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## **Challenges of Students' Industrial Work Experience Scheme (SIWES) in Library and Information Science in the ICT Environment**

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### **Introduction**

Training is a key factor in enhancing the efficiency and expertise of the workforce. The Students Work Experience (SIWES) program prepares students for labor markets. It has become an innovative phenomenon in human resources development and training in Nigeria. The library profession, like other professions, is dynamic. This dynamism is in response to Information and Communication Technology (ICT). With the introduction of ICT into the field of library and information science (LIS), it has become imperative that library and information science practitioners possess the skill needed to function effectively in an ICT environment.

Lawal (2002), quoting Francis Bacon, describes a professional as one who has mastered certain specialized intellectual techniques, and adds that it was the intellectual content which came to distinguish the profession from the medieval craft. According to him, increased specialization of skills means that the term "profession" is now used for certain occupations which enjoy prestige and which give esoteric service. Such professions include architects, surveyors, doctors, librarians and information scientists, and engineers, among others.

The intellectual work of librarians derives from the application of scientific principles in organizing, storing, retrieving, and disseminating information. In recent years, the library profession has been affected by developments in ICT. Igbinoso (2007) notes that advances in ICT have changed the paradigm of librarians' work from information storage to one of access to world literature resources using electronic databases, the Internet, and other digital resources. According to Omekwu (2005), digital technology has revolutionized the information acquisition, storage, and retrieval processes. The application of ICT in libraries has widened the scope of librarianship, conferred new roles on libraries, and has placed more demands on the ability of librarians. Karisiddappa (2004) stresses that the contemporary environment indicates a pressing need to educate and train library employees for a sustainable professional competence. LIS programs are skill-oriented, and to acquire adequate skill, training must occur in the appropriate environment.

## Nature and Scope of Students Industrial Work Experience Scheme (SIWES)

Practical knowledge relates to doing. According to Ochiagha (1995) practical knowledge is learning without which mastery of an area of knowledge may be too difficult to achieve. Practical knowledge involves developing skills through the use of tools or equipment to perform tasks that are related to a field of study.

No society can achieve meaningful progress without encouraging its youth to acquire necessary practical skills. Such skills enable them to harness available resources to meet the needs of society. It was against this background that SIWES, otherwise referred to as Industrial Training (IT), was introduced in Nigerian tertiary institutions.

SIWES is a skill development program designed to prepare students of universities, polytechnics/monotechnics, and colleges of education for transition from the college environment to work (Akerejola 2008). Oyedele (1990) states that work experience is an educational program in which students participate in work activities while attending school. This work experience program gives students the opportunity to be part of an actual work situation outside the classroom. SIWES is a cooperative industrial internship program that involves institutions of higher learning, industries, the federal government of Nigeria, Industrial Training Fund (ITF), Nigerian Universities Commission (NUC) and NBTE/NCCE in Nigeria. Students that participate in this work experience program include those studying library science, engineering, vocational, technological, and related courses in institutions of higher learning. SIWES forms part of the approved minimum academic standards in these institutions. SIWES is a core academic requirement carrying four credit units. This requirement must be met by all students in library and information science before graduation. It is also compulsory at National Diploma (ND) level and is scheduled in the NBTE curriculum. The training program is undertaken in the third year of a four-year degree program.

Eze (1998) points out that government has recognized the importance of SIWES through the establishment of the Industrial Training Fund (ITF). The ITG was established in 1971 and was charged with human resources development and training. Following the establishment of ITF, SIWES commenced in 1974 with the aim of making education more relevant and to bridge the yawning gap between the theory and practice of engineering, technology, and science-related disciplines in tertiary institutions in Nigeria. The specific objectives of SIWES were summarized by the federal government in its *Gazette* of April, 1978 as follows:

- To provide an avenue for students in institutions of higher learning to acquire industrial skills and experiences in their course of study
- To provide students with an opportunity to apply their knowledge in real work and actual practice.
- To make the transition from school to the world of work easier and to enhance students contacts for later job placement.

It is obvious that the reasons that led to the inception of the program some decades ago are today even more relevant due to rapid technological development, especially as it concerns ICT in LIS.

## Emerging Trends in LIS

Karisiddappa (2004) notes that there is a transition from an agricultural to industrial economy based on information technology, which influenced governmental policies and program and is related to production and distribution of information. The industrial economy brought about the information explosion and subsequent increased need for information. The explosion gave birth to the "information society". Information is a necessary ingredient for sustainable economic and social development. As a result of this, ICT appeared as a driving force for development.

Information society and the introduction of ICT brought many changes and challenges to the information world. Ershova and Hohlov, (2000) note that the change is affecting every sphere of LIS. The library, as a service-oriented institution, tries to incorporate this new development to encourage effective services to users. Some of these developments, according to Ajidahun (2007), include automation and computers in libraries and other information systems. The advent of computers and the Internet has revolutionized the information industry since the 1960s. That led to a global exchange of information, and was part of the phenomenon of globalization. Information professionals are at the centre stage of this ICT environment propelling the information society.

The traditional role of LIS practitioners is to acquire, organize, and make information accessible. Ugwuanyi (2002) traces the development of information channels from oral culture to clay tablets, papyrus, cuneiform, parchment, and print, through micrography to the new information technology. Every technological development brings new techniques of acquiring and handling information.

Present-day librarians are expected to be skilled in using computers, networks, and the Internet to fulfill their professional obligations. Omekwu (2003) enumerated emerging required skills in LIS that result from digital technology, including computer literacy, Internet literacy, information technology literacy, and information literacy.

