

EMERGING UNIVERSITY LIBRARY SERVICES IN AN EVER-CHANGING AND KNOWLEDGE-INTENSIVE LEARNING ENVIRONMENT

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ABSTRACT

The 21st century ushered in the knowledge economy whereby information, access to it, and the ability to use it to create new knowledge becomes the single most important skill that individuals need to acquire in order to succeed. The work place is asking for university graduates who have acquired a stronger intellectual framework for using information for discovery. This calls for a change in university educational landscape and a pedagogic shift from the closure learning system where students and the teacher communicated and interacted face-to-face to include a new learning system that is virtual, distributed, problem-based, and more student-centred and facilitated by global information networking systems. This is a knowledge-based pedagogy and requires that both students and teaching faculty acquire information seeking and management skills. E-learning, open access to resources, distance education, inter-disciplinary and cross-institutional collaboration enhanced by information communication technologies are major developments that are reshaping library services. Consequently new roles and services have emerged for university librarians. Taking up the characteristics of an electronic information resource, librarians are more 'distributed' and play a central role in the teaching/learning programmes of the university: they serve as consultants in information resources management, and coordinate information technology applications; they provide instructions on research methods and other areas that deal with incorporating information communication technologies into learning, and are more actively involved in providing information instructional programmes to both faculty and students. This paper examines, in a nutshell, the ways in which the digital age has impacted the infrastructure of university education and its delivery, and in a more detailed analysis, it elaborates on the new roles for librarians and emerging information services models that are designed to meet students' needs in the present knowledge dispensation. The paper advocates greater funding and top level support for libraries and librarians.

Introduction

The application of information communication technologies (ICTs) in the production and dissemination of information is one of two major developments of the information age that are having a profound impact on university education pedagogy and library services. There is considerable increase in the publishing output of scholarly resources which are readily accessible remotely via global electronic networks. This has resulted in new, faster and more effective ways of information access and delivery. Information can now be passed directly to the user through cyberspace without any intermediary. The second major development is the post-industrial emphasis on information as the most prized raw material for economic development. This has led entrepreneurs to link job performance with skills development at universities. Information and the ability to convert it into knowledge has become the single most important factor and ability needed to progress in the social context of the 21st century. The world has consequently moved from the age of industrialisation to post-industrialisation, thus shifting emphasis from manipulating material goods to manipulating knowledge.

Increase in remote access to information, and in particular, scholarly communication has heralded different patterns of communication between students and teachers. Student-teacher interaction is no longer confined to physical space. Both groups can interact remotely making teaching and learning less place-based and more distributed. Students can engage in the learning process without the physical presence of the teacher. It is the age for self-actualisation at one's pace. The availability of information in different formats motivates the students to explore, experiment, and synthesise information for new meaning and ideas. In the process the student acquires information processing and problem-solving skills. He's able to identify and focus on his interest, develop his talents and bring out the best in himself. During this age, every thought and suggestion is highly valued as long as it leads to new discoveries which can improve human living standards (Toffler, 1990). A holistic development of self is one of the greatest merits of the information age. It is this prevailing social context that is changing the course and tradition of university teaching and learning and academic library services.

Redefining the University for the Knowledge Society

The availability of new tools for accessing information and the ability to communicate and interact indirectly without geographical and time constraints has changed the social structure of education, research, classroom teaching, and student-teacher interactions. It has enabled university teaching and learning to progress from the closure system that operates from the traditional classroom to new forms of educational activities and structures that include a mix of web-based instructions, video conferencing, face-to-face classroom learning and other electronic-based delivery systems. This distributed system of interaction has resulted in the growth of virtual research communities with its characteristics large-scaled interdisciplinary and inter-institutional research projects. It has also promoted problem and resource-based learning, virtual and independent learning as in franchised universities, virtual universities and several open-learning systems. For example, in Sub-Sahara Africa (SSA) alone, more than 140 universities are offering distance education systems in forms of correspondence courses, and employing virtual learning systems, print media, research methods and modular systems (Roberts and

Associates, 1998). Many of them are members of the ACU. The result is disintermediation as the teacher is able to impart knowledge and teach the students via computer networks.

