MULTIMEDIA AND THE MANAGEMENT OF OPEN AND DISTANCE LEARNING FOR TEACHER EDUCATION IN NIGERIAN UNIVERSITIES

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ABSTRACT

In recent time, open and distance learning for teacher education has been a major concept of discourse. The application of instructional multimedia system design approach has further brought substantial amount of success in designing, implementing and evaluating the process of open and distance learning for online delivery. This article explores the benefits of the principles of integrated model of multimedia in open and distance learning for teacher education in Nigerian Universities. The management challenges characterized by planning, staffing, training and funding of open and distance learning were discussed. Constrains and strategies for effective use of Information and Communication Technology and recommendations for effective delivery within the purview of open and distance learning for teacher education in Nigerian universities were also proffered.

Keywords: Open and Distance learning, Multimedia, Teacher education, Management, Nigerian Universities.

INTRODUCTION

Open and Distance Learning is becoming increasingly significant in today's knowledge-based and globalised economy. It is a field of education that focuses on teaching methods and technology with the aim of delivering teaching often on individual basis, to students who are not physically present in a traditional educational setting such as a classroom (Wikipedia, 2011). As an 'open' form of learning, its free entry nature pre-supposes that it operates policies and practices which allow all categories of learners, irrespective of age to participate in its programmes. Teaching is carried out through self-driven learning among the students through alternative on-line delivery methods, media and instructional strategies (Onasanya, Shehu & Oduwaiye 2011).

Open and Distance Learning (ODL) is useful at five main educational levels namely basic education, teacher training, university level, non-formal education as well as technical and vocational training. Teacher training is however one of the most widespread purposes for which ODL has been adopted, either for initial training or upgrading of existing teachers. Such teachers have the opportunity to be retained in their schools, save on resources and bring immediate benefits to their classrooms (OECD, 1995).

One of the major factors which have given rise to this form of learning is that most people do not have access to the conventional training in Nigerian universities. They also lack adequate 'time' to undergo such a programme in the conventional way. Thus, nowadays many people, including teachers are beginning to see Open and Distance Learning programmes as 'viable' ways of acquiring education even in a more convenient environment. Due to the non face-to-face methodologies adopted in ODL, the printed medium is basic, supported by Information and Communication Technology (ICT).

Therefore, the complex nature of the Open and Distance Learning form of education which is basically ICT – driven necessitates the use of multimedia effects in order to enhance learners' cognitive comprehension of e-learning materials. Multimedia learning offers immense potential for increasing learners' educational progress and channeling their learning curves effectively (Onasanya, Daramola,& Asuquo, 2006). Thus, there is the need for ODL programme designers to integrate multimedia into their e-learning materials. The peculiarity of the ODL system has also brought about

management challenges that border on its planning, funding staffing and the use of Information and Communication Technology (ICT). This paper proposes the use of an integrated multimedia model for effective management and delivery of teacher education at the university level through the Open and Distance Learning (ODL).

CONTEXT AND REVIEW OF LITERATURE

An adaptation of the integrated model of multimedia effects on learning proposed by Hede and Hede (2002) can be used to support the use of multimedia in the ODL system of education. The model was conceptualised from the theories of behaviourism, cognitivism and constructivism psychology. Hede & Hede's integrated multimedia model observed the theory of behaviourism that concentrates on the study of overt behaviours that can be observed and measured (Good & Brophy 1990).

The model also was rooted on cognitive theories that recognised that learning involves association established through contiguity and repetition. It recognised the importance of reinforcement, motivation and feedback. However, while accepting such behaviouristic concepts, cognitive theorists view learning as involving the acquisition or reorganisation of the cognitive structures through which human process and store information (Good and Brophy 1990). The principle of constructivist psychology was also embeded in the Hede & Hede's model to explain that learners construct their own reality or at least interpret it based upon their perceptions or experiences, so an individual's knowledge is a function of one's prior experiences, mental structures, and beliefs that are used to interpret objects and events (Jonasson 1991).

