
The Roles of Music in the Classroom and Children's Brain Development

BY

Francis Reign WILLIAM, *Ph.D*
Department of Music
Faculty of Arts
University of California, Irvine

ABSTRACT

This study was to assess the roles of music in the classroom and children's brain development. Playing music in the classroom can lead to a sense of academic achievement or performance as well as an increase in self-esteem and brain development. Playing soft and cold music can have increased confidence, persistence in overcoming frustration when learning is difficult and self-discipline. Listening to music in the classroom is very beneficial because it results to personal satisfaction and positive change in brain. Music plays unique and vital roles in the classroom when it talks about the general development of children brain. The study concluded that many teachers are always nervous for including music in their classrooms because they presume they need musical training to use music as a teaching tool to develop the children brain. There are multiple ways to implement music in the classroom that don't require any training. Some teachers have knowledge about the value and importance of music to the growth and development of children brain. The study has narrated how music contributes to children's learning, leisure, social skills, emotional development, motivation, physical development, and brain development. Music is used for general education and not for music education in particular. It is however very significant for the school through teachers to also teach music as a complete curriculum area. One of the recommendation made was that specialist music teachers should be cooperating with primary school teachers to implement the music curriculum content in the classroom.

KEYWORDS: Music, Classroom, Children's Brain and Development

Introduction

Music is a powerful medium that exists in most walks of life. Music can be a dynamic motivator, and much of student motivation to learn in the classroom depends upon a connection of that material to life outside the school walls. Music is definitely out there embracing and utilizing this gift and not sequestering it (DiDomenico, 2017). Classroom teachers do not need to sing well, play an instrument, or read music to bring music into the classroom. As indicated earlier, music is fun, and fun is fundamental to children's engagement level and their motivation to learn. In other words, music makes children happy, and happy children learn better. According to Adjepong, (2020), Music plays a unique and crucial role in the holistic development of the child brain. Informally, children acquire musical knowledge, skills and understanding through observation, imitation and practice of the art in their social environment.

Early childhood from birth to age five is a remarkable period in human brain development. At one-year-old, a baby's brain is 70 percent of its adult size; at three years, it has reached 85 percent and is already crisscrossed by the connections that provide for human thought and communication. Live music and the human interaction that accompanies it is one of the most intense, multi-sensory, and physically involving activities in which young children and their caregivers can engage together (Carnegie Hall Corporation 2021). Making music especially if it includes tapping, clapping, bouncing, and dancing can develop fine and large control. Even simple games, songs, and back-and-forth play build brain and body coordination. If older children play an instrument, these kinds of growth continue. All this builds important connections across the many regions of the brain needed to carry out the complex actions and interactions humans require in order to thrive.

Concept of Music

Music refers to the art concerned with combining vocal or instrumental sounds for beauty of form or emotional expression, usually according to cultural standards of rhythm, melody, and, in most Western music, harmony. Both the simple folk song and the complex electronic composition belong to the same activity, music. Both are humanly engineered; both are conceptual and auditory, and these factors have been present in music of all styles and in all periods of history, throughout the world (Epperson, 2021). Music is a central phenomenon which is present in every society and is experienced by every person (Odili, 2008). It also gives life and identity to the human society. It is a cultural expression which is determined, coloured and moulded by the cultural environment of people. Simon (2013) asserted that music is highly valued in our society. In fact, we could make the argument that it is one of the most valued. The average liberal arts major may not have an extensive knowledge about physics, and vice versa. But both the chemistry student, and the French poetry student are sure to enjoy music to a degree that they themselves find to be very important. Perhaps music speak about humanity's intrinsic recognition and value for beauty. The vast majority of people in the world has music involved with their ways in some way. Of course, not everyone who listens to music could do a harmonic analysis of their favorite songs, but they can still hum their favorite melodies or recognize a popular tune, and this is definitely some kind of knowledge.

Music always involves various components, among others, melody, chord, tempo, rhythm, instrument, even language or lyrics of a nature (Surya, 2018). Music is a product of people and societies. Musical knowledge is a transmittable constellation of enduring socio musical traits which codify, articulate and validate the unique practice of human group. Its organization depends largely on the use of society-widely recognized theories of tonality and/or modality, thematic structures, rhythmic patterns, tempo, timbres, use of language and musical instruments in communicating ideas, thoughts, contents and meaning to members of the society (Adeogun 2012). According to Kania (2011), music as any event intentionally produced or organized, to be heard and either to have some basic musical features, such as *pitch* or *rhythm* and to be listened to for such features. Levinson (2000) proposes that music is sounds temporally organized by a person for the purpose of enriching or intensifying experience through active engagement (e.g., listening, dancing, performing) with the sounds regarded primarily, or in significant measure, as sounds. Obicheta, (2013) noted that music is the art, science and technology of creating and making pleasant and organised sound with the human voice or other musical instruments.