This methodology is enhanced by global information networking systems, the availability of a wide variety of information resources, and the active involvement of information professionals who provide guidance and instructions in information management to students and faculty. The effects of the information age are not only felt in the realm of university education but also in the industrial sector where information has become the essential raw material for economic acceleration, hence the demand from the world of works for university graduates who have acquired the skills for knowledge building and innovation.

The Needs of the Knowledge Age

The availability of information and the emphasis on knowledge building has generated a demand for innovation and novelty in entrepreneurship (Shantha, *et al.*, 2006). This has resulted in competition in the world of works. Businesses and corporations that desire to survive will have to have a competitive edge. This advantage is gained by producing innovative and customised products that appeal to consumers. Graduates who can accelerate growth in the workplace by applying their talents to bring innovations, novelties and new measures to all aspect of work are in high demand by employers as they will contribute tremendously to the advancement of the world of works. It is for this reason that entrepreneurs are linking job performance and skills development acquired at the university. They are asking for high-level personnel who not only have the capability to create and support innovations by adapting knowledge to local use, but also equipped with managerial, problem-solving, and lifelong learning skills. Therefore, access to information and the ability to build new knowledge and innovation out of it is critical for success in entrepreneurship in the information civilization. In the traditional education system, graduates in a certain discipline perform their duties in very similar, if not, the same way. The output was mass production (Toffler, 1990).

But in this age of differentiation, variety and flexibility, similar activities are approached from a variety of ways. The structural shift in the social order stipulates that standardised mass production no longer meets society needs. Rather, flexible and customised systems are favoured (Carnoy, 1993). Using an entrepreneurship comparison, Toffler, (1990) postulated the “prosumer” concept which demonstrated a strong relationship between production and consumption and argued that organisations (**producer**), forms, policies and practices must meet the needs of the society and the individual (**consumer**). Levin (2001) called it “commodification”. He underscored Toffler’s idea of a consumer-oriented education and learner-centred instruction as the most productive educational system for the information age. This demonstrates that differentiation and skills development are becoming increasingly important. As Castells (1993) rightly argues, “The most important infrastructure in the economy of our age is the human brain” and of course the ability to build new meaning out of it. The university has to provide an enabling environment for the training of skilled human resources. Such personnel should have the capacity to apply knowledge into relevant research and innovations that will

result in knowledge generation and adaptations of innovations for the enhancement of self-sustaining development. The need for knowledge generation and knowledge transfer is very critical to the developing countries of the ACU, such as SSA. In order to meet this need, university curriculum and its methods of instruction should not only expose students to current knowledge and information relevant to learning and to labour market needs but also explore new learning strategies using technology-based tools for high-level information-processing and problem-solving skills (World Bank, 2004). People who can use information effectively to break old methods and introduce prosperous ones are gems in the job market.

Knowledge creation therefore, is the most valued skill expected of graduates in the knowledge economy. In order to acquire this skill, graduates have to be able to access the information needed, be able to process the information to create innovations that will meet the needs of the work place. In reality, it is a demand for lifelong learning skills that will equip the graduate with skills needed to continue to grow even outside the classroom. Such skills are acquired through an educational system that enables students to develop a set of critical thinking skills involving the use of information to create meaning. Building such skills require interaction with real world information resources for information gathering and synthesis as well as the availability of seasoned librarians who will provide guidance and instructions to students in information management. This calls for the development of information literacy skills among member ACU university students. Information literacy is described as the ability to “recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.” (Association of College and Research Libraries, 2001). It has become necessary therefore, that members of the ACU that want to be more productive and meet societal needs have to be more sensitive and adaptive to changing educational needs.

