

**THE DOMINANCE OF E-LEARNING AND INFORMATION COMMUNICATION TECHNOLOGY (ICT) IN NIGERIAN MUSIC EDUCATION: PROBLEMS AND PROSPECTS**

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**Abstract**

This paper investigated the dominance of E-learning and Information Communication Technology (ICT) in Nigerian music education. E-learning and ICT serve as a unifying term used to describe the fields of online learning, web based learning and technology delivered instruction where necessary. This unifying term entails the application of computers and various electronic devices in the study of music. It is an established fact that e-learning/ICT is increasingly becoming important by the day in Nigerian Universities. The study focused on four tertiary institutions in South East Nigeria namely University of Nigeria, Nsukka (UNN), Nnamdi Azikiwe University, Awka (UNIZIK), Chukwuemeka Odumegwu Ojukwu University, Igbariam (COOU) and Alex Ekwueme Federal University, Ndufu Alike Ikwo (AE-FUNAI). The study adopted a qualitative research using field and library methods with questionnaires and interviews as primary instruments for data collection. The need to sensitise musicologists to fully adopt e-learning and Information Communication Technology (ICT) in modern day musicology prompted this study. The secondary sources of information entailed the use of the library where the results of the findings were analyzed. The analysis of the results shows that Poor finances, poor maintenance culture, poor electric supply and lack of qualified personnels pose the major problems of e-learning/ICT in Nigerian music education while administrative efficiency, technological literacy, support for musicologists advancement in music education were discussed as future prospects of e-learning/ICT in Nigerian music pedagogy. From these findings, the study concludes that the dominance of e-learning/ICT in modern musicology is indisputable and strongly recommends that music education in Nigerian tertiary institutions be provided with special intervention funds.

## Introduction

The dominance of electronic learning in the world's educational system seem to have taken over the way people carry out their researches and studies in Nigerian tertiary institutions. In recent time, technological innovation has become the means of commercial, social cultural and educational growth in every society of the world. Having the above view at heart, music scholars have been of the opinion that adequate provision of e-learning/ICT facilities in Nigeria has not been adequately provided considering the availability of gadgets in relation to number of students who are offered admissions to study music on the yearly basis. In fact, the simplest assertion has been that the authorities of Nigerian tertiary institutions seem to be giving lip-services to the provision of adequate e-learning/ICT infrastructures that could positively influence teaching and learning in the country. The above being the case, it is widely believed that the lackadaisical approach of the authorities of Nigerian institutions of higher learning could be attributed to the fact that almost every individual student of this age is able to afford their various electronic devices especially good phones, laptops and other related electronic gadgets that enable students and lecturers to connect to the globe any time anywhere. With this, the gap that exist between the provision of enough ICT facilities in our tertiary music education are taken care of hence, most of musicologists struggle to meet up with the trend of studying music using every available electronic resources for the present day musicology. The above being the situation, the contemporary music scholars are seen as meeting up with the demand of strongly pursuing the needful in music pedagogy which really shows that academic music in Nigeria is becoming what it should be and as such could be considered as a right move in the right direction. The necessary information for the study were sourced through random sampling from twenty music lecturers (five lecturers from each University) and forty students (ten from each University) from University of Nigeria Nsukka (UNN), Nnamdi Azikiwe University, Awka (UNIZIK), Chukwuemeka Odumegwu Ojukwu University (COOU) and Alex Ekwueme Federal University, Ndufu Alike Ikwo (AE-FUNAI).

## E-learning in all spheres of life

E-learning/Information communication technology has ignited a revolution that has led to knowledge outburst in all spheres of life globally. It is changing the thinking culture of the people, the way people work, play, and study. It pushes away the traditional tenets of doing business and general life style. Today, educational institutions, industries and commercial enterprises are investing substantively and constantly in electronic communications in order to remain relevant in this era of information communication technology. It is obvious now that most countries of the world regard the advancement and utilization of ICTs within their economy and society as a key element of their national dream, to improve the quality of life, knowledge and international value. Faye in Job (2008) explains "ICTs are offering even less developed countries a window of opportunities to leapfrog the industrialization stage and transform their economics into high value-added information economics that can compete with the advanced economics in the global market." (p. 34). Defining e-learning in the context of education in Nigeria, Falana, Marcus and Robey; Olojo et al in Eze, Chinedu-Eze and Bello (2018) opine:

