts integration should not take the place of arts classes, but both should be working simultaneously. Goals and objectives should be worked towards in arts classes with certified teachers in each arts area as well as in integrated arts lessons in the regular classroom with the regular class teachers. I think this is a flaw in our educational system.

Some districts are not taking the arts seriously enough to warrant full time certified arts teachers, particularly in music and visual arts. This decision is left up to the school principals and if they are not proponents of the arts, then they believe a classroom teacher can do the job. It is totally legal but not totally acceptable to me and to many arts advocates. Even if districts bring in visiting artists, that should not take the place of the arts teachers, it should be in conjunction with the arts teachers to enhance what they are doing in their classes. It is not uncommon for teachers to believe that just because they include music in their lesson, or they have the students draw a picture, they are integrating the arts. That is where teamwork comes in to play between the classroom teacher and the arts teachers. This is not something that they can all "wing". There needs to be a plan and a discussion. Chicago Arts Partnerships in Education developed this structure, "Goals are to be laid out; both sides decide what they want to teach; there needs to be a crossover of ideas and processes that inform each other; there needs to be an opportunity to refine and assess ideas over time" (Burnaford et al., 2001, p. 31). It may not always be easy because of different personalities and teaching styles but if classroom teachers, arts teachers and visiting artists work together and keep the students as their main priority it can be a meaningful experience for both the students and the teachers.

While arts-enhanced, arts-infused, and arts-based instruction are all encouraged, teachers should know if they are engaged in arts integration. For teachers to be certain that the lesson they prepared is truly an arts integrated lesson, along with following the suggestions of the arts specialists, there are checklists available online that will help them determine that fact. There are many available by doing an Arts Integration checklist search, but I highly recommend the Kennedy Center Checklist which I retrieved from

http://www.artsintegrationpd.org/wp-content/uploads/2017/07/What-is-Arts-Integration.pdf (Silverstein and Layne, 2010, p. 9). It is direct, and very easy to use.

> According to Silverstein and Layne (2010), since 1999, the Kennedy Center has been working in an intensive and ongoing way with a network of partnership schools in the Washington DC metropolitan area to provide professional learning experiences for teachers to learn about and implement arts integration. The program, known as Changing Education Through the Arts (CETA) uses a comprehensive definition of arts integration as its foundation. This definition helps teachers know exactly what arts integration is and how it differs from teaching the arts or just using the arts in the classroom (p. 1).

Teachers should be able to answer yes to all the questions on the following checklist. If they answer no to any section, they need to go back to the lesson and revise it. All these elements are necessary for the lesson to be considered authentic arts integration. One of the most important elements of the lesson is that there are two objectives: one in the art form and one in the other part of the curriculum. It does not matter which checklist a teacher uses; it is just a good idea to use one.

ARTS INTEGRATION CHECKLIST

APPROACH TO TEACHING		
1. Are learning principles of Constructivism (actively built, experiential, evolving, collaborative, problem-solving, and reflective) evident in my lesson?	Yes	No
UNDERSTANDING		
2. Are the students engaged in constructing and demonstrating understanding as opposed to just memorizing and reciting knowledge?	Yes	No
ART FORM		
3. Are the students constructing and demonstrating their understandings through an art form?	Yes	No
CREATIVE PROCESS		
4. Are the students engaged in a process of creating something original as opposed to copying or parroting?	Yes	No
5. Will the students revise their products?	Yes	No
CONNECTS		
6. Does the art form connect to another part of the curriculum or a concern/need?	Yes	No
7. Is the connection mutually reinforcing?	Yes	No
EVOLVING OBJECTIVES		
8. Are there objectives in both the art form and another part of the curriculum or a concern/need?	Yes	No
9. Have the objectives evolved since the last time the students engaged with this subject matter?	Yes	No

Silverstein and Layne, 2010, p. 9

Here is a compelling video on the history of Arts Integration from the Kennedy Center Education Digital Learning entitled: *Public Education in the United States: Setting a Context for Arts Integration* (Kennedy Center Education Digital Learning, 2018). It is a journey from passive learning to higher levels of thinking and provides a firsthand look at how arts are central to education while sharing beliefs about learning from Dewey to Vygotsky to Piaget which was retrieved from https://www.youtube.com/watch?v=25i3RJ9gvIs&t=324s Kennedy Center Education Digital Learning, 2018 (Kennedy Center Education Digital Learning, 2018).

Although this next method is not part of the school day, and is not part of any class lesson, this is how some students participate in the arts, therefore, it is considered one of the modes of arts delivery. It is important to remember that not all states provide universal access where the students are required by law to be provided with an opportunity to participate in the arts during their school day. There are many opportunities for students to be involved in the arts, but they are not always during school hours, and unfortunately according to Hoffman, in *Why Our Schools Need the Arts*, the after-school arts activities, Arts Extras, are most likely overseen by well-meaning teachers and community members who are not qualified to teach the arts and it is questionable how much quality teaching and learning goes on (Hoffman Davis, 2008, p. 20).

ARTS EXTRAS

The Arts Extras method is very common in schools throughout the country. Here the arts are viewed as non-academic extras, extracurricular, and non-essential to a

student's education. They are outside of the curriculum but can be held inside of the school building. It is usually an after-school program where the students participate in a school play, the jazz ensemble, or maybe an afterschool art class. Unfortunately, when schools do not provide Arts Extras, parents must pay for them on their own. Hoffman Davis (2008) wrote, "it is a sad situation when parents who were not exposed to the arts themselves do not see any value in them and do not encourage or support their child's desire or efforts in arts participation during after school hours (p. 20). It could be time consuming and may pose a financial burden if the parent must pay for these activities. If the arts were provided during the school day this would not be an issue. Sometimes the students must make a choice; complete assignments or attend play/dance rehearsal until late in the evening. It would be so much easier on the students if these activities were included in their school day.

Creative educators continue to learn new ways to incorporate the arts into their classroom curriculum using the above methods. With proper training, collaboration with arts specialists, visiting arts teachers, and each other, children will flourish in and through the arts.

FROM STEM TO STEAM

When talking about arts integration I would be remiss if I left out STEAM, the acronym for science, technology, engineering, ARTS, and mathematics.

It has been proven that artistic skills, practices, and experiences foster learning, and that when a teacher incorporates the arts into other core curricula where objectives are set in both the art form and the other subject, learning occurs in both areas. It was only logical that when STEM objectives were not being met, the arts came to the rescue.

In 2006, the U.S.National Academies expressed their concern that students in the United States were not flourishing in the fields of science, technology, engineering and mathematics as was the hope when the concept of STEM was introduced into the school system in the early 1990s. “In the late 1990s, the National Science Foundation began using the ‘STEM’ acronym to refer to ‘science or technology or engineering or mathematics’ with no implication of interdisciplinary connections among those fields. After all, each had been taught in complete isolation from one another since the late 1800s” (Sanders, 2010, p. 1). Incidentally, it was originally SMET in the early 1990s changed to METS in the late 90s, then changed to STEM in the early 2000s (Sanders, 2009, p. 20). I prefer STEM, because it sounds more scientific than the first two acronyms. During the early 2000s STEM was an approach to learning and development that implied integration in the areas of science, technology, engineering and mathematics where students develop key skills such as practical application and real-world problem-solving skills, when in actuality concepts and practices in those areas were hardly ever integrated in the K-12 classrooms (Sanders, 2010). “It was an initiative created by the National Science Foundation (NSF) to provide all students with critical thinking skills that would make them creative problem solvers and ultimately more marketable in the workforce” (White, 2014, p. 2). Unfortunately, it was not working out as planned. According to the The National Academies of Science, Engineering and Medicine (2005), in their report *Rising Above the Gathering Storm Revisited,* they predicted dire consequences if the country could not compete in the global economy as the result of a poorly prepared workforce. Thus, attention was focused on science, mathematics, and technology research; on economic policy; and on education. Those areas were seen as

being crucial to maintaining the United States' prosperity (pp. 1-5). A lot of time and money was spent on the initiative and progress was extremely slow with eighth grade test results in science only showing slight increases between 2009 and 2011, according to NAEP, the National Assessment of Educational Progress.

According to Sousa and Pilecki (2013), when fourth, eighth, and twelfth graders' critical thinking skills and higher-level problem-solving skills were put to the test in both real and simulated laboratory settings, the students did not do well. Less than one third of eighth grade students met the NAEP's standard for proficiency in achievement (p. 2). Once again action was taken and new standards for science were put into place in 2013 but if they did not help students learn how to be creative and to solve problems in the real world, they were not going to improve student learning. The curriculum needed to be more meaningful and relevant to what scientists and mathematicians really do. The solution was they had to integrate STEM and teach the students ways of understanding and applying an integrated form of learning that resembles life. It did not take them much longer to figure out a solution on how to raise student engagement and motivation, how to help focus on relevant issues and how to develop creativity. They needed to integrate arts related skills and activities into STEM (Sousa & Pilecki, 2013, p. 2).

STEM alone was not producing the result expected, even when they started integrating science math engineering and mathematics. The solution is the addition of the A, "the arts" to STEM...STEAM.

John Catterall, who was known as the "Father of Creativity" and "Father of Arts Education Research", knew the significance of the arts and was involved in a project that brought artists to schools all over the country to show teachers how to use the four arts

domains to create engaging lessons about history, science, and math. His life's work was dedicated to showcasing the impact of arts experiences on students.

The results of another study, the NELS: 88 projects, were the impetus for putting the "A" in STEAM. As per Lisa Catterall, his daughter, during a discussion between she and her father, on budget cuts to arts programs, a question arose, how do you convince lawmakers that the arts are important in school? "His lightbulb popped about using the NELS 88 data" (Catterall, 2017, p. 3) which followed 12, 000 students for over 12 years "Eventually, people took this work and other work, and began calling it STEAM. Science, Technology, Engineering, Art, and Mathematics" (Catterall, 2017, p. 3).

John Catterall, who according to his daughter was the man behind the addition of the letter "A" in STEAM, had a very significant point to make about another letter. He questioned why "E" is even in the picture. "The 'E' for engineering takes on something of an outsider role in what STEM and STEAM actually mean" (Catterall, 2013, p. 4). Science, math, and art are taught in school, and technology is used in school and they are connected to math and science. Engineering is a college level course and not necessary in a K-12 curriculum, according to Catterall, and math and science are the foundation for engineering, but engineering is not taught in schools. "However, if design is added to the picture then it can help to bind STEAM into a coherent whole...Design and engineering go hand in hand, and a basic course in design is developmentally and curricularly appropriate when it comes to a comprehensive STEAM-focused education" (Catterall, 2013, p. 5).

He brought up very important points, just as STEM was not really integrated when it was initially introduced into schools in the early 1990s, and never happened even

though it implied it was happening, it is possible that is the same case for engineering. It may not have been related to anything teachers were doing in school at the time and they were not teaching engineering, but teachers are including engineering concepts now in STEM. For example, in my school students make bridges that must support weight and build tall towers that must stand straight, which are related to engineering activities. STEAM is working towards the goals they set out to achieve, trying to prepare students for the 21st century workforce by equipping them with the skills and knowledge they will need to be successful.

It is one thing to see study results confirm that positive things are happening to students, when the arts are included, infused and/or integrated into student's lessons but to hear why and how it happens neurologically is astounding.