New Pedagogy for Universities

University educators are therefore rethinking pedagogy and reflecting on new methods that will help tertiary institutions produce relevant graduates with skills to address the needs of the knowledge society. To this regard, many universities are shifting from the teacher-centred, traditional classroom closure system to instructional delivery practices that are resource-based, more active and focus on the needs of students. Resource-based and learner-focused educational models have emerged and have been implemented in many universities in the Commonwealth. A resource-based education system is a teaching and learning model that incorporates a wide variety of print and electronic resources as well as real life information sources into the teaching and learning process. It actively involves students in the exploration and meaningful use information resources using project-based assignments. As students experiment with a wide variety of real world information sources, they get acquainted with the kinds of information practices that support entrepreneurship advancement and community development. The resource-based learning system is supported by global information networking systems (Barrell, 2006) as well as the professional skills of the librarian who liaises with the teaching faculty to plan the curriculum. At its implementation, the librarian provides guidance and instruction in the use and management of information. As students explore information resources, they readily get acquainted with information resources and develop the skills

to assess, and evaluate the resources in terms of their own needs. They experience the real world of information and learn the way people use information in the world of works. They then readily acquire the ability for seeking, evaluating, and managing information gathered from multiple sources. Such instructional delivery practices that are active and focus on the needs of the students will help them to develop an attitude for investigation and problem solving. These abilities and skills prepare them for lifelong learning (Alfred, 2006). Such educational system will enhance students' research capabilities and enable them to design and conduct research successfully by exploring information sources and resources to find answers to problems (ALA, 2001). The final product of this pedagogy is not a mass production but the production of individuals educated distinctly from others. Each graduate is equipped with critical thinking and problem-solving skills, and with confidence and considerable independence, applies his talents for innovation. The graduate is then an original product designed to contribute his special and unique skills to societal development.

This pedagogic model is fused with enormous positive outcomes: According to research evidences, students participating in problem-solving, resource-based curriculum tend to demonstrate greater information-processing and self-directed learning skills than those in the traditional classroom-based systems (Blumberg, Michael and Zeitz, 1990). In another study, Mitchell (1994) evaluated the learning behaviours and learning experiences of medical students in five medical colleges and demonstrated that students in the traditional learning system used memorisation as their form of learning behaviour while those in resource-based learning system used conceptualisation as their mode of learning. Other studies into the application of resource-based curriculum indicate that resource-based approach support the development of deep-level processing in students as they have to apply ideas from information resources to make meaning and apply that to the problems they are solving (Camp et. al., 1992). As a result of this, students in a resource-based learning system demonstrate better problem solving skills than their counterparts in traditional curriculum (Vernon & Blake, 1993). In SSA, a few studies on resource-based learning proved that the system produces efficient (Iputo & Kwizera (2005) graduates who are better prepared for professional activities (de Villiers (2004). Indeed, the literature on higher education in the present knowledge dispensation strongly supports resource-based, problem-solving self-directed learning methodology with a strong shift from teaching to learning (Levin, 2001). This is the kind of learning environment that the library has to support.

Academic Information Resources in the Age of Information

Information resources in all formats with adequate depth and quantity need to be provided in the library for students' experimentation and exploration. Such resources should promote student-centred, resource-based, problem-solving and independent learning. Self-paced resources that enable the customisation of learning and the impacting of specific skills to students should be promoted. This approach enables the student to direct his own learning while the teacher and the librarian work in partnership facilitate and guide the student along the learning process. It is a flexible system as students do not have to read the same texts, or use the same resources in order to gain experiences and develop relevant skills. The student is more or less directing his own learning and he is at

liberty to determine his own approach, based on his needs, interest and talents. Resources that promote such personalized learning are electronic resources that are available in an online learning environment and can be accessed remotely. Interactive and multi-sensory resources such as videotapes, videodiscs, CD-ROMs, software tools, multimedia resources, and simulation/modeling tools will enable students to interact with sounds, graphics, language and inventions, and will help students to learn independently and at their own pace. As they see the interrelatedness between text, graphics and sound they are then able to sharpen their creativity skills. While handheld books are easy to use, they lack the interactive and multi-media looks of electronic resources and do not help students to develop their creativity skills to the optimum. Students and teaching faculty are encouraged to integrate print and electronic resources in their teaching and learning activities. The information age university library is a laboratory of learning where abundant information resources in all formats and their accompanying infrastructure are available for exploration and skills development.

Redefining Library Services

What are the implications of these for the university library?

