



Methods of music instruction in selected early childhood contexts in Ghana – A case study of two schools

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ABSTRACT

Music instruction in kindergarten is imperative for its value in helping pupils to attain a holistic education. However, music instruction in Ghana's kindergarten shifts from experiential learning to crowd control, limiting activities to whole-group singing where more engaging, hands-on musical activities are logistically impossible or ignored. A comparative study of two schools in different contexts was conducted to determine how music instruction in kindergarten contributes to pupils' holistic education. The teaching methods and instrumental resources used in the schools were investigated to reveal how they imbue holistic music education in pupils. The study employed Gardner's Multiple Intelligences theory, with a qualitative research paradigm and a case study design. Fourteen (14) participants were sampled purposively for the study. Interviews and observations were employed for data collection. The findings of the study revealed that the number of pupils in a kindergarten class makes music instruction effective. It was revealed that there were a lot of miniature musical instruments in the music classroom of Lincoln Community School, where students could have hands-on experience. The teaching method used in both schools was the learner-centered method, but Lincoln Community School uses the Carolff and Kodaly approaches for instrumental instruction. The study corroborates earlier findings that effective Music instruction develops pupils holistically. It is therefore recommended that teachers in Emmanuel Presbyterian School use instructional materials like miniature instruments to teach the kindergarteners since children in kindergarten learn best from what they see, hear, and experience. This study adds to existing literature on the benefits of music in early childhood education in Ghana.

Keywords: Music education, instructional materials, kindergarten, miniature instruments

INTRODUCTION

Kindergarteners love to learn best through singing, playing, and moving to music they hear. Music education at this stage in some schools has taken on new trends that tend to reinforce musical development, creativity, and musical skills in children. Russell posited that kindergarten is the

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beginning of serious academic instruction in the lives of children.¹ Teachers play a major role in the life of a child to become a good musician, right from Kindergarten. Music education plays an important role in helping children reach their fullest potential in all aspects of their lives. Rowan asserted that education is far more than the marks you receive.² It is about understanding right from wrong and having the knowledge you need to stay afloat in today's society. It helps develop one's perspective on the world around and encourages humans to think both creatively and conceptually about various subjects.

Lincoln Community International School is one of the schools in Ghana that has serious music instruction at the kindergarten level, and children there thrive well on music. They use the International Baccalaureate Curriculum, while Emmanuel Presbyterian School also uses the Standards-Based Curriculum of the Ghana Education Service. According to Amponsah, the typical Kindergarten classroom in Ghana is often overcrowded, with a single teacher responsible for 40 or more children.³ This environment makes effective music instruction, which ideally involves active participation, movement, and individual attention, extremely difficult to manage. The focus shifts from experiential learning to crowd control, limiting activities to whole-group singing where more engaging, hands-on musical activities are logistically impossible. In addition, Poverty remains a fundamental underlying challenge where basic educational needs like classrooms, furniture, and textbooks are prioritized over non-essential items like musical instruments. Parents and even school administrators may not see investment in music education as a necessity, directing scarce funds elsewhere.⁴ Children from Lincoln Community School in Ghana, between the Kindergarten ages of five (5) to seven (7) years, could play simple children's tunes on musical instruments like the keyboard, gyile (xylophone), guitar, and so on. These Pupils thrive on music practically.

This study thus sought to compare music instruction at Lincoln Community School with that at Emanuel Presbyterian School to determine the teaching methods and instructional materials used in teaching kindergarten students to achieve holistic music education. Jeanlee has posited that music education is a field of study associated with the teaching and learning of music.⁵ It touches on all domains of learning, including the psychomotor domain (the development of skills), the cognitive domain (the acquisition of knowledge), and, in particular and significant ways, the affective domain (music appreciation and sensitivity). This study looked into how the teaching method and the instructional materials are used to help the students achieve holistic music education, which can be emulated by other schools in Ghana. The findings are presented in subsequent sections.

LITERATURE REVIEW

Hargreaves remarked that the term 'music education' has different definitions and connotations within different disciplines, as well as in different countries.⁶ Since different countries have radically different educational philosophies, institutions, and policies, there are also wide variations in the importance of music and music education relative to other subjects in the curriculum. Inclusive education forms the basis for classroom music instruction in recent times, particularly in early childhood settings. A study on an autistic non-speaking child in a kindergarten revealed that music instruction and related activities improve inclusivity through identification of behaviours, perceptions and attitudes. The study was underpinned by a Model of Musical Development in Inclusive Education (MMDIE) by Efstathiou and Varvarigou.⁷ This module was a combination of three theoretical frameworks: Jellison's five characteristics of inclusive music classrooms, the Sounds of Intent Framework by Ockelford and the

¹ J. Russell, *Kindergarten: The Start of a Child's Academic Journey* (Education.com, 2011), <https://www.education.com/magazine/article/kindergarten-start-childs-academic/>.

