

EFFECT OF ADOLESCENT GROWTH SPURT ON STUDENTS' CHOICE OF MUSIC IN  
SECONDARY SCHOOLS IN IDEMILI NORTH LOCAL GOVERNMENT AREA

Adaora. U. Echezona  
Department of Music  
University of Nigeria, Nsukka  
Email: Adaora.echezona@unn.edu.ng  
09029562557, 08061630959

**Abstract**

The study was on the effect of adolescent growth spurt on students' choice of music in secondary schools in Idemili North Local Government Area. The design was a qualitative research design. Two research questions guided the study. Seventy-five students from three schools in Idemili North of Anambra State were used for the study. The class from which the students were elected is Upper Basic Class 3. This is to ensure a true representation of the adolescents. Twenty-five students (male and female) were drawn from each school. This accounts for adequate representation of the genders. All the schools are public schools and offer music as an aspect of Cultural and Creative Arts up to Upper Basic Class 3. The same curriculum is used in schools. These students were interviewed using an Interview schedule to gather information from them. It was found that parents do not encourage their wards to be serious with music instruction. Some of the parents do not even want their children to speak about music let alone choose it as their school subject. The parents are of the opinion that music is meant for unserious people and good for nothing students. Even some students believe that they do not have good voice for music activities even to play the instruments is also a big problem. It was recommended that music teachers should take cognizance of students' individuality bearing in mind their developmental differences in teaching music in secondary schools.

**Keywords:** Adolescence, Growth, Spur

**Introduction**

Music education in Nigeria deserves critical approach to prepare the products of the system for effective practice. One of the objectives of music education is to provide students with both an understanding of and experiences in and with sound so that they can learn to express themselves musically, it stands to reason that students need to engage with both music conceptual knowledge and practice. Most music educators agree on the intellectual and cultural importance of music. Music joins languages, mathematics, science, the humanities, and the other arts disciplines both as a basic mode of thought and work and as an avenue for achievement. Because music is both an expression of civilization and a unique form of communication with its own body of knowledge and skills. Music learning not only increases knowledge and enjoyment of music but also enables the student to gain fuller access to the world. It expands individual potential. (The Basic Value of Music Study, 12/1999). No human society has existed without music, and many people experience music as a crucial aspect of their everyday lives. Music offers numerous personal and social benefits, including improvement in cognitive-emotional awareness, enhanced self-regulating behaviour, and enhanced social responsibility (Hargreaves and North, 1999; North et al., 2004). Perhaps because music is one of the most demanding tasks for the human central nervous system, we are affected by it and intrigued by it (Davidson et al., 2002).

Much more than entertainment, early musical training helps develop the brain as involved in language and reasoning. There is also a causal link between music and spatial intelligence (the ability to perceive the world accurately and to form mental pictures of things). A study of the arts provides children with an internal glimpse of other cultures and teaches them to be empathetic

towards the people of these cultures. In music, a mistake is a mistake; the instrument is in tune or not, the notes are well played or not, and the entrance is made or not. It is only by much hard work that a successful performance is possible. Through music study, students learn the value of sustained effort to achieve excellence and the concrete rewards of hard work. Music study develops skills that are necessary for the workplace. It focuses on "doing," as opposed to observing, and teaches students how to perform, literally, anywhere in the world. Employers are looking for multi-dimensional workers with the sort of flexible and supple intellects that music education helps to create as described above. In the music classroom, students can also learn to better communicate and cooperate. With what all music brings us, music learning is our best choice for improving ourselves physically and spiritually (Phillips, 2002). In the secondary school system, the students are at the developmental stage of adolescence or adolescence growth spurt. There is often conflicting interest both for male and female students in their choice of music as a school subject.