### **Challenges of ICT for SIWES in LIS**

The ICT environment has created a new modus operandi for the LIS profession by virtue of new tools for information exchange. Jestin and Parameswari (2002) recognize the challenges when they note that the library profession in India, like their colleagues everywhere, particularly those serving high-tech institutions, are already subject to challenges resulting from ICT. They assert that the new technology may call for organizational change in the traditional library and that librarians may function more like consulting information engineers than as the traditional, passive custodians of information and dispersers of documents.

This poses a challenge to educators, practitioners, and students, as discussed below:

#### **1. Digital Environment**

ICT created a new digital environment that led to the development of digitization, the conversion of print and other formats to digital form, as an enhanced storage and preservation technique. Digital libraries are one result of these new information acquisition and distribution techniques. A digital library is described by Ershova and Hohlov (1999) as “a distributed information system ensuring reliable storage and effective use of heterogeneous collections of electronic documents (texts, graphics, video, audio, etc.) via global data transfer networks in a way convenient for the end user.” Oppenheim and Smithson (1999) describe a digital library as an information service in which all information resources are available in computer processable form and the functions of acquisition, storage, preservation, retrieval, access, and display are carried out through the use of digital technology. The ICT environment calls for librarian to be managers and organizers of digital content. It requires new management skills and other roles such as content creators, web page planners and designers, and Internet navigators.

#### **2. New career specializations**

The digital environment facilitated by ICT created new platforms for professional activities, where librarians can be more proactive than in the analog era. Librarians operating in this information environment may be called Internet librarians, digital librarians, “cybrarians,” or “webarians,” all coined from ICT jargon. These changes are positioning librarians for the global information arena.

#### **3. Information services**

There has been a revolution in user services. Developments in ICT affected users' information need, tasking librarians to catch up with the trend and satisfy their clientele. Musoke (2007) observes that the growing number of university students, the increase in study programs, the increase in research, and rapid ICT developments have all changed the routines of traditional academic librarianship. He stresses the fact that these changes and demands need innovative librarians who can meet the needs of users. E-learning also developed in academic communities following the emergence of digital technology. To satisfy their patrons, librarians should adapt to the new learning environment characterized by new information formats with a learner-centered and interactive approach.

#### 4. Transformation of some specialized subject areas

The statistical analysis of bibliographic information flow has been transformed to webometrics, the analysis of Web content and information use in the World Wide Web. Bibliometric specialists are challenged to absorb this new concept in citation analysis.

### **Strategies for Situating SIWES Participants in LIS in Global Information Development**

All LIS stakeholders must acknowledge the new trends in the profession. The following strategies should be adopted.

#### 1. Retraining

To effectively impart the required skills to SIWES participants, educators and practitioners need re-tooling. Their training should go beyond overcoming ICT illiteracy to acquiring competencies in using new tools to achieve basic traditional roles of acquisition, organization, storage, retrieval, and information service delivery. This can come in form of Continuous Professional Education (CPE), conferences, workshops, and short courses. The electronic environment demands a range of skills from LIS professionals, including technical skills and management skills (Jestin and Parameswari, 2002). They also note that users may turn for help and advice on search techniques, database quality, database development and, the range of databases available. As a result, librarians need organized training programs.

#### 2. Infrastructure development

University administrations should recognize the pivotal role of the university library in teaching, learning, and research, and provide ICT infrastructure to the library. Internet connectivity is capital intensive and requires not only the university input but the special intervention of the government and private sector partners. University policies and budgets should reflect this emerging development by ensuring that the university library is linked to global information traffic.

#### 3. Collaboration or networking between library schools and practitioners

Cooperation between educators and practitioners is mandatory for proper supervision of SIWES participants. In addition, the two must collaborate in curriculum development and revision to ensure a curriculum that satisfies LIS job markets. Networking between the two will encourage the acquisition of proper skills in the new environment. LIS schools do not have the funds to be connected to the Internet, but university libraries do.

#### 4. Curriculum revision

The question of who can impart the appropriate practical skills for the new ICT age calls for answer from all involved in the production of new LIS graduates. Both educators and practitioners are in a

learning process, and the present LIS curriculum in ICT is inadequate. According to Ajidahun (2007), both at the undergraduate and postgraduate LIS courses have little content on ICT. Varalaskshmi (2006) notes that developing employability skills is being emphasized in all professions, and LIS is not an exception. For curricula to remain relevant in the new environment, they must be revised. In the far Ebrahimi (2009) notes that the entrance of IT and ICT into LIS have led to the review of LIS programs and teaching methods, to allow the curricula reflect the needs of society and the market.

#### 5. Creation of new marketing opportunities

ICT brought employment opportunities for the products of LIS profession. The need to deliver both theoretical and practical aspects of ICT in relation to LIS to meet the market demands is paramount. Courses on self-employment skills and opportunities should also be incorporated into the curriculum. The competitiveness of the present information industry requires practical knowledge of ICT to satisfy information seekers in this information society.

### Recommendations

LIS schools should revise their curricula and introduce new courses to meet the needs of employers in the public and private sectors. The University of Nigeria, Nsukka library school has taken a bold step in this direction by introducing some new courses. Some of the course content exposes students to areas of self-employment in this time of global unemployment and personnel downsizing. The SIWES students of LIS should be prepared for this kind of employment environment. Therefore, ICT and LIS-related self-employment opportunities must be included in the program and students sent to existing establishments apart from the library to acquire this skill.

### Conclusion

SIWES plays a significant role in human resource development in Nigeria. ICT developments have put more pressure on the SIWES program to help students develop new skills. Students should be aware of what the present society holds for them and adapt accordingly. This can only be facilitated by LIS educators and practitioners, with adequate provision of ICT infrastructure. Ogheneruemu and Tiemo (2007) emphasize the need to expose trainees to ICT facilities. All depends on the competence of the educators and practitioners in ICT skills. This is a challenge to all stake holders in LIS human resources development.

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