² D. Rowan, *The Purpose of Education* (The Guardian, 2014), <https://www.theguardian.com/education/2014/oct/21/purpose-of-education-debate>.

³ S. Amponsah, "Challenges and Practices in Kindergarten Music Education in Ghana" (University of Education, Winneba, 2018).

⁴ D. K Mereku, *Issues in Ghanaian Music Education* (Black Mask Ltd, 2015).

⁵ A. Jeanlee, "The Importance of Education," 2011, <https://www.importanceofmusiceducation.com/>.

⁶ D. J. Hargreaves, *The Developmental Psychology of Music* (Cambridge: Cambridge University Press, 1986).

⁷ I. Efstathiou and M. Varvarigou, "A Model of Musical Development in Inclusive Education for Autistic Children in Kindergarten Settings," *International Journal of Music Education* 43, no. 1 (2025): 78–95.

Universal Design for Learning.⁸ This model provides a valuable tool for designing learning environments in the classroom that foster meaningful musical experiences for all students and kindergartners. When young children engage in musical play, they learn to listen, respond, and contribute to a collective soundscape, mirroring democratic values of dialogue and participation.

Contemporary perspectives further emphasise that early childhood music education can foster interconnected thinking, inspiring educators to reimagine their roles in relation to pressing issues like democracy, inclusion, and environmental responsibility.⁹ This therefore indicates the need and relevance of music instruction in the early years of children in schools in Ghana. There are several teaching methods, and teachers have preferred teaching strategies because there is no single universal approach that matches all situations. Different strategies, used in different combinations and with different student groupings, improve learning outcomes. Some strategies are better suited to teaching certain skills and fields of knowledge than others. Certain teaching methods also suit certain student backgrounds, learning styles, and abilities, such as active learning, a student-centered approach in which the learning task is placed on the student, often in collaboration with classmates. In active learning, teachers are facilitators rather than one-way providers of information. Through class discussion, problem solving, cooperative learning, and writing exercises (graded and ungraded), facts are presented to students. It is a multi-directional learning experience in which learning occurs in a teacher-to-student, student-to-teacher, and student-to-student manner.¹⁰ Contemporary research has reconceptualised music as a key pedagogical tool in early childhood education, moving beyond its traditional role as an enrichment activity to an embedded method of teaching that influences children's personal, social, and emotional development, communication and language skills, and expressive arts engagement.¹¹ A recent study implementing an eight-week music training programme for 2- and 4-year-olds found significant training effects on rhythmic skills for both age groups, with preschoolers showing greater increases in rhythmic skills than toddlers, and an effect on executive functions in preschoolers.¹² This reinforces the importance of structured musical education in early learning environments. Furthermore, recent research on comprehensive music education methods for early childhood, based on a play-centered curriculum, has emphasised human-centered guidance, conceptual approaches, and integrative and creative musical experiences. This aligns with child-centered learning principles, where children learn by linking play and music activities.

The CHIME model (Child-Centered Holistic Instruction through Music and Ensemble), rooted in the Orff-Schulwerk philosophy, incorporates four stages: imitation, exploration, improvisation, and composition and emphasises ensemble learning to enhance children's executive functioning, emotional regulation, empathy, and collaborative skills.¹³ This model advances the potential of culturally responsive music education by adapting to local instruments, rhythms, and stories. Early childhood music education is increasingly recognised as a transformative practice that fosters holistic development, yet it often struggles for a place in early learning curricula and is frequently marginalised by educators who lack confidence and competence in music education.¹⁴ Kong remarked that the disconnect between formal education systems and professionally trained music educators leads to inconsistent, often inadequate music experiences for children, highlighting the need for specialised training for preschool teachers and collaboration between professional music teachers and early

⁸ J. A. Jellison, "Five Characteristics of Inclusive Music Classrooms," in *Music Education and Diversity: Bridging Cultures and Practices*, ed. P. Burnard and S. Karlsen (Routledge, 2012), 145–62; Adam Ockelford, "IMAGINE Autism: Ideas for Musical Activities and Games in the Early Years for Children on the Autism Spectrum Using the Sounds of Intent Framework of Musical Development," 2018; CAST, "Universal Design for Learning Guidelines Version 2.2," *CAST Universal Design for Learning Guidelines*, 2018.