"Research studies in cognitive and social neuroscience demonstrate how activities associated in the arts enhance creativity, problem solving, memory systems, motor coordination and analytical skills- all critical elements to achieving STEM objectives…Brain research supports connecting the arts to STEM subjects" (Sousa & Pilecki, 2013, p. 3). There is often a discussion about whether a person is right brained or left brained. Is someone creative or analytical? With STEAM it is irrelevant. Involvement in STEAM education will nurture and enrich both sides and will enable the students to be ready to go into the world capable and equipped to handle any issue that comes their way. To achieve greatness in life one needs to think analytically and creatively and use both sides of their brain equally.

CHAPTER FOUR

The Arts and the Brain

Research has shown how the arts significantly influence not only a child's development but how it impacts their life in so many ways. Neuroscience has provided us with new ways to look at how our brains develop and how they create new pathways to learning. It helps explain how the brain can be rewired through neuroplasticity and provides evidence as to why education and participation in the arts is crucial to the educational process. Eric Jensen, a lead translator in the world of neuroscience into education, states in his book *Arts with the Brain in Mind*, "The systems they nourish, which included our integrated sensory, attentional, cognitive, emotional, and motor capacities are, in fact, the driving forces behind all other learning" (Jensen, 2001, p. 2). Data from studies throughout the years show beyond a doubt that arts education impacts everything from academic achievement to social emotional development to cultural and self-understanding. How and why does this happen? As Jensen asserts, "Theories of the brain exist to help us understand what is going on when we do art" (Jensen, 2001, p. 2).

We can use this knowledge to help students learn better. The more we know about the arts and the brain, the more effective we can be as teachers as we learn to develop arts-based/arts integrated lessons and classroom strategies. Exposure to and participation in the arts will result in: "improved learning experiences for students, positive outcomes, that include deeper engagement in subject matter, better retention of content, greater emotional involvement in the learning process, deeper social awareness, and the ability to apply principles across disciplines" (Hardiman et al., 2009, p. 4).

In order to understand how children learn and to acquire a knowledge of what teachers must do to promote and sustain the learning process, we must turn to the emerging field of neuroeducation. Interdisciplinary approaches are bringing educators and scientists together, each learning from one another. With the amazing advancement of technological equipment and methodology, it is now possible to see what is going on during the learning process. It is like having a looking glass to see into someone's brain. Who could ever have imagined it would be possible to see brain activity of a person performing a problem-solving task where an electroencephalogram, (EEG), traces co-occurrence of cognitive and psychophysiological states, where it can track engagement in an activity, workload, distraction, and drowsiness all at the same time?

Cognitive neuroscientists and educational researchers collaborate to explore how the brain enables cognition in various domains. Information from how the body and brain reacts during cognitive functions is an important source of information particularly in the field of education (Mercier, Leger, Girard & Dion, 2012, p. 6). "Using brain imaging, neuroeducation tries not only to identify the brain mechanisms underlying school learning and teaching, but also to understand how knowing these mechanisms may contribute to the improvement of teaching practices" (Masson, 2012, p. 1).

The Dana Arts and Cognition Consortium funded by the Dana Foundation, a private philanthropic organization with particular interest in brain science, immunology, and education, released a report in 2008 based on multiple three-year studies from seven universities that examined whether early arts training can cause changes in the brain that enhance other aspects of cognition. They found "tight correlations between arts training and improvements in cognition and learning…. The purpose was not to determine

whether students need the arts but rather to explore how studying the arts might enhance creativity, cognition, and learning" (Hardiman, et al., 2009, p. 3).

Neuroplasticity

It is important to mention that back in the early 1990s President George H.W. Bush decreed that era "The Decade of the Brain." Bush stated "the twin discoveries of neurogenesis and neuroplasticity overturned a century of fixed-brain theory, a fiercely defended dogma which held that: brain cells-unlike any other cell in our body don't divide. They do not die, and they are never reborn. We emerge from the womb with the only brain we will ever have" (Helding, 2014, p. 475). It was during this era that neuroscience was introduced into the educational setting.

The fixed-brain theory was finally proven incorrect. "The human brain is not only malleable, but also capable of producing new brain cells right up to the moment of death" (Helding, 2014, p. 457). The fact that we only have the one brain we are born with is correct, but that does not mean that we cannot grow new brain cells (neurogenesis) throughout our lifetime or rewire the brain and alter the neural networks (neuroplasticity) to enhance learning and cognitive abilities. We build new neural pathways by learning from experience. For this to happen, one must challenge the brain to think in a new way which would require sustained practice of a new behavior. The brain develops in very specific ways in response to particular learning activities and the extent of change depends on the length of time engaged with learning (Hallam, 2010, p. 270). An excellent example of neuroplasticity is the experiment conducted by Russian psychologist Ivan Pavlov who rewired the brains of his dogs to salivate at the ringing of a bell.

Each and every time Pavlov presented his dogs with food, he rang a bell. Repetition is the

key to creating neuroplastic changes. “The Pavlovian conditioning is one of the best understood learning processes, where learning and memory result from the change of the function and structure of neurons and their interconnection synaptic strength” (Tan et al., 2017, p. 1).

The National Institute for the Clinical Application of Behavioral Medicine created the following chart on Neuroplasticity retrieved from https://www.nicabm.com/brain-how-does-neuroplasticity-work/, which shows how, when, and why the brain changes. It conveys a clearer picture when it is all put together and able to be read in one place (*How Does Neuroplasticity Work*, n.d. Fig. 1). The chart describes a cycle of what happens and how the brain changes. It shows neurogenesis where there is a continuous generation of new neurons; it shows new synapses where new connections are created from new experiences; participation in arts activities can lead to strengthened synapses where repetition and practice strengthen neural connections. The chart refers to weakened synapses where neural connections become weak when they are not used. We do not want that to happen to our children, or to anyone. The phrase “if you don’t use it, you lose it” applies in this case. All of this applies to students in school and after school life. The arts are a great way to keep this cycle going. A visual always helps to reinforce new material, therefore, I shared this chart to help in that area.

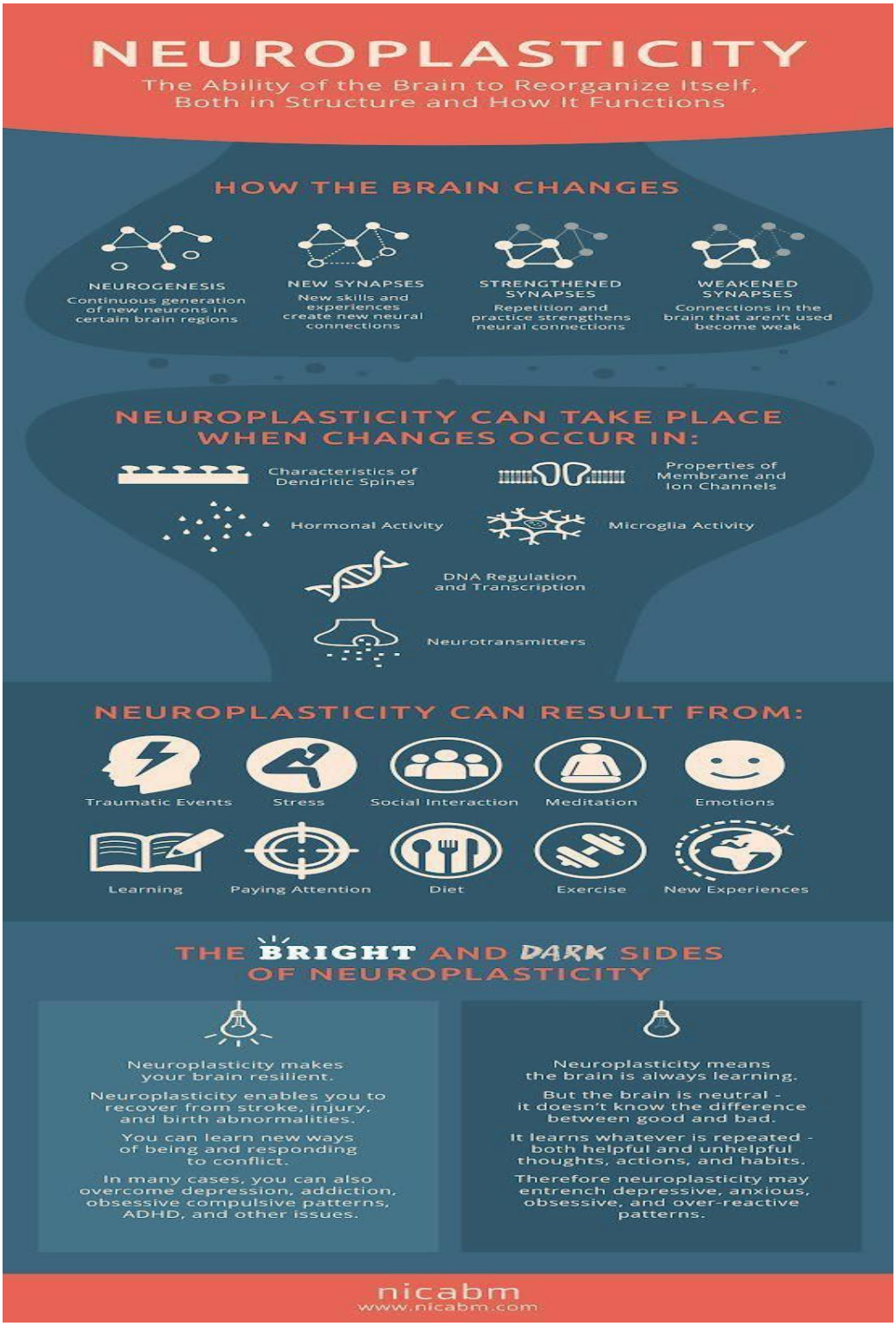


Image credit: The National Institute for the Clinical Application of Behavioral Medecine (*How Does Neuroplasticity Work*, n.d. Fig. 1)

Neuroplasticity is often portrayed as a revolutionary new discovery, but the concept has existed in one form or another for over 200 years (Costandi, 2016, p.4). This phenomenon can be seen through neuroimaging which shows without a doubt, that the brain is plastic and that the connections and activations within various parts of the networks involved in specific art forms are changed with experience and with practice. According to Hardiman (2009), "years of neuroimaging have now given us a plausible process by which arts training could now influence cognition and IQ" (p. 5). We can build new brain cells throughout our lifetime, but it is most malleable when we are young, and children are in the best position to build new neural pathways through constant new arts experiences in school (p. 5). I do not think there is any person in the United States that has gone through our school system and has not experienced this event in their life. Remember studying multiplication tables and repeating them over and over again until they were finally ingrained in one's brain? This is a perfect example of neuroplasticity where intense repetition of stimulus rewired the brain.

I personally learn better when I see a visual presentation of complex material that I am trying to understand, therefore, I included the following video presentation on neuroplasticity from The Digital Learning Consultant entitled *Neuroplasticity and Learning Explained.* The link was retrieved from https://www.youtube.com/watch?v=88OL8NdkV-s&t=2s and it does a fantastic job explaining, and providing colorful animation to demonstrate what goes on during neural processing and explains how every time we learn something new we are harnessing the power of neuroplasticity (The Digital Learning Consultant, 2018).

