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Research Paper

Information and Communication Technologies: A Need for Curriculum Reform for Students With Learning Disabilities in Nigerian Schools

Education

KEYWORDS : Special Education, Curriculum, Information and Communication Technologies, Curriculum Reform.

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ABSTRACT

The present revolution in Information and Communication Technology (ICT) necessitates a total overhaul of inclusive schools and special education curriculum to reflect the change. Most schools and service delivery systems for learners with learning disabilities now adopt the use of ICT. Hence, there is urgent need to integrate ICT to special education curriculum in order to train special education teachers who can stand the test of time.This paper highlights the need for reform ofspecial education curriculum. Various changes brought about by ICT in special education curriculum, advantages of ICT, the training models, strategies, skill acquisition for effective operations. It highlights the various challenges of integrating ICT to special education curriculum and finally suggests some strategies that could be adoptedfor effective reform and integration of ICT to special education curriculum.

INTRODUCTION

The contemporary paradigm shift in curriculum development and service delivery for students with learning disabilities brought about by the revolution in information communication Technology (ICT) require a proactive training and ICT skill acquisition in order to fit into the new environment. lCTis basically an electronic based system of information transmission, reception, processing and retrieval which has dramatically changed the way we think, the way we live and the environment in which .we live, Ogunsola (2005). It has brought dramatic changes and innovations in the curriculum development and instructional delivery and management processes in the education of students with learning disabilities. The introduction of lCT training in the curriculum is quite indispensable for reforming Nigerian education system for better and quality teaching, learning and research. Hence, Nigeria's education system needs a holistic reform of the curricula to reflect the present digital environment. The utilization of lCT in all facets of life especially in information handling and learning environment necessitates that both theteacher and the students must be trained to acquire ICT skills and competences in order to function effectively in the digital/hybrid school environment.

ICT and professionals have witnessed remarkable changes and globalization of curriculum operations and services delivery as well as competitions beyond traditional, institutional, national and regional boundaries. This new environment has made it indispensable for schools to strive to improve their quality of programmes in order to participate in global educational networks as well as develop innovative strategies and competencies to produce graduates for life long learning and whose work place spans the whole world. The present education and training of ICT student/professional should be such that will equip them with the competencies and skill to face the changing information environment and be employable the job market in any part of the world. Ochalla (2003) observes that the LIS job market requires additional and new competencies such as computer literacy, world processing, spreadsheet, data base construction and management online searching and retrieval, CD-ROM services, others include electronic current awareness services, automatic indexing and abstraction virtual references, services, digitalization, desktop publishing, e-publishing, library automation, social networking, telefacsimile. Incorporating ICT in the curriculum for learners with learning disabilities is of paramount importance in order to achieve the educational goals and objectives in the present digital environment. There is greater need for reform and infusion of ICT knowledge and skills into the curriculum course content. Olorundare, in Ozioko and Nwabueze (2010) noted that the increasing trend of the use of ICT in class room work across the globe has been necessitated by three factors which include;

- Electronic technological devices are being used to prepare the present generation of young people for a future work place that will undoubtedly be characterized by information technology (IT). Preparing students with learning disabilities and the wider citizenry for tomorrow's world can only be done through a careful use of ICT tools, computers internet spreadsheets and database.

- ICT tools make schools more efficient in the teaching/learning enterprise. Classroom teachers' personal professional development and academic productivity have been greatly enhanced.

Information has dramatically changed to service which provide organized access to the intellectual records wherever it resides whether in physical place or in scattered digital information spaces paving way to the present model of hybrid libraries (Carr, 2001).

The Concept of Reform

Reform in education means to first evaluate assess and reappraise the existing education system in terms of standards structure, quality, quantity, teachers, welfare, classrooms and curriculum. Reform basically starts with problem identification, analysis and evaluation of the existing system in order to adopt changes to improve on the system. The oxford Advanced learner's Dictionary of contemporary English (6th ed.) defined the term "reform" as to improve a system by making positive changes to it. It entails adopting policies and practices to ensure better quality education. Curriculum reform therefore is a process of positive changes in the education policy, putting right what is wrong, improvement from deficiencies, initiating ideas, inculcating innovations and action plans and total overhaul of the curriculum to reflect quality training for the changing environment. Reforming any curriculum therefore supposes that the curriculum should be redesigned to accommodate new knowledge and practice for students with and without disabilities. The Curriculum Corporation (2006) revealed that using ICT as a tool for learning enables students to:

- Efficiently and effectively access digital information to assist with investigating issues, solving problems and decision making;
- Produce creative solutions to support learning and develop new understanding in areas of learning;
- Communicate, share and work collaborativelyin local and global environment, understand the legal, ethical, health

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and safety implications of using ICT and their responsibilities as users and developers; and
- Develop new thinking skills to support learning.

