TOWARDS A ROBUST E-LEARNING AGENDA FOR NIGERIA: CATERING FOR THE PEDAGOGIC ELEMENTS

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ABSTRACT

The character of change resulting from emerging technologies, as it affects teaching and learning, is difficult to describe and predict. But one thing is clear about it: it comes in waves, leaving little room for adaptation before the next sweep. This is the core challenge on the individual whose onerous task it is to facilitate, co-ordinate, supervise, evaluate, monitor and do "other things" required to effectuate learning. A successful e-learning agenda for Nigeria (or anywhere else), therefore, must pay attention to training, re-training, and up-skilling of teachers, as well as acquiring and updating the required ICT tools. Since no educational system can rise above the quality of its teachers, it becomes imperative that the Nigerian government make substantial investment in the re-training, especially, of serving teachers to make them amenable to the new technologies that so clearly threaten to supplant the human teacher. This paper, thus, discusses elements of e-learning and suggests a sustained teacher-preparation programme in the integration of technology in teaching and learning.

Keywords: E-learning, pedagogy, virtual classroom & training

1. INTRODUCTION

Learning is said to be a measurable (and sometimes observable) change in an individual's behavior, which is occasioned by interactions with a set of events, either carefully selected and planned or totally unintentional and incidental. This is the summary of what takes place in a typical learning environment where the teacher is chief mediator between the learner and the set of learning events/activities. The breath-taking pace of change being witnessed in the world of technology and the tremendous impact on teaching and learning, inevitably, call for a re-appraisal of the status of the teacher and his teaching methodologies.

Apart from possessing demonstrable subject-mastery, the teacher in this new Information and Communication Technology (ICT) dispensation, needs training and retaining to plan with, and use, a broad spectrum of instructional media in bringing about learning within the group of his students (Idogho & Eshiotse, 2011). Besides, teachers (or facilitators or mediators or co-ordinators of learning and whatever other names they are called) in this era of Open Distance Learning (ODL), cross-border education or highly fashionable and active social media such as Facebook and Twitter and the existence of Open Education Resources (OERs) on the net, need to be proactively trained and re-trained to enhance their continuous relevance in the scheme of learning. The purpose of this paper, therefore, is to draw attention to teacher-related issues in developing a pragmatic e-learning agenda for Nigeria.

1.1 The Concept of e-learning
E-learningis described as all forms of electronically supported learning and teaching. It also extends to out-of-classroom and in-classroom educational experiences via technology. It is computer and network-enabled transfer of skills and knowledge which include web-based, computer-based and virtual education opportunities and digital collaboration (Wikipedia, the free online encyclopedia). Broadly, e-learning refers to blended learning services: computer-based activities that are integrated with practical or classroom-based situations and content is delivered via internet, intranet, extranet, audio, videotape, satellite television and CD-ROM, and relies heavily on media in the form of text, image, animation, streaming video and audio.

E-learning has its humble origin in the experiments carried out by professors in Stamford University in 1960 to apply computer to the teaching of Reading and Mathematics to young children. Since then, e-learning has grown from the development of easy-to-use-and-maintain, portable, replicable, scalable and immediately affordable technologies to the computer-supported collaborative learning that is widely used today (Karrer, 2006).

2. COMMUNICATION TECHNOLOGIES IN E-LEARNING

According to Gradziadei, Gallagher, Brown and Sasiadek (1997), learning in an e-learning situation may be synchronous or asynchronous. Asynchronous learning uses blogs, wikis and discussion boards which allow participants to engage in the exchange of ideas or information without dependency of other participant's involvement. It enables students or learners work at their own pace and it is particularly ideal for learners who, for whatever reason, are unable to go at the recommended pace.
Synchronous learning, on the other hand, involves:
- Exchange of information with one or more participants.
- The use of skype and chatroom where everybody is online at the same time and working collaboratively.
- Virtual classroom
- Use of emoticons which are icons provided to communicate feelings, moods and responses to statements and questions encountered in the course of interacting with other participants online.
- Breakout sessions in which participants work collaboratively in small group settings to accomplish tasks; the arrangement also allows the teacher have private sessions with his/her students.