The shift in teaching and learning environment facilitated by ICT presents unique challenges to libraries and librarians: First, the distributed pedagogic structure of teaching and learning has resulted in more diverse demographics of library users: There is the traditional group which consists of students who are young and just-out-of high school individuals seeking campus-based studies. There is also the non-traditional group that consists mostly of adult and working class individuals who are usually off-site students. These two groups constitute students on two different landscapes- the physical and the virtual. The second group brings unique characteristics to the learning environment, and by implication, the library environment. Members of this group are generally highly motivated and focused on achieving as quickly as possible their intended outcome. Time for them is of the essence as they have to manage their time prudently to enable them to attend to other responsibilities. The library needs to sustain their high motivation by providing just-in-time services that will meet their needs for relevant information resources. Since they are generally distance learners and many are out-of-touch with changes in the scholarly information landscape, they need information literacy skills to prepare and equip them for independent learning. Second, the increasing availability of scholarly information in digital format has profoundly changed the way students, faculty and researchers seek information. Surveys have shown that library patrons use the physical library now less than they did some years ago; they prefer e-journals and e-books and access them from the comfort of their homes and offices (<http://www.rin.ac.uk/files/libraries-report-2007>). In this age of information, campus-based patrons do not require electronic resources any less than off-site patrons do. So the library has to rethink its services and provide more flexible user-centred services. Such flexibility should be manifested in the abundant provision of information resources that are boundless, virtual, multi-media as well as timeless services to meet the information needs of both campus-based students and distance-learning students. This includes providing easy, convenient, rapid and increased access to valuable information that already exists within the library walls to patrons outside those walls, and also provide remote access to resources outside the library walls. In addressing these needs, the

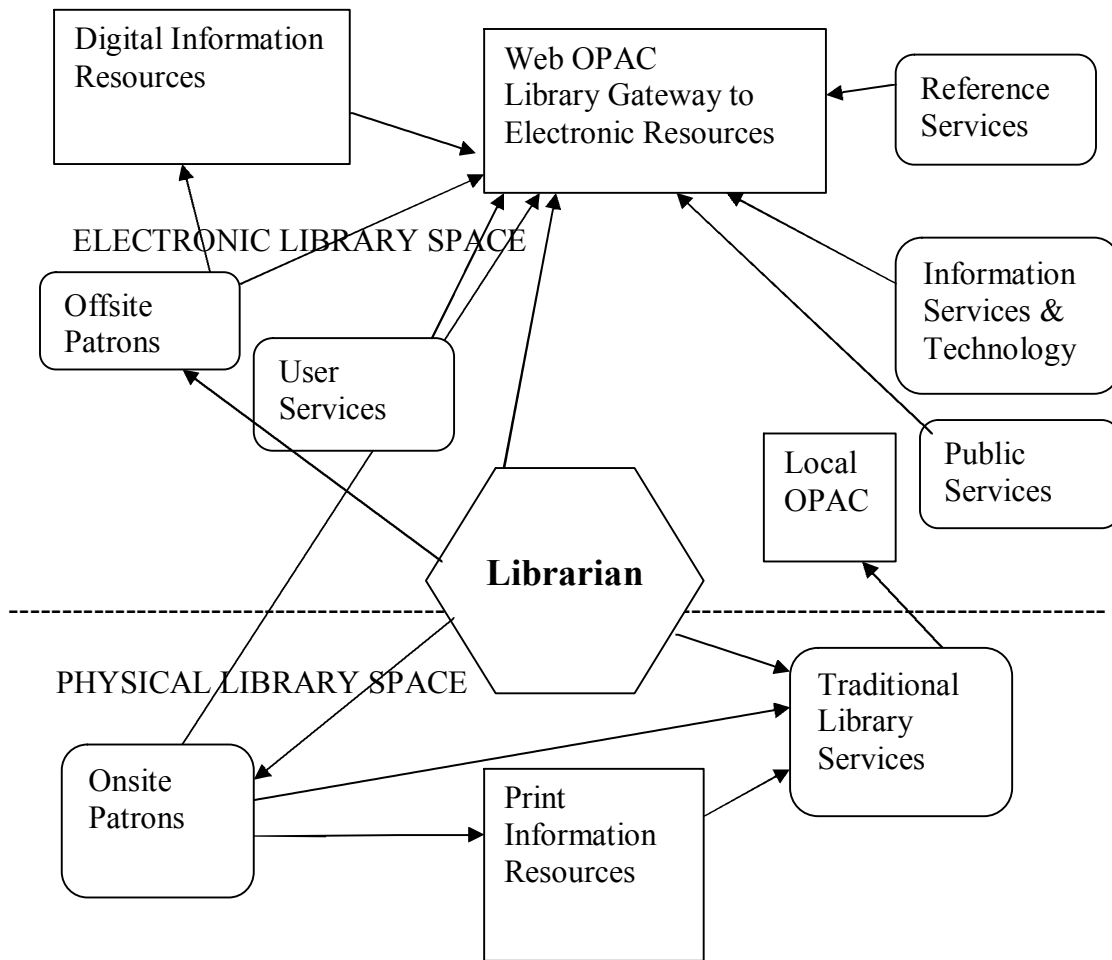
hybrid library model has emerged as a suitable model that will adequately serve different user groups in a distributed learning environment. This model provides mix information resources that are organised around a physical as well as digital information learning environment. It progresses from a physical place where basic traditional services of acquisition, storage, preservation, retrieval, access and display are provided to campus-based students to an electronic space where these same services have been enhanced by technological innovations and are provided over a network gateway to serve the needs of off-site students, thereby eliminating time and geographical constraints (Oppenheim and Smithson 1999). For example, on-site students access the library holdings via the local OPAC while off-site students access remotely via the Web OPAC. Electronic books and journals are acquired and accessed via the Internet.