The goal of any reform is to reflect change to ensure effective, functional and productive system. Ozioko and Nwabueze (2010) noted that reform comes up as a way of ensuring, that the educational system is structured and made to be more relevant to the needs and aspirations of learners with and without special needs through the injection of new ideas. Eskay&Chimah (2013) added that curriculum reform helps tremendously inprogress acceleration and improving the education of students with and without disabilities..

Changes brought about by lCTProfession.
lCT have brought about a lot of changes in transforming the way in which information is acquired, processed, retried and disseminated among diverse learners with and without special needs..

The knowledge of internet search, networking, database management, web design, metadata creation, communication and retrieval technologies have become core to the profession. In view of these changes, information professionals should competently be equipped to navigate information networks in order to provide a worthwhile service to the increasing and changing information needs for learners with disabilities. Consequently, Special education curriculum needs an over haul and reform to integrate lCT concepts, knowledge, skills, and competencies into the core curriculum content. Hence, a proactive practical ICT training remains indispensable to enable graduates to adapt effectively to the changing information environment.

Diso and Njioku (2007) in their study concluded that the training of librarians in Nigeria is inadequate, and needs radical restructuring to produce librarians suited to deliver services in a digital or technological based library in knowledge based society for the assistance of students with learning difficulty. Obviously, the general library environment is gradually but continuously changing from analogue to digital and/or hybrid library environment as a result of the present lCT revolution. The concept of a library as a physical place where one can visit to access research findings and new approaches in to the system .A reform is a process of improving by alternation ,correction of errors or removal of defects of simply to put into a better form or condition, (Ekwujuru,2007). Educational reform is a comprehensive reworking or rebuilding of the educational system for the ultimate purpose of improving teaching and learning, (Achunine, 2006). Curriculum reform in special education ensures a flexible teaching and learning environment and incorporating electronic learning techniques and facilities. Ali (2009) emphasized that "any education that does not reform itself by introducing changes engendering new processes, and addressing new challenges and expectations, modifying current practices so as to reposition the education to meet new national development challenges for learners with learning difficulty will become moribund and lead to national retrogression, as well ass constant crises in education and ultimately incipient decay.

Integration of ICT in Special Education Curriculum in Nigeria.
Educational curriculum generally is constantly undergoing changes as a result of the revolution in Information Communication Technology (lCT). The term "ICT" describes the use of computer-based technology and the Internet to make information and communication services available to a wide range of learners with special needs. The term is used broadly to address a range of technologies, including telephones and emerging technology devices. Central to these is the Internet, which provides the mechanism for transporting data in a number of formats including text, images, sound, and video. The quality of any learning activity is highly dependent on the curriculum content. Opara (2009) emphasized that a worthwhile curriculum should be dynamic in order to be relevant learners. Hence, curriculum should be constantly revised in order to effect changes in the changing environment. The major significant change in the new curriculum is the fact that ICT is now an integral part of most special education subjects taught in schools. This integrated approach has put more requirements on both the teacher and the students to acquire the necessary ICT skills in order to face the new challenges. Integrating ICT skill acquisition in special education curriculum must be considered as a key developmental factor for effective information handling.

There has been divergent curriculum in schools in Nigeria. Different schools operate on its own curriculum. Opara (2009) noted that a review of thespecial education curriculum in schools revealed that while some emphasize more library sciencecourse, others strife to state a balance between library and information science. In some schools in Nigeria, the issue of subject base is still controversial and not welcomed. However, there is a need for more emphasis on ICT in order to be well equipped to face the present challenges in the present digital/hybrid library environment. Igun (2005) noted that Nigeria education system is still specializing in producing a mediocre work force in the universities by equipping the university graduates with mainly theoretical knowledge [principal] ...educated individual needs both theoretical knowledge and practical skills in order to be balanced.

Although some inclusive schools in Nigeria have adopted some ICT based programs in their curriculum, the big question is: how effectives have these programmes impacted on the Students with learning difficulties? The issue is not just teaching the courses, but emphasizing on practical ICT skills which has been seriously lacking among students with learning difficulties. This will enhance effective communication, teaching, learning, research and problem-solving. Moreover, some special education teachers do not posses the necessary ICT skills needed to coach their students. There is also need for training and re-training of special education professionals in order to impact ICT knowledge to their students. On this note, Udoh (year and page) stated inter-alia:

... the information studies programmes in the various Nigerian schools should emphasize information technology both in theory and practice. The new breed information worker needs to be well, informed about the tools for practicing his or her profession. The onus of accomplishing this task lies with our library schools. Furthermore, the teachers handling the training of the students in Nigerian schools need to be re-trained in the modern theory and practice of information technologies if they are to meet with the del1'wnds of the society and the Nigerian labour market

Advantages of ICT in Inclusive Schools
There are a lot of advantages in the use of ICT in inclusive schools especially in a networked environment which include:

- Increased easy access to information globally;
- Preservation of large amount of information in a reduced volume such as the use Of CD-ROM;
- Opportunities to deploy innovative methodologies and to deploy more interesting material that creates an interest in the schools;
- Enables better management of school operations by improving the productivity and , operations services;
- Enables optimum utilization and sharing of resources among institutions thereby reducing the costs of implementing ICT;
- It is a veritable tool for e-learning and it offers a platform for collaboration and interoperability of schools globally.