Closer study of Hede & Hede's model further reveals certain factors which aid learners' understanding. A careful selection and use of appropriate visual and auditory inputs is capable of inducing positive multiplier effects, thereby motivating the learner and enhancing his comprehension of learning materials. This is illustrated in the figure below:
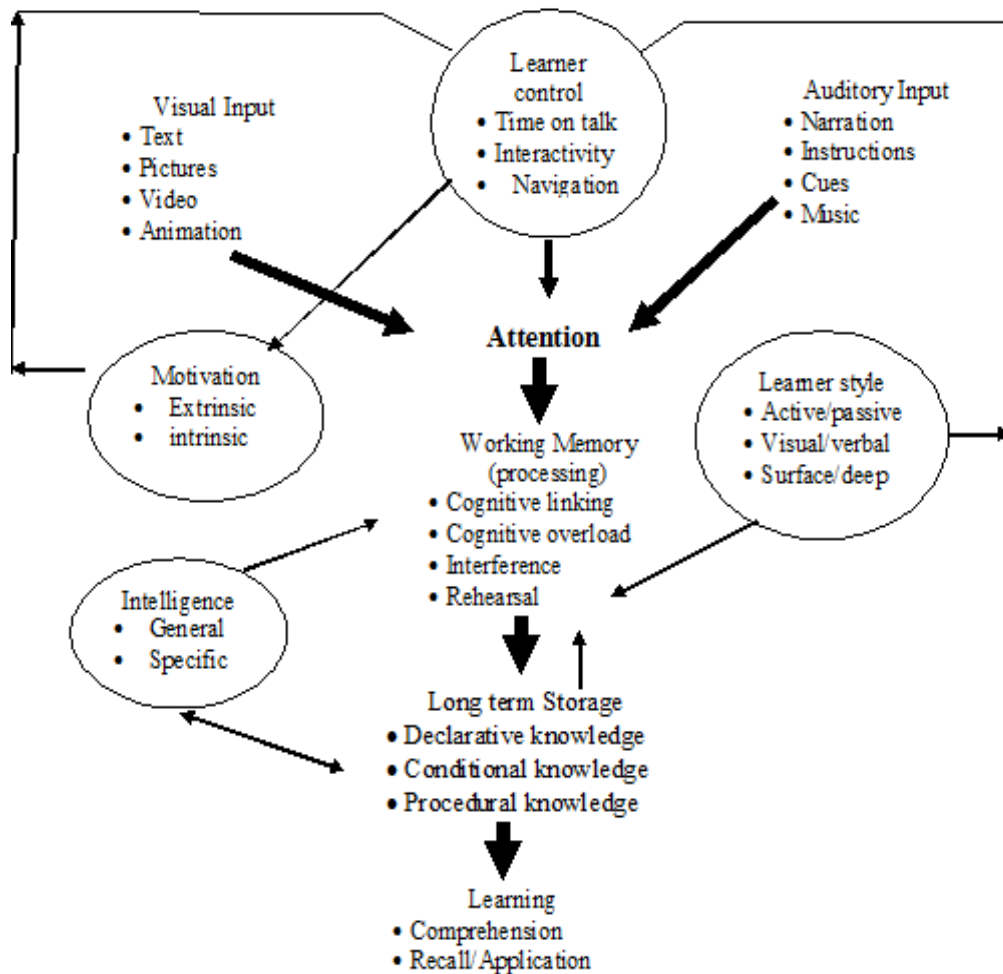
Figure 1: An adaptation of integrated model of multimedia effects on learning.

Source: Adapted from Hede and Hede's Integrated model of multimedia effects on learning; in "Multimedia effects on learning: Design implications of an integrated model" by Hede, T., & Hede, A. (2002), ASET.

An Adaptation of Hede and Hede's Integrated Model of Multimedia Effects on Learning for Open and Distance Learning System

Multimedia application of visual inputs in ODL involves the use of texts, pictures, video and animation to support e-learning presentation in order to facilitate comprehension. Similarly, auditory inputs entail the use of fluent narration, clear instructions, appropriate cues and pleasant music (if necessary). In other words adequate and effective injection of the visual and auditory inputs into the ODL system sustain the attention of the learner who is then motivated to process information presented form the working memory component to the long-term storage component. Thus, all these culminate in comprehension and application of learning. It should be noted however that learners are not only motivated intrinsically by the multimedia effects embedded in the presentation, some form of motivation also emerges from their own pursuit for personal goal achievements.

Other factors that have relevance in the adaptation of Hede and Hede's model are the learner's style (of learning) and the learner's intelligence (general and specific) - the general intelligence with regard to the ODL system being the basic technology skill while the specific intelligence may refer to the learner's own field of interest. It is against this backdrop of effective use of multimedia effects, that the ODL system has to be innovatively managed to achieve positive outcomes for both learners and providers.

Management Challenges of Open and Distance Learning for Teacher Education in Nigerian Universities

All over the world, teacher education is a crucial aspect of the development of educational sector. In order to achieve national and global goals in education, the issue of teacher education should be accorded priority. One of the ways by which more teachers can be trained and re-trained is through the Open Distance and Learning system of education. Nowadays, knowledge and learning are central to work and everyday life (OECD, 1995). Although open and distance learning is most useful at higher education level, teacher education is however one of the most widespread purposes for which ODL has been adopted either for initial training or upgrading of existing teachers. This view is supported by Robinson and Latchem (2002 who felt that ODL has the potential to strengthen and expand the teaching profession of the 21st century and to help achieve the target of Education For All (EFA) by 2015.

Inspite of the huge benefits to be derived from the ODL system and owing to its peculiar nature of implementation, there are management challenges that need to be tackled. Such challenges include the planning, staffing, funding and the use of ICT for the delivery of e-materials.

