

Using Music Pedagogy to Enhance Creative Thinking among Selected Students at A Secondary School in Jamaica

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Abstract: Learning is crucial to one's cognitive development, especially from an early age. The application of music as both an entertainment and academic learning tool, could garner fruition, even in a typical environment that is not normally conducive to learning.

The objective of this research was to determine the extent to which music pedagogy influences creative thinking, within the context of gender-based delivery.

This research was conducted over an eight-week period, as part of a work experience at a secondary school, targeting students of grades 7 to 9. Primary and secondary data were used to inform this research. Constructivism approach was used as a motivation element to spark learning. Theories such as Vygotsky, Kodaly, Suzuki, Gordon Learning and Eurhythmics were featured to explain the relevant findings.

The findings revealed that negative perception about music could challenge academic performance and creative thinking. Prior exposure, interests, gender and socio-cultural attributes played an integral role in how receptive students were in absorbing music and being able to think creatively. Having linked music with academic disciplines such as Mathematics, English Language, using rhythms, composition, pitch, dynamics, beats, dancehall songs, games, this shows significant improvement in students' test scores. This was higher among boys (>50%) than girls.

Keywords: Music Pedagogy, learning, creative thinking.

1. INTRODUCTION

Porowitz & Klein (2007) purported that there was linkage between music education, scholastic achievement, and social adaptability", and at the same time, enhancing learning skills and creative development.

People respond to music in different ways based on their culture. This may show psychological or physiological effect on their general behaviour. Take for instance, someone of the very early 20th Century (like my great grandfather who is now 94 years old and my great grand aunt who is of 102 years) may not be inclined to popular music of the 21st Century, and so a teacher of the early era may not achieve positive outcome from his/her students if he/she has no appreciation for the kind of music that interest those students. As a result, in many instances, music is being both under-utilised and misunderstood as it relates to the classroom, sometimes as a result of failure to recognize that learning styles, age, gender, sex and experiences are crucial factors to consider in music pedagogy.

In some schools throughout Jamaica, music is taught from the Reform of Secondary Education (ROSE) music curriculum resulting in first-time exposure for many students. This programme "provide activities in the experiential domains of performing, composing and listening and appraising" (United Nations Educational, Scientific and Cultural Organization 2001, p. 7). It is interesting to note that some school's administration deems music as just a means of entertainment for school functions or they associate it with violence, 'lewd' lyrics and deviant behavior, and other negative factors.

This research is informed by my twelve weeks of Teaching Practice (part of the successful completion of my Bachelor's Degree Programme) at an urban secondary school in Jamaica. It was realised that in some instances, misconduct among students was as a result of students being bored. This resulted in my application of music to see whether it would make a difference, as a deviation from the boredom, as well as a control mechanism for behaviour.

It was also recognised that music should be a tool that is considered important enough to be implemented within the education system as a discrete subject or hidden curriculum, from as early as the kindergarten school level, so that students can be given the opportunity to be challenged from a critical point of their development. In addition, music can be used as a tool to teach other subject areas, using instruments such as voice (for example, singing the timetable and periodic table, drumming, rhythm for Mathematics, English Language, Literature, Science formulae, etcetera). This is in agreement with schools of thought such as Eurhythmics, Gordon Learning Theory, Kodály and Suzuki which postulated that the pedagogical aspect of music should underline the various disciplines that should result in students being able to think critically while developing the technical know-how (The Gordon Institute for Music Learning, 1997).

Brewer (1995) postulated that "The rhythms and tempo of musical sound can assist us in setting and maintaining our attention and focus by perking us up when we are weary...". Oftentimes, students are conditioned to only one aspect of music class and that is the theoretical aspect. With this knowledge, they were taken out of the traditional chalk and talk environment and music was explored on a larger spectrum resulting in the students becoming more responsive to the methods being utilised because it gave them a chance to express themselves creatively while learning.

Based on the foregoing, the research questions presented are (1) to what extent can music pedagogy influence creative thinking? (2) What are some of the ways in which music pedagogy can influence learning within the context of gender-based mode of delivery?

2. THE PROBLEM

Unlike academic disciplines such as Bio-Chemistry, Physics, Mathematics, Languages, Literature, History, inter alia, Music is viewed with less significance on the academic platform and is seen more as entertainment. As a result, some educators lack the appreciation and know-how ability to link music genre with academic subjects, which if applied, could enhance learning and creative thinking.