Concept of Class Room

Classroom refers to a learning space in which both children and adults learn. Classrooms are found in educational institutions of all kinds, ranging from preschools to universities, and may also be found in other places where education or training is provided, such as corporations and religious and humanitarian organizations (Wikipedia 2021). The classroom provides a space where learning can take place uninterrupted by outside distractions. Classroom refers to a room in a school or college, in which classes are held (Dictionary.Com 2021). It also a place where one learns or gains experience or groups of students are being taught. Classroom is a room dedicated primarily to teaching or learning activities. Classrooms are found in educational institutions of all kinds, including public and private schools, home schools, corporations, and religious and humanitarian organizations (STANDS4 2020). The classroom attempts to provide a safe space where learning can take place uninterrupted by other distractions. It also a place where classes meet.

According to IGI Global (2021). Classroom serves as a venue for the process of teaching and learning. Classroom is a room or place especially in a school in which classes are conducted. Brophy (2006) states that classroom refers to actions taken to create and maintain a learning environment conducive to successful instruction (arranging the physical environment, establishing rules and procedures, maintaining students' attention to lessons and engagement in activities). Evertson and Weinstein (2006) define classroom management as the actions teachers take to create an environment that supports and facilitates both academic and social-emotional learning. According to TWINKL (2020) Classroom is understood as a room in a school where lessons or lectures take place. Teachers go there to deliver, plan lessons and teach their students. All children who attend school will go to the classroom on a daily basis to learn and meet with their fellow students and teachers. In this sense, a classroom is a space for learning and social interaction. There are usually several classrooms in one school for different year groups and academic subjects.

Concept of Good Study Habits

Good study habits include studying in a quiet place, studying daily, turning off devices that interfere with study (such as TV and mobile phones), taking notes of important content, having regular rests and breaks, listening to soft music, studying based on own learning style, and prioritizing the difficult contents (Ebele, & Olofu, 2017). Some of the worst study habits include procrastination, evading the study, studying in inappropriate conditions, and loud sound of music and television during studying (Siahi, & Maiyo, 2015). According to Alex (2011) good study habits is to buy out the time and dedicate self to the application and task of study, and to become engrossed in a process of learning, practice, enlightenment and education of one's self. Therefore, good study habit can be derived from the above as buying out a dedicated schedule and uninterrupted time to apply one's self to the task of learning. Good study habit is an action such as reading, taking notes, holding study groups which the students perform regularly and habitually in order to accomplish the task of learning. Good study habits can be described as effective or ineffective depending upon whether or not they serve the students well. Many of the issues concerning success in school revolve around developing good study habits (Busayo, 2011). Reading habit refers to the behaviour which expresses the likeness of reading of individual types of reading and taste of reading.

Good study habits are all about keeping to a daily routine and giving all subjects equal treatment. The problem is that those high school study habits are hard to shake. Hard work and good study habits are assets that should be nurtured. Motivation and good study habits are obviously crucial as well. Good study habits are important for all students to protect investments of time and money and to achieve educational goals. The main priorities of good study habit are class attendance, time management, and great studying habits which are necessary for workings academic success (England.Edu. 2018). Good study habits are the most important predictor of academic performance and global research has revealed that study habits affect academic performance (Kyauta, Shariff, & Garba, 2017). In this regard, medical students are faced with a large amount of information that is difficult to organize and learn, and requires knowledge and application of study skills (Hashemian, & Hashemian, 2014). Evidence suggests that learners who do not have enough information about study strategies do not attain effective and stable learning, and therefore will not have an appropriate level of academic achievement.³ In other words, students with better academic achievement use these skills more than those with lower academic achievement.

Concept of Brain Development

Brain development of the human occurs rapidly in the first years of life and continues at a slower pace into adolescence. The major steps involved in brain development, both before and after birth, play important roles in psychological development (ENCYCLOPEDIA 2019). Genes provide the initial map for brain development, beginning with the basic connections in the brain from birth. Significant ‘wiring’ occurs during the first years of a child’s life and this effectively programs child development. At three, a child has around 1000 trillion brain connections or synapses, which in later development are selectively pruned. When adolescence is reached, brain synapses will number around 500 trillion, and this number remains relatively stable into adulthood (Commonwealth of Australia 2019). The pruning of brain synapses indicates the tremendous influence experience and environment play in shaping a young brain. It is the experiences and relationships that infants and young children have that continuously develop their brains and build the neural circuits that will be the foundation for later development. New research in an area called epigenetics, even suggest that a person’s genes can potentially develop in response to some environmental factors.

