APPLYING PIAGET`S ``CRITICAL PERIOD`` TO MUSIC EDUCATION IN NIGERIA: A STUDY OF SELECTED SCHOOLS.

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Abstract
The challenge of a breakthrough in music education in all tiers of our learning (nursery/primary/secondary/tertiary) has bordered Nigerian music educators for quite a long time. Although numerous learning theories have been explored and applied with relative success regarding the situation, Piaget`s notion of the `critical period` as implied in his theory of mental development still raises some concern with regards to music education in Nigeria. Piaget`s notion of the `critical period' posits that every normal person is imbued with the potentiality of forming, organizing, processing, and interpreting concepts starting from infanthood through sensitive stages of their development (0-11yrs) and beyond this `sensitive or critical` stage, cognitive development could be seriously hampered. Piaget`s discovery, doubtless, has immensely influenced modern educational ideology, policy. Formal education and curricula are now designed to commence as early as possible and to pace such factors as age, mental capability, and adaptability of the learner. Unfortunately, the Nigerian situation is such that most learners become formally involved in music when they must have passed through primary or secondary schools. Pupils and students of (Mount Olive Nursery/Primary School, Onitsha; Springfield Academy, Onitsha, Supreme Knowledge Comprehensive Schools, Nkpor; and British Spring College, Awka) along with undergraduate students of the Department of Music Nnamdi Azikiwe University, Awka were taken as research samples for the study and evidence of the critical period was discovered as a major cause of their musical challenges. In fact, most

students who enroll for music in the Department of Music of NnamdiAzikiwe University, Awka had no music education in their primary nor secondary schools. Many also have enrolled for music as a last resort to admission problems and thus complicating issues for both the learner and the teacher. This paper, therefore, sought to find solution to the problem of the critical period regarding music. The 'continuity theory` of mental development was explored as a feasible solution to the problem and it appears to offer some hope. The continuity theory holds that human development is continuous and not 'fixed` therefore giving some glimpse of hope that even though the reality of the critical stage can pose serious challenges to music learning; the possibility of adapting to music after this stage is still feasible with regards to conducive learning environment, native endowment and positive attitude on the part of the learner, and teacher- motivation.

Introduction

Since the turn of the 19th century, psychologists have been active both experimentally and observationally in investigating learning processes and the nature of interactions between teachers and learners (Gordon, E.E, 1970; Campbell and Scott-Kassner, 2006). Learning according to Leonhard and House (1972:121), '…is growth; learning is development; learning is experience; learning is something new that has been added; learning is a process that results in change in behavior`. Mbanugo (2006: 41) affirms that 'Investigations of human learning have given rise to theories about how people learn and how learning is best achieved`. Hoffer (1991) recognizes the fact that learning involves different areas of human activity which were delineated by Bloom (1956) as, *Cognitive, Affective,* and *Psychomotor Domains.* The cognitive domain refers to the domain of information and understanding; the affective involves feelings and attitudes while

the psychomotor domain involves physical skills. Relating the three domains to music learning, Hoffer (1991) submits:

> Learning is a many- sided word. It can refer to kinesthetic or psychomotor skills, as when a violinist learns to shift from first to third position. Learning also refers to memorizing information, such as the fact that *A above* middle *C* vibrates 440 times each second or that Mozart was a composer of the Classical period. Learning may also mean problem solving. For example, a student may have studied some impressionistic music and its phrasing and when presented with a work by Debussy that is unknown to him or her, he or she is able to phrase it properly. Finally, a person has learned a piece of music when he or she can listen to it with understanding or play it and convey its aesthetic intent (p.78).