The introduction of the hybrid service model has introduced more alternative variations of the traditional library services. For example, the traditional library is a server of print bibliography accessible only within the library facilities, but its variance in the hybrid environment is the provision of Internet access not only to the bibliography of the library holdings but also to its full text. In an attempt to provide JIT access that will meet users' needs in the digital environment, many contemporary libraries employ IT to convert their rare collections, reserve materials that are paper-based to digital, and provide remote access to them. For example, the University of Zimbabwe library has digitised considerable print resources, developed local e-content and made them available via electronic networks (Rosenberg & Mbambo-Thata, 2007). The University of Eastern Africa, Baraton, Kenya now subscribes to considerable electronic journals, acquires CD-ROMs, and it's presently building some local e-content.

In its attempt to provide services quickly and easily, the hybrid library will develop and provide e-library services that include the following:

- Online/offline access to digital information resources;
- Database searching;
- Public access services ;
- Electronic reference;
- Public relations services;
- Library promotion and marketing;
- E-publishing;
- Information literacy programmes;
- Online circulation activities, such as electronic reserves;
- User Services, and queries; and
- Online access to library catalogues, databases and the Internet.

Below is a graphic representation of the hybrid library.



Model of a Hybrid Library

The emphasis of this model is not in ownership but in providing instantaneous, just-in-time (JIT) access to resources and services. It is a model that is half way on the continuum between the traditional and the digital library, where electronic and print resources and services co-exist but with a greater leaning towards electronic resources and services. This model is much preferred over the digital library because of its flexibility and its tendency to accommodate users' preferences either for print or electronic resources. Besides, paper resources are still very much preferred because of their ease of use. The digital library's preference for computer-readable resources and technology-aided services is still a utopia and appears not completely workable, and too impersonal for a social institution such as the library. In this institution, students, faculty, and researchers are tied together in a complex social activity of information seeking in which human experiences and behavior play critical roles. There is need for skin and human interactions for library services to be effective. The hybrid library service model therefore, offers more prospects for the university library.

Changing Roles for University Librarians

It is in the context of the changing teaching and learning environment and the complexities in the acquisition, usage and dissemination of information and knowledge that librarians are embracing new roles which are melting down the boundary that exists between the library and the academic departments. The learning environment has become hybrid and distributed, so also is the librarian. The librarian has evolved from his role as an information organiser to more distributed roles as an active participant in the campus' instructional and research process. Areas where the changing roles of the university librarian can be specifically identified are:

- Provision of instructional support to both faculty and students in acquiring information literacy skills;
- Collaboration with the teaching faculty in curriculum planning and the teaching of research strategies;
- Provision of consultancy services in information issues and problems;
- Collaboration with teaching faculty in incorporating IT and multi-media resources into teaching and learning;
- Collaboration with teaching faculty in publishing course materials and other special resources; and
- Serving as a disciplined faculty.

