

# GLOBALIZING THE PROGRAMMED LEARNING METHOD OF TEACHING PIANO IN TERTIARY INSTITUTIONS IN NIGERIA

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## **Abstract**

Programmed learning represents a logical and systematic application of the principles of learning to the teaching and learning of music. It involves the use of computer programmes in the teaching of students directly. It is particularly useful in drill and practice lessons, (e.g. piano playing) where repetition is necessary in order that the concept be mastered. As a result of huge advancement in technology, the world is getting more globalized in all spheres of life. Therefore, the objective of education is no longer simply to convey a body of knowledge, but to teach how to learn, to evolve problem-solving strategies and to bring about the synthesis of old ideas and skills with new ones. The paper emphasized the use of Computer Assisted Instruction (CAI) in the teaching of Piano as opposed to the traditional classroom instruction.

## **Introduction**

Globalization is the single, most dominant political, social economic and cultural issue that has dominated all spheres of life in our time. "Globalization is a process of interaction and integration among the people and governments of different nations", ([www.currencvtax.org/glosai-v](http://www.currencvtax.org/glosai-v)) It has different dimensions, including economic, political, educational and cultural. Awake (2002) described globalization as "the growing worldwide interdependence of people and countries largely because of huge advances in technology. In economic terms, Obi (2002) saw globalization as the growing difference between the rich and poor, developed and underdeveloped, linked up with the flow of information, money and powers".

Globalization is largely aided by modern information technology and has profound effects on the world environment, on cultural and political systems, on patterns of economic development and prosperity and on human physical well-being as a whole in different societies around the world. Thus, globalization involves the increasing economic integration and interdependence of countries.

## **Globalization in Education**

Globalization also occurs within the domain of education and technology. Educational systems in different countries are at the core of the globalization process, with governments trying to compete in the global markets by placing priority attention on education, which produces "human capital" that is most appealing to global competition. There are at present many new schemes being undertaken by the major developed nation of the world led by the United States of America, to bring about educational globalization through the integration of work and education. These include international student mobility, through joint study programmes between nations, and using information and communication technology facilities. These initiatives are part of the global development in education.

In this era of globalization therefore, the objective of education is no longer simply to convey a body of knowledge, but to teach how to learn, to evolve problem-solving strategies and to bring about the synthesis of old ideas and skills with new ones. The new technologies used in education allow students to gain skills and abilities required to function more effectively in a new, and challenging job situation. Education for the new global century helps individuals to think critically and holistically. The widening spread of knowledge is also creating a "skill revolution" with emphasis placed on the skills needed in working life, such as critical thinking consultation, negotiation and collaboration.

## **Programmed Learning**

Programmed learning or instruction is a technique of teaching in a sequence of controlled steps. Sometimes referred to as instruction, it is a product of a careful development process resulting in a reproducible sequence of instructional events which has been demonstrated by producing measurable and consistent learning by the students. According to Lexicon Encyclopedia (1989:562) "it is a process of education that permits self-instruction, by means of Algorithms, teaching machines, instructional text-books, radio or television. The student uses materials developed through a system process of analysis, design testing and revision". In the same vein Chauhan (1981:175) defined it as a process of arranging material to be learned in a series of small steps designed to lead a learner through self-instruction from what he knows to the unknown of new and more complex knowledge and principles.

The purpose of testing and revision is to assure that an instructional programme will enable students of a certain age, background and ability to achieve measurable learning objectives. The process of developing such materials has been called programming but has been more recently termed instructional system development. Programme texts are simple teaching machines that use a linear sequence of presentations (frames) involving questions and feedback to check the students answers. This is only one of the several contemporary methods of programmed learning.

Audio and video tapes and disks, interactive lessons on computers, instructional games and simulations and a wide variety of printed materials may also be developed - and validated against measurable objectives. Programmed learning offers thousands of programmes in hundreds of subjects at all grades and in many non-academic subjects. Most programmes deal with such well structured subjects as mathematics, electronic or data processing but many others cover subjects such as literature, writing, foreign languages, reading and music. It is also widely used in industrial training and in the armed forces.

## **Objective**

The objective of this paper is to highlight the globalization of programmed learning principles in the teaching of piano playing skills in the tertiary institutions in Nigeria.

## **History**

Programmed learning received its major impetus from the works of an American psychologist B.F. Skinner who in 1954 described how programmes could be developed scientifically. By the late 1950's, these programmes had been developed for use at all levels of teaching from primary, secondary to tertiary institutions as well as in the armed forces and other related establishments.

Earlier on Skinner on the basis of his extensive research on rats and pigeons developed a theory of learning popularly called the operant conditioning. By putting the principles of this operant conditioning in teaching to human beings, he developed a different type of teaching machine which circumvented the limitations of the Pressey's model. Most of the early programmes presented information in small steps. Students were made to read one or two of them and responded to a question by filling in a blank space or choosing from a set of alternative answers. Then, they are reviewed and checked against the accuracy of their own responses. Such formats which seem impoverished in comparison to the variety of programmes now available usually add only to trivialize the instructional goals.

Presently intellectual and manipulative skills, for example finger dexterity in piano playing problem solving, formulation and expression of new ideas and the exploration of new fields can now be taught with carefully designed programmes and packages.