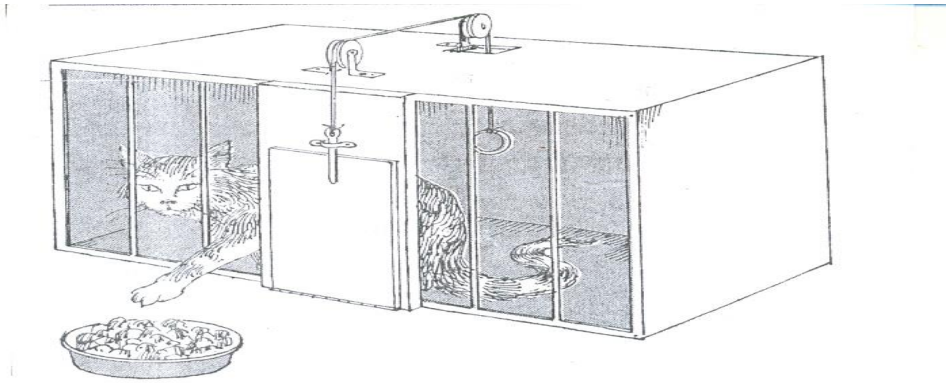
The interest of instructional psychologists in the learning process stems from the pioneer work of Ebbing house (1885), Thorndike (1898), and others. With the publication of his book, *Animal Intelligence* in 1898, Thorndike laid the ground work for the theory of learning which dominated American education for about three decades of the twentieth century and which remains influential today (Leonhard and House, 1972). Notable among the numerous learning theorists are I. Pavlov(1849-1936), B.F. Skinner(1904-1990), Jean Piaget (1896-1980) , Lev Vygotsky (1896-1934), David Asubel, Robert Gange, Jerome Bruner(1966), Albert Bandura (1977), and so many others whose findings also bear special significance to music. Among the bulk of learning theories are Thorndike's connectionism, Guthrie's contiguous conditioning, Hull's systematic behavior theory, Pavlov's classical conditioning, Piaget's cognitive schemata, Vygotsky's social constructivism, and Skinner's descriptive behaviorism and operant conditioning among others (Leonhard and House, 1972:147). Although the focus of this paper is on Piaget's 'critical period' but it

would suffice to mention in brief some other influential learning theories which bear relevance to music. For instance:

E. L. Thorndike (1874-1949) laid the groundwork for the theory of learning which dominated American education for three decades of the twentieth century and which remains influential today. That theory is generally known as *connectionism.* The theory is based on *stimulus-response* association (Leonhard and House, 1972). According to Thorndike, we stamp in effective *stimulus-response* (S-R) connections and stamp out those responses which are useless. Using food-deprived cats, he devised experiments in which the animal was placed in a cage or *puzzle boxes* from which it could escape to reach food by simple acts of *trial and error* such as manipulating a cord, pressing a lever, or stepping on a platform. Thorndike's experiment is shown in the figure below:

Fig. 1.

<u>One of Thorndike's puzzle boxes</u>



To reach the food (goal), the cat had to learn to pull (trial and error) the loop that released the cage door.

Thorndike's experimental model can be effectively applied to vocal and instrumental music instruction where it is usually rewarding for the

learner, after initial guidance by the teacher, to solve articulation problems and make discoveries on his instrument through personal endeavor and practice (Bruner, 1966 later tagged this *Discovery learning).*

Like Thorndike, I.P. Pavlov (1849-1936) viewed behavior as responses initiated by stimuli, but unlike Thorndike, his interests were strictly to do with physiological reflex actions: the salivation of dogs in particular (Child, 2004). He discovered that dogs would salivate when some other previously neutral stimulus (tuning fork), besides food (meat powder), was present, provided that on some previous occasions the stimulus had appeared before the presentation of food. From this finding he set about intentionally teaching dogs to associate salivation with neutral stimuli, a process known as classical conditioning. Findings from Pavlov's classical conditioning can be gainfully applied to the teaching and learning of music by pairing or conditioning abstract musical ideas (*neutral stimuli)* with those musical experiences that elicit positive responses (*pairing of the tuning fork[neutral stimulus] with meat powder[positive stimuli] by Pavlov)*. That is, pairing topics which the learner does not prefer with those he prefers and thus the un-preferred ones will begin to elicit the same learning response with the preferred ones. That is, student's interest in abstract topics in music (such as rote learning of the notes and spaces of staff) could be sustained when paired with singing, clapping and playing of simple melodic and harmonic instruments (Ojukwu, 2011). Another instance is the teaching of music history with recorded musical examples of the musical styles being studied.