Planning the Open and Distance Learning System for Teacher Education

In general, the concept of planning entails the ability to look ahead in order to visualize what preparations need to be put in place before a programme takes off. With respect to the ODL system, the planning process should start with a well-established Distance Education Unit which will be followed by the course development in terms of the syllabus, recruitment of course writers and re-training of existing lecturers mainly from the departments in the Faculty of Education using lecturers that teach those courses in a face-to-face classroom setting. The issues that need to be considered in the planning and designing of ODL e-learning materials include the following: a) different learning styles and needs of lecturers; b) time constraints and geographical distance of learners; c) use of technology to assist learners; d) the production of quality course materials; e) the availability and access to ICT equipment; f) efficient power supply; g) availability of adequate fund for running the programme; and h) qualified and competent staff to support the delivery (i.e experts).

Distance learners' needs can be met through the provision of appropriate and well managed learner support system, both in instructional and non-instructional areas. Services in non-instructional areas include application, admission, registration, counseling and library services. These support services need not only to be flexible and learner-oriented, but also they should be made available when learners need them.

Staffing and Training for Teacher Education in the Open and Distance Learning System

A crucial aspect of managing an ODL system concerns staffing and training needs of staff. Categories of staff include subject specialists, specialists in materials' production, counselors, instructors, researchers, web designers, system engineers, evaluators and administrative staff. According to Williams (2000), the ever-evolving landscape of distance education technology requires that the distance educators continually develop new skills. As distance educational programmes are being implemented, management will have to decide on who to hire, train and or re-train. Institutional authorities will also decide on the type of skills and levels of competencies required as well as take decisions on which skills and/or competencies are more important. For instance, there are competencies relating to communication and interpersonal skills, technology and instruction. Different staff would have different levels of mastery of general competency as well as other competencies relevant to their specific roles. An example of a general competency is the basic technology skills. Experienced multimedia and instructional designers need to provide media support to enhance lesson delivery (Onasanya et al 2010).

Funding and the Open Distance Learning System in Teacher Education

Although the ODL system can be seen as a cost-effective approach to increasing access in education in general and teacher education in particular, its management and sustenance requires adequate and regular supply of funds for the provision and upgrading of ICT equipment and even for the training of

teachers by the government at a future date. In many higher institutions, ODL system is expected to be privately funded; institutional authorities also expect to make profit from such a system.

The Use of Information and Communication Technology (ICT) in Open and Distance Learning System

ICT is the main medium for delivering lectures in a distance learning system. There are basically two types of learning technology for this purpose: synchronous and asynchronous learning technologies (Wikipedia, 2011). In synchronous technology, all the learners are 'present' at the same time (of lesson delivery). Thus situation demands a time-table so that all the learners are ready to participate in receiving lectures at the same time. Examples of this type of learning technology are video conferencing, web conferencing, educational television, direct broadcast, internet radio and the telephone.

On the other hand, asynchronous learning technology is used when learner's access course materials at their own convenient periods and this make the mode of lesson delivery more flexible. Certainly, the learners do not need to be together at the same time. Examples of the learning technology used here are message board forum, e-mail, video and audio recordings, print materials, voicemail and fax. It should be noted, however, that the two methods can be combined for instructional delivery.

Meaningful interactions between the learners and the instructors are also possible and relevant to positive outcomes in the ODL system. These interactions elicit appropriate feedback which acts as reinforcement for both learners and instructors.

CONCLUSION

E-learning has gained immense popularity in recent times. Debunking traditional notions of how teaching and learning have been taking place in educational ecology, e-learning has bridged the constraints of time and geographical distance that characterized the traditional learning system, and it has diffused into a flexible yet dynamic mode of study for populations of learners, taking into account their varied learning styles and needs. E-learning is now widely hailed and synonymously associated with a more effective and efficient learning outcomes (Onasanya & Ogunojemite, 2005). The peculiarity of the ODL form of education requires that many issues have to be considered before it is introduced into the teacher education programme. The issues or factors that have been discussed above have a lot of bearing on the result-oriented operation of multimedia which does not only motivate learners to learn but also impact greatly on efficient and effective lesson delivery.

RECOMMENDATIONS

In the light of the foregoing discussion, the following recommendations are made:

a. Relevant course writing workshops and retreats should be organized to acquaint writers with details of standards in course content, duration, et cetera.
b. Team work approach is important to the development of course materials.
c. Learners and instructors should be taught how to make effective and appropriate use of multimedia techniques. This exercise should be conducted at different periods.
d. At the initial stage, the ODL system could make use of a combination of conventional resources and ICT techniques shifting gradually to ICT-based programmes using a computer conferencing type. This would allow student-to-student and student-to-instructor interaction as well as complement learning, assessment and feedback.
e. As a form of motivation for staff who are basically the instructors, the materials developed by course writers could be recognized as academic publication for staff appraisal purposes (as it is done in the University of Botswana).
f. ODL is a capital-intensive form of education. It is ICT-driven and it is supposed to serve learners over a wide geographical distance. Adequate funding of ODL system by the Nigerian government is thus a necessity. This implies that government should contribute financially to the ODL form of education as it is done in the conventional form of university education.

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