## **The Piano**

The pianoforte or fortepiano which was invented by Cristofori in Florence in 1709 was so called because it could play both "soft" and "loud". The strings are struck by hammers instead of by the tangent of the earlier clavichord or the quill of the harpsichord. His intentions were to combine the lone gradation of the clavichord with the greater volume of the harpsichord. The instrument also possessed dampers which silenced the strings when the fingers left the keys, as they do today. Explaining further about the instrument, Walczyk (1984) observed that the piano keyboard is the perfect instrument to teach the fundamentals of music. By its basic percussive nature, it is readily adaptable to the study of rhythm. It is also one of the oldest of audio-visual instruments and allows the students to envision and conceptualize the relationships of notes, the whole and half steps, and allows for experimentation with melody and tone relationships ... (p.20).

## **The Teaching of Piano**

Presently, the pianoforte is studied and played in many homes and churches and still greater number of the younger generation are getting interested in the playing of the instrument. More so, with advancement in technology, the modification and availability of "table top pianos" makes it imperative that its study and mastery should be vigorously pursued hence, "now-a-days ... good pianists are so numerous, that mediocrity on this instrument is no longer endured" (Hanon, 1967:i).

Following the former (traditional) method, one must study the piano eight or ten years before venturing to perform a piece of any level of difficulty even at a gathering of the amateurs, but how many persons are ready to devote so many years to this study even in an institution. This then makes the globalization of this study very imperative through the use of modern technology.

## **Computer- Assisted Instruction**

Computer education and Computer-Assisted Instruction (CAI), sometimes referred to as Computer-Based Instruction (CBI), are terms used frequently in all fields of education. Computer education and CAI are simply not synonymous. Computer education is the study of computers, what they are and how they function while CAI can be described as the use of computers to help in the teaching of other subjects within a curriculum such as music education (Pembroke, 1986). Hofstetter (1988) defined CAI "as a sequence of educational experiences under computer control that delivers tutorials, simulations, drills and tests". The use of CAI in the teaching of piano is therefore the focus of this paper.

CAI allows the computer and its programmes to serve a major role in influencing the instructional process in the classroom. The computer through its programmes, affects the direction and specification of a student's learning experience. The computer programme can be responsible for the sequence of experiences within an instructional session (Allvin, 1971).

The computer can function effectively with the teacher in the types of activities that are found in drill/practice and tutorial methods. These drill exercises are necessary for the player to acquire agility, independence, strength and perfect evenness of the fingers as well as greater flexibility of the wrists. Research by Grubb (1986) showed that the student using CAI is able to direct his own learning and can provide access to a large body of information at the student's request. The computer ; and its programmes can direct the student according to his strengths and weaknesses. CAI offers interactive responses, immediate feedback, infinite patience,- animation, motivation, accurate record keeping, and individualized and remedial instruction if needed (Block, 1970).

All these are possible with the presence of a teacher, but CAI allows it to happen more frequently and more easily because the student is able to work independently at his own pace.

## **Scales and Arpeggios**

Scales and arpeggios are the basis of all keyboard technique. A closer look at any piano piece reveals that most of the music for the instrument is based on some kind of scale and arpeggio figure. Mastering the principles of keyboard playing, entails developing ability to handle technical exercises and music pieces side by side with scales and arpeggios. Such practical studies call for individualization of method to reach learners at their ability level, exposure, and life patterns (IComar, 1980;LeMieux, 1983).

Pianists and teachers who cannot find time for sufficient practice to keep up their playing, need only to play these scales and arpeggio exercises a few hours in order to regain all the dexterity of their fingers.

Thus, "after it has been thoroughly mastered, it must be repeated daily for a time, difficulties will disappear as if by enchantment, and that beautiful, clear, clean, pearling execution will have been acquired which is the secret of distinguished artists. (Hanon, 1967:ii).

## **The Impact of Modern Technology**

With the rapid advancements and sophistication's of modern western technology and their utilization since the present century in the development and advancement of art music, an interested observer would want to see corresponding musical developments arising from their parallel use in Nigeria. This is because our citizens have strong desires to imitate the west in their musical development. A careful examination of the stages of music technological developments/advancements in the west has shown that most Nigerian art musicians are still operating in the late 18<sup>th</sup> and early 19<sup>th</sup> centuries in terms of technological materials available for their use. With the development of more sophisticated electronic apparatus and computers, varied compositional possibilities had been discovered. For instance Stoba, (1990:860) pointed out that;

The first instance of a computer being programmed to produce the score of a musical composition occurred in 1957, at the University of Illinois ... only the

score was computer generated; the music was performed by a string quartet. The one thing machines cannot do is to duplicate human performances with its subtle vagaries and tricks, its personality ...

Similarly, Kerman (1980) observed that

Technology has made available to composers every sound in the universe as source materials. Certainly electronic music is cooler and more impersonal than older music ... Given the growing impersonality of every aspect of life in the twentieth century, this hardly come as a surprise.

Since the world is fast becoming a global village, with new ideas, new technology, new cultures and new development in information technology, the process of studying the piano can be globalized through recording the procedures into gadgets which will be easily circulated the world over. This will definitely enhance the teaching/learning process of the instrument.

### **Conclusion**

The world is shifting from mere word processing to internet and globalization. Music education experts should therefore design appropriate educational curriculum that will produce men and women technically equipped for a global society.

### **Recommendations**

The following are suggestions that will enhance the globalization of programmed learning of the piano:

1. The programmed learning method should be adopted in teaching of all practical lessons for instruments in music.
2. The government of various countries should encourage student exchange programmes as this will promote the learning of these skills.
3. There is the need for institutions to provide the instructional materials that would enhance the computer-assisted instruction
4. Music tours by institutions that had hitherto commenced .this programme will help in promoting it.

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