The Crucial Early Years of Brain Development

The first few years of life are a time of rapid brain development. Sousa and Pilecki (2013) state that as a young child participates in activities involving dancing, singing, and drawing, "all the senses are engaged and help wire the brain" (p.17). This is a crucial time when neural pathways needed for successful learning are developing. Once a child enters school, opportunities to participate in these natural art forms need to be provided and encouraged for cognitive and visual-spatial areas to develop (Sousa & Pilecki, 2013, p.17). Some parents want their young child to jump right into the academic part of schooling, but they do not realize the significance of what they consider to be playing.

The singing, the dancing and the drawing are essential to the development of those neural networks the child requires such as visual-spatial processing where they learn to tell where objects are in space; how far objects are from one another.

> According to Sousa and Pilecki (2013), one common element of the current theories is that each art form involves different brain networks: visual arts are processed in the occipital lobe, the rear part of the brain, linguistic arts are processed in the Broca and Wernicke area on the side of the brain, movement arts are processed through the motor cortex across the top of the brain and music is processed through the auditory cortex located in the temporal lobes just behind the ears (p. 19).

While recording children's brain's electrical signals using electro-encephalography, or EEG, researchers were able to see that arts training required the children to focus, and this concentrated attention improved cognition. This gives us a better understanding as to why children require arts training in the early years while their brains are still developing (Sousa & Pilecki, 2013, p. 19).

From the moment of conception until roughly two years old, our brains are being bombarded with the development of new neurons and synapses at an astounding rate,

40,000 per second. As we grow as children, our brains have a way of clearing out what it deems as unimportant information through a process called synaptic pruning. “By the time we are ten years old, 50% of the synapses we had when we were two years old are pruned away, increasing the efficiency of the neural network” (Santos and Noggle, 2011, para. 1). This could explain why so many people cannot recall much of their early childhood. As we age, that burst of brain development slows down. However, as we continue to learn and experience new things, our brains continue to “form new synapses throughout our lifetime, which are necessary for learning and memory processes, unimportant ones fade away through the pruning process and new neural connections are created” (Kolb & Gibb, 2011, para. 17).

We as teachers in my school for children with neurological disabilities know how important it is for children to get intervention as soon as possible to increase their success in school and life. Timing is crucial. The most ideal time to harness neuroplasticity is in the early years when the brain is developing so rapidly. Our country has realized this and there are agencies across the nation that provide early intervention services for children suspected of having disabilities or for those that have been diagnosed early on, from birth to three years of age. The parents are taught how to work with their child using practice and repetition which will enable the brain to create and reinforce new neural pathways to learn new skills and new ways of thinking. There are times, we as teachers at the school can tell when a young child has received early intervention. When they have not quite grasped a skill yet, but their determination in attempting something that we know we have not taught yet is evident; we can assume it was through their early intervention program. Valuable time can be lost in those early years and skills that could have been

worked on to help rewire the brain cannot occur if intervention does not take place. For some children it takes years and years of repetition and practice just to hold a crayon. "The arts develop neural systems that often take months and years to fine tune. The benefits when they appear will be sprinkled across the spectrum, from fine motor skills to creativity and improved emotional balance" (Jensen, 2001, p. 1). Therefore, it is imperative that the child's brain starts forming those new neural networks early on.

The arts are used extensively in early intervention. In addition to teaching at the school where I am employed, I have been working privately as a practitioner in early intervention for many years, where I have used music, visual arts, and dramatic play from the day I begin working with the child and the family. It is something the parents can do with their child that does not take much skill on the parents' end but benefits the child immensely.

Babies and little children especially love to listen to music and play musical instruments. It is something that comes naturally to them. "The infant is born ready to interact and discover her musical culture" (Malloch & Trevarthen, 2018, para 67). For instance, I have observed this interaction with my own granddaughter. At 7- 8 months old, as soon as she would hear music, she would stop whatever she was doing and stare, then she would start to bob and bounce to the music, in time, while sitting in her father's or mother's lap, on the floor, or wherever she was. This is exactly the reaction found by Katerina Mazokopaki, a developmental psychologist who did a study of babies in Crete with her professor, Giannis Kugiumutzakis, an expert in analysis of imitative games with newborns (Mazokopaki & Kugiumutzakis, 2009). This is what occurred:

> The babies were left alone in a familiar place at home amusing themselves. Then a recording of a Greek baby song came on. Between 3 and 10 months old they all

> reacted in the same way. First, they looked surprised; then they looked about as if someone had come into the room; and finally, they smiled with delight and started performing with the music, inspired by the pulse and melody, joining the music with their different abilities to dance and sing (Malloch & Trevarthen, 2018, para 63).

This musical ability is not something they learned; it is something they are born with. We are learning that music is inherently in us, as well as around us. Jensen contends that "based on experience and on results of numerous studies, it is easier to understand that music is biologically part of human life, just as music is aesthetically part of human life" (as cited in Demarin et al., 2016 p. 344). There is a saying that, "Music is Life, that is why our hearts have beats" (author unknown). What a perfect way to see clearly that music is in each and every one of us and is part of what being alive means. We were all meant to make and enjoy music.

Arts Activities of Central Importance to Brain Activity:

Areas of the brain that control every feeling, thought, and move we make are labeled in Figure 1.2. I included it to provide an idea of where each part of the brain I mention is located. The various art forms involving different brain networks located in each part of the brain where they are processed are shown in figure 1.4, which were retrieved from the book *From Stem to Steam* (Sousa & Pilecki, 2013, Figs. 1.2 & 1.4).

Parts of the Brain figure 1.2

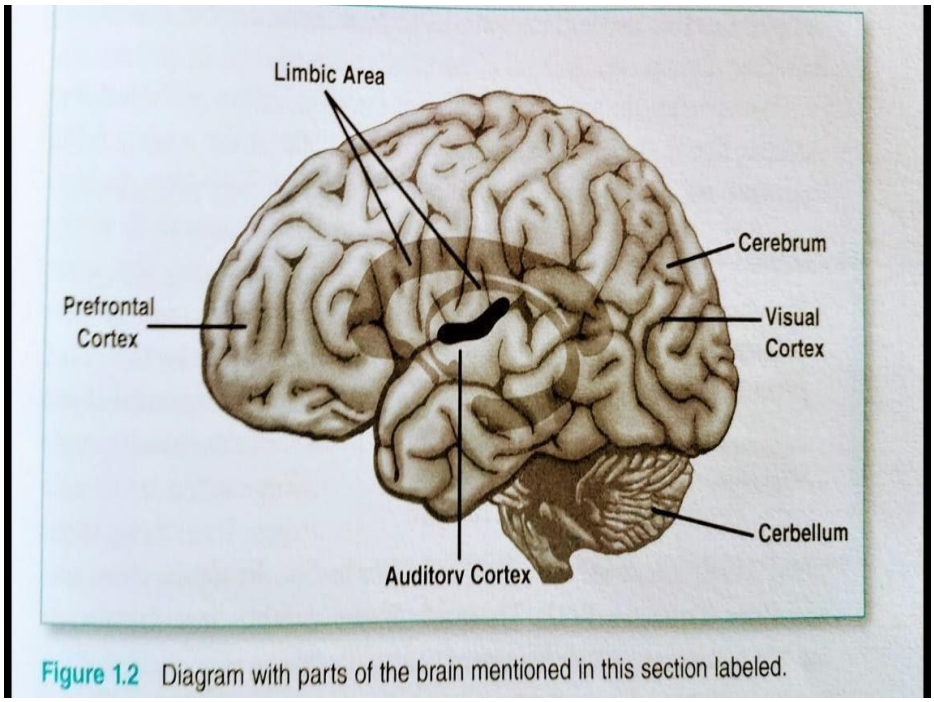


Figure 1.2 Diagram with parts of the brain mentioned in this section labeled.

(Sousa & Polecki, 2013, Fig 1.2)

Networks of the Brain figure 1.4

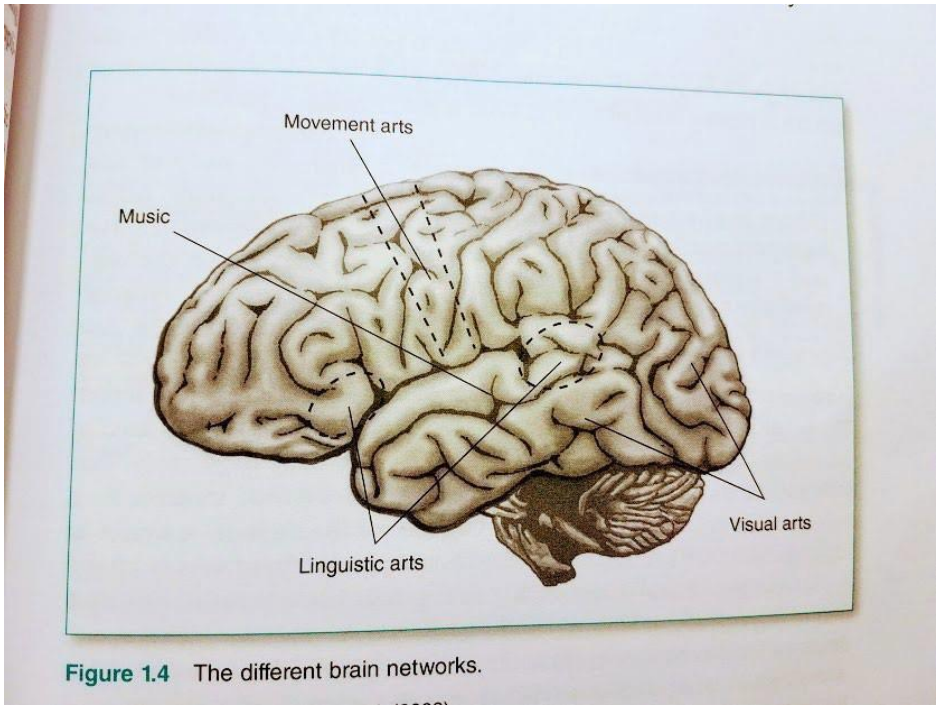


Figure 1.4 The different brain networks.

(Sousa & Polecki, 2013, Fig. 1.4)

Neuroscientists are learning why human activities required for the arts are so fundamental to brain function. Most people believe we need our brain to perform certain functional activities, and that our brain was set for life when we were born. Yet as we are learning through research, our brain needs certain arts activities to enhance brain function, to create new neurons, brainwave patterns and neural systems. Our creativity and emotional balance depend upon it. "Music is one of the most frequently investigated stimuli for neuroplasticity and undeniably a very strong connection between them exists" (Demarin et al., 2016, p. 344).

The following arts activities are of central importance to brain activity: Music, Dance, Drama and Visual Arts.

Music: "Frank Wilson, assistant clinical professor of Neurology, says that learning to play an instrument connects, develops, and refines the entire neurobiological and motor brain systems" (*How Music Can Dramatically Affect*, 2000, p. 11). I know firsthand playing an instrument requires hours of practice, and an enormous amount of concentration, memory, and coordination. Every part of my body is involved when I play the piano, so it makes sense that playing an instrument refines the entire motor brain system.