The term E-learning defines technology mediated and digitally empowered learning that utilizes hardware (e.g., PCs, tablets, printer, digital camera, digital videos, scanner, overhead projector; OHP, and OHP screen), software, (operating systems, cloud technologies, application (apps), writing, editing, MS Office) and (CD textbooks)...  
*Accessed 6<sup>th</sup> February, 2020 from: //doi.org/10.1186/s41239-018-0116-z*

Umeojiaka (2019) tracing the links of e-learning to digital technology clarifies:

E-learning in education can therefore summarily be considered as the wholesome integration of modern telecommunications equipment and ICT resources particularly, the internet into the education system. As an aspect of ICT, e-learning is concerned with all digital technologies such as computer, scanner, printer, telephone, internet, Digital Satellite System (DSS) Direct Broadcast Satellite (DBS) pocket switching, fiber optic cables, laser disc microwaves and multi-media systems for collection, processing, storage and dissemination of information all over the world. (p.16).

In their own contribution, Okoro & Amaegbe (2015) point that “contemporary music performance in Nigeria make extensive use of modern technological tools” (p. 148). Nigerian music classrooms are being dominated by seemingly modern trend of information communication technology. E-learning/ICT as used in musical studies in Nigerian higher education has therefore been considered a gradual and steady improvement towards the use of computers and related electronic devices to music pedagogy. Musicologists’ attitudes towards making use of technology in the classroom has also been changing effectively. Both music students and lecturers of the contemporary time consider the application of computers to the study of music as being important. Even though e-learning/ICT are gradually dominating music education in Nigeria, yet there are some cultural perspectives that have not been taken care of. For instance, the diatonic tonal structure has not been captured in African music hence, the African scale is chiefly pentatonic. However, scholars have pointed out some rich advantages of application of computers to the study of music which include feedback and neatness/clarity of notations etc. In view of the above, Onuora-Oguno (2015) says:

Computer applications make distant learning faster; transcription is now easier and neater through the mastering of music software like Sibelius and finale. Transcribed works can be played back and corrections affected. Illustrations are now easier with power points presentation. Digital library and the use of the internet make research easier. (p.130).

After interacting with the respondents of this study, the researchers observed that departmental researches could be facilitated with the use of clusters whereby researchers in the same discipline can make consultations and interactions through the Local Area Network (LAN). The students and lecturers interviewed in the course of this study also reported that Wide Web Area Network also assists in carrying out researches in music by connecting to the web via the internet. In agreement to the above, Adedeji (2004) explains:

The use of the World Wide Web (www) has facilitated research tremendously in breaking new grounds instead of making use of obsolete materials which ensure a vicious circle movement. For the Nigerian musician to remain a relevant pawn in a technologically growing society, the curriculum of music learning in Nigeria must be revised to accommodate basic computer courses. (p. 130).

Ofuani (2015) supporting the above view, points out the advantages of writing music using electronic software. He explains that:

Due to the advantages of composing, writing/notating, creating or making music using computer music softwares like Sibelius and Finale etc., composers have indeed found optimized relief in its application as a medium of composing music...computer as a medium of composition has come to stay...modern Nigerian composers must begin to

appreciate, learn and use the computer as a medium of composition through notational programmes like the Sibelius and Finale. (p. 72).

In the opinion of the respondents, e-learning/ICT in music education is gradually dominating the modern day Nigerian musicology. Based on the above explanations, the researchers advocate for the full adoption of the use of computers and relevant electronic gadgets to the study of music in Nigerian Universities. Achonye (2011) puts it right when he writes “Computer Assisted Instruction (CAI) soft wares could be used to transform classroom instruction into a series of rich memorable experiences and therefore reduce boredom and forgetfulness. (p. 131). The subject matter under discussion being an inter disciplinary discourse, its roots could also be found in Biological sciences. For instance, Yusuf and Afolabi (2010) say that “Computer Assisted Instructions (CAI) soft wares can also solve the problem of lack of Instructional materials for teaching biology and it can be used to change the students’ perception that biological concepts are abstract and difficult to understand. (p. 115). Narrowing the above point down to music education, Umeojiaka (2019) expounds:

Music players are used to offer quality sound and helps to develop pupils (students) vocabulary, intellect and imagination. In most cases, some music jargons are difficult to pronounce. When the above becomes the case, music players are used to listen and learning such music terminologies. As an educational tool, audio and music player are majorly designed for children but with parents in mind. In recent times music players are used to record lectures to be replayed for proper internalization. It is also used to learn voice pieces especially in learning the right pitches of some difficult notes. (p. 157).