Lev Vygotsky (1896-1934) in his short life of 37 years was a most prolific researcher living in Russia early in the twentieth century (Child, 2004). He postulated that human mentality was the result of cultural learning using social signs. That is, the culture into which a child was born was the source of concepts to be internalized and this affected the physiological functioning of the brain. Tools such as language, number, and art were seen as the means by which a culture would conceptualize, organize and transmit thinking. Therefore, our thinking processes are a product of the culture in which we happen to be born. Vygotsky's theory of social constructivism has a serious implication for music education in the sense that a meaningful musical experience should involve musical ideas and idioms from the learner's cultural background. That is, the fortification of the young learner with the musical idioms of his culture such as folk songs and indigenous musical styles for a meaningful musical experience. This has inspired the compulsory integration of native folk songs in the curriculum of music studies in most African educational institutions. Vygotsky also established that the adult, primarily the parent and teacher, is the primary influence on a child's socialization process. The adult not only transmits music to a child, but also participates in the child's discovery and manipulation of the music to be acquired. During musical play, the teacher or parent delivers to the child cultural signs- such as verbal comments, facial expressions, or indicatory gestures. According to Vygotsky, these signs provide the means for drawing children into knowing their culture (in this case, musical culture) (Campbell and Scott- kassner, 2010).

B. F. Skinner's (1904-1990) classical theory of *operant conditioning* is at the heart of behavioral change, including learning. Operant conditioning is a three-part instructional "kernel," or process, comprised of a stimulus that is presented to the learner, a response that is elicited by the learner as a consequence of the stimulus, followed by the presentation of another stimulus that reinforces the response (Campbell and Scott- kassner, 2010). Skinner's

reinforcement theory can be effectively applied in music. For instance, when a learner's behavior- singing in tune or playing rhythms accurately- is positively reinforced by the teacher's smile, nod, or positive comment, that behavior will be maintained or increased.

- **JEAN PIAGET (1896-1980)(Cognitive Schemata/Stage Dependent Theory/Critical Period)**

Contemporary views on the nature of cognitive development have been vastly influenced by the work of Jean Piaget (Child, 2004). Piaget, a Swiss psychologist, developed a theory of mental growth by observing the behavior of children. He delineated four stages in the development of behavior and thinking:

Sensori- motor (0-2yrs)- learning through direct sensory experience like reflex grasping, sucking and general body movement.

Pre-operational (2-7 yrs)-learning through the manipulation of objects, noting the consequences and internalizing them for the future, thus transforming stimuli to symbols.

Concrete operations (6/7-11 yrs)-viewing objects in concrete, tangible, and systematic ways but not abstractly.

Formal operations (11yrs onwards)-learning abstractly using logic and deductive reasoning.

Piaget's developmental theory has serious implications and applications to music and they can be outlined thus:

- The stages suggest that younger children in particular be given many opportunities to listen, sing, play, and move to music.
- The introduction of staff notation should occur only after preliminary experiences.

- Music instruction follows sound –before-symbol approach.
- Age eight is a turning point in a child's cognitive development. At this time, children are capable of identifying timbres, discriminating among random melodies, and perceiving structure in simple melodies, although they are less successful in perceiving the sound of more than one simultaneous musical line (or harmony).
- Music curriculum should be planned to pace the maturational ages of the learners.
- The evidence of the developmental stages implies the existence of *sensitive or critical periods* when formal learning should duly commence.