⁹ H. Ben-Moshe, "Contemporary Perspectives in Early Childhood Music Education: Fostering Interconnected Thinking," *Journal of Early Childhood Music Education* 42, no. 1 (2025): 15–32.

¹⁰ L. Morable, *Active Learning in the Classroom* (Texas, 2000).

¹¹ E. Holmes, "The Effects of Music Training on Rhythmic Skills and Executive Functions in Toddlers and Preschoolers," *Early Childhood Research Quarterly* 55 (2026): 112–25.

¹² Holmes, "The Effects of Music Training on Rhythmic Skills and Executive Functions in Toddlers and Preschoolers."

¹³ N. Safarabed, "The CHIME Model: Child-Centered Holistic Instruction through Music and Ensemble in Early Childhood Settings," *Journal of Music Education Research* 38, no. 4 (2025): 312–29.

¹⁴ Ben-Moshe, "Contemporary Perspectives in Early Childhood Music Education: Fostering Interconnected Thinking."

childhood teachers.¹⁵ To have an effective music instruction requires appropriate instructional resources to aid teaching and learning. Instructional materials are materials used in support of the instruction of a subject by teachers. These materials include curriculum guides, books, audiovisual (television, video, and audio devices), programmed approaches (computer-assisted programmes), and miniature musical instruments like the xylophone, keyboard, guitar, glockenspiel, gongs, cymbals, tom-toms, and so on. Television is a powerful medium of communication capable of conveying memorable images and messages to its viewing audience.

Children's music television programmes are effective in teaching children conceptual understandings of numbers, language usage, and acceptable social behaviours in an effort to prepare young children for school. Kindergarten students' vocal reproductions of relatively short song phrases are improved by the repeated viewing of participatory instructional music television programmes. The frequency of students' echo-singing and the accuracy of their echo-singing responses are increased after viewing an instructional music programme. Although television instructional programmes have all these advantages, there is an absence of accompanying evidence to document increases in music achievements among children as a result of viewing those videos or television programmes.¹⁶

In accordance with the views of Feierabend et. al., these instructional materials in the two schools for this study were analyzed to ascertain how they underpin holistic music education in kindergarteners. Computer-assisted techniques have the potential to take over a lot of the donkey work of the music teacher. They may be most appropriate for the teaching of lower-level skills; freedom from the chores of the routine exercises ought to enable the teacher to spend more time on those parts of the job that fully utilize his advanced skills and experience. Computer-assisted techniques provide privacy and individual attention; immediate feedback of results is available at any time, and students' progress is cumulatively recorded over a course of study.¹⁷ Instructional materials like books and miniature instruments are the primary sources of materials mostly used for instruction by teachers.

Practical music teaching methods outlined by Hargreaves support early childhood music instruction.¹⁸ Contemporary scholarship continues to validate these approaches while emphasising that early childhood music teaching expertise requires more than musicianship skills; it demands an understanding of the psychological, emotional, physical, and social development of the child, and the ability to integrate these dimensions into practice through embodied activities such as movement, gesture, and vocalization.¹⁹ The body serves multiple functions in music learning: it manifests mental states by expressing sensations, emotions, and consciousness; it signifies cognitive conditions like desires, beliefs, hopes, and expectations; and it acts as an instrument for performing actions in specific situations. Lessons in the two schools were analysed to ascertain the teaching methods that are used to help the kindergarteners acquire instrumental skills according to Hargreaves' assertion and these contemporary pedagogical insights.

Music cognition has shifted towards enactive cognitive science, proposing new ways of thinking about musical experience, musical development in infancy, and more.²⁰ This perspective explores musical cognition as a form of sense-making that unfolds across embodied, environmentally embedded, and socioemotionally extended dimensions. The enactive approach reveals how dynamic processes of adaptive body-brain-environment interactivity drive musical cognition across a range of contexts, extending it beyond the personal domain of musical agents and out into the material and social worlds they inhabit and influence. This aligns with findings that rhythm plays a central role both in musical learning and as a developmental facilitator for broader learning processes, supporting

¹⁵ Y. Kong, "The Disconnect between Formal Education Systems and Professionally Trained Music Educators: Implications for Early Childhood Music Education," *Music Education Research* 27, no. 2 (2025): 189–204.