Effective operation of e-learning requires one or more of the following systems to be in place:
1. Learning Management System (LMS): This software is for delivering, tracking and managing training or education. It also helps teachers and administrators to track or monitor students' attendance, time spent on prescribed learning task/assignments and progress. Parents (and even the students themselves) enjoy the same privileges. Parents (and sponsors) can find out if their wards are actually enrolled in programmes and the progress they are making. Examples of softwares that are LMS are Moodle, blackboard, desire2learn. LMS are not used to create courses.
2. Learning Content Management System (LCMS): This software is used for authoring, editing and indexing e-learning content, e.g.Atutor, Directus, Impress CMS, open cmsOutstart.
3. Computer-Aided Assessment (CAA): This is also referred to as e-assessment. It involves the use of automated multiple-choice tests in formative and summative assessment. It is interesting that some computer-aided assessment software support essay responses from test takers. Online formative assessment involves sifting out incorrect answers from a student's responses, explaining to the student what he should have done with each question, and then giving the student some more practice before summative assessment is carried out.
4. Moodle: This **m**odular **o**bject-**o**riented **d**ynamic **l**earning **e**nvironment platform enables both synchronous and asynchronous teaching, learning and evaluation to take place.
5. A cheap, easily adaptable and re-usable e-learning approach is the use of lectures recorded on compact discs (CD).

3. PHILOSOPHICAL FOUNDATIONS OF LEARNING

It is necessary to briefly review some relevant philosophies that have had significant implications for learning, to serve as foundation (or re-enforcement) for an effective e-learning agenda for Africa.

3.1 Constructivism
Constructivists hold that learners interpret information and the world according to their personal reality. They posit that people learn by observation, processing and interpretation, personalizingand, then, integratingthe information into their world view. Learners develop problem-solving skills and learn by doing than by being told (Wikipedia, the free online Encyclopedia).

3.2 Positivism
Positivism is a set of epistemological perspective and philosophies of science which hold that the scientific method is the best approach to uncovering the processes by which both physical and human events occur. Positivists hold that the only authentic knowledge is that which is based on sense, experience and positive verification.
The thrust of positivist argument is anchored on the principles that:
  i. There is unity of the scientific methods
  ii. The goal of inquiry is to explain and predict
  iii. Scientific knowledge is testable empirically
  iv. Science does not equal common sense
v. Theory and practicemust relate, (Wikipedia, the free online Encyclopedia)

3.3 Empiricism
Knowledge comes only or primarily via sensory experience, according to empiricists. For this reason, they believe that emphasis should be put on evidence, especially as discovered in experiments. They argue that a fundamental part of the scientific method is that all hypotheses and theories be tested against observations of the natural world order, rather than relying solely on apriori reasoning, intuition or revelation. http://psychology.wikia.com/wiki/empiricism

A synthesis of these philosophies supports the proposition that for learning to take place, it is imperative to create a conducive environment in which relevant experiences can be created through intensive interaction between learners and technology-mediated body of information/skills.
To facilitate this, Gagne (1985) proposes the following instructional design model:

        Step 1: gain learner's attention
        Step 2: inform him of lesson objective
        Step 3: stimulate recall of relevant prior knowledge/learning
        Step 4: present stimuli with distinctive features to aid perception
        Step 5: provide learning guidance
        Step 6: Elicit performance
        Step 7: Provide informative feedback
        Step 8: assess performance; and
        Step 9: Enhance retention and learning transfer

3.4 Profile of an e-learning "classroom"
An e-learning classroom does exist, but not in the traditional sense of a room within a building, with tables and chairs (desks and benches) arranged such that the outermost space is reserved for the (black, chalk or marker) board and the teacher. There may be no eye-to-eye physical interaction between teacher and learner; machines and gadgets play a key role in the learning interactions; learners are probably spread out across indeterminate locations, with lessons rigidly followed, whether or not there are learners who have not mastered the last lesson/topic/skill; power and internet access are critical facilities necessary to create, maintain and sustain an e-learning environment .

