

# Teacher Education and Technological Imperatives

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## ABSTRACT

A sound teacher education program is a prerequisite for a reliant education, which is the prime engine of human development, the vital transformational tool, the fulcrum around which the economic growth of the nation revolves. A nation can only develop meaningfully and professionally through a good teacher education program rooted in areas of instruction. This paper therefore, underscores the imperatives of technology in teacher education.

**Keywords:** appropriate model teacher education, human development, technolog, teacher training.

## INTRODUCTION

Teacher education is a part of the education process or training that involves the art of acquiring skills in teaching profession. It enhances the skills of teaching and learning.

According to Fafunwa in Akinyemi (1969),

*"if the African teacher is to cope adequately with the monumental task that lies ahead of him, he has to be well trained for his job. He must be willing to enter into the spirit of new African age, willing to share new information and skills with his fellow teacher, seek more knowledge on his own initiative and above all, be flexible and willing to experiment and not be afraid of failure. The new teacher envisaged must have flexibility built into his total professional and academic make-up and should be helped through regular in-service training to keep abreast of new techniques, skills and research in his field".*

Teacher education is sui-generic to effective realization of our national goals it should be therefore, be basically related to every phase of development in our society for, wherever one turns, be it economic, political or social spheres of activities, one is faced with the ever recurring problem of trained manpower needs; but no adequate training can take place without competent teachers to handle the program. In the area of formal education, competent teachers are needed for nursery schools, primary and secondary schools, technical and vocational education, teacher, colleges university education and adult education with its many facets-literacy campaign, extra-mural work, in service and pre service training, training on-the-job, training within industry as well as general education for personal satisfaction.

At a less formal level or informal level, the competent teacher is a good citizen, a community leader, an innovator and an enlightened parent. His influence extends beyond the confines of the classroom in rural areas; he is looked upon as one of the mainstays of the community or village. If he is a graduate, and the only village graduate at that, his influence is even greater as everyone expects him to be a reservoir of all knowledge and skills (Freeman, 1989).

In rationalizing the objectives of teacher education in the 21st century Nigeria, the worth and value of a prospective teacher must be recognized, he must be given a good opportunity to learn to enhance his progress as a professional teacher; he must be seen to develop skills in effective teaching and learning. This can be done by employing the use of instructional media or technology to complement other methods. According to Adegbij a (2004),

"Technology education must as a matter of great national concern be encouraged. This requires unrestricted access to technological facilities for teachers and students in many institutions of higher learning. The internet, for example, must form the greater resources that should and readily available to teachers and students. Several technological strategies and devices to facilitate teaching and learning must be adopted and used. Prominent among these are, computer-assisted prosody training, audio-conferencing network collaborative interaction. We need audiotape players with individual head phones, desktop computers and projection and sound system playback, laser disc players, TVVCRs, audio and video software and multimedia in situational materials. We need devices for digitization, editing, compressing videos and audio, takingdigitalsnapshots, making digital video recordings, scanning images and texts, creating audio CDs, CD-ROMs and DVDs, etc.

## BASIC FACTS

Teacher education in Nigeria is still shrouded with problem of incorporating technology into teaching. Most schools hardly prepare students to meet the challenges of higher education or the workplace. Part of this problem is attributed to our low level of technology. But that is not a convincing defense because some least developed countries in Africa have grappled into the challenge of adapting technology to teaching education program. According to Stephens (2001)

"Teachers must incorporate technology into their teaching. A redesign of the current teacher training model is necessary for education to lead the change into the 21<sup>st</sup> century."

Most teacher in Nigeria today still receive similar training that teacher did many years ago. Generally, teaching methodology courses focus primarily on serving the needs of the traditional students. They (teachers) learn to utilize resources that are often obsolete and rarely effective. Ill-equipped teachers enter the educational arena with few tools and little *ermour*/ decreasing their chances of survival. Yet, education should be seem to teacher training with the enabling factors of technology. To prepare teacher for the 21<sup>st</sup> century, there is therefore, the immediate need to embrace a technology model that would revolutionaries the profession, and reposition it for greater challenges.

It is sad to note that most of our public schools today still experience archaic practices instead of being the repository of knowledge, teachers simply provide a guide to students learning. That apart they are yet to appreciate the relevance of technology to education. In some schools where the computers are procured they generally remain in the laboratories removed from to classroom, and therefore are not an integral part of instruction According to Loveless (1996), "Computer are capable of improving schools, but their underuse is a serious problem."