The bulk of Piaget's theory informs us of sensitive periods or stages of mental development. By implication, music teaching should commence as early as possible to enhance the development of musicality and aesthetic sensitivity. Beyond these budding stages, music learning could become tedious. Child (2004:78) reaffirms this: 'Piaget's theory implies that certain periods are critical in mental growth'. Furthermore on the notion of the critical period implied by Piaget's theory, Leonhard and House (1972) assert that:

> The research of Piaget and others emphasizes the soundness of the idea that the development of musicianship and aesthetic sensitivity can and must begin in early childhood. There is increasing recognition that in connection with many abilities there is a critical stage that occurs early in the development of a child. If education is delayed past this critical stage, the child can never fulfill his potential. There is every reason to believe that there is a critical stage in the development of musicianship and aesthetic sensitivity, which occurs early, probably before the age of nine. In view of presently available evidence, it is arrant nonsense for music educators to continue using the bulk of their financial and human resources on students in high school. A planned

> program of music education in nursery school, kindergarten and the primary grades, providing a rich variety of experience with music conducted by well qualified teachers, merits the highest priority in music education program planning (p.155).

The notion of the 'critical period` implied by Piaget's theory is a very sensitive and critical learning theory which Nigerian music educators have not quite given much attention despite its implications for music education in Nigeria and hence, the focus of this paper.

The Analogy of Second Language Teaching/Learning

The teaching of music to the 'musically deprived` is usually a task. The challenge is analogous to the teaching/learning of a foreign language. One can testify of the difficulty of learning a foreign language, let`s say, French in primary or secondary school after the mother tongue (L1) has taken root. Not that learning a second language is unattainable, after all some have innate predisposition and flair for languages, but the herculean task of learning new rules of grammar, syntax, phonology, and idioms for communication is quite a challenge to the learner and the teacher as well. Child (2004) submits that,

> Evidence for this critical period in language acquisition is not hard to find. Witness the difficulty a person born and bred in France has with `*th*` as in `*the*`. It tends to come out as *z.* The Japanese have difficulty pronouncing *r`s* and *l`s.* English speaking people have their problems with German umlauts and French nasal sounds (p.93).

This informed Neville and Bavelier's recommendation in Child (2004:93) of ``how important it is to learn the pronunciation and grammar of a second language as early as possible``. If the learning of a foreign language can pose such problems, as noted above, how

much more music which demands the learner should go through the rigors of music appreciation, theory, aural perception, solfeggio, notation, musicianship, etc. before reasonable musical apprehension ?

Precisely when is the Critical Period?

There seems to be no consensus on the precise developmental time frame which might be labeled 'the critical period` or which might denote its elapse among scholars, even though most scholars agree to the evidence of it (Leonhard and House, 1972). Piaget in Child (2004:69) pointed to ages between '0 -11yrs`; Pryor in Davidoff (1987) reasoned it is before or soon after birth during periods of fast growth. Leonhard and House (1972) argued it is before the age of nine for music education. Here we find one of the weak points of this theory. Does the critical period start and close or end at what age? 0-11yrs, 3yrs, 6 yrs, 9yrs, puberty, adolescence, or adulthood? If, according to Leonhard and House (1977), the critical stage ends at age nine for music, does it follow that there is a critical period peculiar for a given subject of learning? If we decide to ignore the confusion with specifics and admit that naturally the critical period should be in –between the tender ages of 0 -10yrs, how then do we reckon with the learning of prodigious and exceptional people who having been deprived the privilege of learning as early as suggested surprisingly rise beyond their limitations and the expectations of many. A classic example of this anomaly with regards to music is the life of the Russian composer, Peter Ilyich Tchaikovsky (1840-1893), who began to study music at a relatively late age of twenty-one but rose to become the most famous Russian composer (Kamien, 1986). A more glaring scenario is the case of popular musicians who, having no formal music education, soar beyond their limitations and sustaining their art.