### **Statement of the Problem**

Adolescence is characterized by several cognitive, emotional, physical and attitudinal changes, which can be a cause of conflict on the one hand and positive personality development on the other hand. It is a distinct period of human growth and development situated between childhood and adulthood (Caskey & Anfara, 2014). Puberty changes vary with gender. Male and female students perceive these problems differently. The music teacher's understanding of the process can be helpful for both the teacher and the students. The ability of the teacher to reassure the students that the changes are normal growing traits that may not last forever can make a lot of difference.

### **Adolescence**

Adolescence is derived from the Latin word *adolescere* meaning to grow up. World Health Organization (WHO, 2014) defines adolescence as the period in human growth and development that occurs after childhood and before adulthood, from ages 10 to 19. It represents one of the critical transitions in the life span and is characterized by a tremendous pace of growth and change that is second only to that of infancy. Adolescence is a transitional stage of physical and mental human development generally occurring between puberty and adulthood. Biologically, adolescence can be defined as, the physical transition marked by the onset of puberty and the termination of physical growth; cognitively, as changes in the ability to think abstractly and multi-dimensionally; or socially, as a period of preparation for the adult role (Anyamene, 2014). An adolescent is a person between the ages of 13 and 19. The end of adolescence and the beginning of adulthood varies by country and by function, and even within a single nation-state or culture, there can be different ages at which an individual is considered to be (chronologically and legally) mature enough to be entrusted by society with certain tasks. Such milestones include but are not limited to, driving a vehicle, having legal sexual relations, serving in the armed forces or on a jury, purchasing and drinking alcohol, voting, entering into contracts, completing certain levels of education and marrying.

Adolescence is usually accompanied by increased independence allowed by the parents, or legal guardians and less supervision, contrary to the pre-adolescent stage. The feelings of adolescents at a particular period depend on social pressures and societal norms which play a big role in pressuring how adolescents feel about their body image especially when the changes begin to take place. The home environment (parents) and the school environment (teachers) are very important for the behaviour and choices of adolescents. Adolescents who have a good relationship with their parents and teachers are less likely to engage in various risky behaviours, such as smoking, drinking, fighting, dodging classes and loose sexual behaviours. Adolescents are more flexible than younger children in conflict with their parents and teachers but more hostile and rigid compared to adults. The causes of conflicts are often about the extent of parents' /teachers' control and supervision towards them, chores, school work, and their right to privacy. At this stage, many adolescents may view their friends and peer group as more important than their parents/teachers.

### **Puberty Changes**

Puberty is the process of physical changes by which young boys' and girls' bodies mature into adult bodies capable of fertilization through sexual reproduction. It is several years in which rapid physical growth and psychological changes occur, culminating in sexual maturity. The average onset of puberty is between 10 or 11 years for girls and 12 or 13 years for boys. Every person's timetable for puberty is influenced primarily by heredity, although environmental factors, such as diet and exercise, also exert some influence. Some of the most significant parts of pubertal development involve distinctive physiological changes in an individual's height, weight, body composition, and circulatory and respiratory systems. Puberty begins with a surge in hormone production, which in turn causes several physical changes. It is also the stage of life in which a child develops secondary sex characteristics (such as a deeper voice and larger Adam's apple in boys, and the development of breasts and more curved and prominent hips in girls) as his/her hormonal balance shifts strongly towards an adult state (Anyamene, 2014).

According to New Zealand Family Planning (2016), these changes are caused by hormones which are chemicals produced by the body. During childhood, the most significant changes in the voice result from the rapid growth of the larynx, the vocal folds and the surrounding support structures. At birth, the membranous length of the vocal folds is around 2mm in males and females. Before puberty, the larynx of boys and girls is about equal small size ([www.familyplanning.org.nz](http://www.familyplanning.org.nz)). This explains why young choir boys of pre-puberty age sing soprano parts and other parts meant for a female until their voices get deeper at puberty. Likewise, pupils (both boys and girls) in lower basic and partly upper basic classes in Nigerian schools sing the same pitch without much difference in their vocal production. The voice box or larynx grows in both sexes but the growth is more prominent in boys causing the male voice to drop and deepen about an octave lower because the longer and thicker the vocal folds, the lower the fundamental frequency. The female voice also changes and can take up to four years to fully change and this generally begins between the ages of ten and fourteen (Leedberg, 2012).