Instructional Support

Acquiring and managing information is no longer restricted to the library building and end-users now select, organise and disseminate information without the librarian's mediation. As exciting as this is to the end-user, the attendant complexities in information packaging and access, and its rawness all overwhelm and frustrate the end-users, such that the explosion becomes a constraint in determining and finding what is useful and relevant. This is particularly true of non-traditional distance students who learn with considerable independence but who, in most cases, lack the autonomy and the self-sufficiency skills needed to adequately search, and manage information. For this reason, librarians provide information literacy (IL) education to both students and faculty to help them develop critical thinking and analytical skills which will enable them to acquire a stronger intellectual framework for using and managing information effectively. Such training includes instruction in computerised literature searching, knowledge management, and using information for problem-solving. IL instructions may be approached from different dimensions: course-related library instructions; course integrated projects; online tutorials; and stand alone courses (Spitzer, Eisenberg, & Lowe, 1998). The best approach however is that which integrates IL into the curriculum (ALA, 2001) as it is practiced at the University of Eastern Africa, Baraton, Kenya. The instructions, whether online or classroom-based, are interactive and incorporated with sound, graphics and text to create adequate and active learning experiences for maximum benefit. The library building becomes a laboratory for information processing and lifelong learning centre. The importance of IL is so critical to modern learning that many member ACU libraries have gone beyond providing it on an informal level to integrating it as a course unit in the university curriculum (Jayatissa, 2008). The value of information services therefore, in the present information dispensation, is not in possessing

information, neither is it in being able to access information remotely but in developing the organisational and electronic capabilities in the end-user to be able to identify, access, sift, and determine the authenticity and validity of information and organise it into knowledge. Acquiring critical discernment and reasoning skills in knowledge building is a complex process that involves human interactions and cannot be adequately achieved in an impersonal environment. Web 2.0 cannot provide that, neither can Google. The meticulous instructions on websites and even the precision and user-friendliness of software programmes are not sufficient and cannot substitute for the professional skills of the librarian. Artificial intelligence, in which ever form it is represented, cannot adequately substitute for the human touch, human ingenuity and the creative skills of the librarian.

Consultancy and Team work in Curriculum Planning and ICT Integration into Teaching and Learning

The boundary between the lecture room and the library has melted as the resource-based learning pedagogy emphasises inter-partnership teaching and learning. In designing resources for this learning methodology, librarians work collaboratively with teaching faculty and students in planning the content of the curriculum. The librarian will coordinate information technology applications, and advise the teaching staff on how to incorporate electronic resources and emerging technologies into instructional delivery such that content information, technology, and active learning blend together to facilitate the enhancement of critical thinking skills and active information management (Evans, 2001). In the course of this, the librarian works collaboratively with students and faculty to identify and evaluate many information sources, structure research questions, clarify problems, and identify relevant resources for advancing courses of study, in particular, online learning. As a specialist, the librarian sits on the committee that develops and implements information policy for the university. In this sense the librarian is an information specialist offering consultancy services and playing a full and active role in the instructional and research process of academics.

Publishing of Course Materials

A resource-based learning leans heavily on the availability of abundant information resources in all formats. In an attempt to enrich the programme, Librarians work collaboratively with teaching faculty and students to compile relevant content for courses from different sources and these are digitised, mounted on the library server and made accessible remotely to all users (Jantz, 2001).

Disciplined Faculty

Librarians with training in research methodology or other advance training can collaborate with the teaching faculty to teach courses in research methodology, design and Web sources. This is particularly important in a resource-based learning environment where students are engaged in extensive use of a wide variety of resources ((Parker & Jackson 1998). These roles and collaborations will contribute considerably to the realisation of the academic mission of the university.