Where then is the place of `the critical period`? One might give some explanation to the aforementioned situation to stem from the peculiar nature of music. Musical genius just like fine art requires talent for its arousal and sustenance. One can sing or paint artistically without formal lessons but none has ever been known to speak a language without direct imitation or learning. But `the continuity theory` of cognitive development and maturation tends to give a more lucid and objective explanation to the situation. The continuity theory, in contrast with the theory of the critical period, posits that: `People change subtly and gradually and grow continually` (Davidoff 1987:371). She further explains that, `continuity theories challenge the uniformity assumption of stage theories'. Development is an individual process that depends, in every instance; on unique biological propensities and specific experiences` (p.371). Does the continuity theory completely negate the evidence of the critical stage? No. If we completely ignore the evidence of the critical period, we might end up with some developmental and educational crisis! Failing to enroll a child, for instance, in school as early as possible and hoping the child would `continue` in his cognitive development whenever possible would be a risky experiment. The gains of early childhood education are numerous but the continuity theory sensitizes us on the possibility of continued cognitive receptivity and development on the side of the learner even after the critical stage has elapsed.

Data Analysis

The bulk of data gathered through questionnaires from undergraduate music students of NnamdiAzikiwe University, Awka and the direct observation by the researcher in the course of nursery/primary/secondary school music teaching show evidences of the effect of the critical period. For instance, through direct observation, the researcher discovered that most of the students

who showed competence in music in the Jss 1 and Jss 2 classes of British spring secondary school, Awka (2011/2012 session) were mainly primary school graduates of Springfield Academy and Mount Olive School, both in Onitsha. These two primary schools located at New Nkisi drive, G.R.A Onitsha are renowned for serious music teaching. Also data sourced from questionnaires issued to undergraduate music students of NnamdiAzikiwe University, Awka shows that most undergraduate music students of NnamdiAzikiwe University, Awka with appreciable levels of musical capacity passed through Dennis Memorial grammar School, Onitsha. Dennis Memorial grammar School, Onitsha is also renowned for a strong musical tradition. The data is analyzed below:

Thirty-three copies of the questionnaire were distributed among the undergraduate music students of various academic levels (yrs. 1 through 4). The students were asked to indicate the various schools they attended ranging from nursery through secondary and whether they studied music in the respective tiers of their learning. They were also asked to indicate the nature of the challenges they were experiencing presently as undergraduate music students. The last question was raised in order to find any possible connection between their contact with formal music or its deprivation in their formative years (critical period) and their musical experiences in the university.

Table 1.

Influence of the *critical period* on musical understanding

Sample of population	**Early contact with formal Music(percentage value)**	**No contact with formal Music(percentage value)**
33 (100%)	13(39.3%)	20(60.6%)

From the table presented above along with direct observation of the research samples, these relevant deductions were made:

- Only 13(39.9%) of the total number of students gathered through the questionnaire received musical instruction in their formative years.
- About 20(60.6%) of the total 33 students were deprived music instruction in their formative years.
- Among the 60% who were deprived of formal music learning, about 50% of them have serious difficulty adapting to music as undergraduates students.
- Most of the 13(39.9%) students who received music lessons in their formative years have shown appreciable traits of musical understanding and appreciation as undergraduate students.
- Some of the deprived students have seemingly grown beyond their limitations. May be as a result of a positive attitude towards music. This development might have informed the assertion by Leonhard and House (1985 :401) that 'A pupil with a moderate level of musical capacity and high levels of motivation and interest frequently accomplishes more than the most talented pupil lacking in interest and motivation'
- Some of the students who attested to receiving music learning early appear to have lost much of the musical understanding gained during their formative years. Maybe because of poor attitude towards continuous learning or some external factors.

Discussion of Findings

Evidently, the influence of the *critical period* in mental development is a serious factor affecting music education in Nigeria. Obviously we have an educational crisis at the grassroots (nursery/primary/ secondary) with respect to music. We cannot hope for a positive response to music at the tertiary level if music is lost at the critical stages. Perhaps it may be possible to still revitalize a deprived student musically at the tertiary level if proper motivation were employed by music educators. This position stems from one of the discoveries of the research through the questionnaire. Virtually all

the students indicated their utmost challenge to be lack of attention by their respective vocal/instrumental instructors. Motivation shall be discussed in the subsequent pages as a vital tool which music educators can employ towards solving issues emanating from the critical period.