From the above, it is observed that music education around the world is improving positively. There is an increase in the use the innovative information and communication technologies (ICTs) to teach students the knowledge and skills they require nowadays. The above cannot be effectively achieved without training and retraining of music educators in Nigeria as well as giving proper orientation to the present day music students on the need to be in tune with computer literacy.

### **Computer Literacy among Nigerian Musicologists**

Bearing the above in mind, the researcher sees the exposure of musicologist to the various computer technologies and the necessary skills expected for instructional delivery and job efficiency as a way in facilitating the study of music in Nigeria. In view of these, several authors have come out with direct ICT skills required to fit into the technologically driven society. McDonald (2004) highlights:

ICT skills are to manipulate, create, store and retrieve information to express ideas and communicate with others ... ability to type sentences, change text alignments, change margins, and line spacing; understand cut, copy and paste. Others are, the understanding of the database, spreadsheet etc... the basic computer skills required to include: “knowing various computer operations such as turning computer on, opening a folder, copying a file from one drive to another, scanning... the use of software such as creating a new word processor documents among others. (<http://www.allbusiness.com/humanresources>)

The Nigerian nation should reawaken efforts to effect these changes in the teaching/learning sector of the country. By so doing, music students would be prepared for information and technology -

based society. The Nigerian tertiary institutions require ICT potentials, which have a collection of potent outfits that may help to transform the present mode of face-to face method of teaching and learning which is highly dominated by the teachers with the students playing a passive role. When this is achieved, the old teacher centered and text - bound classrooms would be turned into an atmosphere rich in students' interaction with their teachers, focused and always motivated to learn. This could be achieved through a change in the traditional view of learning music hence the understanding of how the new digital technologies can assist music students to advance in knowledge will go a long way in alleviating the stress associated with music pedagogy. With this, the future of music education in Nigeria is guaranteed bearing in mind that with time, e-learning will completely wipe away the traditional teaching and learning method in our institutions of higher learning.

### **Some E-learning/ICT gadgets available for use in Nigerian Music education**

The use of ICT has dominated the education system all over the world. Despite the fact that Nigeria is lacking behind in its full actualization yet those in the field of music are gradually keying into the system. This is evident in the effective integration of ICT in the teaching/learning process in our music departments to enable for the enhancement of educational productivity in general. The researchers having emphasized the above, bring to bear the Nigerian national policy on information technology which theoretically provides for IT use in education. In agreement to this, Yusuf in Job (2008) postulates that the general objectives stressed that information technology must be used to;-

- a) Empower the youth with IT skills and prepare them for global competitiveness.
- b) Integrate IT into the main-stream of education and training.
- c) Establish new multifaceted IT institutions as centers of excellence to ensure Nigeria's competitiveness in international markets. (p. 37).

The following are few examples of e-learning/ICT Gadgets relevant in the study of music in Nigerian Universities

### **I Phone/ Android-Powered Smart phones**

iPhone has helped in education over the years. Teachers have been assisted to release the resourceful potential in every student using the iPhone. In the study of music, iphones put complete freedom of expression in the hands of every student who uses them. Smartphones help music students better organize their assignments, Music teachers can set up a question or questions based on what the students are currently learning in class, and then provide them with the necessary assistance using the text books. The proliferation of wireless networking in the classrooms creates learning opportunities. This cannot happen with the absence of laptops. Using laptops in music classrooms help music students to learn to type quickly and accurately. Computer application to music helps students to neatly transcribe music, compose and replay musical compositions. They can as well record notes much faster than writing by hand. Technologies embedded in laptops are used in conducting research, developing the materials, managing the students' information, and communication with their colleagues, the students and the parents' benefits from the use of laptop in assisting in music education.

### **Online Bookstore**

Online bookstore allows music students and other students to buy books directly from the device. Alternatively, students can browse books in the kindle store using their computers web browser and purchase them from their computers. Amazon will send the electronic books directly to students' device. It can also assist students to browse several music related blogs online in this case makes the study of music easier.

### **Universal Serial Bus Flash Drive**

USB Flash Drives are a great benefit to both secondary school and university students. In music pedagogy, they can be used to store homework, presentations research papers, essays etc. USB drives or sticks can be used to hang out term papers in music, assignments, or notes. The portability is a very great advantage to musicologists.

### **Computer Vision**

Computer vision help study behavior and interaction during diverse group tasks. In the music class it can facilitate how music students teach others, and how comfortable they are with fellow students. This optimizes peer-to-peer interaction between students when teachers group students according to their comfort levels.