At puberty generally, there is a remarkable increase in body size in both sexes. Boys and girls differ in stature. Girls experience their adolescent growth spurt and peak height velocity on average of about two years earlier than boys but the growth spurt of boys lasts longer and is worth more intensive than in girls. Subsequently, boys tend to catch up and then pass the growth period of girls (Booms, 1986).

Research in the United States of America, Korea and Australia has shown that the societal norm is that girls should be thin and for those who are not as thin as others, self-esteem may take its toll" (Chinappi, 2012). But in Africa, the female gender due to the development of certain erotic parts of their bodies as puberty sets in makes them start feeling on top of the world whereas they are not adequately equipped for adulthood. They feel excited and eager to belong. The major landmark in girls during puberty is menarche, the onset of menstruation which occurs on average between twelve and thirteen years. To the boys, there is a general feeling of awkwardness as the changes do not come all at once. Their major landmark is their first ejaculation at about an average age of thirteen and the voice break while other noticeable developments include; maturation of the secondary sex characteristics, development of facial and body hairs, pubic hairs, and development of the testes and muscles. Both sexes experience a lot of pimples (acne) on their faces which diminishes at the end of puberty. These skin eruptions can plague the self-confidence of the male adolescent as painfully as that of the female adolescent. Puberty starts at different times and lasts for different periods for everyone. This is sometimes very difficult for young boys and girls as some of their peers may have entered and completed puberty before they have even started (Brown, 2013).

#### **Adolescent growth spurt**

The adolescent growth spurt is the fast and intense increase in the rate of growth in height and weight that occurs during the adolescent stage of the human life cycle. This growth practically occurs in all of the long bones and most other skeletal elements. The human adolescent growth spurt is the rapid and intense increase in the rate of growth in height and weight that occurs during the adolescent stage of the human life cycle. The human adolescent growth spurt is noted in virtually all of the long bones of the body and most other skeletal elements. The major exception is the female pelvis, which follows a smooth and continuous increase in size until adulthood. No other primate species, including the chimpanzee, is known to have such a global post-pubertal increase in skeletal growth velocity. Male chimpanzees usually have a spurt in body mass at puberty, due to rapid muscle growth. In humans, the hormones responsible for sexual maturation also cause adolescent growth spurt in stature and other skeletal dimensions and promote the adolescent life history stage. The growth spurt, which is a notable feature of the human adolescent growth stage, but not the only defining characteristic, begins on average at 10.0 years for girls and 12.0 for boys, however, there is considerable variation between individuals and populations. The intensity and duration of the spurt are, on average, greater for boys than for girls, and this accounts for the average sexual dimorphism of 11-13 cm in height between adult men and women. Up to 10% of clinically normal girls, usually those who sexually mature at a late age, experience a small or absent growth spurt. The adolescent spurt and growth of the skeleton end at about 18-19 years for girls and 20-22 years for boys, and with this adulthood, or the reproductive stage of life history, begins.

The adolescent growth spurt refers to the rapid increase in height and weight that begins with puberty, lasts throughout adolescence, and stops with the cessation of linear growth. The spurt precedes and follows a series of hormonal, physiological, psychological, and behavioural changes that turn juvenile males and females into reproductive adults. Its age of onset will vary by sex, and across populations, and children in developed nations have experienced a secular reduction since the second half of the nineteenth century. The adolescent growth spurt may be species-specific and may have appeared with *Homo sapiens* approximately 125,000 years ago in Africa.

Going through puberty can have a significant impact on athletic performance in both positive and negative ways. While increases in body size, hormones, and muscle strength can improve athletic performance, there may be a temporary decline in balance skills and body control during the AGS. Quick increases in height and weight affect the body's centre of gravity. Sometimes, the brain has to adjust to this higher observation point, and a teen may seem a bit "clumsy."