Classroom Implications of the Critical Period for the Music Teacher

Having gone through the bulk of theoretical and empirical arguments surrounding the notion of the critical period in mental development and having established its influence, what then should the music teacher expect in a given classroom situation? Supposed he is faced with, let`s say, a class of Jss 1(year 7) students who had no music education in their primary and consequently have no idea of rudiments of music? Suppose also in a given Jss1 class of twenty (20) students; six (6) had received primary music education and the remaining fourteen (14) had none? What does he do? Does he bring every one down to rudimentary music or does he carry everyone along with the secondary school music curriculum? Definitely the secondary school curriculum will not work here. In fact this is one of the situations where music teaching can be frustrating, bearing in mind that at the end of the term you are required to account for good music teaching! How does a primary school pupil sing in choir when he has no grasp on rudimentary solfeggio *(d: r: m: f: s: l: t: d)*? Where does the undergraduate music student start on his orchestral lessons, let`s say, trumpet, flute, saxophone, or *oja* when he has no grasp on recorder or *oja* basics from his primary/secondary education? All these are just a few of the myriads of challenges facing the music educator in Nigeria with regards to issues emanating from the critical period. Reacting to this situation; Aninwene (2009) discloses that:

> All children should have minimum competences in music so that in future while some are good music makers, others would be producers and performers of music. The success of their musical experience largely depends on the musical nurturing they received right from their early childhood. If they do not receive the right musical education, they become deficient in that aspect, and this would definitely affect their adulthood. Our children in the primary schools do not receive proper early music education and that has reflected in the society (p.51).

Bemoaning this situation, Ekwueme in Aninwene (2009:51) argues further that: ``If we deny a child music education, we have denied him the opportunity of developing his musical talents, capabilities and musical intelligence, thus causing that part of his brain to remain dormant and undeveloped throughout his life time". Furthermore, Gordon (1970) advises that:

> Although younger students learn more slowly than older students, the younger one is when he begins the study of an instrument the more he can ultimately learn. The earlier one learns motor skills in terms of technique, the more solidified they become. This is because younger students are more adept at rote learning than conceptualization, whereas the reverse is true for older students (p.233)

Solving the Problem of the Critical Period in Music Education in Nigeria

Some scholars have suggested 'audition tests' for students before admitting them to study music particularly in Nigerian tertiary institutions. It is believed that this approach would sieve out students who have little or no formal music background and thereby cutting off the problem of 'teaching the untaught'. This approach has so many

obvious drawbacks. First, few students apply for music as their primary course of study in the tertiary institutions and any further exercise that cuts off more numbers from the few portends grave danger for the survival of music departments in tertiary institutions. Also it is elitist: there is no guarantee that the 'qualified' students can sustain their musical aptitude throughout school. Conversely, there are no adequate criteria to judge and conclude that those candidates that could not 'qualify' initially would not grow musically and even surpass their favoured colleagues. Therefore the option of 'audition test' creates more problems for music and so does not work here.

Worth mentioning is the continuity theory of mental development because it offers some hope to solving the dilemma of the critical period on music education. The continuity theory posits that human development is continuous and not `fixed`. Continuity theory assumes that people change subtly and gradually and grow continually and thus challenging the uniformity assumption of the stage theory. Development (learning) is an individual process that depends, in every instance, on unique biological propensities and specific experiences (Davidoff, 2004). Drawing on the position of this theory, therefore, it is possible for a learner to adapt to music after deprivation if he can develop positive attitude towards music, explore his native musical endowment with proper teacher-motivation, and the creation of conducive learning environment.

The four suggestions are discussed in detail thus:

- **Conducive Learning Environment**

A conducive musical environment is very necessary for effective music learning. A proper learning environment also serves to catch the attention of learners more easily than the actual learning itself. The nature of music demands a setting secluded from the usual distractions of daily living; practice rooms with soundproof acoustics; adequate and functional musical instruments for individual practice;

interactive teacher-learner relationship and learning materials such as audio-visual aids, music software and computers, music texts and relevant literature for individual studies. Onuora-Oguno (2009) and Onwuekwe (2010) have raised the imperatives of computer in music education in Nigeria.