Brain development builds on itself, as connections eventually link with each other in more complex ways. This enables the child to move and speak and think in more complex ways. Brain development is influenced by many factors, including a child’s relationships, experiences and environment (ZERO TO THREE 2021). A child’s brain undergoes an amazing period of development from birth to three—producing more than a million neural connections each second. The brain is the command center of the human body. A newborn baby has all of the brain cells (neurons) they’ll have for the rest of their life, but it’s the connections between these cells that really make the brain work. Brain connections enable us to move, think, communicate and do just about everything. The early childhood years are crucial for making these connections. At least one million new neural connections (synapses) are made every second, more than at any other time in life (First Things First 2021). Different areas of the brain development are responsible for different abilities, like movement, language and emotion, and develop at different rates.

Music and Brain Development

Music appears to accelerate brain development in young children, particularly in the areas of the brain responsible for processing sound, language development, speech perception and reading skills (Gersema, 2016). Music has a power that's practically immeasurable. It transcends time and language, expresses and influences our emotions, educates and entertains, and so much more (Bailey, 2016). Scientists are also beginning to understand the impact music has on our brains. Essentially, the effect is massive and it has a particularly strong influence on the brains of children. But academic achievement isn't the only benefit of music education and exposure. Music ignites all areas of children brain development and skills for school readiness, including intellectual, social-emotional, language, and overall literacy. It helps the body and the mind work together. Exposing children to music during early brain development helps them learn the sounds and meanings of words. Dancing to music helps children build skills while allowing them to practice self-expression. For children and adults, music helps strengthen memory skills (Bright Horizons Family Solutions 2021). Listening and playing music can make you smarter, happier, healthier and more productive at all stages of life. Music, whether taught in or outside of school, helps students excel in the following ways:

- ❖ Improved language development
- ❖ Small increase in IQ
- ❖ Improved test scores
- ❖ Increased brain connectivity
- ❖ Increased spatial intelligence

Music has played an important part of every human culture, both past and present. People around the world respond to music in a universal way. And now, advances in neuroscience enable researchers to quantitatively measure just how music touches the brain development. The interest in the effects of music on the brain development has led to a new branch of research called NEUROMUSICOLOGY which explores how the nervous system of the brain reacts to music. And the evidence is in —music activates every known part of the brain (Alban, 2018). Music can play an important role in your child's growth, even before birth. Exposing your child to music ignites all areas of brain development and child development. And doing this early can help ensure that your baby grows up healthy. Music ignites all areas of child development and skills for school readiness, particularly in the areas of language acquisition and reading skills (UNICEF 2020). Learning to play a musical instrument can improve mathematical learning, and even increases school scores.

Conclusion

Many teachers are always nervous for including music in their classrooms because they presume they need musical training to use music as a teaching tool to develop the children brain. There are multiple ways to implement music in the classroom that don't require any training. Some teachers have knowledge about the value and importance of music to the growth and development of children brain. The study has narrated how music contributes to children's learning, leisure, social skills, emotional development, motivation, physical development, and brain development. Music is used for general education and not for music education in particular. It is however very significant for the school through teachers to also teach music as a complete curriculum area.

Recommendation

1. Specialist music teachers should be cooperating with primary school teachers to implement the music curriculum content in the classroom.
2. Teachers should approve low tone music the classroom so that children will have the motivation to learn.
3. Teacher should expose children to music because it developed all areas of brain.