This phase is especially noticeable in sports that require good balance and body control (e.g. figure skating, diving, gymnastics, basketball). In addition, longer arms and legs can affect throwing any type of ball, hitting with a bat or racquet, catching with a glove or lacrosse stick, swimming and jumping. Coaches and trainers who are aware of the AGS can help reduce athletic awkwardness by incorporating specific aspects of training into practices and training sessions.

### **Theoretical Framework**

There have been some propounded music learning theories which if carefully applied can go a long way in enhancing the situation of music teaching and learning among adolescents. A child-oriented theory evidenced in the works of Rousseau, Pestalozzi, Froebel and John Dewey cited in Kodaly (1974) emphasized the quality of expression, feeling and involvement of the child in music performance. The teacher's attention should be focused on the student as an enjoyer, explorer and discoverer in music class rather than as an inheritor. This gives more latitude and greater relevance to the behavioural theorists who provide extremely useful ways of understanding how developmental changes in behaviour and thinking occur and why behavioural problems arise in some learners. Once the teacher understands the developmental changes in the student and becomes his/her facilitator, adviser, and stimulator, the student rediscovers his/herself and moves forward.

The traditional values theory by Swanwick (1988) also focused on the students and emphasizes that learners need to master relevant skills and information as inheritors of a set of cultural values and practices in order to take part in musical affairs. Kodaly (1974) philosophical view also falls within this theoretical framework. This theory stresses commitment to the value of active involvement of the students in learning especially in performing music. It is an ideal theory that will help the teacher go through the process of passing knowledge with confidence to the learner and at the same time render an advisory role to them. This also goes to buttress the Cognitivist belief that understanding how learners think is crucial to understanding their development because learners' perceptions of events often determine how these events affect them. They emphasized that a teacher is expected to employ the discovery method of teaching. This will enable a learner to reorganize his perceptions and previous learning experiences to gain unique or discover new relationships for himself.

Studies have shown that adolescence in Africa is reinforced by an active fantasy life; they strive to discover who they are as a person, their true personal characteristics, extracurricular interests, relationships and vocational interests and in the search for this unique social identity for themselves, they are frequently upset (Lee, 2012). If the teacher does not do anything to bring the situation under control, the students may stray too much.

Many studies carried out in the area of improving students' attitudes towards music learning, especially in their adolescence stage point to the fact that music teachers have the potency to change significant psychological conditions of the student through their teaching and „provide a varied significant, and cumulative musical experience for every child (Leonhard and House, 1972). From the synthesis of Maduewesi (1999a), Ikibe (2002), Obialor and Uzoechi (2009) and Ojukwu, (2013), the

following were deduced: It is the teacher's responsibility to create or influence desirable changes in behavior or in tendencies towards behavior in his or her students; a teacher who understands that individual differences abound in the students can always apply methods that are expository and discovery oriented and can lead to self-discovery and self-assertion; it is necessary to make music lessons enjoyable and interesting through musical activities so that learner's interest could be sustained and developed since their active participation help to create motivation and a sense of belonging; the teacher should employ active learning strategies and methods to enhance learning, by so doing the primary responsibility for creating and/or applying knowledge is placed on the shoulder of students; teachers should employ the ingenuity, natural and acquired experiences in exercising their duties in the classroom through the use of variety of learning principles and methods in other to sustain the students' interests in music; and there is need for the teacher to create an active classroom learning environment that will facilitate active learning and enhance transfer of knowledge. The review discussed some concepts, learning theories and some empirical findings relevant to this study. The conceptual framework was based on adolescents and the changes they encounter during puberty. It was discovered that the way these changes exert challenges in adolescents differs. In the theoretical framework, discussions were made on different theories that support the fact that teaching and learning should take cognizance of developmental stages in adolescents and therefore should be geared towards recognizing individual differences of the students. The empirical review showed some works of musicologists supporting that the teaching and learning of music are better approached from a practical angle involving vocal, instrumental and other aspects of applied music that require students' participation to a large extent.