"Studies indicate that certain structures in the auditory cortex respond only to musical tones" (Sousa and Pilecki, 2013, p. 12). The auditory cortex is also thought to be involved in higher-level auditory processing, such as recognizing aspects of sound that are specific to speech and language development. We can see that babies' first attempts at language are based on the musical aspects of speech which involves rhythm and intonation. For this reason, it is so important to sing to babies and expose them to music

which will help to develop their auditory cortex. "Music and speech represent the most cognitively complex uses of sound by the human species. Given that all normal humans seem to be capable of relatively sophisticated musical and speech functions in the absence of explicit training, then it follows that these cognitive–behavioral skills are likely to be related to the functional organization of the human auditory nervous system" (Zatorre, Belin, & Penhune, 2002, p. 37). We have evidence that these functions are inborn. It makes sense since musical ability has been proven to be inborn and language is based upon musical aspects of speech.

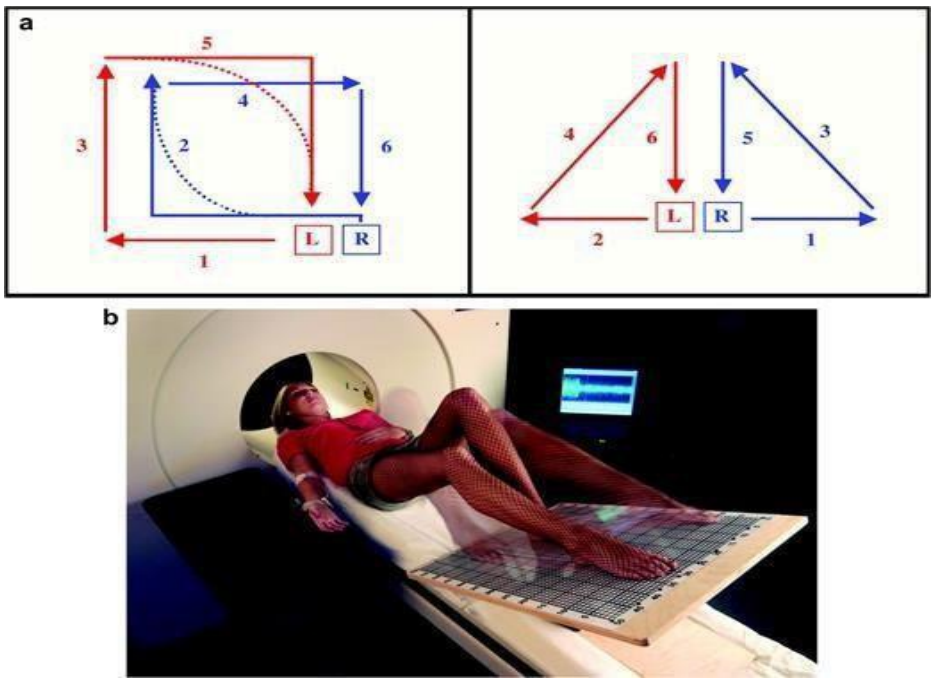
According to Pujol, "the brain's auditory pathways and centers develop more slowly and progressively from the brainstem to the auditory cortex. They slowly develop until a child is between four and eight years old" (Pujol, 2016, para. 1). So, if there is a problem in this area of development these early years are the prime time to rewire neural networks and music could assist.

Music also helps reading by increasing verbal memory. "A study with 90 six-fifteen-year-old boys with musical training showed they remembered 17% more verbal information than those without musical training (Ho, Cheng & Chan, 2003 as cited in Sousa & Pilecki, 2013, p. 22). A follow up study concluded that the effect was causal, that the music training caused anatomical changes in the brain of children who were engaged in making music" (Sousa & Pilecki, 2013, p. 22). This is significant since many studies regarding the arts only show a correlation between the art and the effect. So, to have verification that music was the cause of the anatomical brain changes is very valuable information. Research shows a positive connection between music instruction and academic progress. According to Johnson and Memmot, over 4,700 third and fourth

grade students' improved academic performance was attributed to their participation in high-quality in-school music programs across four regions of the United States (as cited in Sousa & Pilecki, 2013, p. 23). It should be noted that this improvement could be attributed to other factors such as parental support and encouragement in the child's musical endeavors (Sousa & Pilecki, 2013, p. 23).

Dance: Dancing is good for the brain as it requires complex mental coordination. A portion of the cerebrum and most of the cerebellum are devoted to initiating and coordinating all kinds of learned movement, from intense running to delicate sway of the arms (Sousa & Pilecki, 2013, p. 12). Most of the brain is activated during physical activity. Imaging can show which sections of the brain are activated by dance and how it can alter brain function and strengthen neuronal function.

I find it interesting to see how brain scans monitor dance movements when one is lying down, so I included this photo and diagram from the article *The Neural Basis of Dance* to illustrate how imaging is done to show brain activity altered by dance movements. They use a positron emission tomography (PET) to localize brain areas involved in the synchronization of leg movement to the rhythm of auditory stimulus. The image was retrieved from retrieved from https://academic.oup.com/cercor/article/16/8/1157/455551 (Brown et at, 2006, Fig. 1).



Brown, Martinez, & Parsons, 2006, Fig. 1

Our brain begins to develop long before we are born and continues developing for the rest of our lives through reflexive movement. Through movement, sensory input and repetition with novelty, the brain can create new neurons and neural pathways due to our brain's plasticity. We can rewire our brain, but we must keep moving. According to Kadaras (2016), since the turn of the 21st century with modern technology, the internet, smartphone and social media, adults and children are spending more and more time in front of screens and moving less and less, causing a host of problems resulting in "a significant decrease in functional connectivity" (as cited in Gilbert, 2019, p. 4).

Teachers are seeing a decrease in social emotional intelligence in children of all ages. "When people sit and watch videos they go into ocular lock, staring, with no movement stimulating the brain" (Gilbert, 2019, p. 5). We need to keep moving to keep our brain healthy, allowing it to grow and create new neural pathways. Parents should discourage their children from looking at their devices while at the dinner table either at

home or when they are out to eat. Many times, I have seen an extended family at a restaurant, parents and children all staring at their cell phones while grandma and grandpa sit and stare at the family in silence. There is no communication anymore. Children are losing the ability to communicate effectively, they are not connecting emotionally and there is nothing happening to stimulate their brains, where new neural pathways should be forming from every new experience they have. They sit mesmerized at a screen at home, and they go to school and sit some more, for hours at a time. They have gym class once a week, but it is the same old activities and nothing new to get the kids moving and stimulated. Maybe they will throw a ball in a hoop or play WII games, where they play virtually on a large screen. It is no surprise teachers are seeing a decrease in social emotional intelligence in their students, as well as a lack of energy and enthusiasm which would have enabled them to be attentive and ready to learn. I believe an unstimulated brain is a lazy brain. A brain that does not exercise is an unhealthy brain. Dancing will get the students energized, get their attention as they learn new dance steps, and get those neural networks moving which will develop other connections throughout their brains. This is evident in the following study.

The Harvard Mahoney Neuroscience Institute (2020) shared the following: "A 2003 study in the *New England Journal of Medicine* by researchers at the Albert Einstein College of Medicine discovered that dance can decidedly improve brain health as well as in a small study undertaken in 2012, researchers at North Dakota's Minot State University found that the Latin-style dance program known as Zumba improves mood and certain cognitive skills, such as visual recognition and decision-making. Other studies show that dance helps reduce stress, increases levels of the feel-good hormone

serotonin, and helps develop new neural connections, especially in regions involved in executive function, long-term memory, and spatial recognition" (*Dancing and the Brain*).

Dance helps activate the motor-cerebellar-vestibular system which a developing brain needs for successful movement and cognitive growth. Good balancing skills ultimately equals good reading skills. Without this activated system problems in many areas can occur, such as attention deficits, reading problems, emotional problems, weak memory skills, impaired writing skills. "Ages two-six are prime time for this development. Dancing gets the children moving, crawling, hopping, jumping, swaying, and developing their motor cerebellar vestibular systems" (Jensen, 2001 p. 77). Developing a joy of dance and movement at a young age sets the child up for a lifetime of activity which will keep those neural pathways forming throughout their lifetime. It is a habit that becomes encoded in their brains.

Drama: Specialized areas of the cerebrum focus on spoken language acquisition and call on the limbic system (the emotional control center) to provide the emotional component (Sousa & Pilecki, 2013, p. 12). This system deals with emotions and memory and behaviors we need for survival. Drama taps into our emotions. When we become part of something, we become emotionally involved, which in turn could help a child learn better and retain more.

According to Allman, "Skills such as reading, counting, speaking and problem-solving are all developed through drama and dramatic play which facilitates the maturation of the brain's cortical systems" (as cited in Jensen, 2001, p. 75-76). Studies show that students with four years or more in drama study scored 44 points higher than

non-dramatic arts students on the averaged math and verbal scores (College Board, 2000 as cited in Jensen, 2001, p. 76).

The arts help make learning visual. Teacher Jeffrey D. Wilhelm author of *You Gotta BE The Book*, described how he came up with a creative way to help his struggling readers. He had his students make paper cutouts of the characters and had the children use them to describe what was going on in the story (Sousa & Pilecki, 2001, p. 16). By creating drama and visual experiences the students were able to visualize the characters, settings, and conflicts in the story because they were experiencing and engaging with text. For students to experience and really think about what they are reading in a story, they must "see" it. They need to see it to internalize it. The drama and visual arts provide access to the text, where they are provided with an opportunity to experience and engage with the text. The arts were the way the students were able to learn from their reading.

Drama class in the younger grades is very rare but the proof is in the numbers and it is something schools should push for, particularly here in New Jersey since we now have universal access to the arts. According to Jeffrey D. Wilhelm and Brian Edmiston who wrote the article, *Drama is Imagining to Learn: Inquiry, Ethics, and Integration through Drama*, "Through drama, students became a part of the learning process rather than mere observers or inactive receptacles of the rich experience of learning; in this way, their learning was deeper, more sustained, and infinitely more complex" (Wilhelm & Edminston, 1998, para 6).

Watch young children at recess where they play in the dramatic play areas. They are connecting emotionally and tapping into prior experiences. They are collaborating,

directing, developing their language skills, pretending, creating and acting out scenes in preparation for real life; their imagination and critical thinking skills are hard at work as they play house, doctor, and teacher at school. They are learning and developing their brain's cortical systems.

At the University of Liverpool (2006), research has shown that reading William Shakespeare's works stimulates the brain. Shakespeare's works create functional shifts for the brain, which "…[allow] the brain to understand what a word means before [the brain] understands the function of the word within a sentence… [This causes] …a sudden peak in brain activity and forces the brain to work backwards to fully understand what Shakespeare is trying to say" (Hough & Hough, 2012, p. 454).

This is very much in alignment with one of the studies in Critical Links where the students were involved in the Shakespeare and Company Research Study (Deasy, 2002, p. 59). The students themselves spoke about how they had to rethink what Shakespeare was trying to say. This helped them learn to focus and concentrate, and to interpret the written words to try and get meaning out of them. Trying to comprehend Shakespeare is great exercise for the brain.