3. THE SIGNIFICANCE OF THE STUDY

This research bears significance relating to its capacity to appraise evidence-informed curriculum that will furnish educators with the know-how ability to deliver even complicated academic discipline with better ease. This research, in essence, through its findings has created novel insight to a new model of academic delivery for educators, policy-makers, students and parents, who are key stakeholders of curriculum design and development.

This research is no doubt timely and significant, as it bears relevance to Jamaica's educational development in terms of

- (i) educational reform by engendering critical/creative thinking and problem solving skills (Ministry of Education, Youth and Culture, 2004);
- (ii) equitably meeting children's educational needs with balance and multi-level enrichment (Ministry of Education, n.d. (b)), part of which can be achieved through music pedagogy;
- (iii) creating, analysing and implementing various ways in which students could attain valuable information with the use of music pedagogy as a learning tool.

4. LITERATURE REVIEW

The literature notes the linkage between the theoretical ideologies and the title of this study. It also provides a review of music pedagogy as part of a structured and hidden curriculum, in a manner that is likely to improve student's capacity to think critically and creatively.

The importance of learning with the aid of music as a tool was witnessed in the 20th Century by Swiss musician and educator Émile Jaques-Dalcroze, who employed the Eurhythmics Principle, which looks at the various responses to using instructions through music and the benefits derived from same (The Gordon Institute for Music Learning, 1997). Similar

to this, was the Suzuki Method which created a good learning environment, and the Gordon Music Learning Theory, which helps the teacher to deliver music through audiation – that is “thinking music in the mind with understanding” (The Gordon Institute for Music Learning, 1997, p. 32). Of course, apart from hearing, the author looks at the various types of audiation: reading, writing, performing, and improvising.

The application of rhythm in this research as a method was relevant to the above principles because it took into consideration body movement, melody, form, harmony – a matter of using music as a cultural tool to enhance learning. Research has shown that this would likely enable the student to be better developed in their mental and cognitive processes (Wegeriff, 2010), as well as their knowledge acquired and socio-cultural interactions (Wertsch & Rupert, 1993; Gallagher, 1999). Vygotsky’s theory endorsed music as a learning tool (Gallagher, 1999) because of the fact that it would likely enable the student and teacher to take an attitude whereby “learning should move beyond the cognitive-situative epistemological divide and combine individual and social processes” (Järvelä, Volet, & Järvenoja, 2010, p. 24).

The Kodály Method also used rhythm, as well as pictures, hand signals, folk songs (Estrella, n.d.). In terms of the Suzuki Method, this involved keen listening to music, nurturing, social interaction (International Suzuki Association, 2005), and the notion that “every child can learn” (Ministry of Education, 2012). In other words, these methods have scientifically proven to enhance creativity, problem-solving skills, and higher-order thinking, especially when improvisation and composition are applied (Franca & Swanwick; Gordon; DeLorenzo; Hogg, cited in Dingle, 2006).

Music pedagogy as a tool for learning also provides scope for creativity and effective communication. This point resonates with Vygotsky’s Theory which articulates the importance of developing children’s learning ability, problem-solving skills, and innovativeness through tools that can make this happen (Gallagher, 1999). This was not implausible from Freire’s (2005) problem-posing techniques, referred to as teaching in a manner that does not intimidate the students, nor create an atmosphere whereby the teacher is seen as the knowledge-based personnel, but to engage students in a way that would make them comfortable with learning – helping them to think in an atmosphere of student-centredness. Similarly, Moriarty, Danaher & Danaher, 2008 spoke of the democratic type of learning – a format of dialogical pedagogy to enhance learning. Like these remarkable schools of thought, and Aston (2009), who had heightened her student’s awareness by using her teaching methods, to enable her students to be able to identify with the wider society by applying that which they had learned, the approaches in this research was not far-fetched.

In continuing on the point of music as a tool to enhance the learning process, research has also shown that it is the refinement of our physical memory that will ultimately inform and improve our instrumental and vocal performance” thus further improving how information is received, processed, stored and utilized from a musical perspective that will epitomize intellectual benefit. (Bridges to Music, 2013). Therefore music pedagogy can affect creative thinking in the sense that music will stimulate both the unstructured process such as critical thinking and the structured process which incorporates lateral thinking.