A study carried out by Oladele (2002) revealed that 70 percent of the secondary school teachers in Nigeria have never used a computer in the school. And the reason why students use the computers so rarely is because most teachers do not possess the training and skills to integrate computers into the everyday crystal happenings of the classroom. This trend can be extremely dangerous, particularly now that technology has permeated every stratum of our society. It is the main force driving every society. It is really empowering the individual teacher (Fatoke, 1999). Radio, television, telephones, video cassette recorder, computer, the internet, e-mail, fax modems, and so forth, are becoming accessible to individuals.

## TEACHER TRAINING IN THE 21<sup>ST</sup> CENTURY

There is the need to give special attention to teacher of teachers. Ironically we have no effective programme for training those who are to train teachers. Despite the establishment of colleges of education both at the Federal and State Government levels, institutes of education and faculties of education in various universities to cater for effective and professional teacher education program the program has been run in a haphazard manner. That apart, most of our universities today employ lecturers without teaching qualifications. This development, according to Ukadike (2000) is the root causes of low standard of university education in Nigeria. If our university lecturers are obliged to have a teaching qualification before they are adjudged qualified to teach, there would be a great transformation in the quality of university education in the country. This practice is not new. The Americans, the Canadians and some European countries have been doing this for decades. The university of London institute of education offers such a course to the lecturers in the London medical schools.

Despite the need for this type of training, the driving force for teacher training in the 21<sup>st</sup> century is the effect that technology will have in redesigning the roles, purpose, effectiveness, and scope of teacher training. Advancements in technology, as I have earlier noted in this paper are already infiltrating all areas of society, and will continue to do so at even more rapid pace during the next millennia. According to Cardenas (2000), "the global community is demanding that its citizenry and especially its workforce possess advanced skills. These skills soar above the basics of reading writing and computation.

Giving this demands therefore, the teacher training model for the 21<sup>st</sup> century must utilize technology to carvel a new direction. Technology weaves the strands that impact instruction- student diversity, ability, discrepancies, special need, accountability pressures, cultural background, and political forces' (Cardenas, 2000).

An effective integration of technology into all areas of instruction would enable schools to develop the ideal of learning environment of individualized instruction for all learners. Technology should be seen as a mechanism that bridges the learner with the content; it allows learners progress at their own pace while corresponding to their individual learning style.

According to Scott (2001), "Technology must become a tool used to build skills needed to function productively in the future. It allows for the transformation of our current school model. This transformation calls

for restructuring the roles and responsibilities of teachers, administrators, and school itself. Teachers can no longer remain the circus trainees of drill and practice. Instead of viewing themselves as having the sole responsibilities of imparting knowledge and enforcing discipline, teachers must learn to mentor students in their instructional and social development.

They must learn strategies needed to guide and support students through learning experiences and opportunities that allow individuals to deepen their understanding of new and different concepts. Ultimately the goal of education is to instill the characteristics needed for life long learning.

### **PROSPECTS OF EFFECTIVE TEACHER TRAINING IN THE 21<sup>ST</sup> CENTURY NIGERIA**

The current teacher training model in Nigeria must be revamped if we have to meet the challenge of the global technological age as it affects teacher education program. Our schools must "reinvent teacher preparation and professional development and create a learning system that is organized for students and teachers "success, and prepares them to be productive members of highly fuild society" (O'Neil, 1998)

Technology training must be adequately incorporated in all areas of teachers training. "Just as books and journals were previously considered the fountain of knowledge, now computer, the internet, telecommunications, satellite learning, cellular communicators and so on, are the convenient, mobile, and disposable textbooks and encyclopedias of the new millennium. These machines are the keys to current, accurate, and updated information. Since information is easily accessible learning is more individualized holistic and pertinent. Only when the use of technology provides a meaningful and applicable opportunity for uses will it become integrated into the pattern of learning and working (O'Neil, 1998).

Our Ivory tower (universities) have a greater role to play in adapting technology to teacher education program. They should train teachers on how to acquire information accessing skills that would make them more effective. According to Smith (1995), resources in cyberspace catapult the ability of teachers to the global realm.