Visual Arts: "Visual arts excite the visual processing system to recall reality or create fantasy with the same ease" (Sousa & Pilecki, 2013, p. 12). "The visual cortex of the brain is the area of the cerebral cortex that processes visual information. Sensory input originating from the eyes travel to the visual cortex" (Jensen, 2001, p. 52).

Many of us are visual learners. We need to see what it is we must do in order to process the information efficiently. If we can draw what we learned, we will be much more likely to retrieve it from our memory. "Drawing forces us to visualize and plan our

actions. In a recent study, drawing figures helped improve thinking skills and verbal skills in children with learning disabilities" (Jing, Yuan, & Lu, 1999 as cited in Jensen, 2001.p. 59). By creating art projects in literature students can connect more deeply with the text. Seeing and experiencing the text helps them interpret and comprehend the ideas they encountered in reading literature (Burnaford et al., 2001, p. 43). Much like Jeffrey D. Wilhelm stated is what happens when creating drama experiences with his students when reading a story. With my special students the result is similar only I am the one who draws the pictures for the students. For example, when we are reading a poem, I very often illustrate segments of the poem and make them 3-D when I can, to help the students "see" the text. I take their hands and using a hand over hand I will help them draw or glue the materials to the paper: colorful leaves falling, falling, falling, covering the ground. They love making each leaf as they are falling...falling...falling…. They are seeing and experiencing the text.

"By working with each discrete art form, students are provided with a more articulate tool - a finer instrument - to describe complex ideas" (Burnaford et al., 2001, p. 18). All the brain is involved in cognition. We receive visual input in the occipital lobe, our sensory sorting occurs in the parietal lobes, we process all the info in the frontal lobes, we develop emotional responses in our midbrain, and our cerebellum isresponsible for our movements (Jensen, 2013). According to Eisner, "Of all the effects on cognition, visual arts seem to be strongest when used as a tool for academic learning. Studies report strong links between visual learning and improvement in reading and creativity" (as cited in Jensen, 2013, p. 58).

If we want to exercise our neurological pathways all we must do is look at art. We do not really see with our eyes; our brain does all the work. “When we look at art, a fascinating sequence of neurological, perceptual, and cognitive phenomena emerges through which the art piece is seen and understood in less time than it takes to read these words. Neuroscientists have unraveled many of the strands of the neurological pathways and interactions involved in the visual sensation…” (Solso, 2003 p. 20). When we look at the colors, the shapes, the lines, and the movement of a piece of art our neurons go into action and our brain processes all the input and then floods us with emotion. This happens in the brain’s control center, known as the prefrontal cortex of the frontal lobe which coordinates all information to help an individual make sense of it all.

When we look at the brain and see how specific sections are designated to the arts, we to realize the magnitude of how we were created and what that means to humanity. The fact that the arts are programmed was not just an accident. Thousands and thousands of years using these talents are proof of the arts significance to our survival. Long before written and spoken words the arts were used to communicate and to document the earliest of human existence. The arts were a necessity for our ancestors. They used animal bones to make instruments for pleasure as well as to warn of danger, they made drawings to teach about the animals they could eat and those they should fear. Sousa and Pilecki (2013) wrote that the tribesmen were expected to learn from these drawings. They learned how and what to hunt for food and to defend the village from predators. Some cultures today still do not have reading and writing, and the arts will not only keep their culture alive for generations to come, but it is also a means of survival for them. “Of the 6,500 languages on this planet, New Guinea has 1000 separate languages

known to only those in each tribe. These arts-related activities give the tribe its identity and its individuals a sense of belonging" (p. 14). Even more astonishing is each tribe has their own music, visual arts, and dance (Diamond, 1992, as cited in Sousa and Pilecki, 2013, p. 14). Evolution made a permanent home in our brains for the arts. Perhaps the meaning of survival has changed through the ages, for we in our culture no longer need the arts to survive against threats to our village or to hunt for food: however, we need the arts to develop creativity, critical thinking skills, to be able to problem solve, to communicate and to collaborate. "All these skills-which align with what many educators now refer to as 21st century skills, will be needed by every student in order to survive successfully as an adult in an increasingly complex and technologically driven world" (Sousa & Pilecki, 2013, p. 15).

If we take the meaning of survival to mean continuing to exist, despite difficult circumstances, then the meaning of survival did not change at all throughout the ages, because we do what it takes to make it. However, we could look at it another way. The difference is our ancestors had to learn how to hunt and to fend off predators to survive physically. Today's meaning of survival typically refers to economic/financial survival; if we want to make it in the world, we need to learn technological skills and 21st century skills to make it in today's world, right in our hometown or throughout the global economy. Much like our ancestors who used the arts to make it, the arts can assist us in making it because of all the benefits they provide. Waller, Merker and Brown wrote:

> If Darwin were right, traits and behaviors that enhance the survival of a species will be selected by nature because they will better ensure the perpetuation of a species from one generation to the next. Could the use of music increase survival chances? Bjorn Merker has studied this question, and most likely the answer seems to be yes (as cited in Jensen, 2001 p. 15).

The arts are the one thing every culture and civilization throughout the ages has had in common and can be traced back to the earliest days of human existence. Therefore, I think after 1.5 million years there is a pretty good indication that the arts will be here until the end of time because we were hard wired at birth to enjoy the arts. “Human evidence hints that right from the start, humans were making art as if it were built into our brains. Art making may have emerged as early as 1.5 million years ago with the arrival of Homo erectus, our humanlike ancestors” (Jensen, 2001, p. 50).

The Mozart Effect

We were hard-wired at birth to enjoy music. Researchers discovered that the brain has specific sections that respond only to music and that these areas elicit feelings in the listener. Brain scans show that different types of music stimulate different areas of the brain evoking either pleasure or unpleasant emotions: melodic equals pleasant, whereas dissonant equals unpleasant.

While I was a new, young receptionist working in a psychiatrist’s office, I had an opportunity to experience what brain scans have proven to be a fact. Without thinking I changed the radio station sitting on my desk from soft instrumental music to fast paced music that at times was not very melodic. When all the morning appointments were completed, the doctor came out of his back office and looked at me with a stern face. He said he now knows why most of his patients were acting differently and were more agitated than usual. The music influenced their emotions. He explained to me there is a reason doctor’s offices play soft, soothing melodic music: to put the patients in a pleasant, relaxed mood. I was to refrain from changing his preset radio station, a lesson I will not forget.

We cannot discuss the effects of listening to music without mentioning “The Mozart Effect,” a theory that was blown out of proportion in 1993. What was originally reported as a slight improvement in a spatial task after 36 college students listened to Mozart music, exploded and spread like wildfire after media attention advertised it as a boost in overall intelligence. In reality it was just “a modest gain in one small parameter of brain function” which was not permanent and was gone in fifteen minutes (Helding, 2014, p. 473).

Some investigators claimed that, “Listening to Mozart’s sonata K448 produced a small increase in spatial-temporal performance as measured by various tests derived from the Stanford Binet scale such as paper cutting and folding procedures” (Jenkins, 2001, p. 170). Others were unable to reproduce the findings, however with each news report the key elements of the study were transformed to be more than they were and according to Helding (2014), “by 1998 the Governor of Florida was giving away free classical music CDs to every newborn, and Florida state legislature mandated classical music be played in every childcare and early educational facility that received state funding” (p. 474). A new company started to produce Baby Mozart CDs and Baby Einstein CDs and hooked leading consumers to believe that babies listening to this music could increase their IQ even before birth. Advertisers know how to sell products, particularly to vulnerable young parents who want nothing but the best for their babies. I know if I were told a product would make my baby smarter, I would buy it, especially if there was no harm in trying it other than losing a few dollars if it did not work. In that case, at least the baby would enjoy hearing some beautiful, soothing music, which is exactly what happened.

It was determined through a meta-analysis of studies focusing on the Mozart effect, "that any cognitive enhancement is small and does not reflect any change in IQ or reasoning ability in general. Several studies that did manage to connect music to verifiably enhanced abilities concluded that any observable increase in spatial task performance was due to enjoyment arousal" (Helding, 2014, p. 474).

Fearing a class action lawsuit, the Disney company who purchased the rights to the Baby Einstein/Baby Mozart products refunded the price in full upon request to all customers who felt cheated. At the time of the sale, sales had reached over seventeen million dollars (Helding, 2014, p. 474).

Researchers examined the Mozart Effect phenomenon and determined that there was a general cultural fear in parents that if they missed a critical window of brain development in infants it would negatively affect the child for the rest of their life, resulting in permanent and disastrous consequences. Every parent wants to give their child every possible chance and opportunity they can to succeed in life, and an IQ boost from listening to soothing music seemed like a wonderful way to do it during that critical window of brain development.

From Stem to Steam

Priorities shifted when high stakes testing was the focus. Arts programs were cut so more time could be spent on reading, math, and science. It was more important to be able to read words than to read notes, but one important fact remains: our brain has developed elaborate neural networks to process both language and music as forms of communication. Why would that be if both were not biologically important (Sylvestor, as cited in Sousa & Pilecki, 2013, p. 14).

Times are changing, and we are learning the value of the arts and how they can assist in developing other areas. Just as the times are changing so is the focus of education and the value of arts in education.

People are becoming enlightened about how the arts promote the development of valuable neurobiological systems and how very young children's brains are all wired for successful learning through natural forms of arts such as singing, drawing, and dancing. The multi-sensory activities which they engage in as they play, all form these neural connections. As the children age and go to school, different areas of the brain continue to develop through these art activities and skills in the various domains, cognitive, social, and emotional begin to develop.

It is difficult for some people to step away from that right brain/left brain, one or the other mentality. But we are learning. "The arts are not just expressive and affective; they are deeply cognitive. They develop essential thinking tools-pattern recognition and development; mental representations of what is observed or imagined; symbolic; allegorical and metaphorical representations; careful observation of the world; and abstraction from complexity" (Sousa, 2019, para. 8).

Take for example music and mathematics, where numerous studies have shown a strong relationship between two subjects. Counting must be the most obvious connection since beats represented by notes, and rests, must be counted. We look at music's notes in terms of fractions; there are 1/8, 1/4, 1/2 notes and so on. In addition to counting, both music and math involve patterns, sequences, intervals, and ratios. Unlike the brain

using its different parts for different art forms, and other subjects, the brain does not differentiate which subject a student is engaging in when they are counting a beat or a number; counting is counting. If they are trying to remember a sequence of notes or a sequence of numbers; a sequence is a sequence. Similar with patterns, working on a pattern in music repeating a verse of a chorus, or using patterns in math to help solve problems; a pattern is a pattern. Both subjects use the same part of the brain and the same neural networks

Several imaging studies have shown that musical training activated the same areas of the brain that were also activated during mathematical processing. It appears that early musical training begins to build the same neural networks that later will be used to complete numerical and mathematical tasks (Sousa, 2019, para 22).

This is evident in the following study where second grade students from a low socioeconomic group in Los Angeles were taught how to play the keyboard for four months, to determine if this skill would help them learn proportional mathematics, which is usually taught with ratios, fractions, and comparative ratios. The students were also provided with computer training on software designed to teach proportional mathematics. The results: The students who received the keyboard and computer lessons scored 166 percent higher on proportional mathematics and fractions subtests than the matched group that received neither music nor specific computer lessons. The results were quite significant since the math skills focused on are not taught until 5th or 6th grade and because a grasp of proportional mathematics is essential to understanding science and mathematics at higher grade levels (Sousa, 2019, para. 23).