Students' attitude towards music learning especially in their adolescent years is not encouraging, therefore, the theoretical review as already shown above and the result of studies carried out empirically point towards a music teaching and learning that needs urgent reappraisal and new commitment, especially on the part of the teacher to achieve all the intended goals.

The purpose of this study is to explore the problems that male and female students encounter in music learning during puberty. During early adolescence, dramatic physical changes take place which include growth spurts, reproductive system development, the appearance of secondary sex characteristics, an increase in muscle strength and redistribution of body weight. This paper also seeks to investigate the methods needed at this stage for students; the development for effective teaching and learning and most especially the competencies of music teachers who execute the job of teaching musical skills. The need was therefore felt for a more thorough investigation into problems of this age as it concerns music teaching and learning.

The findings from this study will serve as a valuable tool in solving the problems encountered by the classroom music teacher at this level of student's development as they will draw useful inferences and utilize them for more effective teaching and learning. The result will be insightful towards providing a solution for both the male and female gender who want to take up a career in music. It will also offer solutions towards making the Upper Basic Class students participate actively in the music class.

In other to achieve a thorough empirical study, the following questions are postulated to help in the investigation:

1. What are the problems encountered by adolescents in secondary schools which hinder their active participation in music class?

2. What are the expected competencies needed by the music teacher who teaches adolescent students for effective teaching and learning to take place?

### **Methodology**

The design was a qualitative research design. Seventy-five students from three schools in Idemili North of Anambra State were used for the study. The class from which the students are selected is Upper Basic Class 3. This is to ensure a true representation of the adolescents. Twenty-five students both (male and female) were drawn from each school. This accounts for adequate representation of the genders. All the schools are public schools and offer music as an aspect of Cultural and Creative Arts up to Upper Basic Class 3. The same curriculum is used in schools. These students were interviewed using an Interview schedule to gather information from them. The answers provided by them were used in the discussion section.

### **Discussion**

It was discovered from the students that their parents do not encourage them to be serious with music instruction. Some of the parents do not even want their wards to speak about music let alone choose it as their school subject. The parents are of the opinion that music is meant for unserious people and good for nothing students. Even some students believe that they do not have good voice for music activities even to play the instruments is also a big problem. This is because ones need to be very skillful in play some of the music sophisticated instrument. It was also discovered that teachers that teach cultural and creative arts do not possess the competencies to teach music aspect of cultural and creative arts. This is because most of the teachers that teach cultural and creative arts are teachers that studied visual arts. Most of them do not have knowledge of music let alone teaching it. The present study gives a picture of adolescents, ' music-learning activity during puberty. The study points out some implications. It shows that different genders and individuals react differently to the same content being presented in the class even by the same teacher. Oraegbunam (1998) notes that Individual differences in learning account for this differential attention to the instructional presentations. This provides imperative for music teachers to take cognizance of students' individuality bearing in mind that students come from different cultural backgrounds, social statuses, religious beliefs et cetera. Ugo-Okonkwo (2014) believes that for the individual learner to proceed at his/her pace, he or she should be treated as an individual. Every person is a unique individual and shares unique characteristics that are peculiar to him/her.

Certainly, individual differences exist among individuals and between the genders. The differences are not only physical variations in height, weight or shape but also include variations in intelligence, temper, interest, needs aspirations, attitude, aptitude, et cetera (Maduwesi, 1999b). Problems associated with adolescents at puberty also vary with the genders and individuals. Home environment, parents and teachers are still important for the behaviour and choices of adolescents. As can be seen in the analysis, 70% of the respondents can cope with the challenges of puberty because their parents assured them they would experience rapid growth during puberty. This calls for a good and close relationship between parents and their adolescent children. Anyamene (2010) posits that adolescents who have a good relationship with their parents and teachers are less likely to engage in various risky behaviours since the topic of conflicts between them and their parents and teachers is often about the extent to which parents/teachers can control and supervise their chores, schoolwork, curfew and their right to privacy. The music teacher's understanding of the process can be helpful for both

the teacher and the students. If the teacher does not do anything to bring the situation under control, the students may stray so much. The music teacher ought to understand this intense emotion and internal conflicts in the life of adolescent students and should provide opportunities for the students to think through their conflicts (Ojukwu & Esimone, 2014).