Music tends to be tolerant of the various learning styles that people possess on a whole. This is perhaps because music is associated with mood. Beethoven (cited in Brewer, 1995) considered music to be electrifying, and that it energised one’s spirit and thoughts. Music education also increases intelligent quotient, builds spatial-temporal skills (“...understanding music can help children visualize various elements that should go together, like they would do when solving a Math problem”), enables multiple skills, improve language, and test grades (Brown, n.d.). This brings to mind, Albert Einstein’s scenario, whereby after his parent exposed him to music, he began to do much better in school; way above average (British Broadcasting Corporation Television News, 2012). This could be explained where during this time, it seemed as though Einstein’s Mathematics ability became enhanced and his visuospatial cognition became overactive, hence his phenomenal creativity (Eureka, 2012). The author further explained that when tests were done on Einstein’s brain after his death, it was discovered that his glial cells multiplied – “Einstein’s parietal lobes—the top, back parts of the brain—were actually 15% larger than average. Two structures, the left angular gyrus and super-marginal gyrus, were particularly enlarged” (Eureka, 2012).

Music and Learning:

Brewer (1995) concurred that music creates an environment that is conducive to creative thinking; it calms frustration; reduces stress levels; and creates a cohesive mode among persons.

It means therefore that the Ministry of Education's (2012) mantra that "...every child must learn" can be realized if music becomes a vibrant and dynamic part of the learning environment, especially with consideration to gender-based mode of academic delivery. Evidence has shown that music has the propensity to "establish a positive learning state, create a desired atmosphere, build a sense of anticipation, energize learning activities, change brain wave states, focus concentration, increase attention, improve memory, facilitate a multisensory learning experience, release tension, enhance imagination, align groups, develop rapport, provide inspiration and motivation, add an element of fun, accentuate theme-oriented units" (Brewer, 1995).

It has also been evidenced that music enhances fine motor skills and the muscle movements used in writing and playing of instruments or performing other physical activities; and the parts of the brain associated with the sensory and motor functions are developed through music instruction (Arts Education Partnership, 2011).

According to Helmrich (2010) complex Math solving skills processed are more accessible to students who have studied music due to the fact that the same part of the brain that is used to solve math problem is strengthened by practicing music. Both subjects are correlated in that these subjects are processed in the same part of the brain.

Literature such as Arts Education Partnership (2011) states that music provided students with the ability to increase their attention and motor skills, poises their brain for achievement, facilitates good memory, arouses their thinking skills, sharpens their attention, helps them to become more creative and prepares them for lifelong success.

Here, the matter of gender ought not to be ignored. As a matter of fact, in order for absolutely every child to learn effectively, gender would play a role because scientific evidence shows where boys tend to be more motivated at learning when popular masculine-type genre (via technology and composition) are used as a mode of delivery (Green, 2013). This may be explained through traditionally strong patriarchal music which both boys and girls tend to gravitate towards because of its global view of power and influence (Green, 2013).

This stands to reason why gender cannot be ignored, as it plays a role in music and other learning endeavours. Crawford (2010) postulates that music is received based on the perspective it is delivered, and that that females were more likely to be impacted from a psycho-social perspective. The author looked at how music pedagogy was implemented and noted that gender must be a factor that affects this approach. Music has proven to have an effect on adolescent lifestyle in Jamaica as it plays an integral role in the culture (Crawford, 2010).

Social Learning theory argues that, not only will ensembles provide students with better musicianship, but it will also improve their social and learning skills and strengthen their academic and behavioral performance, which is needed to foster any further development at any level of education (Bandura, 1961).

5. METHODOLOGY

This research was carried out to attain further insight as to how music can help students think quickly and in a creative way that will improve learning, as well as, influence social and cognitive behaviour. This research is imperative as it is aimed at highlighting some truth about how the topic can be effective and to what extent this progress can be utilized while exposing students to a wider spectrum of musical experience and knowledge to enhance the creative aspect which was considered dormant among students at the secondary level.

Research Design:

This action research has taken a both a mixed method, which will be utilised in carrying out the study. Action research is described as an investigative way of identifying problems, and making effort to solve those problems for future improvement (Parsons & Brown, 2012). Another author considers action research to be "...a fancy way of saying let's study what's happening at our school and decide how to make it a better place" (Calhoun, 1994).