It is worth mentioning the results of several other studies in California where eighth

through twelfth grade students involved in music doubled their math scores, and history and geography scores increased by 40 percent, compared to students of the same low socioeconomic group who were not involved in music. Six experimental studies showed a causal relationship between music and mathematics performance. These results are quite significant, particularly since we still want our children to be successful in math and science and some of these results showed causal relationships not just a correlation.

The push for the arts in education is not just about the arts, but how the arts can help children strengthen their skills in other areas of the curriculum such as science, math, and technology. That is why there is a current trend of adding A to STEM.

Students often forget what they learned a few months earlier since it was never encoded into their long-term memory. A common occurrence is when material is temporarily learned to take a test then forgotten shortly after. It was never processed so it cannot be recalled.

Numerous studies by researchers at Johns Hopkins University have shown that by integrating the arts into content areas such as STEM, students' long-term retention can be improved through the following eight effects (Rinne et al., 2011 as cited in Sousa & Pilecki, 2013, p. 23).

1. **Rehearsing the information and skills** (Sousa & Pilecki, 2013, p. 23). When students go over the material again and again, they are more likely to remember it. Repetition creates neural pathways that clear away the nonessential and take us directly to the information we desire.

2. **Elaborating that adds meaning to the learning** (Sousa & Pilecki, 2013, p. 23). When we elaborate, we need to expand on what we already know, thereby reinforcing the content already established in our brain. We must recall the basic information before we can add to it.

3. **Students generating more information** (Sousa & Pilecki, 2013, p. 23). Being able to produce more information about a subject or topic, indicates a student must have already encoded some significant facts in their brain which they can associate with the new information waiting to be processed and encoded.

4. **Physically acting out the material** (Sousa & Pilecki, 2013, p .23). By acting out the material we are encoding it in our brain. This is a technique called encoded enactment. We become consciously aware of an activity we are involved in and the information is channeled into our hippocampus, the part of the brain where new memories form and one of the only places in the brain where brand new neurons are regularly generated. We can easily retrieve information that is encoded. New memories form new synapses which are small pockets of space between two cells, where they can pass messages to communicate.

5. **Students talking about their learning** (Sousa & Pilecki, 2013, p. 23). When students talk about what they learned their memories are reactivated and strengthened.

6. **The amount of effort students are contributing to establish meaning** (Sousa & Pilecki, 2013, p. 23). When students are motivated and are eager to learn, they engage in their lessons willingly and happily, and it becomes a more memorable experience.

7. **The degree of emotional arousal over the learning** (Sousa & Pilecki, 2013, p. 23). The more a student is connected and involved emotionally, the better their

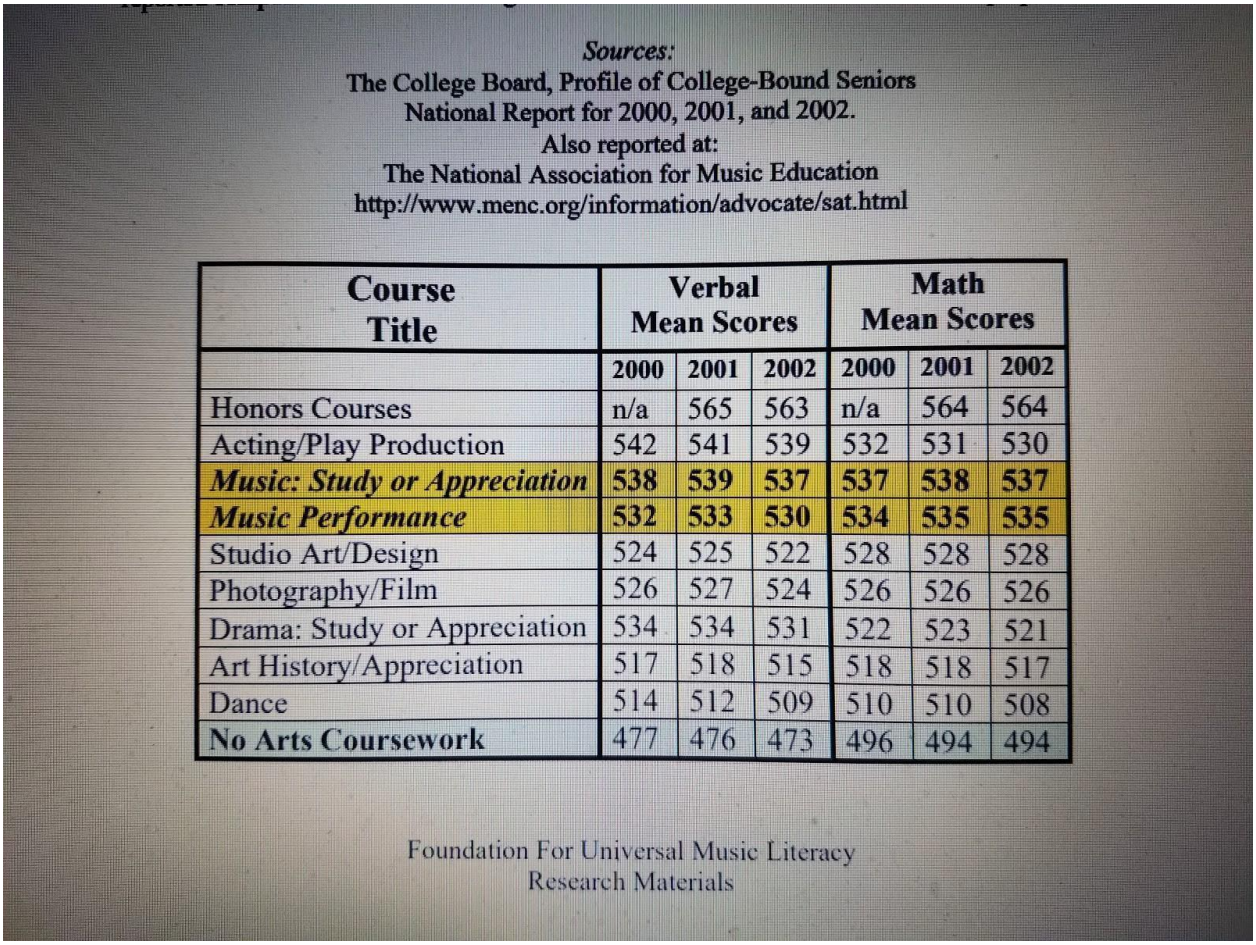
understanding of the material, and the more effort they put forth. We must challenge them to get out of their comfort zone. That is why we encourage drama in schools. The students become a part of the learning process and are not just bystanders.

8. **Representing the learning in pictures** (Sousa & Pilecki, 2013, p. 23). We do this because drawing forces us to visualize and plan out our picture. When we see something we had a part in creating we are more likely to remember it. These findings add to the growing body of research from cognitive science and neuroscience about the value that arts-related activities have in helping students remember what they learn (Sousa & Pilecki, 2013, p. 24).

If parents could only remember how they were feeling when they rushed out to get their Baby Mozart CDs because they wanted to give their child every opportunity to succeed. It seems that as their child progressed into the higher grades, they forgot what they believed in the earlier years; that the arts really do help a child develop skills that will help develop other skills in other domains. So many times, there is a struggle between the parent and child when the child wants to study the arts. Perhaps the child wants to be a musician and the parent wants them to be a doctor/ scientist, or the child wants to be an artist and paint portraits, but the parents want them to be an engineer. They put the other subjects in a higher position, creating a struggle between the science and the arts. They may have the belief that an intellectual, analytical child will go farther in life and be more successful than a child who is creative and emotional.

Perhaps if the parents had a chance to look at evidence such as data provided by the College Entrance Examination Board retrieved from http://www.sonlight.com/uploads/children-and-music-research.pdf, showing how

students of the arts continue to outperform their non-arts peers on the SAT. for three years in a row, they might feel better about allowing their child to participate in the arts (*How Music*, 2002, p. 11).



Sources:
The College Board, Profile of College-Bound Seniors
National Report for 2000, 2001, and 2002.
Also reported at:
The National Association for Music Education
http://www.menc.org/information/advocate/sat.html

Course Title	Verbal Mean Scores			Math Mean Scores		
	2000	2001	2002	2000	2001	2002
Honors Courses	n/a	565	563	n/a	564	564
Acting/Play Production	542	541	539	532	531	530
Music: Study or Appreciation	**538**	**539**	**537**	**537**	**538**	**537**
Music Performance	**532**	**533**	**530**	**534**	**535**	**535**
Studio Art/Design	524	525	522	528	528	528
Photography/Film	526	527	524	526	526	526
Drama: Study or Appreciation	534	534	531	522	523	521
Art History/Appreciation	517	518	515	518	518	517
Dance	514	512	509	510	510	508
No Arts Coursework	477	476	473	496	494	494

Foundation For Universal Music Literacy
Research Materials

Image credit: Foundation for Music Literacy (*How Music*, 2002, p. 11)

We, as a society, have reached a point where we should no longer engage in a battle to determine whether a person is right brained: creative, thoughtful, and emotional, or left brained: logical, detail-oriented, and analytical; or whether they lean towards the arts or science, where people are stereotyped as frivolous and fun versus serious and academic, emotional/expressive versus high standard. Based upon the studies, we know

the arts and sciences use both sides of the brain, so people who engage in both types of activities are not one or the other even though they may be perceived as being right brained or left brained. It may surprise many to hear "some of the arts use more of the brain than science" (Jensen, 2001, p. 10). We now have proof that neither side dominates but rather they work together in harmony to produce a flow of creativity. The human brain is divided into two main hemispheres connected by the corpus callosum, a thick cable of nerves that enables information to travel between them permitting the whole brain to be involved in processing all input (Sousa & Pilecki, 2013, p. 38).

This is an interesting fact: "most of us have a dominant hand, we are either right-handed or left-handed, however, the non-dominant hand provides plastic, creative stabilization and does it before the dominant hands takes action" (Wilson, 1999 as cited in Jensen, 2001, p. 57). This is proof that neither side of the brain takes charge, but rather works together. For example, while one hand picks up the pencil or crayon, the other hand makes sure the paper is in just the right place and position. "The non-dominant hand frames the movement of the dominant hand, shapes the space, provides the buffer and even acts as counterbalance - all crucial to the success of the task" (Guiard, as cited in Jensen, 2001, p. 57). According to Jensen, our non-dominant hands are used to think and shape our learning. We can consider ourselves both right brained and left brained, knowing that our brain is bilateral since both sides are being used, and that our non-dominant hand is receiving directions head of the task in preparation for the activity to take place. While a person's one side is being creative holding the pencil with one hand, the other side is being analytical, figuring out just the right angle to tilt the paper before getting started.

A child can get the best of both worlds and participate in both the academics in STEM and reap the benefits of their creative side by engaging in the arts which has the potential to help with all other areas of learning. Hence STEAM is on the rise, no pun intended.