From the analysis, teachers' mastery of the subject matter, as well as the students they teach, are important issues affecting the teaching and learning of music in Nigerian schools. There is a saying that no education in any nation can rise above the quality of its teachers hence, teachers are major determinants of their country's quality of education. As can be deduced from the study, the majority of music teachers lack what it takes to cope with adolescence when the puberty changes begin to take a toll on them. Teachers' behaviour can make students' interest increase or wane. As can be seen from the study, 83% of the students responded that the teacher became furious when they started dodging classes as the puberty changes persisted. An understanding teacher can put the opportunity to advantage by becoming friendlier with the students, discovering their challenges, advising, encouraging and assigning them to areas of music in which they have more confidence. This agrees with Bearmon (2014) that learning is an intellectual process highly influenced by social interaction and situational context in addition to personal beliefs, dispositions and emotions. According to Bearmon, adolescents' learning involves interactive, purposeful and meaningful engagements rather than merely building on prior knowledge, getting them excited about a topic, reassuring them that they are capable of the work and keeping them on task. This goes to support Bandura's (1977) social learning theory in which Bandura is particularly interested in the ways that people can influence the behaviour, thoughts and learning of others.

The music teacher should understand that individual learners come from different homes, neighbourhoods, socio-economic classes, villages and towns and they belong to a different gender. The implication of this is that they react differently to the same content being presented in the class even by the same teacher. Therefore, a music teacher should depend on many strategies and techniques to achieve set goals. This suggests that the end product of the learning for each of the learners is different and personal since learning is a personal affair. A music teacher should not treat the entire students in the class as an entity. He /she should treat each learner as a unique person and tailor the classroom instruction to take care of each individual's potential, strengths and weaknesses. A teacher who understands that there are individual differences in students is expected to always apply mastery learning, that is, based on the principles that due to individual differences, learners learn at a different rate with different styles and that given enough time and the same opportunity in terms of materials, every child is capable of solving a given problem" (Maduwesi, 1999b: 62)

To institute lasting changes in the lives of the students, it is of great importance for music teachers to understand their period of adolescence and work towards making the students feel very special. This they can also achieve by constantly motivating the students. Motivation is a potent tool in the hands of a music teacher. One vital motivational step in awakening the hidden potential in the students is for the music teacher to present the classroom as a place where dreams come true. Students should be made to understand that these dreams are the seeds of their aspirations. Buttressing the above point, Ogunleye (2004) asserts that: Motivational approach in the classroom should be based on the premise that when teenagers and young adults truly come to grasp themselves and whatever



impact their experiences of life bring to bear on their future, can they increase the control they have over their behaviour and can more easily modify and direct their energies when necessary (p. 59).

An experienced music educator guides the students through a variety of classroom activities. The music teacher is expected to employ more practical music during this period. For the adolescent girls whose voices are more sonorous, the teacher gives more vocal exercises, singing and dancing to enable the girls to express themselves as they desire. But for the adolescent boys whose voices are squeaking and deepening, the teacher gives more instrumental work, indulging them in the school band playing and dancing where they will be more active. It is the responsibility of a competent music teacher to ensure at this period that nothing goes out of hand; and to strike a balance between the students' feelings, activities, escapades and their musical learning. The music teacher, Maduewesi (1999a: 26) posits, "should know the needs and motives of children at different age levels". The findings of the study showed that parents have great influence in their children study of music in secondary schools. Students especially at adolescence stage do not regard music as an important subject in secondary schools. It was also discovered that the teachers of cultural and creative arts do not possess required competency to teach music aspect of cultural and creative arts.