### **Desktop Computer System.**

Desktop computers are being used in educational institutions to improve the learning process. Music teachers can use audio, video and computer to prepare lesson plans. They can use Microsoft power point to prepare electronic presentations about their lectures. Music students can also utilise power points to present their academic seminars etc.

### **Television**

Educational television or learning television is the use of television programs in the field of distance education. The good news about television in music pedagogy is that television can be a very powerful and effective learning tool for children if used wisely. In music class, students can easily memorize what they see.

### **Music Player /Record Player**

Music players are used to offer quality sound, interactively, and content to help develop pupils (students) vocabulary, intellect and imagination. In most cases, some music jargons are difficult to pronounce. When the above becomes the case, music players are used to listen and learning such music terminologies. As an educational tool, audio and music player is majorly designed for children but with parents in mind. In recent times, music players are used to record lectures which will be replayed for proper internalization. It is also used to learn voice pieces especially in learning the right notes of some difficult pitches. Record players or phonograph is a device for reproducing sound that has been recorded as a spiral, undulating groove on a disc. In using a record player a record is placed on the players motor-driven turn able, which rotates the record at a constant speed. The most modern turnable record players are well equipped with mod-cons like built-in Bluetooth connectivity and USB outputs that allow music students to record their works straight to the computer to enable them make use of them any time they deem it necessary.

### **DVD Player**

Video in music classroom has become an essential teaching resource. DVD helps music teachers to access and utilise video resources for teaching music. It is a revolutionary change because the digital format gives the user a degree of access and control over video presentation content.

### **Deskjet (Printer)**

Printers are vibrant music classroom materials that provide supplemental learning activities. In an organised music class, they can be used to run the morning attendance reports. They provide the print solution needed to keep the study of music on the track.

### **Digital Piano**

As a keyboard instrument, digital piano assists students in learning how to play the organ. However, it has some outstanding features that are not possible with its counterparts. Among its unique benefits are: Quiet in practice with headphones, helps to develop the learners sense of rhythm using the inbuilt metronomes. It records and helps learners listen to their performances. Digital pianos have more sounds which inspire young children to be excited while learning the keyboard instrument. It uses inbuilt applications to improve learners playing ability and generally makes practice more efficient.

### **Portable CD Players**

The above can be used in teaching and learning music hence a quality lightweight, compact and completely portable music device. It has built-in speakers, anti-skip technology, repeat and shuffle functions with headphones jacks that can aid music students to effectively learn their voice pieces and other materials in music pedagogy.

### **Prospects of ICT Use in Nigerian Music Education**

It has become very imperative for the Nigerian nation to employ great efforts to completely effect changes in the teaching/learning process in her music education. This is to prepare students for information and technology based society. This impression is made on the cognizance of the potentials of ICT which provides a range of powerful tools that could transform the present day musicology. The prospect of ICT use in Nigerian music education shall be presented in three scopes namely; administrative efficiency in music education, the technological literacy of musicologists and the support for musicologists' advancement in music pedagogy.

### **Administrative Efficiency**

In Nigerian tertiary institutions, like other establishments, the computer unit has become an obligatory unit of the administration. Its uses cut across several conditions to cope with the outpouring in the population of music students, lecturers and other non-teaching staff of the department. One of the important uses of the computer in the study of music is in record keeping. In this purpose, all the personal data of the students and staff are stored in the computer. The academic performances - in terms of students results are kept in the system, which permits easy retrieval, sorting and reorganisation. In the same vein, the internet allows free flow of information, particularly, from the schools to outside society. Individuals from far and near could sit in the comfort of their bedroom to retrieve every bit of information about the departmental activities, including the progress report of every student and other happenings with regards to the study of music. The lecturers also use the computer system to

process and interpret such information as book publication and other teaching aids assessment of students' records and other teaching aids. E-learning devices as used in musicology is also very useful in the departmental school library. In this case, music administrators create media centers where database searches are done using CD-ROMs and internet. This could make researchers in music have access to materials. One key benefit of CD-ROM is that it permits choices within the search process, which is not applicable to ordinary literature materials in hard copies (bound-books).

### **Technological Literacy**

The dominance of e-learning in music education is changing the mode of studying music in recent times. There is growing awareness among music educators that the educational system designed to prepare learners for 21<sup>st</sup> century's knowledge based society is one that is totally dependent on ICT, and a necessary shift from the traditional book-bound pattern of learning. This shift in the old way of studying music also demands new knowledge and skills both in school setting and in the work. ICTs have also improved the nature of work and the kinds of skills needed in most disciplines and professions, and have created a wide array of new jobs hence, it is appropriate for the students and indeed the teachers to be trained in the basic principles of computer knowledge. There should be conscious effort to have ICT competent lecturers and students, who will inevitably require an ICT rich learning environment that could enhance music education in the Nigerian tertiary institutions. It should be mandatory for every musicologist to be computer literate, which indeed will require ICT compliance. In this case, the music curriculum needs to be updated continually to take cognizance of the technology predominant in all affairs of life in today's society.