¹⁶ J. M. Feierabend, T. C. Saunders, and H. Barbra, "The Effects of Music Television Programming on Children's Singing Ability," *Bulletin of the Council for Research in Music Education* 153 (2002): 47–55.

¹⁷ Hargreaves, *The Developmental Psychology of Music*.

¹⁸ Hargreaves, *The Developmental Psychology of Music*.

¹⁹ Ben-Moshe, "Contemporary Perspectives in Early Childhood Music Education: Fostering Interconnected Thinking."

²⁰ D. Van der Schyff, A. Schiavio, and D. J. Elliott, "Enactive Music Cognition: Theoretical Perspectives and Applications," *Music Perception* 39, no. 5 (2022): 445–67.

temporal prediction, attentional regulation, auditory working memory, movement and cognitive control, mechanisms involved in language acquisition and executive functioning.²¹ Phillips-Silver and Trainor, and Patel hold the view that neural responses to rhythm reflect experience-dependent plasticity and can be shaped by embodied interactions such as being rocked in synchrony with music.²² Music and language share deep perceptual, neural, and social connections that support core aspects of early communicative development, including lexical acquisition. A three-decade review of early childhood music education has identified four major thematic directions: perception of musical elements and neural plasticity, curriculum development and teacher professionalism, music training and its effects on cognitive and language development, and children's behaviour and mental health. Emerging research frontiers include the impact of early childhood music education on children's self-regulation.²³ These cognitive perspectives enrich the analysis of how instructional materials and methods in the two schools support holistic music education in kindergarteners.

THEORETICAL FRAMEWORK

This study is premised on Gardner's theory of Multiple Intelligences, due to its broad educational lens used in examining holistic child development through music.²⁴ Gardner asserted that musical intelligence connects with linguistic, logical-mathematical, spatial, bodily-kinesthetic, intrapersonal, and interpersonal intelligences.²⁵ Various researchers with the same view have posited that music lessons improve the intelligence quotient (IQ) of children. In other instances, traditional psychometric theories narrowly define intelligence through linguistic and logical-mathematical metrics (e.g., IQ tests), whereas Gardner's framework posits that human potential is diverse and context-dependent and, for that reason, needs to be studied in a broader perspective of multiple areas of intelligence development.

The rationale is paramount due to music's multisensory, social, and emotional nature, which inherently activates several neural pathways simultaneously. It also focuses on early childhood education by prioritizing the whole child development, which includes areas such as cognitive, psychomotor, and affective, which aligns directly with Gardner's pluralistic view of intelligence. This theory aids the study by moving beyond measuring mere musical aptitude to investigating how music instruction serves as a vehicle for cultivating a broad spectrum of developmental outcomes in young learners. These intelligences can be developed through music lessons by associating or relating them to the domains of learning. Gardner's theory in this study aligns the six intelligences with Bloom's three domains of learning, which gives a holistic view of child development in the cognitive domain, psychomotor domain and affective domain of learning.²⁶ Musical intelligence, according to Gardner, is not solitary but intersects with six other intelligences.²⁷ For example, the linguistic abilities in pupils are developed through music instruction through the recitation of lyrics, phonological awareness (rhyming, alliteration) and vocal acquisition. The melodic contour of a song often aids memory retention of verbal content, directly reinforcing oral language development and pre-reading skills. This is a clear cognitive development in pupils through music instruction. In the aspect of spatial intelligence, the cognitive domain is developed when pupils move their bodies to reflect changes and variations in tempo, pitch and melodic contour, or use instruments like the ideophones and chordophones, membranophones, aerophones, and electrophones. They are mapping auditory information onto physical space, which improves their ability to visualize and manipulate mental imagery.

²¹ Van der Schyff, Schiavio, and Elliott, "Enactive Music Cognition: Theoretical Perspectives and Applications."

²² Jessica Phillips-Silver and Laurel J Trainor, "Feeling the Beat: Movement Influences Infant Rhythm Perception," *Science* 308, no. 5727 (2005): 1430; Aniruddh D Patel, *Music, Language, and the Brain* (Oxford University Press, 2010).

²³ X Li and M Chang, "Early Childhood Music Education Research: A Three-Decade Review of Thematic Directions," *Psychology of Music* 54, no. 3 (2026): 456–73.

²⁴ H. Gardner, *Multiple Intelligences: New Horizons in Theory and Practice* (Basic Books, 2009).