### **Conclusions**

The findings of the study indicated that parents do not allow their wards to study music. They allow them just to study its aspect of it in CCA because it is compulsory. The parents have very negative influence in their wards choice of music as a school subject. Even the students which are in their adolescence stage of life do not like to engage in music activities. They like to choose subjects that will help them to study courses like medicine, law, pharmacy in the university. It was also discovered that teachers do not possess adequate competency in the teaching and learning of music aspect of CCA. This poses a lot of problems in the teaching and learning of music. The music learning has also influence among male and female students. Female students do not engage in musical activities because of societal belief system. Often the cultural society do not encourage females into engaging themselves in musical activities especially at the adolescence stage of life.

The study accounts for changes in the lives of adolescent boys and girls and how these changes affect their music learning. The study will change as evident, some of the changes had a devastating effect on some of the students. However, some are not negatively affected particularly because they have been prepared to expect the changes. There is also a class of students who are not negatively affected. They are those who perceive that the changes put them in an advantageous position.

### **Recommendations**

The following recommendations were made.

1. Music teachers should take cognizance of students' individuality bearing in mind their developmental differences in teaching music in secondary schools.
2. Music teachers should be conversant with changes in the lives of adolescent boys and girls and how these changes affect their music learning.
3. A music teacher should not treat the entire students in the class as an entity. Therefore, a music teacher should depend on many strategies and techniques to achieve set goals.

4. Music teachers should understand that every person is a unique individual and shares unique characteristics that are peculiar to him/her.
5. To institute lasting changes in the lives of the students, it is of great importance for music teachers to understand their period of adolescence and work towards making the students feel very special. This they can also achieve by constantly motivating the students.

## References

- Abrahams, F. (2005). Critical pedagogy for music education editorial. *Visions of Research in Music Education*, 6.
- Adorno, T. W. (1941). On popular music. *Study in Philosophy and Social Sciences*, 9: 17-48.
- Attali, J. (1985). *Noise: The political economy of music*. Minneapolis: University of Minnesota Press.
- Anyamene, C. (2010). Basic facts on adolescent reproductive health Issues. *A paper Presented on the Occasion of the 2010/2011 Orientation for New Students*, Nnamdi Azikiwe University, Awka.
- Anyamene, C. (2014). Adolescence. *A paper delivered during the orientation ceremony of the first-year students*, Nnamdi Azikiwe University, Awka.
- Bandura, A. (1977). *Social learning theory*. New York: General Learning Press.
- Bartlett, J. E., Kotrlik, Joe, W., & Higgins, C. C. (2001). Organizational research: Determining appropriate sample size. *Survey Research Information Technology, Learning, and Performance Journal*, 19(1), 4350.
- Blacking, J. (1973). *How musical is man?* Seattle: University of Washington Press
- Blanden, J., Gregg, P., Goodman, A., Machin, S. 2001. Changes in intergenerational mobility in Britain, Centre for Economic Performance Discussion Paper 517, for the coming in M. Corak (Ed.), *Generational Income Mobility*. Cambridge University Press.
- Barry, B. (2022). Adolescent growth spurt. <https://carta.anthropogeny.org/moca/topics/adolescent-growth-spurt>
- Beamon, G. W. (2001). *Teaching with adolescent learning in mind*. <http://www.phschool.com> . [Retrieved: 30th November. 2012].
- Borms, J. (1986). The child and exercise: An overview. *Journal of Sports Sciences*, 4. <http://coachsci.sdsu.edu> [Retrieved: 23rd November. 2012].
- Brown, N. (2013). *Puberty: Changes for males*. [www.pamf.org](http://www.pamf.org).
- Caskey, M. M. & Anfara, V. A. (2014). Developmental characteristics of young adolescents. *American Middle School Journal*. <http://www.amle.org> .
- Chinappi J. (2012). *Development in adolescence: Puberty and low self-esteem*. <http://www.brighthubeducation.com>.
- Christenson, P., Peterson, J. B. (1988). Genre and gender in the structure of music preferences. *Communication Research*, 15(3), 282-301.
- Davidson, J. W., Borthwick, S. J. (2002). Family dynamics and family scripts: A case study of musical development. *Psychology of Music*, 30, 121-136.
- Hargreaves, D. J., North, A. C. (1999). The functions of music in everyday life: Redefining the social in music psychology. *Psychology of Music*, 27:71-83.
- Ibekwe, E. U. (2009). Gender identity is a force in Igbo traditional music practice: Theatre and Media Studies. *A Journal of Theatre and Media Studies*, 3(1), 137-144. <http://www.ajol.info>.
- Ikibe, S. (2002). Music education through active musical experience. In E. Idolor (Ed.), *Music in Africa: Facts and illusions* (pp.99-104). Ibadan: Stirling- Horden.
- Kodaly, Z. (1974). *The selected writings of Zoltan Kodaly*. London: Schott