In terms of the collection of primary information, three focus group discussions among students of grades seven, eight and nine were conducted. In order to ascertain the level of response to music class, diagnostic tests were applied.

In the pilot delivery of music pedagogy, body percussion, rhythm, melody, and dynamics (in order to enhance creative thinking) were also applied. These methods endorse Jaques-Dalcroze's ideology that music pedagogy "...involves the integration of rhythmic study through movement and ear training, singing and listening, and the exploration of musical language through improvisation" – whereby "... the human body is the source of all musical ideas" (Bridges to Music,

2013). The application of these methods was also consistent with the literature in terms of Eurhythmics, Gordon Learning Theory, Kodály and Suzuki methods, noted earlier in the literature, which was comprehensively reviewed as a secondary source.

Description of Site/School:

The urban secondary school's population at which the research was conducted, comprised both girls and boys. Upon my request, the kind school's authorities adjusted the physical learning environment to enable efficient delivery of this research, to enable proper analysis, and obtain the objectives for creative thinking that would be beneficial to the school. There were times when students were also taken outdoors, as research has shown that outdoor meetings tend to be very productive (Institute of Outdoor Learning, n.d.).

Sample:

The sampling method is a representation of the procedure or approach used to select the sample – that is the targeted population. The sample size comprised a selected total of 26 students from grades 7 to 9. The sampling technique used a mix of both purposive and convenient sampling. This technique was utilized to capture an evenly distributed, wide cross section of both male and female students needed for the sample. This was intended for the validity of the study.

The sample contained 50% boys and 50% girls. This was in an effort to avoid any form of bias that could compromise this research. It was also in an effort to ensure validity at best, from a gender perspective. The sample included an age range of 12 to 15 year olds.

Data Collecting Instruments:

The instruments used for the collection of data encapsulated both qualitative and quantitative methodologies, which helped to further provide authentic statistical reports as well as rationales of data ascertained. A pre and post-test was carried out on the sample using student questionnaires as well as focus group discussions that incorporated a journal of students understanding and interests. This enabled the researcher to reflect, and do better at teaching. Moon (2004) recommended that reflection be used in professional work, as it has the propensity to transcend critical examination of practice and learning. In the context of this research, the method of journaling allowed for the ascertaining of the impact critical thinking, creative thinking as well as the fostering of team work. This affected the learner in the music classroom before the implementation of the programme of intervention. A series of formative test were administered to the sample to measure their ongoing progress over the duration of the study. A pre-test was administered to test students musical knowledge on the various music topics taught in class. The wide range of instruments allowed for triangulation of data which enhanced accuracy.

Students explored elements of music through practical and listening experiences. They were required to play and perform using the knowledge they acquired from the programme of intervention. Students were observed and tested weekly to monitor individual progress. Students' performance in class were tested and documented in order to have an authentic documentation of their progress on how music pedagogy influenced their creative thinking. An interview segment was conducted with various teachers at the end of the programme to validate students' progress in other subject areas. This helped to determine how effective the programme was, and whether the approach from a gender perspective was meaningful.

Students were required to write reflections in their journals. Their journals were read and the findings extracted as it relates to the research questions; namely: (1) to what extent can music pedagogy influence creative thinking? (2) What are some of the ways in which music pedagogy can influence learning within the context of gender-based mode of delivery?

The data gathering devices for the former were pre-test, observation scheduler and student's journal; for the latter these were focus group discussions, observation scheduler, student's journal, post-test, musical games with linkage to subject areas.

Informal interviews were conducted on these students to capture the views of those who were not expressive in writing. Data was collected and properly recorded on the information gathered from each student. Special genre activities were also used to inform the research process. This preceded diagnostic pre-tests to determine the students prior exposure to and feelings about music.

