Abstract
In order to bridge the gap between policy and practice, the paper highlights the need for the integration of Information Communication Technologies (ICT) in all levels of education in Nigeria. It contends that since teaching and academics worldwide are information based, practitioners should be conversant with the emerging types of information delivery which are essentially digital. It also observed that the concept of education in Nigeria is synonymous with under-development challenges, one of which is the great digital divide between Nigeria and the developed countries. The view of the paper is that except Nigerian academics and teachers and indeed the whole educational system acquire new skills and techniques based on ICT, bridging the gap in education in Nigeria will not be achieved. The author concludes that use of electronic mails, face books, twitters, web browsing, and others should be included in the curriculum at all levels of education in Nigeria.

Keywords: Information communication technology, ICT skills, education practitioners, educational system, bridging the gap.

The Nigerian educational system, like any other country’s educational system, has, in recent times, experienced series of Scientific, Technological, Economic, Political and socio upheavals such as the introduction of computer education or Information Communication Technology (ICT), literacy education, entrepreneurship education and modern economic order, into the school curriculum. The rationale behind the involvement of Nigerian educational system in change programmes is an indication of major force in shaping the objectives, methods and outcomes of education in the country. At the moment Nigeria has some of the worst human development indicators in the world, and is not on track to meet most of the Health and Education Millennium Development Goals, (Okonjo-Iweala, 2012). This means that its failing education and health sectors should be reformed. Again, as observed by Okonjo-Iweala (2011), it will be in the interest of the nation to open up dialogue with educators on the need for skills especially at the technical, vocational and tertiary levels.

Of course, as teachers and educational administrators, as the accredited custodians, managers and operators of the most sensitive, most volatile segment of the economy, we will be automatically expected to welcome and wholly embrace such change, create a new focus for our educational sub-sector and health to socialize the youth in its new norms at the same time it will be our collective responsibility to ensure that there are corresponding changes in the attitudes, perceptions and general style of all those whose functions impinge on the day to day workings of the education sub-sector, in the country.

The way our system of education is designed, created and operated, is basically a function of the goals the system is expected to achieve. In the case of Nigeria, the goals envisaged for all levels of education and the modalities for achieving these goals are by general agreement well articulated in the National Policy on Education (2004) as amended. The policy wisely anticipates and provides for the needs of the individual, of the nation, and of its many cultures. Unfortunately there have always been problems which create a gap between policy formulation and implementation. That gap has progressively reduced the efficiency and effectiveness of the system over the years.
The practical problems are of such dimension that it is a wonder the schools have been able to function at all, and also managed, in most cases, to perform some of their major tasks. They include poor physical structures, poor funding, poor or non-existing equipment, poor staffing, and poor management. Others include indiscipline, and examination malpractices and incessant strikes.

It would seem therefore that the prime implication of bridging the gap in our education in Nigeria is the need to overhaul and refurbish the operation of the system, not so much with regard to its aims and purposes, as with special regard to some policy consequences and operational deficiencies, in order to make the system more efficient and fit for the role of worthy instrument of national development.

The specific questions then to ask are:
1. What are the needs or reasons for bridging the gap?
2. Who are the change agents?
3. Is evaluation necessary?
4. What and why ICT skills?

These constitute the focus of this paper.

Needs

Needs for bridging the gap can be discussed under the following sub-headings:

1. **Need to improve on the standard:** this is perhaps, one of the most discussed issues in the Nigerian educational system today. The standard of the system has been generally criticized by some experts’ usually with taste and flavor. Since educational change is found useful where the standard of system is declining or where its existing state is generating public outcry or conflict, changing the policy is found to be relevant in the Nigerian settings.

2. **Further expectation:** Change may be desired if there is a clear indication about the further trend or expectation of the system. In Nigeria, education is said to be performing different roles which may be expressed in terms of nations-building and national promotion. Therefore in order to cope with such future demands, bridging the gap from theoretical to practical is necessary.

3. **Exogenous Factor:** The presence of some exogenous factors that may influence the system, and which may also be the sources of educational change may introduce a new function or method of operation such as deployment of personal computers in class room environment to inculcate ICT skills in the schools while the public may advocate for a course that they believe will benefit their children and society at large. It therefore, demands a change to meet the global best practices in the application of ICT, and it’s in-cooperation into our educational system

4. **Achievement-inclined:** An achievement inclined educationist would always allow a positive change to take place wherever he finds himself. In other words; an educational administrator would always like new programmes that will improve teaching-learning situation to be introduced in the system. ICT represents a transition from a required learning based on limited access to the one based on principle of free access and free flow of information.