- **Exploring The Learner's Native Endowment**

It is evident from history for native endowment or giftedness to supersede lapses in the preceding stages of learning. Classic examples are Shakespeare and Newton. Another classic example particular to music is the case of Peter Ilyich Tchaikovsky (1840-1893), mentioned earlier in the work, who began to study music at a relatively late age of twenty-one but rose to become the most famous Russian composer(Kamien, 1986).

- **Positive Musical Attitude**

Attitude plays a reasonable role in learning. A positive attitude towards music makes music learning faster and easier. Even with native giftedness in music, a poor attitude to the subject diminishes the giftedness. Leonhard and House (1972:19) explain that, 'attitude refers to a generalized emotional reaction for or against a specific object. Attitudes have a direct effect on learning of all kinds and have much to do with the efficiency with which knowledge and understanding are developed'. Mbanugo (2006) observes the care-free attitude often exhibited towards music by some undergraduate music students of Nnamdi Azikiwe University, Awka, who conceive individual music practicing as too sedentary. That is, they find it hard to sit down and work at the pieces for long and this poor attitude usually results in their poor delivery during performance exams.

- **Motivation**

Motivation is a powerful tool in the employ of a dedicated teacher and it involves arousing learners' interests in learning. Leonhard and House

(1985: 306) explain that 'it is the most complex but most important task of the music teacher to manage the learning environment so that optimal motivation is present`. They reasoned further that 'motivation is closely associated with interests, setting reasonable and rewarding goals, and experiencing success in attaining goals` and that 'A pupil with a moderate level of musical capacity and high levels of motivation and interest frequently accomplishes more than the most talented pupil lacking in interest and motivation' (Leonhard and House, 1985 :401). Onyiuke (2003) also has seriously advised on the place of motivation in primary school music education in Nigeria.

Recommendations

Having shown evidences and the problems ensuing from the 'critical/sensitive period' with regards to music education in Nigeria, it becomes imperative that Nigerian music educators endeavor towards proper and compulsory music education starting from the kindergarten to the tertiary level. The researcher recommends class singing using didactic and folk songs, and the introduction of simple musical instruments the learners can adapt to with ease. Such musical rhythmic/melodic/harmonic instruments that have been found useful are the rattle or tambourine, the recorder, and the harmonica. We cannot hope for a positive response to music if we do not have a functional one at the grassroots.

Also, since few or no students are currently registering for training under CCA (Cultural & Creative Arts) in colleges of education; it would be worthwhile to absorb undergraduate music students (yr 2-4) for music teaching in schools as a form of industrial attachment and a palliative measure. This would help address the emergency at the grassroots regarding music. Currently the researcher has placed about five music undergraduate students of Nnamdi Azikiwe University, Awka in about five different nursery/primary/secondary schools in Anambra state where they are engaged in serious music teaching under the supervision of the researcher. Currently this is

yielding remarkable results as music education is thriving in the respective schools.

Conclusion

The highlight of Piaget's stage theory of mental development (*sensory/preoperational/operational/concrete)* suggests and implies that learning commences as early as possible (0-3yrs) in human beings (sensitive/critical period) and that formal learning beyond this sensitive stage might be hampered. This holds serious implication for music education in Nigeria where music is neglected as a subject of instruction in most schools. The aftermath is that learners grow without any formal foundation in music and thus encounter serious challenges in aesthetic development and in attempts to study the subject later. The research has discovered that although the impact of the critical period might overshadow and hamper subsequent learning in music; the enthusiastic learner can still survive by developing a positive attitude to music, building on his native potentiality for music, and adequate support from educators by means of motivation and conducive learning environment for music.

Suggestion for Further Reading

The present paper does not claim to be encompassing. Therefore, it is being suggested that further research along this line be undertaken by future researchers. This will help to consolidate the decision made in relation to Piaget's 'critical period' as the ideas relate to Nigeria's music education.

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