### **Support for musicologists advancement in music education**

Information Communication Technologies (ICTs) can be used to provide active support to every learning environment. In music education, computer provides powerful tools for discussions, music compositions, aural training, and rudiments of music, ensemble performances, writing corroboration and in fact in kinds of problem solving in music education. Today, musicologists access vast knowledge resources in relation to the study of music. ICTs employed to musicology aid in solving complex academic problems in music.

The ICT, when properly used in music pedagogy, assumes the role of the teacher, and could help the students to achieve their academic goals. Again, outside the nature of the computer language itself, there is a fundamental educational philosophy based on the concept that learners need to manipulate their environment in order to learn.

### **Problems of E-learning/ICT Integration in Music Education**

There are diverse problems associated with the study of music today in Nigeria. The integration of ICT into the nation's music education can hardly be achieved due to obstacles faced within the educational sector. These obstacles include:

- **Poor Finance:** - This is the greatest problem of music education in Nigeria. The dominance of e-learning/ICT cannot fully take place if music education is poorly funded in our tertiary institutions. The financial allocation to educational sector and indeed the departments of music, by the government is so smalls that it could reasonably pay the salaries of the staff not to talk of providing enough e-learning facilities needed in advancing music education in the country. Some times when fund



are made available, it is misappropriated. When the above becomes the case, the question turns out to be whether the resources available for advancing music education are most efficiently employed to provide the most effective educational opportunities for the study of music.

- **Poor Maintenance Culture:** - In the institutions where few of this e-learning/ICT equipment have been provided, the management lack the culture of servicing and replacing the outdated ones.

**Poor Electricity Supply:** - In most of the tertiary institutions where e-learning/ICT infrastructures have been provided, electricity supply to effectively power them for utilization is hardly provided. Against this backdrop, the management of music departments of these institutions may not fully afford an alternative power supply. The above being the situation, musicologists end up being deficient in their academic pursuit in music.

**Lack of Qualified Personnels:** - It is expected that every music educator in this modern age should be computer literate to enable for proper impartation of musical knowledge to their students. The technical crew in our universities music departments are also expected to meet up with the requirements for new innovations in music pedagogy. Regrettably, this is not the case in most Nigerian tertiary institutions, where so many tutorial and non-tutorial staff are still reluctant in being ICT compliant.

## Conclusion

The dominance of E-learning/ICT in the modern musicology is indisputable. This paper averred that this trend is fast in up-turning the way musicologists work, live, learn and pushing away the traditional tenets of studying music. The Nigerian nation frog-leaped to embracing ICT, when it signed for approval of the Nigerian National Policy for Information Technology (IT) in 2001. This national policy for information technology theoretically provides for (IT) use in education, though fundamentally flawed as ICT is not tenaciously incorporated into the educational system especially in the study of music in our tertiary institutions. Despite these flaws, hope abounds on the power of e-learning/ICT to enrich and enhance the administrative efficiency, technological literacy of musicologists and the support given by the government and authorities of our tertiary institutions. It is believed that the dominance of e-learning/ICT will completely be experienced in Nigerian music education when such problems as mentioned in the paper are tackled.

The paper makes the following recommendations;

- 1) Music education in Nigerian tertiary institutions should be provided with special intervention funds. This would enable the management of the institutions to provide and maintain e-learning/ICT equipment in their various music departments. The management of these music departments should be frequently evaluated in terms of their administrative competence and judiciousness in fund management.
- 2) There should be steady power supply in the various campuses of our tertiary institutions with particular attention to music departments. Government should provide alternative and effective power supply in the absence of the Power providers.
- 3) The curriculum of the institutions should be updated to embrace proper internalization of e-learning/ICT facilities into the music education of the Nigerian tertiary institutions Musicologists should not only be made to have the knowledge of

ICT but should be able to use computers and relevant electronic gadgets as means of advancing musicology in the present age.

- 4) Constant training and re-training of music lecturers, music technologists and other non-teaching staff of the nation's tertiary institutions should be organized. In the same vein, more computer/ ICT related courses should be introduced and made compulsory for the departments of music in Nigerian higher institutions.

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