Not only are the arts and sciences beneficial to a child in exercising their right brain and left brain which develops new neural pathways, according to Sousa and Pilecki (2013), "The arts create a very subjective view of the world, while science creates an objective view of the world. A person's brain needs both views to make suitable decisions" (p. 10). We as humans need to see the world portrayed with feeling and emotion. We live in a very complicated and sometimes scary world and viewing it through the eyes of an artist could help us change our perspective and the way we experience it. We need to see the rainbows and sunny skies when we have a grim outlook on everything. It also could work the other way around too. We may have this rosy concept of the perfect world in which we live, our very own little bubble, and the arts can depict a very different picture, which can open our eyes to new and meaningful things and help us view the world differently. The arts being subjective allow us an opportunity to add our own perspective to what the artists portray in and through their work, and we get to experience different perspectives as we try to understand where artists are coming from, and what they are thinking and feeling. Science provides us with facts and the truth which we can learn to accept or not. We need to be able to form opinions about those facts, and we need to be able to interpret them, so we know whether action needs to be taken or not. Both views enable us to make suitable decisions. The arts can influence

us and are open to our interpretation, and science is something we either accept or reject. and sometimes that is a good thing. The arts allow us to dream, where science brings us back to reality. We need both views to keep us grounded and balanced.

Everything we are, we do, and we feel has to do with our brain. Research has proven our brains need the arts. They show us who we were and where we came from; allow us to be who we are and help us leave a footprint on this planet and provide an endless opportunity for what we can be and help develop minds and skills that will take the human race to places we cannot even dream of at this time. “The truth is that aesthetic experiences—and the arts—are hard-wired in all of us. They are evolutionary imperatives, encoded in our DNA as an essential part of our humanity. And they are fundamental to our health, well-being, and learning” (Magsamen, 2019, para 5).

I absolutely believe in these words from ancient Chinese philosopher Xun Kuang who, in 300 BC said, “Tell me, and I'll forget. Show me, and I may not remember. Involve me, and I'll understand” (as cited in Evans, 2017, para. 1). If we want children to understand and to remember, we must involve them in a well-rounded educational experience. We cannot simply tell them what to do or show them what to do. They need to do it for themselves and figure it out on their own. Only then will they be able to understand fully, interpret it into what is meaningful for them and process all this new information, because by doing, in addition to listening and watching, the material to be learned is encoded into their brains. Then they will remember it. We must encourage our children to sing, to dance, to draw, to play and to pretend. It is all a part of how we learn and develop, and it exercises our brain. Then they can create, develop, invent, discover, and build all the innovative, inventions, and medical techniques and technologies that

will take us into the future and beyond.

No Boundaries Between the Arts and Sciences

We need to educate our students about some of history's most famous people who saw no boundaries between the arts and sciences. Sousa and Pilecki (2013) pointed out that Renaissance figures Leonardo da Vinci and Michelangelo Buonarroti truly embody the concept of STEAM. We read about them as being sculptors and painters, but they also were renowned scientists, engineers, and inventors (p. 31). Michelangelo, (1475-1564), was a Renaissance artist/sculptor. He was also an architect and an engineer who designed the large dome in St. Peter's Basilica in Rome. Leonardo da Vinci (1452-1519), artist and engineer, conceptually invented the helicopter, battle tank and parachute, and made important discoveries in anatomy, hydrodynamics, and optics. His contributions to science, art and technology are many. According to Pevsner, his pioneering research into the brain led him to discoveries in neuroanatomy and neurophysiology. DaVinci's anatomical and neuroanatomical drawings allowed many to see what they had never seen before inside the human body. His injection of hot wax into the brain of an ox made the first solid replica of an internal body structure (Pevsner, 2002, p. 219). "His specific accomplishments in science were harder to appreciate because his notes were not all transcribed, translated, published and interpreted until the twentieth century" (Pevsner, 2002, p. 219). I am sure I am not alone when I say that I had no idea da Vinci had a part in any discoveries in neuroanatomy and neurophysiology.

One final person who is most significantly related to my dissertation is Dr. Santiago Ramon y Cajal (1852-1934). He is known as the father of neuroscience. A Nobel Prize winner who was the first to see a neuron from a dissected brain. He

discovered how neurons communicate through chemical and electrical signals via synapses. He was an artist who drew whatever he saw. However, much like some of the parents I spoke about earlier, Dr. Cajal's father, not very thrilled or supportive of his son being an artist, "pushed him into the field of medicine", where he became a physician and a pathologist (Golgi & Cajal, 2021, para. 1). Defilepe (2013) wrote, "Cajal stated, I owe what I am today to my boyhood artistic hobbies, which my father opposed fiercely" (p. 210). Luckily for humanity that Cajal kept up with his artistic endeavors. He eventually drew some of the first pictures of neurons, brain tissue and neurological processes ever seen. His illustrations are still used in neuroscience textbooks today. He was a brilliant artist and scientist and living proof that there is no boundary between arts and science and that the connection is real.

I found this next piece of information very compelling and affirms, why we need to teach the arts to our students in school.

Martinez-Conde (2018) wrote, "few post-renaissance researchers have so beautifully integrated art and science as Cajal. And yet, Cajal's pursuit of interests and activities other than research is unexceptional among elite scientists" (para 6). Cajal's drawings of neural networks are beautiful works of art, wonderful examples of the right and left brain's combined efforts. Cajal was not the only one with a passion for art and science as the following research reveals. Martinez-Conde (2018) wrote,

> In a paper published in 2008, Robert Root-Berenstein and his colleagues at Michigan State University set out to document the arts and crafts conducted by 'scientific geniuses.' To do that, they combed through the autobiographies, biographies, and obituaries of science Nobel Prize winners, US National Academy members, and Royal Society members, and compared their findings to avocation surveys of the general public and Sigma Xi members. Their findings were startling: Nobel Laureates were more likely to have arts and crafts hobbies than Royal Society and National Academy members, who were themselves more likely to have such pastimes than Sigma Xi members and the US public.

> Moreover, scientists and their biographers often remarked that such nonscientific activities helped or inspired the research (para. 6).

The connection is extremely clear. The arts and science have a symbiotic relationship. Science was the inspiration for Cajal's drawings, and his drawing were the expression of his scientific knowledge. To come up with new scientific ideas and concepts requires creativity and art is an expression what one finds in science. Art and science work together and gives us new ways of seeing and interpreting the world around us.

Michelangelo, da Vinci and Cajal are not alone. There are many people past and present who see no boundary between the arts and science. Albert Einstein who is a genius, and who created the Theory of Relativity played the piano and violin from the time he was 6 years old. According to Root-Bernstein (2013), "few people are aware that he attributed many of his greatest scientific insights to musical thinking" (p. 16). Einstein was quoted as saying "the theory of relativity occurred to me by intuition, and music is the driving force behind my intuition…my new discovery is the result of musical perception." (Suzuki, 1969 as cited by Root-Bernstein, 2010, p. 16)

Two more examples are: Larry Page, co-founder of Google, and Steve Jobs, co-founder of Apple Computers. Page said, his musical education inspired his impatience and obsession with high-speed computing. "In some sense, I feel like music training led to the high-speed legacy of google for me. In music you're very cognizant of time. Time is the primary thing if you think about it from a music point of view - if you're a percussionist, you hit something, it's got to happen in milliseconds. Jobs used to play Bob Dylan songs on his guitar during the early days of Apple. He used to do this during brainstorming sessions with Steve Wozniak, co-founder of Apple.

Page and Jobs are two contemporary examples of the connection between the arts and innovation that should capture students' attention. (*How Music Influenced*, 2012, para. 9). They are the masters of innovation.

We must encourage the arts and let them lead the way. Eisner (1998) wrote, "Scientists, like artists, formulate new and puzzling questions in order to enjoy the experience of creating answers to them" (as cited in Burnaford, et al., 2001, p. 31). Who knows, the next Nobel Prize Winner could be a student sitting in the front row just waiting for someone to tap into the left and right side of their brain.

CONCLUSION

After thoroughly reviewing the literature and the research regarding the arts and arts in education as it relates to a child's development well into adulthood, I have shown that there are positive benefits. The arts not only benefit the cognitive social/emotional area, but the arts benefit all aspects of life as it relates to culture, society, and the human race. The arts tell us who we are as a people. They tell us the story of our past, where we came from and how we lived, as far back as ancient times. Every culture from the beginning of time has engaged in the arts through music, dance, and the art they created. Our cultural values are most vividly expressed through the arts. Eisner (1987) asserts, "There is a universal need for words, music, dance, and visual art to give expression to the innate urgings of the human spirit" (Mahgoub & Aldbesi, 2016, p. 272).

We as a people have the arts inside each of us. Singing and dancing for rituals and celebrations has been around forever. Some cultures sing and dance when babies are born as well as when people leave this world. "Musical arts not only are part of our built-in biological design, but they may develop essential neurobiological systems" (Jensen, 2001, p. 13). The arts are what make us human: these words are impossible to cite since they are in almost every piece of literature available regarding the arts. Who knows who said it first, but the research leads us to believe it is true.

The arts document the present for generations to come and prepare our children to become the innovators, inventors and leaders and artists of tomorrow. "The arts still serve the same primal function today—helping us to communicate and connect—much as they did in our evolutionary past" (Magsamen, 2019, para 5). They help us to communicate and connect and so much more.

Sousa and Pilecki (2003) confirmed there is sufficient evidence in neuroscience that demonstrates how arts activities enhance creativity, memory systems, problem solving and analytical skills. In addition to these cognitive enhancements, other neurobiological systems such as our emotional, attentional, and immune systems reap the benefits as well (p. 3). All are necessary for students to succeed in the 21st century. A healthy immune system contributes to a healthy body and clear mind which enables students to be ready to go out and tackle the world, and whatever comes their way. Not only will our students need to be healthy physically and emotionally, but they will also need to be able to think creatively, critically, and analytically, and will need to be able to communicate effectively with others. They must be able to pay attention, stay focused and on task.

The future will no longer be about what one knows, but how fast one can find the information and how to use it creatively and cooperatively in our tech savvy world. “We are in the twilight of a society based on data. As information and intelligence become the domain of computers, society will place a new value on the one human ability that cannot be automated: emotion” (Jensen, 2001, p. 9). The real test of our educational system will be how well we prepare our children to go out into the world. How well will they be prepared to perceive and make sense of it all? Computers will be able to provide all the information anyone would ever require, so it will not be as important for a student to show their intellectual ability.

We are complex human beings. We should not judge ourselves by how smart we are or are not, nor should we judge others by how smart they are or are not. There is so much more to a person than their intellectual abilities. We need to be humane; we need to

have integrity; we need to have a sense of wonder and adventure. How caring are we of others; do we feel empathy, can we see and listen to what is really going on in the world? Can we make sense of it all and plan to change things that some would call impossible? "An effective education in the fine arts helps students to see what they look at, hear what they listen to, and feel what they touch. Engagement in the fine arts helps students to stretch their minds beyond the boundaries of the printed text or the rules of what is provable" (Mahgoub & Aldbesi, 2016, p. 271).

A story appeared on social media about a doctor who talked about how people come to see him when all other doctors say they cannot help. This doctor went on to say he is not afraid to try what others say cannot be done. He is not afraid to take a risk if he feels the outcome will benefit those he is trying to help. He looks at the problem and he tries to solve it. He stretches boundaries and does not ever give up even when he fails because the next time he may succeed. This is what we want for our students.