Activities:

Written diagnostic pre-test was also applied to the students, bearing the topic, Music General Knowledge. They were asked questions such as,

1. What is a rhythm?
2. What is the difference between “Riddim” and “Rhythm”?
3. What is music?
4. Name two things you like about music and why?
5. What is a minim?
6. How many beats are in a minim?
7. What is Pitch?
8. What is dynamics?
9. What do you understand about music composing?
10. Name one dancehall song
11. Name one main instrument featured in dancehall

Afterwards, during the research process, students were introduced to dotted notes and tied notes, with the objectives being that students should be able to (1) tap a rhythmic pattern using dotted and tied notes; and (2) compose a 4 bar rhythmic pattern using dotted notes and tied notes. The materials used were keyboard, Conga, Chalk, Speakers and Laptop. The symbols were as follows:

- Rhythm: regular repeated pattern of sound or movement
- Ensemble: (consists of two or more groups of instruments playing together)
- Dynamics : how loud or soft a sound is
- Simple metre: Each of the beats can be broken into two notes
- Compound metre: Each of the beats can be broken down into three notes
- Time signature: How many beats and the value of the beats in each bar

A ‘catchy’ rhythm was used to help enhance students memory while linking music pedagogy to various subject areas.

On the point of Dynamics, the objectives were that at the end of this introduction, students would be able to (1) identify what dynamics is in music; (2) efficiently identify at least three changes where dynamics was concerned in a piece of music; and sing the song “Brown girl in the Ring”, thus showcasing three and two dynamic changes. The materials used for this component were laptop computer, speakers, keyboard, projector, flash cards, drum stick. The symbols were

- Forte (f): loud
- Piano(p): soft
- Crescendo(<): Gradually getting louder
- Dynamics: how loud or soft a sound is
- Decrescendo: gradually getting softer

An introductory activity was to choose a student and send that particular student outside then hide an item somewhere in this class. Allow that student to come back in and let the rest of the class sing the song “How near you are”. The near the student is to the item allow the students to sing louder and the further the student is away from the hidden item allow the students to sing softer.

Elements of music, with respect to Form, were considered essential and were applied with the aim of teaching the musical element (Ternary -ABA). The objectives were that at the end of this lesson, the students would be able to (1) identify and describe Ternary Form through listening; (2) identify the different sections of Ternary form (ABA); (3) arrange and perform a ternary piece. Laptop, speakers, drums and recorders were the materials used; and the analogies for explaining ternary were Room-Bathroom-Room; Bread –Egg- Bread; Eye- Nose- Eye; and Chorus-Verse- Chorus.

Ethical Consideration:

The students were made aware of the purpose, significance and relevance of the research/study and that this would in no way contribute any harm to them. Intimate details on the student was not divulged. Letters of the alphabet were used as unique identifiers. In addition, every sample of information collected was treated with strict confidentiality. Permission to conduct this study was obtained from the secondary school Principal and the Form Teachers of Grades seven, eight and nine. The school's authority also made parents aware of the presence of college interns within the school, their purpose and objectives.

Ethical principles were also applied. These were in relation to “autonomy – respect the rights of the individual; beneficence – doing good; non-maleficence – not doing harm; justice – particularly equity” (Beauchamp & Childress, cited in Brikci, 2007, p. 5).

The positionality taken by me, the researcher was value-neutral, even though some schools of thought expressed the view that this kind of approach in research was not possible (Greenbank, 2003), as both the researcher and the respondents may be influenced by class, race, gender, ethnicity, age, and others (Mullings, 1999).

It was also considered prudent to take an insider positionality. This was not difficult because of the closeness in age groups between the researched (students) and the researcher. The insider approach was also possible because the researcher had read upon the history and learned the basic culture of the secondary school before engagement in the work experience. In support of this insider-type approach, Mullings (1999) postulated that this would be appropriate for the researcher who would have poised himself/herself for trust, and at the same time, knows what kind of questions to ask, given that which he/she was already privy to.

6. FINDINGS

A pre-test was used to measure the students' levels of interest in music, and the extent to which it could spark their interest when linked to another subject area. It showed that students had prior knowledge about music as a subject. Here, boys scored an average 20% higher than girls. The main reasons for those who scored low were because of limited interest or lack thereof in music.

Further analysis was made, using observation of students' physical and journal/reflection responses, manual count of focus group instrument. During the analysis, it was realized that a student's creative thinking and academic performance can be influenced when music pedagogy is implemented. This attribute forces the child to foster a cognitive thinking approach that will positively influence academic performance. Take for example, if a child has issues with critically analyzing a given task, it is highly possible that after being exposed to music pedagogy as a learning tool, that child's reasoning ability could change. This speaks to the categorizing of reasoning skills on diverse levels. This demonstrated results of the progress the students had made in relation to the development of creative thinking and rectifying the non-interest positionality aspect regarding music.