5. **Education for Self-reliance:** Learners in Nigeria are taught bits of information in school nowadays; but they are not often taught how to acquire knowledge independently for themselves. Many people would agree about the importance of self-reliance in education. Self reliance has a very profound meaning. It is not merely that the learner should be taught some handicraft or some manual skills by which he may be supported. There must, of course, be manual labour which assists everyone to learn how to use his hands. If the whole population is to take up some kinds of handicrafts, it would bring all sorts of benefits – class divisions would be overcome, production would rise, property and health
would improve. At the very least, this measure of self-sufficiency will form part of the educational programme. But self-sufficiency in the context of this paper involves much more than that. It implies that education must be of such a quality that it will train students in intellectual self-reliance and make them independent thinkers. If this is to become the chief aim of learning, the whole process of learning would be transformed. The present school syllabus contains a multiplicity of languages and subjects, and that student feels that in every one of these, he/she needs the teacher’s help for years together. But a student should be so taught that he/she is capable of going forward and acquiring knowledge for himself. There is an infinite sum of knowledge in the world, and each one needs some finite portion of it for the conduct of his affairs. But it will be a mistake to think that this life-edge can be acquired properly to meet the present global system of education without ICT skills.

**Change Agents:** Towards effective bridging of the gap in education in Nigeria, which involves planning for change in educational structure, curriculum and methods, the following twelve stakeholders should be considered, according to Fullan & Stiegelbauer (1991), as necessary change agents. Vice Chancellors/Rectors/Provost, Principal, Lecturers/Teachers, Student Ministers/Commissioners, District/local Administration, Consultant Government, NGOs, Parent/community, Teacher-education

**Evaluation of Educational Reform**

Evaluation, simply put, appraises the quality of something. In the words of Akintunde (1995), systemic educational evaluation consists of a formal appraisal of the quality of education phenomena. The following conditions must hold for evaluation to be considered worthwhile and meaningful. According to Alkin (2007), it must be viewed as:

…the process of ascertaining the decision areas of concern, selecting appropriate information and collecting and analyzing information in order to report a summary of data useful to decision makers in selecting among alternatives.

From Alkin, (2003) submission, evaluation is being portrayed as a multifaceted activity involving data gathering on the various aspects of an educational programme. This sometimes involves classroom observation of all relevant curriculum activities, such as teacher’s use of texts and materials to affect described changes in learners.

The main purpose of evaluation is to assist decision makers at various stages, take appropriate action to ensure programme efficiency. It is very important to evaluate the extent to which an educational activity (such as educational reform) achieves the purpose for which it was designed or the extent of performance of an educational activity. The matter of performance evaluation concerns the measurement of progress toward objectives, which have been established through perfect knowledge of the total performance required to maximize results. The important place of evaluation in bridging the gap in education from policy to practice cannot be over emphasized. For several critical questions related to educational innovation and curriculum reforms should be addressed. These include:

i. What factors do effective programmes share?
ii. Is it better to “home-brew” programmes or adopt already existing programmes.
iii. How can reformers enhance collaboration/ among researchers and programme developers and practitioners?
iv. What is the best way to enhance evaluation efforts?
Of importance to note is the fact that success of evaluation would require addressing the needs of teachers. For instance, effective professional development designed to enhance competence in new skills offers an avenue for knowledge dissemination about effective programmes.

To help teachers and other key players meet the challenges of new reform and innovation in a positive way, evaluation is needed and must become part of the change process. Indeed, the basic fact which underlies educational reform and innovation is to ensure that no level of education is allowed to fail hence, to save every school, public perceptions, from the individual to the context, from deficits to possibility and a determination to help all children learn. While the individual level of school has to be the unit of change, reformers also need to know beyond individual school reform.

The ICT Imperatives

Besides the professional training of teachers, professionals who would want to make a difference in the hi-tech information superhighway must acquire computer and internet literacy skills. As ICT literacy deals with the knowledge of computer that is necessary to function effectively in today’s world, internet literacy consists of understanding of how to use the internet to obtain information at each stop of the problem-solving process and how to share that information with others.

These skills will enable the proactive, progressive and positive teachers and academic professional to access information sources beyond the immediate confines of his operational environment. This will make the information provided more effective and efficient in the discharge of his responsibilities to satisfy client’s information needs and therefore contribute to eliminating challenges of bridging the gap in education in Nigeria. Electronic mail, web browsing, web page design, web resources, abstracting and indexing, CAI, desktop publications, e-advert, e-learning, e-banking and cataloguing are the necessary areas where specialized skills are required.

Skills on Electronic Mails

As modern libraries and information scientists need skills to explore the awesome potentials of the hi-tech information super-high-way system, so do the teachers and academic professionals. They could still carry on with conventional teaching chores but certainly, not during peak periods. Hence the imperatives of the introduction, use and application on the electronic mail tool in the provision of services to client-groups. Kvebekke (1998) has aptly described the invaluable quality of the e-mail thus:

The uses and potentials of e-mail libraries are for both internal and external communication. E-mail is probably the most sought after and used facility of any electronic network. The use of e-mail as information tool among academics plays a fundamental role in academic research projects. Specifically, the e-mail can be used to activate and sustain a discussion list service, a Usenet news group, and to connect the internet. In the activation of discussion list services, e-mail serves as a useful bridge between stale journals and current ones in the various disciplines especially for the lecturer-client.