Still quoting Smith (1995). "in the 21<sup>st</sup> century, technology will reach beyond the universe. The charge of universities is to expose, prompt, stretch, and provide emerging teachers with the most advance redoubles to be better more efficient teachers. Technological advancements also help eliminate many restrictions such as time and distance. The use of real-time on-line teleconferencing, observation and discussion of real classroom situations is possible without actually visiting the site. Education students will benefit from observing experienced teachers and by interaction in authentic educational situation throughout the globe.

"By being able to enhance student teacher observation through teleconference observations, the educational methods instructor can create a more accurate, indepth and realistic assessment than one restricted by the traditional and infrequent on-site visits. Student teacher could request a professor" to observe a small segment of a lesson to provide feedback. This would allow them to observe their colleagues' classrooms and talk with them so that they can learn old practices and build new ones "(Smith, 1995).

It is the expectations of every progressively imbued Nigeria that given the benefits of technology to the overall transformation of the society, teachers would strive hard to eradicate the limitations imposed by traditional methodologies which are currently being adopted. When this is done, the possibility of learning increases exponentially.

It is also imperative to induce our educators to respond appreciably to constant societal change and therefore, become agents of progressive change.

There is no doubt that the challenge of the 21<sup>st</sup> century could be met if our current teacher training program or model is redesigned to allow technology to stretch, enhance, reaffirm and catapult our emerging teachers.

### **CONSEQUENCE OF NON ADAPTABILITY OF TECHNOLOGY TO OUR TEACHER TRAINING PROGRAM.**

The consequences or negative implications of non adaptability of technology to our teacher training program are disastrous. According to Scott (1996) in Fakunle (2002), "non-adaptability of technology to teacher training program will make it difficult to meet the needs of our students and the macro and micro communities that we belong to students will enter the job handicapped by useless knowledge and skills, and incompetent to perform expected skills. Generation of children and young adults would be unable to manouver successfully in a rapidly changing and demanding society.

The negative implications highlighted by Scott (1996) in Fakunle (2002) are also worthy of note:

1. Teachers will remain isolated from other teaching disciplines.
2. Effective individualized instruction will not occur.

3. Traditional practices of teaching will continue.
4. Subject areas will remain non integrated.
5. Students will not have the problem solving, technological, communications and group dynamic skills to be successful.
6. Teacher attrition will continue to rise while student performance continues to decline.
7. Long range effects to the economy will be disastrous due to a shortage of skilled workers.
8. The technology leap to the 21<sup>st</sup> century will leave teachers in the dust.
9. Without the effective integration of technology into teacher training, education will remain in the current obsolete paradigm.
10. Schools will become useless institutions of society.
11. All sectors of the economy will demand the competencies needed to use technology.

#### **APPROPRIATE MODEL OF TEACHER TRAINING PROGRAM IN NIGERIA.**

1. An appropriate model of teacher training for Nigeria must ensure that:
2. Teacher training is a continuous exercise throughout the period the teacher remain in service.
3. The technology that the teacher is exposed to is user friendly, flexible and interconnected.
4. Student teachers are allowed to observe and interact with experienced teachers through teleconferencing.
5. Technology helps teachers to remain creative, adaptable and flexible.
6. Learning is no longer teacher centred and teacher directed, but ensures that teachers become an important part of the learning process.
7. Adequate learning materials or tools are produced to facilitate enhance learning and instruction.
8. Colleges and Universities are abreast of the current educational research device effective and sound teaching strategies and integrate advanced technologies into their curricula
9. Empower students to broaden their knowledge base and enhance and redefine the roles of teachers.

#### **CONCLUSION**

Technology is the only tool that can positively bring about appreciable growth in education if well adapted to our climate. The challenges faced by education in this century are indeed numerous. Teacher must be well positioned to adopt the current methodologies germane for effective teaching and learning. They must be skilled in critical areas of instructional technological applications in order to prepare students to "utilize creative avenues needed to access information and resources" The teacher is the spark that fixed the whole developmental process the key man in the drive to progress. His services are indispensable to the nation, he must therefore, be effectively trained if we have to solve the recurring problem of manpower needs.

On a general note, we must ensure that teacher education is adequately planned as an integral part of our national development. The planning must be based on manpower assessment and allow for changes and keep pace with economic and technological advancement.

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