- Leedberg, L. (n.d.) *Adolescent singing voices*. <http://www.leedberg.com>.
- Leonhard, C. & House, R. W. (1972). *Foundations and principles of music education*. New York: McGraw-Hill.
- Maduewesi, B. U. (1999a). The elements of education. In B. U. Maduewesi, L. U. Ezeani & C. P. Maduewesi (Eds.), *Curriculum implementation and instruction* (pp. 15-30). Onitsha: West & Solomon.
- Maduewesi, B. U. (1999b). Approaches to teaching. In B. U. Maduewesi, L. U. Ezeani & C. P. Maduewesi (Eds.), *Curriculum implementation and instruction* (pp. 31-61). Onitsha: West & Solomon. 31-61.
- New Zealand Family Planning (2016). *Changes at puberty*. [www.familyplanning.org.nz](http://www.familyplanning.org.nz).
- Obialor, C. F. & Uzoечи, O. J. (2009). Achieving quality music education through learning. *Alvan Journal of Music and Humanities (AJOMAH)*, 1(1), 28-35.
- Ogunleye, A. I. (2004). *Teachers as motivational coaches: how to unlock the hidden power in teachers*. Abuja: Universal Communications Tandem.
- Ojukwu, E. V. (2013). Music education in Nigeria: A philosophical view. *Journal of Theatre and Cultural Studies (AMA)*, 8(1), 65-72.
- Ojukwu, E. V. & Esimone, C. C. 2014. Gender sensitivity among Igbo adolescents in Nigeria: Implications to musical learning. *Journal of Teaching and Education*, 3(2), 261-268. <http://www.universitypublications>.
- Oraegbunam, N. M. (1998). Individual differences. *Essentials of human learning* In N. N. Okoye (ed.), *Essentials of human learning* (pp. 53-62). Awka: Erudition.
- Ozumba, G. (2005). Gender sensitivity in Igbo culture: A philosophical reappraisal. *Quodlibet Journal*, 7(2). <http://www.quodlibet.net>
- Swanwick, K. (1988). *Music, mind and education*. London: Routledge, Chapman and Hall.
- Ugoo-Okonkwo, I. A. (2014). Teachers' perception of the functionality of introduced cultural and creative arts curriculum of the Nigerian universal basic education. *Journal of Elementary Education*, 24(2), 33 - 50.
- World Health Organization (2014). *Adolescent development*. <http://www.who.int/maternal>.
- Phillips, C. (2002). *Twelve benefits of music education*. <http://www.childrensmusicworkshop.com/advocacy/12benefits.html>
- North, A. C., Hargreaves, D. J., & Hargreaves, J. J. (2004). Uses of music in everyday life. *Music Perception*, Fall, 22(1), 41-77.