The post-test showed better results among boys than girls, but with more significant improvement among all. In other words, the success results elevated from fifty percent (50%) to eighty percent (80%). Students were asked during the period of study to record every area they felt they had improved on from the beginning of the various lessons that were taught. Although improvement among the students was evident, it still reflected lack of interest among four (4) students – a far lesser number when compared with when the pre-test was administered. These students were asked to record in their journals why they still expressed a lack of interest in music, their answers were as follows:

- a) “Music is not an interest to me because my parents said it won't get me anywhere”
- b) “Why should I focus on music when I am already known as a ‘DJ’ in my community”?
- c) “I am not sure”

d) “It felt like a waste of time because my parents and some of the teachers do not consider it important”.

These statements were made equally among boys and girls, but goes to show consistency with Bloom’s ideology. Bloom’s taxonomy highlighted the six levels that must be considered in education: knowledge, application, comprehension, analysis evaluation and synthesis. Connecting these attributes of learning with the topic of this research, using music pedagogy to enhance creative thinking in the secondary school has been useful.

7. CONCLUSION

Majority of the students in this study were successful from having exposed to music pedagogy. Improvement showed positive test score achievement rising from 50% to 80%. Those who were unsuccessful had expressed a lack of interest in music. Higher order thinking, with credence to Blooms Taxonomy was realized among the majority of students over the period of the study.

In addition, students who were given the opportunity to express themselves musically, tend to become more sociable and creative thinkers. In other words, when students are faced with the opportunity to use everyday experiences with the incorporation of the various genre of music they enjoy, it sparks a level of interest and fosters an environment that is conducive to creative thinking. This is because the use of music pedagogy as a tool enables students to express their feelings and understanding of ideas within perspective and cognitive reasoning.

Students who were exposed with prior knowledge were more open to learning and expressed more interest in any given task, especially when they were able to relate what they had learned to what they were accustomed. This highlighted the importance of early involvement in music. Exposure to different aspects of music such as Music history, terminology, genre (classical, popular music, reggae, dancehall), games, composition, impacted how students think and behave in different environment. These were more likely to encourage subject integration, and at the same time, significantly reduce negative perception about music and gender imbalance in academic delivery.

8. RECOMMENDATIONS

The following are the recommendations of this study.

- 1) Given that it is evidenced that music pedagogy is likely to enhance student’s academic performance, this should be a part of teacher’s training, so as to enable an appreciation of the subject area. Here, the negative perception would be alleviated, and educators would become more creative in the way they teach. The curriculum of the teacher’s college should be mindful of Vygotsky’s theory, Eurhythmics, Gordon Learning theory, Kodály and Suzuki model, as well as the importance of one’s cognitive development through the learning tools used.
- 2) The application of music pedagogy from as early as kindergarten stage would likely transcend an appreciation for music and other subject areas, and at the same time, garner fruition in academic and social performance of the student, the teacher, the institution, and the education sector.
- 3) In using music pedagogy as a learning tool or technique to enhance learning and enable creative and critical thinking, consideration must be given to Freire’s (2005) approach regarding problem-posing and dialogical pedagogy. This should be accompanied with reflection – a method used in this research.
- 4) The implantation of music pedagogy as a tool must be reinforced over time so that information processing becomes an imperative practice. Students must be able to rehearse what they had learnt in other subject areas and not just within the context of a music lesson. Development must be evident of the methodology to prove succession.
- 5) In strengthening number 3 above, it should be mandatory that these form part of the structured curriculum, involving key stakeholders such as teachers, school administrators, parents and students. Music pedagogy should also be reflected in lesson plans and instructional designs, showing the clear pathways of delivery. Music pedagogy must also give consideration to student’s learning styles.
- 6) Teachers of music should utilize the ideology of creating more activities that can help to engage students and give them the opportunity to produce their own ideas that will not only enhance the lesson but give them a sense of accomplishment that can also be an example to their peers. Here, the Constructive approach would be applicable as a motivation element to spark learning.