4. EMERGING ISSUES IN E-LEARNING

The pace of change and the effect of globalization definitely have significant implication for the principles and practice of education. In the old outgoing order, blackboard (chalk or marker board), book, a formally arranged physical classroom, a highly-regimented time-table, dedicated hours and days of learning within the week, clearly specified course duration and other practices firmly hold sway. Teachers who were produced and nourished on this menu, obviously, will face intimidating challenges in the process of
 mediating learning in the new order.
An effective e-learning agenda for Africa must be anchored on a corps of teachers with demonstrable operational ICT competence (Idogho&Eshiotse, 2011). Besides subject mastery, such teachers will need to be able to plan with and use a broad range of instructional media to bring learning within easy reach of students. It has been "prophesied" that in the next many years, books, traditional classroom learning, among others, will diminish in popularity and patronage. If this prognosis ever comes to pass, as many researchers fear it will happen, it means that serious effort must be committed to retraining practising teachers to teach with ICT tools; otherwise, they will be out of job.

It is also a fact that there are more people interacting on social networks of blogs, Facebook, skype, twitter and the likes than can ever be found in any learning centre (or school). Thus, if Nigeria is to create and sustain access to education for its teeming population, then its teacher training curriculum must be updated. Old or practising teachers must be given opportunity to up-skill or re-skill through in-service, on-the-job, short-service training. Open Distance Learning (ODL) precludes opportunity for regular face-to-face meeting with learners; it means there will be little opportunity for the teacher to model and mentor appropriate behavior in his students. Therefore, the issue of communication becomes critical. The teacher will need to learn to read between "the lines" of his students' textual (written) or spoken (using skype and other chat media) to be able to provide help, guidance and counseling.

The existence and availability of Open Education Resources (OERs) also mean that the teacher can no longer hide behind the alibi that relevant and current reading materials are not available. Resource materials on virtually all subjects are now available online, with very liberal copyright conditions. So, the teacher has to be on his toes to keep abreast of developments in his field. The issue of assessing or evaluating learner performance is a critical component of any educational package. The conduct of examination, ordinarily, is daunting, not to add the deployment of ICT tools into the process. Teachers on an e-learning programme need good training to be able to plan tests/quizzes, administer same, evaluate performance, store test scores and retrieve for use.

4.1 Nature and Benefits of training

According to Kenny and Reid (1986), training can be used to prevent or overcome shortfall in performance. Further training is needed to restore competitiveness, growth and equity to modernize traditional sectors and facilitate holistic growth and stability (Grubb and Ryom, 1999). Not only government but also schools should implement programmes aimed at raising the pride, self-esteem and dignity of teachers through training and re-training (Ossai, 2009). This could take the form of in-service training, on-the-job learning programmes, special courses (conference, seminars, workshops, etc) staff exchange/industrial attachment, individualized training. Training and re-training of staff and updating of skills do have tremendous effect on cost of operation, programme content and methodology. But the benefits are unquantifiable. First, individual trainees gain greater intrinsic job satisfaction because they have access to a new repertoire of skills, and extrinsic job satisfaction which may come in the form of extra earnings through improved job performance and the enhancement of career and promotion prospects both within and outside teaching. For government and the general school system, labour turnover is reduced and there is greater customer or client (students, parents, funding agency) satisfaction.

5. CONCLUSION AND RECOMMENDATION

It is incumbent on Nigeria to buy into the e-learning schemata, if it is to acquire the necessary competitiveness to operate at the global arena. There is no nation that rises above the quality of teachers and other operators of its educational programme. Therefore, a successful e-learning agenda for Nigeria requires that:

i. The programme of teacher training be overhauled to include mediation of learning with ICT tools.
ii. Practicing (old) teachers should be re-trained through in-service, on-the-job, short service programmes to enhance their relevance.
iii. Nigeria government must invest in power and provision of reliable internet services.
iv. It isnecessary to provide cafes in good number to service their populations and subsidize access to internet services, especially by rural-dwellers.

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