²⁵ Gardner, *Multiple Intelligences: New Horizons in Theory and Practice*.

²⁶ Benjamin Samuel Bloom et al., *Taxonomy of Educational Objectives*, vol. 2 (Longmans, Green New York, 1964).

²⁷ Gardner, *Multiple Intelligences: New Horizons in Theory and Practice*.

Logical-Mathematical intelligence is cognitively developed in pupils through elements of music like rhythm, meter, beat and so on, with a basic understanding of the patterns of counting beats in music, understanding sequences and concepts. Music instruction embodies activities that develop the physical abilities of Pupils, which improves the bodily-Kinesthetic intelligence. Activities like clapping rhythms, dancing, playing percussion instruments and executing finger-play songs require fine and gross motor skill coordination, which develops the psychomotor domain of learning. In the affective domain of learning, music instructions at the kindergarten helps pupils explore feelings (happiness, sadness, and anger), where children learn to identify, label and articulate their emotional states without violence as an intrapersonal intelligence development. Under Interpersonal development, music instructional activities like group singing, game songs and play require pupils to listen to each other and coordinate their actions with peers. These activities imbue pupils with empathy, cooperation, and the ability to interpret non-verbal cues as well as share collective emotional experience, which reinforces the affective domain of learning.

METHODOLOGY

The research employed the qualitative method for this study. To enable the researcher to be able to have an in-depth understanding of the situation, a case study was designed to give a full account and enhanced details of music instruction in Lincoln Community School and Emmanuel Presbyterian School. Creswell stated that qualitative research is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem. He further opined that the process of research involves emerging questions and procedures, with data typically collected in the participant's setting, data analysis inductively building from particulars to general themes, and the researcher making interpretations of the meaning of the data.²⁸

In this instance, and in conformity with Creswell's assertion, the qualitative approach was used for this study. The population for the study comprises all the teachers and students of kindergarten one and kindergarten two of Lincoln Community School and Emmanuel Presbyterian School. The Convenience by proximity sampling technique was used to select Emmanuel Presbyterian School in comparison to Lincoln Community School. The Expert purposive sampling technique was used to select 10 kindergarten teachers of Lincoln Community School (2 class teachers and 8 instrumental instructors), as well as 4 class teachers of Emmanuel Presbyterian School (2 main class teachers, 2 assistant class teachers) from Emanuel Presbyterian School.

The sample size for the study was 14 participants who were specialists and general teachers who teach kindergarteners in the two schools. Creswell and Poth posited that the goal of qualitative research is to gather in-depth detail from a small number, not a large, generalized sample. They also highlighted the importance of reporting multiple perspectives for a robust qualitative study.²⁹ The research instruments for the study were interviews and observation; the teaching lessons were observed, and semi-structured interviews were organized after the lessons to obtain the instructional materials used and the reasons behind the use of the instructional materials, the teaching methods, and how they help the pupils attain holistic music education.

Pseudonyms were used, and all data was stored on password-protected devices. Although formal ethical approval was not required, informed consent forms were obtained from all participants. Participants were informed of the purpose of the study and their right to withdraw. Trustworthiness (credibility, dependability, transferability) was considered in the data analysis. The data gathered for the study were analyzed thematically using Gardner's multiple intelligences theory to ascertain how the instruction in both schools helps students attain holistic music education with the use of their teaching methods and instructional materials. The participants were coded into the first respondent, R1(Lincoln Community School Teachers) and R2 (Emmanuel Presbyterian School Teachers).

²⁸ J. W. Creswell, "Qualitative Inquiry and Research Design: Choosing among Five Approaches (3rd Ed.)," SAGE., 2013.

²⁹ John W Creswell and Cheryl N Poth, *Qualitative Inquiry and Research Design: Choosing among Five Approaches* (Sage publications, 2016).

Thematic analysis was done in relation to the cognitive domain, affective domain, and psychomotor domain development of the music instruction in the two schools.

PRESENTATION OF FINDINGS AND DISCUSSIONS

The findings for the study were categorized under different contexts of early childhood education in Ghana, thus Lincoln Community School, which uses the International Baccalaureate Curriculum, and Emmanuel Presbyterian School, which uses the Standards-Based Curriculum of the Ghana Education Service.