It is therefore a matter of top priority that if teachers in all levels of education in Nigeria as information seekers and providers are to remain relevant, they should acquire the necessary skills on e-mail and other ICT. The potential of this type of initiative is that expected advice can easily be sought and given without having to spend a lot on travelling, transportation, and consultancy services. Problems can also be floating and joint solutions given by experts in a particular area. In starting a discussion list, what is need is a virtual address to be created by a host.
Skills on Web Browsing

The use of ICT as an emerging tool in the provision of information services to clientele includes the world web (www). This enables the information browser to see document in richly formatted text and pictures in many web pages, so it is easy to brows or surf a large amount of information by just clicking the mouse. In the words of Debbie (1997), the world wide web, “is the universe of network of accessible information, an embodiment of human knowledge”. It is the technology that makes human knowledge easily available to anyone irrespective of intervening opportunity like geographical distance. The web is a popular medium of sharing information across the globe, we are therefore, not surprised when Harter (1997) observed that:

One of the most popular services by the World Wide Web (www), a typical “web page” is a screen full of text and graphics related to a particular subject area. Certain words and/or images on the page can replace the current page with information about the selected topic or image. The user can continue to follow the link to bring up the new pages.

Skills on Web Design

Since the internet has made the World Wide Web (www) the knowledge and increasingly, the business market of the world, every organization necessarily has to develop its own website and design in HTML. On websites, multimedia presentation of organization – including human and material resources can be made. Usually with feedback mechanism, teachers and academics therefore, should increasingly be involved in the designing and updating of web pages.

Computer Assisted Instruction (CAI) Skills

A Computer can display a set of questions and assistance, for the teachers and academics to choose the correct answers; if the teacher/lecturer supplies the wrong answer, the computer displays the correct answer. They will appreciate the importance of these gadgets in learning, teaching and researching and apply them in real life situations, the awareness and readiness to use this have been internalized to help in the teacher learner relationship.

Abstracting and Indexing Skill

In sourcing for a material or relevant source of information, abstract or indexes in the library are necessary. Once the skill has been obtained in cases where the required resources are not there, the library user can use the skill and the information available to obtain the text through internet, written communication with the author’s address or through inter-library linkages. According to Barko and Berner (1979) abstracting an indexing are still frequently used by the researchers and academics, religious leaders and the society in general from the Middle Ages till date.

Skills on Other Web Resources

The teacher as the information user of the 21st Century must see himself as the information user on web both the tools and communication paraphernalia are increasingly tied to the internet. The teacher as a professional must therefore, be familiar with his/her main tools of professional practice – the digital instrument (Onwubikko, 2006) digital resources on the web are quiet enormous and glaring. Hyams (2002) succinctly described the situation thus:

To find anything on the web, where 3m new documents, 7.3m new pages are published every day, and search engines reach only 16 percent of all content, information architecture implies a need for multi-disciplinary teams – librarians, information architects, and people working with artificial intelligence software engineers and web designers.
Teachers and academic professionals should be guided by the paradigm of “thinking globally while acting locally”. This is predicted on the belief that, “there is a global information overload” (Hyams 2002). There is a changing role of teachers and academic practices and professionals worldwide. This is changing the pattern of the use of and seeking for the information and services by researchers, teachers and academics and the general public. Therefore new teaching/learning skills are sine qua non for effective delivery of information in every classroom environment and hence bridging the gap in education development in Nigeria.

Infrastructures

The highlighting of the above skill areas does not mean that they form an exhaustive list of sectors upon which to focus as sources of bridging the gap in education in Nigeria, without improvement in infrastructure Nigeria’s education will not be able to produce the job-creating growth that is needed. Nigeria’s infrastructure deficit in the power sector, the regulatory framework, the tariff regime for both electricity and gas, physical problems with supplies and unbundled power sector institutions have and can continue to stand in the way of this much needed gap bridging/transformation. It therefore beholds that, Nigeria should focus on ICT both from the infrastructure side (to spur the development of other sectors) and as a sub-sector in itself capable of generating outsourcing and other types of jobs linked to technology. Kenya with its payment systems link to mobile phones and development of applications for crowd sourcing, such that created by Ushahidi Group provides an example of how ICT is spurring the creative energies in the youth and creating jobs in and out of classrooms.

Conclusion

The Agenda for bridging the gap in Nigerians Education is long overdue but it is also clear and exciting that when finally Nigeria succeeds in bridging the gap from Policy to Practice in its education sub-sector, it will transform the whole country and the vision of Nigeria as a fast growing and emerging economy will become a reality.

Recommendation

Based on the following analysis, it is therefore recommended that ICTS should be integrated or be major issues of all levels of education. ICT skills acquisition should be made compulsory for all professionals in the Nigerian school system. To complement these, professional bodies and NGOs, in cooperation with the Federal Ministry of Education, Universities, research Institutions, and international Donor organizations could organize seminars and conferences on ICT skills and acquisition of personal computers and laptops for teachers in our schools, Colleges and Universities.

What this translates into is that the acquisition of ICTS and its use is no longer especial idea but an essential tool for national development. Though this contention sounds proactive and reinventing in the provision of information services to clients; it would not be achieved on a platter of gold. Government should provide the enabling environment for these professionals.

References


From Policy to Practice: Bridging the Gap in Education in Nigeria the Information and Communication Technology (ICT) Imperative