It is one thing to say that these are the benefits that come from the arts in education and it is another thing to understand why and how these benefits occur. The new field of neuroeducation has provided some level of explanation. Neuroeducation is where researchers in neuroscience, educational psychology, educational technology, and educators try to find the connection between brain processes and education. Neuroscientists can explain how the brain is rewired by a process called neuroplasticity where new neural networks are developed. Neuroscience has shown us how our brains continue to develop new pathways to learning as we experience new things through our creative endeavors.

Students who engage in the divergent thinking process where they learn that there

is more than one way to do things and where the students come up with their own ideas are forming new neural networks which could assist them in other learning activities later on (Sousa & Pilecki, 2013, p. 41).

The arts provide that opportunity for all the above to happen. “The beauty of the arts is that they are both deep and wide in their benefits. They can improve nearly everything that schools need today; self-esteem, health, inclusion, motivation, attendance, grades, community involvement and communication skills, as the landmark report *Champions of Change* has pointed out” (Catterall et al., 1999; Fiske, 1999; Jensen, 2001, p. 116).

The various modes of arts programming all have the opportunity to impact a child’s education. When the arts are infused or integrated into a child’s curriculum there is cross over into non-arts subjects. It also appears that the cross over is a two-way street so to speak. “Neuroscience has given us a broader picture of the human mind actively creating connections and associations across a broad front of stimuli - or across intelligences. Thus, there is no reason to believe that learning from other subject disciplines does not in some fashion also travel back to enhance arts learning” (Burton et al., 2000, p. 228).

We have learned that our two hemispheres in our brains send signals back and forth to one another so it is very reasonable to believe that a student who has strengthened his mathematical abilities through an arts activity can also strengthen their musical abilities through a mathematical activity (Sousa & Pilecki, 2013, p. 38). This is why arts infusion, arts integration, and arts-based activities are important. It is during these arts

integrated activities where both sides of the brain are being used that information can transfer back and forth. The corpus callosum, a thick cable of nerves is where "information travels between the two hemispheres so that the individual gets the benefit of whole brain participation and integration" (Sousa & Pilecki, 2013, p. 38).

A traditional academic approach is centered around convergent thinking: teaching our students to "know" by memorizing facts spoon fed to them. We should be teaching our students to "think" and learn to figure things out on their own. Neuroscientists suggest, "that creative thinking involves communication among brain regions that do not normally interact with each other during non-creative thinking" (Sousa & Pilecki, 2013, p. 24). Students deserve the best we as teachers can provide, and if we know this fact, it should be our responsibility to provide the best education possible, which means we provide learning experiences and activities that ensure both sides of their brain interact with one another. We want all sections of the brain including those related to memory, cognition, and emotion, to light up and fire those neurons, showing all areas are stimulated and information is getting passed, which will set our students up to learn new and exciting things.

It is extremely clear to our federal government and to local school districts that the arts are essential - not only to each child, but to society. We can see they have been aware of the value of the arts in education for quite a while as there is a history of legislation and formation of organizations regarding the arts in education. From President Kennedy's commitment to the arts and culture, to President Johnson who followed up on Kennedy vision with the formation of the National Endowment of the Arts and the

National Endowment of the Humanities to President Obama who stated, “The arts are central to who we are as a people, and they are central to the success of our kids...support the arts, it’s a priority” (Americans for The Arts, 2014). It is amazing to me that with all that support from the top, the arts still had a fight ahead of them for their place in education.

There was a great attempt to make the arts a priority in education, from the NCLB, No Child Left Behind Act of 2001, which included the arts as “equal to core academic subjects”, to the ESSA, Every Student Succeeds Act of 2015, which replaced NCLB and changed the wording in the document to include the arts as part of a “well rounded education”. But it has been a long slow process to get schools to comply with legislation. Even though state standards were put into place for schools to adhere to, there was always one reason or another why schools did not comply. Typically, it was a financial decision to eliminate the arts courses, and it was possible because the arts’ grades were not counted towards federal funding; classes that got priority were the classes that were counted, which were math, science, and language arts. The No Child Left Behind Act, a lot of damage to arts programs as the focus of education was on the core subjects - math, science, and language. It was all about high test scores in those areas to receive funds. Even though this piece of legislation labeled the arts as “equal to core academic subjects” because their scores were not counted towards federal funding, they were the first to go. The Every Student Succeeds Act made up for this when the arts were included as part of a “well rounded education” and were now eligible to receive federal funds dedicated to ensuring equitable access to a complete education for all students. Therefore, arts classes would not have to be cut in favor of other core subjects

However even though arts classes were able to be a big part of every student's education that was not the case. It was left up to individual school districts whether they included arts programs in their curriculum. Arts advocates, particularly Arts Ed NJ continued to fight for the arts to be a valuable part of every school's curriculum and vowed not to stop until that became a reality. That day finally came.

On September 9, 2019. Governor Murphy made the following announcement at a celebration in Paramus High School, New Jersey. He stated, “New Jersey has reached a milestone of 100 percent of our public schools offering arts programs. That's an incredible achievement that I know the state and our schools have worked very hard to accomplish." He went on to say that “New Jersey was ranked overall number one in the United States of America and that there was no doubt in his mind that the arts programs were a major contributor to the success of our students.” Murphy added, “New Jersey is the only state in the United States of America to do that.” The Governor was referring to New Jersey providing “Universal Access to the Arts” which means that every school in New Jersey provides some form of arts education and every student that attends a public school in New Jersey has the opportunity to participate in arts education programs as part of the regular school day (Governor, 2019, 00:13:54 - 00:14:50).

I included the following video, *Governor Murphy and Arts Ed NJ Make an Announcement on Access to Arts Education in Public Schools* because it was such an important moment in history that I wanted to share the moment when the governor announced that milestone. The link was retrieved from https://www.youtube.com/watch?v=8oVbmXfb9Ko

(New Jersey Office of the Governor, 2019, 00:13:54 - 00:14:50).

This was an amazing moment not only in New Jersey but in our nation. It shows it can be done, and New Jersey is leading the way. But the struggle is not over. According to Arts Ed NJ, 2019 census summary report, New Jersey State code requires that all students have access to all four disciplines in the arts: music, visual arts, dance, drama and in February 2021, Media Arts will be included. Morrison (2019) stated, as of 2019 only 11 percent of students have access to all four disciplines, even though 100 percent of students now have access to the arts. (p. 5) Overall, 91 percent of elementary schools and three-quarters of middle schools offer only two, typically music and visual arts. Two-thirds of high schools offered three forms of arts education (Morrison, 2019).

The next hurdle to cross will be quality of experience and diversity in what they offer the students. The fight for the arts in education which led to this milestone in New Jersey began in September 2007, when these groups formed a collaborative partnership: The New Jersey State Council on the Arts, the New Jersey State Department of Education, the Geraldine R Dodge Foundation, Playwrights Theatre of New Jersey, and Music for All. They released a report on the state of arts education in New Jersey Schools. They looked at how arts education had changed over 20 years and concluded New Jersey had come very far but had so much more to accomplish to make sure every child could participate in the arts in school. This group lead the way in collecting data about arts education. They currently put out a report every year which the New Jersey Department of Education includes in their annual school performance report. This is another first for New Jersey; the first state in the nation to put out such a report annually since 2013. Formerly called New Jersey Art Education Partnership, they are now called Arts Ed NJ. Because of their untiring dedication to the arts New Jersey students are

enjoying the fruits of all their labor. However, their work is not finished. The fight is on now for equitable and diverse arts programs for all. “Arts Ed NJ is now the foundation of a new organization called ARTS ED NOW: a statewide campaign to ensure students get all they deserve in arts programs in schools, participation, equitable programming, and opportunities in all five art disciplines” (Morrison, 2020, para. 16).

Arts ED NOW decided to move full steam ahead with the following three initiatives to advance arts education in New Jersey starting in 2020 (Morrison, 2020, What’s Next for Arts Education in New Jersey”).

1. New Jersey Student Learning Standards in the Visual and Performing Arts. Their new standards will focus on the artistic processes of Create, Perform/Produce/Present, Respond and Connect which will provide clarity of the learning expectations when it is aligned with the rest of the curriculum. This is what the students should know and be able to do in the arts. Also, they must recognize technology had a big part in the artistic process (Morrison, 2020, “What’s Next for Arts Education in New Jersey 1”).

2. Connecting Arts Education and Social-Emotional Learning (SEL). Schools must make sure that the social emotional learning is purposeful. The SEL competencies of Self-Awareness, Self- Management, Social Awareness, Responsible Decision Making and Relationship Skills must overlap with the artistic processes Create, Perform, Respond and Connect (Morrison, 2020, “What’s Next for Arts Education in New Jersey 2”).

3. Arts Ed NOW Campaign expands.

A date of 2025 has been set for their new goals for arts education which will address quality, inclusion, diversity, equity, and access (IDEA). They will assist districts in achieving these goals (Morrison, 2020, "What's Next for Arts Education in New Jersey 3").

I believe in the arts in education for the many reasons that I have discussed. I think that New Jersey is certainly leading the way with being the first state in the country to have universal access to the arts. I believe Arts Ed NJ had a major role in bringing that to fruition, and I believe they will work diligently to ensure their next set of goals are reached, where our children will be provided with equitable, and diverse options in the arts. I believe it is a long road ahead for schools to provide all five art forms: art, music, visual arts, drama, dance, and media arts but I believe it is possible. There are some schools doing it now.

Society is still going through many changes and somewhere along the way our children are losing out. There is a lack of empathy and compassion, particularly towards those of other cultures, a lack of connection to one another and an inability to communicate, which cannot help but affect our ability to collaborate. Our children do not know how to play, or create, or imagine, or think. Much has to do with television, social media, the internet. They do not have to figure anything out because all they have to do is look on Google. Critical thinking? There are not many opportunities for them to even try to think critically. All the answers are at their fingertips. It is absolutely a wonderful thing that our children know where to turn to find answers, a skill they could use in the future,

but they also need to figure things out for themselves as well and find answers on their own. We need to pull our children away from the screens and get them interested in the arts. The arts can assist in developing all these skills and more. In this culturally diverse world, our children need to learn to work with people of all heritages and races, while using 21st century skills which can all be developed in and through the arts. If our children do not learn these skills now, we will be in trouble in the future. Our country and our economy depend on it.

As my dissertation is nearing its conclusion, I would like to share this quote by Jean Piaget which would be inclusive of all if it were written today. In 1964, Jean Piaget expressed similar ideas to what I have presented in my dissertation: Piaget stated that:

> The principal goal of education is to create men who are capable of doing new things, not simply of repeating what other generations have done-men who are creative, inventive, and discoverers. The second goal of education is to form minds which can be critical, can verify, and not accept everything they are offered (Duckworth, 1964, p. 499).

Piaget suggested these goals almost 60 years ago. The time has finally come when children will get the opportunity to create, invent and discover as they participate in the arts, something that has been missing from our children's education. I want my granddaughter and every other future innovator, inventor, and leader to examine, explore and question everything that comes their way. They will learn these skills as they engage in some of life's most pleasurable experiences, the arts. May they sing with their heart, dance with a free spirit, paint with eyes that truly see, and imagine a world that is yet to exist!

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