Table I: Comparative Analysis of Findings

Criteria	Lincoln Community School, Accra (R1)	Emmanuel Presbyterian School, Accra (R2)	Summary
Teaching Qualification	Three (3) second-degree holders, seven (7) first-degree holders	Four (4) first-degree holders	All the teachers in the early grades qualify to teach students in that specialism.
Teaching Experience	6-5 years' teaching experience	5-12 years' teaching experience	All the teachers have more than 5 years of teaching experience
Teaching and Learning Materials	Miniature musical instruments, TV, and a computer for demonstrational videos, pictures, and books	Pictures, books, TV for demonstrational videos	The TLMs used in the two schools were kind of similar, except for the use of miniature musical instruments and pictures of musical instruments that were not found at Emmanuel Presbyterian School.
Teaching Methods	The learner-centered method, Instrumental lessons, game-play, singing, and theoretical lessons. with the use of Orff Schulwerk and Kodály	The learner-centered method with singing and game-play	The two schools use the learner-centered method in teaching, but the Lincoln community uses instrumental instructional methods like Orff-Schulwerk and Kodály, which were not found in Emmanuel Presbyterian School

Holistic music education

In the submission of the respondents on how children attain holistic music education, all the teachers attested to the fact that in order for a child to attain holistic music education, the instruction must have standards to develop the three major domains of intelligence in children. They opined that the instruction must develop the psychomotor domain, the cognitive domain, and the affective domain of children, which corroborates Gardner's Multiple Intelligences theory. Gardner stated in his theory of

multiple intelligences that a holistic music education seeks to develop thinking abilities, intuition, imagination, problem-solving, and creative thinking in children.³⁰

The Role of Teaching Methods and Instructional Materials in Developing Kindergarteners' Psychomotor Skills

According to R1, the 'Child-Centered but Teacher-Directed' approach to music education at early childhood reinforces the development of the psychomotor domain in children. They explained that, since the music class is very spacious, children dance and move about when they sing songs, especially action songs, accompanied by the keyboard or guitar. Coordinated activities, such as using the fingers, feet, and hands while also singing, are activities that children mostly learn through music lessons. The R1 added that when children practice movements, like dance, it reinforces their neural encoding and reduces nervousness in children. Dancing in the music class also helps children convey their feelings, thoughts, and cultural values since they have different backgrounds. Gardner asserted that musical intelligence connects with linguistic, logical-mathematical, spatial, bodily-kinesthetic, intrapersonal, and interpersonal intelligences.³¹ This indicates the interconnectedness in these domains of learning, where the psychomotor domain impacts the affective domain of learning. One of the instrumental instructors of the R1 posited that:

“The kindergarteners who start with instrumental lessons mostly have weak fingers and cannot press the keys well to produce the sound, but with time, when they start practicing on the miniature keyboard, they play with tenacity and also build up speed.”

The djembe instructor also stated that pupils at the beginning of the class mostly complain of pain in their hands, but after a series of practice, they no longer complain of such pains and play with great joy. Gardner opined in his theory of multiple intelligences that music lessons build motor skills, coordination, and motor communication, as well as spatial and bodily-kinesthetic intelligences.³² These teaching methods and instructional materials used by R1 ensure that music lessons develop the psychomotor domain of children. They added that most of the kindergarteners have developed dexterity in their fingers through instrumental training and can coordinate it with singing while playing. One of the respondents stated that a parent once remarked that the child had become very good with activities of the fingers, just after a few months of piano lessons. The respondents added that the intensity and extent of practice reinforce skillfulness in children, and they build up body awareness and self-confidence. This corroborates Gardner's view on music instructional activities that develop the physical abilities of pupils and improve bodily-kinesthetic intelligence.³³ Playing instruments and executing finger-play songs that require fine and gross motor skill coordination develop the psychomotor domain of learning in children. The R2 teachers also affirmed the assertion of the first respondents as to how the songs they use in the classroom as a starter for lessons help attract the pupils' attention for the lesson, and dancing and movements help strengthen their muscles in the form of aerobics. The R2 asserted, “We don't give instrumental lessons to the kindergarteners because they are too young to use the musical instruments in the school. This, therefore, validates Amponsah's position that hands-on musical activities are logistically impossible in most Ghanaian Kindergarten classrooms.³⁴ Though they engage pupils in songs and dance activities, the aspect of hands-on experiences with musical instruments is missing.

³⁰ Gardner, *Multiple Intelligences: New Horizons in Theory and Practice*.

³¹ Gardner, *Multiple Intelligences: New Horizons in Theory and Practice*.