REFERENCES

- Adeogun, A O (2012) 'Africanization of Music Education in Nigeria within the Context of Globalization: *A critical Appraisal*' *Journal of the Music association of Nigerian Musicologists* No. 3, Association of Nigerian musicologist.
- Adjepong, B. (2020). The Value and Importance of Music to Children's Growth and Development. *IOSR Journal of Humanities and Social Science*. 25(4):1-09
- Alban, D. (2018). How Music Affects the Brain. available at: <https://hearinginstitute.co.nz/wp-content/uploads/>
- Alex G (2011). *Definitions of Study Habits* Retrieved from: www.answers.com.
- Bailey, K. (2016). *5 Ways Music Helps Your Child's Brain Development*. Available at: <https://rockandrolldaycare.com/5-ways-music-helps-childs-brain-development/>
- Bright Horizons Family Solutions (2021). *Children and Music: Benefits of Music in Child Development*. Available at: <https://www.brighthouse.com/family-resources/music-and-children-rhythm-meets-child-development>
- Brophy, J. (2006). *History of Research on Classroom Management*. In C. M. Evertson & C. S. Weinstein (Eds.), *Handbook of classroom management. Research, practice, and contemporary issues* (pp.17-43). Mahwah, NJ: Lawrence Erlbaum Associates.
- Busayo I. O. (2011). *The School library as a foundational step to children's effective reading habits. Library Philosophy and Practice*. Retrieved from <http://unlib.edu/LPP>
- Carnegie Hall Corporation (2021). *Why Making Music Matters: Music and Early Childhood Development*. Available at: <https://www.carnegiehall.org/Blog/>
- Commonwealth of Australia (2019). *Brain development in children*. Available at: <https://www.aedc.gov.au/resources/resources-accessible/brain-development-in-children>
- Dictionary.Com (2021). *Classroom*. Available at: <https://www.dictionary.com/browse/any>
- DiDomenico, J. (2017). Effective Integration of Music in the Elementary School Classroom. *Inquiry in Education*. 9(2)
- Ebele, U. F. & Olofu, P. A. (2017). Study habit and its impact on secondary school students' academic performance in biology in the Federal Capital Territory, Abuja. *Educ Res Rev*. 12(10):583–588.
- ENCYCLOPEDIA (2019). *Brain Development*. Available at: <https://www.encyclopedia.com/children/applied-and-social-sciences-magazines/brain-development>
- England.Edu. (2018). *Learning Good Study Habits*. Available at: <https://england.edu/other-resources/learning-good-study-habits/>

- Epperson, G. (2021). *Music*. Available at: <https://www.britannica.com/art/music>
- Evertson, C. M. & Weinstein, C. S. (Eds.) (2006). *Handbook of classroom management. Research, practice, and contemporary issues*. Mahwah, NJ: Larence Erlbaum Associates, Inc.
- First Things First (2021). *Brain Development*. Available at: <https://www.firstthingsfirst.org/early-childhood-matters/brain-development/>
- Gersema, E. (2016). *Children's brains develop faster with music training*. Available at: <https://news.usc.edu/102681/childrens-brains-develop-faster-with-music-training/>
- Hashemian, M. & Hashemian, A. (2014). Investigating study habits of library and information sciences students of Isfahan University and Isfahan University of medical sciences. *Iran J Med Educ*. 14(9):751–757.
- IGI Global (2021). What is Classroom. Available at: <https://www.igi-global.com/dictionary/classroom/34805>
- Kania, A. (2011). *Definition*. In the Routledge companion to Philosophy and Music. Edited by T. Gracyk and A. Kania, London: Routledge, 3-13
- Kyauta, M. A., Shariff, Y. A. & Garba, H. S. (2017). The role of guidance and counseling service on academic performance among students of umar suleiman college of education, Gashua, Yobe State, Nigeria. *KIU J Humanities*, 2(2):59–66.
- Levinson, J. (2000) *Music, Art, and Metaphysics*, Ithaca: cornell university press.
- Odili. E. I (2008). *Music as an instrument of communication in Igbo communities: A case study of Aniocha North L.G.A of Delta State*. Unpublished undergraduate project University of Nigeria Nsukka.
- Siahi, E. A. & Maiyo, J. K. (2015). Study of the relationship between study habits and academic achievement of students: a case of spicer higher secondary school, India. *Int J Educ Administration Policy Stud*. 7(7):134–141.
- Simon C. (2013). Music's in the modern world. Available at: <https://sites.psu.edu/cantumusicblog/>
- STANDS4 (2020). *Classroom*. Available at: <https://www.definitions.net/definition/classroom>
- Surya, C. P. (2018). *The concept of music collaboration: a unified cultural harmony*. Available at: <https://www.researchgate.net/publication/>
- TWINKL (2020). *What is a Classroom?* Available at: <https://www.twinkl.com.ng/teaching-wiki/classroom>
- UNICEF (2020). *How music affects your baby's brain: Mini Parenting Master Class*. Available at: <https://www.unicef.org/parenting/child-development/how-music-affects-your-babys-brain-class>

Wikipedia (2021). *Classroom*. Available at: <https://en.wikipedia.org/wiki/Classroom>

ZERO TO THREE (2021). *Brain Development*. Available at:
<https://www.zerotothree.org/espanol/brain-development>