- 7) From as early as kindergarten level, music should be a part of the structured curriculum (with linkage to other subject areas), as well as the hidden curriculum.
- 8) When using music as a learning tool, bear in mind, Vygotsky's Theory which articulates the importance of developing children's learning ability, problem-solving skills, and innovativeness (Gallagher, 1999).
- 9) Gender mainstreaming should be a part of music academic and social deliveries, with consideration to student's learning styles. This will enable a much better appreciation of the discipline by both teachers and students, and at the same time, improve learning outcome.
- 10) Teachers should opt to capitalize on Howard Gardner's theory which speaks to "multiple intelligence" (Gardner, 1999). Every student has the capacity to learning and to think creatively, but if the environment is not created to foster these attributes then students will remain in a mental "box".
- 11) Parent Teacher's Association should be used as a medium to involve parents in appreciating academic discipline such as music. There should be a demonstration and evidence which show its positive impact. Parents should also be given knowledge about the importance of music on the mind and more specifically how using music pedagogy as a tool can effect a child's creative thinking and at the same time, foster and re-shape the child's social skills to one that is accepted by society.
- 12) Resources such as the use of cultural tools and technology, blended with music pedagogy as learning device should be used to effect positive change.

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REFERENCES

- [1] Aston, S. (2009) How do I contribute to student teachers' critical development?: A higher education practitioner's personal account of a move towards a more critical and emancipatory pedagogy through design and technology. *Educational Journal of Living Theories*, 2(2), 172-214.
- [2] Arts Education Partnership (2011). How Music Education Helps Students Learn, Achieve and Succeed. Retrieved from <http://www.aep-arts.org/wp-content/uploads/2012/08/Music-Matters-Final.pdf>
- [3] Bandura, A. (1961). Albert Bandura: Social Cognitive Theory and Vicarious Learning. Retrieved from <http://study.com/academy/lesson/albert-bandura-social-cognitive-theory-and-vicarious-learning.html>
- [4] Brewer, C. B. (1995). Music and Learning: Integrating Music in the Classroom. Retrieved from <http://education.jhu.edu/PD/newhorizons/strategies/topics/Arts%20in%20Education/brewer.htm>
- [5] Bridges to Music (2013). Background to Dalcroze Eurhythmics. Retrieved from <http://bridgestomusic.com.au/about/dalcroze/>
- [6] Brikci, N., & Green, J. (2007). A Guide to Using Qualitative Research Methodology. Retrieved from <http://fieldresearch.msf.org/msf/bitstream/10144/84230/1/Qualitative%20research%20methodology.pdf>
- [7] British Broadcasting Corporation Television News, 2012.
- [8] Brown, L. L. (n.d.). Benefits of Music Education. Retrieved from <http://www.pbs.org/parents/education/music-arts/the-benefits-of-music-education/>
- [9] Crawford, A. (2010). The Effects of Dancehall Genre on Adolescent Sexual and Violent Behaviour in Jamaica: A Public Health Concern. *North American Journal of Medical Sciences*, 2(3).