ICT Training: models of Delivery.

Information and communication are crucial as an underpinning tool to support learning, teaching and research. Within this context, it is critical that both students and staff (the teacher) have sufficient ICT knowledge and skills to allow them to make effective use of technology in their working and learning environments. The integration of lCT skills in the special education curriculum offer a range of services to support the development of special education staff and students with learning difficulties.

ICT Training Strategies

Ensuring good understanding of ICT practices and a firm grip of lCT competences will enable both the staff and the students to better adapt and fit into the present ICT-driven environment. There are three levels of training that are important for both staff and students.

1. Awareness Raising: This comprises an introductory level, focusing on developing an appreciation of what ICTs are, and how they can support teaching and learning practices of special education staff and students with learning difficulties. This includes familiarizing the students with different ICT facilities such as computer hardware and software packages.
2. Skill Acquisition: Focuses on generic skills which are the basic skill required to manage and manipulate a computer. It entails the inculcation of specialized ICT skills into the students for effective data creation and management
3. Application: This entails the utilization of the acquired ICT skills in information management and services. Students need to apply the acquired skills into practical use such as internet search, database management, online cataloguing, web publishing, metadata creation, networking, digital reference services, trouble-shooting etc.

lCT Skill Acquisition

Integrating ICT skill acquisition inspecial education curriculum must be considered a key developmental factor for effective information handling especially in the face of ICT-driven environment. Special education curriculum must be redesigned to accommodate new knowledge, skills, and practices. This is because most traditional schools routines are now done with computer technologies such as online acquisition of materials, online cataloguing and Online Public Access Catalogue (OPAC), digital reference services.

The pervasive nature of ICT has an implication for both the learning environment and employment requirement. In our contemporary environment, ICT skill is a very important criterion for employability in any establishment. A trained special educator with JCT skill is better equipped and has the opportunity of establishing an information or documentation center as a private enterprise. On this note, Tella and Adu(2009) emphasized that "embedding the use of ICTs in the special education curriculum must be considered a key priority and part of national strategy for learning in an online world by every developing countries of the world". The reason for this is because we live in a technological world where information and communication technologies (lCTs) are fundamental to most activities.

The training of special educators in the 21stcentury must integrate the aspect of Digital Information Management System (DIMS). This is because most libraries especially in developing countries are digitizing their local resources and are in a hybrid form. On this note, Zhou (2005) describes the responsibilities of a digital librarian as follows:

- Select, acquire, preserve, organize and manage digital collection;
- Design the technical architecture of digital library;
- Plan, implement , and support digital services such as information navigation, consultation and transmit services;
- Establish friendly user interface over network;
- Set up relative standards and policies for the digital library;
- Design, maintain and transmit add-valued information products; and
- Insure information security.

Challenges of Integrating lCT to Special Education Curriculum

There is a very serious challenge of accepting that most special education activities can no longer be divorced from ICT. Some of the challenges facing the integration of ICT to special education curricula especially in developing countries include:

Policy Issues: The formulation of policies that will drive a proactive integration of ICT across all education sectors. Adoption of ICT policies in teaching, learning and research in developing live-long learning and as a transformatory tool to national development;

Inadequate Technological Infrastructureto support the integration of lCT to special education curricula. This refers to inadequate hardware and software and low internet connectivity;

Erratic Power Supply: most developing nations of the world are still facing very low electricity supply. This is a very serious issue affecting effective lCT development;

Lack of Fund: The present economic recession is a very big challenge to the development of special education in developing countries. The severe budget cut and its attendant implication of widening the digital divide between Africa and other parts of the world is worrisome challenge. A lot of money is needed to purchase adequate bandwidth and network connectivity, server, generator, computers, software and maintenance cost;

Technophobia: Most students with learning difficulties and special education staff alike have not really embraced the use of lCT in teaching and learning process. Some are afraid of manipulating computers.

Inadequate Trained Personnel: There are not enough competent personnel to impactthe skills to students with learning difficulties.

Conclusion / Recommendations

ICT is continuously playing very important roles in information handling. Various inclusive schools routines are constantly changing from manual to electronic forms. Owing to these changes, there is need for a proactive reform and integration of ICT to special educationcurriculum in order to reflect these changes. From the foregoing, the following are recommended:

- The formulation and implementation of policies to integrate ICT training to all education sectors;
- Government should provide adequate ICT infrastructure to leverage the problems of integrating ICT to special education curriculum development;
- Provision of constant power supply;
- Provision of fund;
- AdequateICT orientation to students with learning difficulties and special education staff to familiarize them with various ICT facilities;
- The issue of training and retraining to adopt and utilize ICT facilities in teaching, learning and research is very important;

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