³² Gardner, *Multiple Intelligences: New Horizons in Theory and Practice*.

³³ Gardner, *Multiple Intelligences: New Horizons in Theory and Practice*.

³⁴ Amponsah, “Challenges and Practices in Kindergarten Music Education in Ghana.”

The Role of Teaching Methods and Instructional Materials in Developing Kindergarteners' Cognitive Skills

The R1 shared their views on how the instructional materials and teaching methods used in the school facilitate the development of the cognitive domain in the children. The first respondents remarked that the use of the 'Child-Centered but Teacher-Directed' method develops the thinking abilities of children. They remarked that direct inquiry questions are always used on every topic, and by doing so, children will always have to think and give their understanding of such topics. They explained that, for example, when pupils are given a skit to act or perform in the music class, they are always expected to use these miniature musical instruments during their performance. So, it is up to the kindergarteners to think of the instruments that will best suit their story. According to Medina (2000), giving problem-solving assignments to children in the classroom builds their ability to think through the assignments and find solutions to the problems. In this situation, the children go for the miniature instruments in the class and know which instruments will best fit their performance. It is worth knowing that children learn best by doing, not by passively accepting other people's ideas and pre-existing knowledge, and so in situations like this, there is always critical thinking that develops and improves cognitive activities.



Figure 1: Animal-shaped ratchets used by pupils during skits and musical performances.

The R1 stated:

“The use of the orchestral bingo game also helps children to think through the sound they hear and to determine which instrument is playing. The instructional materials reinforce the thinking skills of children, because most of the instruments they have in the class are instruments that produce the sound of nature. With that, children are to think through and assimilate it to the sounds they hear. For example, the toad clave, the cricket clave, the wind instrument, the rain stick, the thunder tube, the owl clave, and so on. Since some of these children do not have the opportunity to experience some of these natural sounds, they get to hear how they sound and know them in the music class.”



Figure 2: Plastic rain instruments for skits and musical performances

The R1 and R2 both stated that the use of the books and pictures helps these kindergarteners in their reading skills and linguistic intelligence. They said most of their books contain children's songs with the words in syllables. Since children learn best through music, after singing all the songs within a book, their vocabulary increases and their reading skills are improved. Gaab et al, state that musical instruction and experience help the brain improve its ability to distinguish between rapidly changing sounds, referred to as auditory processing.³⁵ This auditory processing is critical to developing phonemic awareness, a necessary aspect of language acquisition. The R1 continued to explain that the pictures of musical instruments and their names in syllables under them help children to grasp the spellings of these instruments. The instrumental instructors of R1 also shared their views on how their instrumental instruction helps to develop the cognitive domain of children.



Figure 3: Pictures of instruments on the walls of the classroom

³⁵ N. Gaab et al., "Neural Correlates of Rapid Spectrotemporal Processing in Musicians and Nonmusicians," *Annals of the New York Academy of Sciences* 1060, no. 1 (2005): 82–88.

The guitar instructor asserted that the Carl Orff method allows pupils to learn by rote. He explained that the method helps children to be attentive during instructions because they watch and listen to whatever the instructor is doing, so that they can do the same on their miniature instrument. He added that since the playing of an instrument is guided by rules, the challenging endeavor in learning these instruments helps these kindergarteners to be disciplined. The violin instructor also stated that instrumental instruction helps build the memory of these children. He also stated that since they learn by rote, they have to memorize whatever they are taught. The melodic contour of a song often aids memory retention of verbal content, directly reinforcing oral language development and pre-reading skills. This is a clear cognitive development in pupils through music instruction.³⁶ The piano instructor asserted that the use of the Kodály method for piano lessons for kindergarteners also underpins their cognitive abilities, especially in mathematics. He explained that kindergarteners who learn the piano at the initial stages use numbers in learning the keys (1,2,3,4,5) for the right hand and (1,2,3,4,5) for the left hand. He stated that when children start learning songs on the keyboard, each of these numbers represents a finger and the number of beats each finger will have to play according to the song. He added that this brain activity helps children build their mathematical abilities. These findings corroborate Gardner's position on music instruction and how it reinforces logical-mathematical intelligence through elements of music like rhythm, meter, beat and so on, which is a basic understanding of the patterns of counting beats in music, and also understanding sequences and concepts.³⁷

The role of instructional materials and teaching methods in developing the Affective domain of the kindergarteners