- [10] Dingle, R. (2006). Relationship between Adolescents' Stabilized Music Aptitudes and Creative Thinking Abilities in Music (Doctoral Dissertation). Retrieved from https://books.google.com.jm/books?id=0yuravMXAsAC&pg=PA2&lpg=PA2&dq=creative+thinking+and+the+Kod%C3%A1ly+Method&source=bl&ots=v-yiGYUhKR&sig=awEOwtx9ki_BgApj5lxzj-Q924&hl=en&sa=X&ei=f7HPVI30N4WiyAS8v4CgCQ&ved=0CEYQ6AEwBw#v=onepage&q=creative%20thinking%20and%20the%20Kod%C3%A1ly%20Method&f=false
- [11] Estrella, E. (n.d.). The Kodaly Method: A Primer. Retrieved from <http://musiced.about.com/od/lessonplans/p/kodalymethod.htm>
- [12] Eureka (2012). What so Special about Einstein Brain? Retrieved from <http://www.criver.com/about-us/eureka/blog/may-2012/einsteins-brain>
- [13] Freire, P. (2005). Pedagogy of the Oppressed (30th Anniversary Ed.). NY: Continuum.
- [14] Gallagher, C. (1999). Lev Semyonovich Vygotsky. Retrieved from <http://www.muskingum.edu/~psych/psycweb/history/vygotsky.htm>
- [15] Gardner, H. (1999). Multiple Intelligences. Retrieved from <http://www.tecweb.org/styles/gardner.html>
- [16] Green, A. (2013). Gender and Education Association. Music. Retrieved from <http://www.genderandeducation.com/resources/subjects/music/>
- [17] Greenbank, P. (2003). The Role of Values in Educational Research: The Case for Reflexivity. *British Educational Research Journal*, 29(6), 791-801.
- [18] Helmrich, B. H. (2010). Window of Opportunity? Adolescence, Music, and Algebra. *Journal of Adolescent Research*, 25(4), 557-577.
- [19] Institute for Outdoor Learning (n.d.). What are the Benefits of Outdoor Learning? Retrieved from <http://www.outdoor-learning.org/Default.aspx?tabid=213>
- [20] International Suzuki Association (2005). The Suzuki Method. Retrieved from <http://internationalsuzuki.org/method.htm>
- [21] Järvelä, S., Volet, S., & Järvenoja, H. (2010). Research on Motivation in Collaborative Learning: Moving Beyond the Cognitive-Situative Divide and Combining Individual and Social Processes. *Educational Psychologist*, 45(1), 15-27.
- [22] Ministry of Education (n.d. (a)). About Us. Retrieved from <http://www.moe.gov.jm/node/16> Ministry of Education (n.d. (b)). Curricula. Lower Secondary. Retrieved from <http://www.moe.gov.jm/sites/default/files/lower3nd-mathematics.pdf>
- [23] Ministry of Education (2012). Annual Statistical Review of the Education Sector. Education Statistics 2011-2012. Jamaica: Ministry of Education.
- [24] Ministry of Education, Youth and Culture (2004). The Development of Education. National Report of Jamaica. Kingston: Ministry of Education, Youth and Culture.
- [25] Moon, J. A. (2004). A Handbook of Reflective and Experiential Learning: Theory and Practice. OX: Routledge Falmer.
- [26] Moriarty, B., Danaher, P.A., & Danaher, G. (2008). Freire and dialogical pedagogy: a means for interrogating opportunities and challenges in Australian postgraduate supervision. *International Journal of Lifelong Education*, 27(4), 431-442.
- [27] Mullings, B. (1999). Insider or Outsider, Both or Neither: Some Dilemmas of Interviewing in a Cross-Cultural Setting. *Geoforum*, 30, 337-350.
- [28] Parson, S. & Brown, J. (2012). How is Action Research Defined? Retrieved from [https://www.nctm.org/uploadedFiles/Lessons_and_Resources/Grants_and_Awards/How%20is%20Action%20Research%20Defined\(1\).pdf](https://www.nctm.org/uploadedFiles/Lessons_and_Resources/Grants_and_Awards/How%20is%20Action%20Research%20Defined(1).pdf)

- [29] Porowitz, A. & Klein, P. (2007). MISC-MUSIC: a music program to enhance cognitive processing among children with learning difficulties. Retrieved from <http://ijm.sagepub.com/content/25/3/259.abstract>
- [30] Schellenberg, E. G., & Peretz, I. (2008). Music, language and cognition: Unresolved issues. *Trends in Cognitive Sciences*, 12, 45-46.
- [31] Suzuki, S (1998). About the Suzuki Method. Retrieved from <https://suzukiassociation.org/teachers/twinkler/>
- [32] The Education Act. The Education Regulation, L.N. 102/2001 (1980).
- [33] The Gordon Institute for Music Learning (1997). About Music Learning Theory. Retrieved from <http://giml.org/docs/AboutMLT.pdf>
- [34] United Nations Children's Fund (2008). United Nations Convention on the Rights of the Child. NY: United Nations Children's Fund.
- [35] United Nations Educational, Scientific and Cultural Organization (2001). Music Education in Jamaica and the Commonwealth Caribbean. Retrieved from http://portal.unesco.org/culture/en/files/40451/12668497603jamaica_music.pdf/jamaica%2Bmusic.pdf
- [36] Wegeriff, R. (2010). Mind Expanding. Teaching for Thinking and Creativity in Primary Education. Berkshire: Open University Press.
- [37] Wertsch, J. V. & Rupert, L. J. (1993). The Authority of Cultural Tools in a Sociocultural Approach to Mediated Agency. *Cognition and Instruction*, 11(3/4), 227-239.
- [38] World Health Organization (2010). *Bulletin*, 88(7), 481-560.