R1 and R2 stated that the learner-centered method helps develop socio-emotional abilities in children, especially to be able to share and cooperate with colleagues during group activities. The respondents added that through discussions from the books, they sing most of their kindergarten songs; children have learnt how to express anger and joy in words rather than acting physically. The respondents added that every song they teach these kindergarteners comes with a lesson, and these songs aim to educate children on social issues and how to relate to each other. They further explained that children are sometimes tasked to compose songs with words like love, peace, joy, and anger, and since these words are related to emotions, children compose amazing songs with the help of the teachers. The violin instructor of R1 asserted that

“The instrumental lessons develop good attitudes in children. Starting the instrumental lessons with the kindergarteners takes time and serious practice for them to get the fingering techniques, bowing, and so on, and so children need to build the attitude of persistence to be able to play. Children going through this instrumental training develop an attitude of persistence, self-control and patience, which is a major character formation procedure.”

The guitar instructor of R1 also posited that “most times children play with these miniature instruments, but immediately they start instrumental instruction, they begin to differentiate between playing with the guitar and playing it, or how regular guitar practice is done.” Gardner's theory of multiple intelligences posits that Music lessons develop attentiveness, cooperation, interactive learning, self-esteem, self-confidence, and aesthetic sensitivity, intrapersonal and interpersonal intelligence in children.³⁸ According to Ben-Moshe, contemporary research continues to validate these approaches while emphasising that early childhood music teaching expertise requires more than musicianship skills; it demands an understanding of the psychological, emotional, physical, and social development of the child, and the ability to integrate these dimensions into practice through embodied activities such as movement, gesture, and vocalization.³⁹

³⁶ Gardner, *Multiple Intelligences: New Horizons in Theory and Practice*.

³⁷ Gardner, *Multiple Intelligences: New Horizons in Theory and Practice*.

³⁸ Gardner, *Multiple Intelligences: New Horizons in Theory and Practice*.

³⁹ Ben-Moshe, “Contemporary Perspectives in Early Childhood Music Education: Fostering Interconnected Thinking.”

RECOMMENDATION

- This study has brought to light that kindergarteners can have instrumental lessons and even play some simple songs on their instruments. R2 Teachers must use instructional materials like miniature instruments to teach the kindergarteners since children in kindergarten learn best by doing.
- The Ghana Education Service should organize seminars and workshops that seek to enlighten early childhood teachers on professionalism and approaches to early childhood education in Ghanaian Schools that use the Standards-based Curriculum.
- Stakeholders of R2 and Ghanaian Schools must prioritize Early Childhood Music Education and acquire enough instructional materials and teaching resources to aid Music instruction at the kindergarten in Ghana.
- Curriculum developers in Ghana must factor into their curriculum planning some of the methods and approaches used by R1 and encourage the use of these miniature rachets and instruments in Ghanaian kindergarten classrooms.
- Teacher education institutions should also adopt some of these teaching approaches and instructional materials from R1 to teach student-teachers in their institutions giving them firsthand experience in the institutions before they become professional teachers.
- Future researchers can conduct a study into two Ghanaian kindergarten Schools with similar curricula, since this study did a comparative study of two schools in Ghana with different curricula.

CONCLUSION

Music education has been scientifically proven to improve the intelligence quotient (IQ) of children when it is holistically inculcated. One will often have heard that people refer to music as a language, mathematics, science, culture, and so on. In fact, there is much to support this logic. Music lessons enhance intelligence in children by developing all the domains of learning (cognitive, psychomotor and affective), which forms a holistic development in children. This research into music instruction at Kindergarten One and Two of Lincoln School and Emmanuel Presbyterian School brought to light that the music instruction in Emmanuel Presbyterian School focuses solely on songs for role-plays and as starters for other disciplines, without hands-on experiences with musical instruments. The study has revealed that children have different abilities and temperaments. The best method to be used by kindergarten music teachers or general teachers is the Child-Centered Method, but teacher-directed. This method will enable them to understand the best way each child learns and how music or other disciplines can be inculcated in them. It is the responsibility of music teachers or general kindergarten teachers to introduce the kindergartners to natural sounds they are exposed to, for instance, sounds from animals, rain, wind, thunder, and sounds from various musical instruments, through audio, videos, or instruments. Music is one of children's biggest influences in life. It has also been revealed that the pupils' interest in learning and participating in different tasks definitely increases in a standard classroom setting. The study concludes that music brings joy and success to kids in the classroom and that music has been used to inculcate other disciplines in the music classroom.

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