Attending to Emerging Issues

The academic library in the age of information needs to understand the future information needs of the university that it serves and develop strategic plans to meet them. Among such needs would be the need for skills' development of library staff in preparation for more challenging information services. As the library eliminates considerable print resource, it should begin planning to convert available space for more functional use. Collection development is a major task in the information age; there are copyright and licensing issues that relate to electronic resources that have to be addressed. The Librarian needs to develop policies that will guide the usage of electronic resources such that copyright and licensing regulations are not infringed. Part of library services is to collaborate with publishers and IT companies and other content providers in negotiating the cost of content and access. All these changes are major drivers calling for modern library services and greater librarians' involvement in the learning process.

Merits of Librarian-Faculty Partnership

The enhanced role of librarians is pivotal to the success of the academic enterprise of the knowledge society and could contribute to academic acceleration in the following ways:

1. The librarian's increased involvement in designing and teaching information literacy skills will enhance students' information management skills; provide them with greater confidence; stronger critical thinking skills, and skills for independent and lifelong learning;
2. Librarian/teaching staff partnership will develop the capacity in the teaching faculty to incorporate IT into the teaching and learning process;
3. Librarians' increased involvement in teaching and collaboration with the teaching faculty will ensure the acquisition of more relevant resources for academic activities, as the collaboration will increase the librarian's awareness of needed resources and areas of collection development that need strengthening;
4. Librarian's increased interaction with students in the learning process will increase the rapport between the two, bringing about better understanding of students' information needs, and also help students to develop positive attitude towards the library;
5. The inter-partnership relationship can serve as a marketing and promotion strategy for the library;
6. The increased involvement of the library in academics will expose the weaknesses in library staffing and help administrators and library management to identify areas of professional skills that are needed to enhance library services;
7. The Librarian's increased involvement in the heart of the university's academic activities asserts his academic status as a discipline faculty in his own right.

Librarians' Preparedness for New Roles

The previous discussion suggests that the roles of university librarians have extended from traditional librarianship into newer, more contemporary information services. The new roles require that librarians acquire greater knowledge and information management skills if they are to provide information services to support the pedagogic needs of modern learning and instruction. The skills to teach information competency skills; facilitate problem analysis using information; apply interdisciplinary approaches to

academic issues; serve as a discipline instructor, and coordinate curricular formulation are core competences expected of every librarian. Core competencies are understood to mean “a proper attitude and capacity to exercise a wide number of functions or occupy various positions, even simultaneously, which requires flexibility” (Ferreira, *et al.*, 2007). In a continually changing information environment, information literacy and instructional skills are increasing in importance, and skills in scientific and technological information management are crucial. If they are to dispense their services more competently, librarians need advance skills and greater knowledge in information and communication technologies, modern information management, and greater skills in interpersonal communication, teamwork and creativity. They are now hybrid professionals who combine library and information skills with technical computing skills.

Support for Libraries

The hybrid library model, particularly its electronic aspect, is very exciting to users. But this excitement is short lived where the model is implemented in an environment of resource and infrastructural depravity. Where the prevailing infrastructure and digital content are insufficient to provide end-to-end service, the model cannot survive. As an IT enhanced service model, the hybrid model operates from a networked environment of technological innovations and high-speed Internet connectivity. Such an environment is one of rapid technological change, therefore, libraries that wish to operate this model and provide high-quality network-based services and resources to their patrons will require considerable funding. They will need to purchase, install, maintain, and upgrade old technologies, both hard and soft, and acquire new ones. They will also need to provide greater access to more electronic resources either through subscriptions or through the process of converting important and highly needed print resources to digital format. In view of these expenses, library funds allocation needs to go beyond the provision of the required 10-15% of the university’s total budget to include additional funding. In view of this, librarians and university administrators will have to develop additional funding strategies for their libraries. In addition, librarians will need financial support for the periodic update of their professional and technical skills in order to provide better information services in a continually changing knowledge society. This is particularly true of many member ACU libraries in developing countries of Africa, Asia, the Pacific and the Caribbean.

External assistance and support have helped member ACU libraries in the past to cope with the demands of the knowledge society. Notably among them is the Low Cost Journals Scheme which is dubbed “Protecting the African Library”. This scheme has helped libraries in developing countries of the ACU to provide access to journals at a considerable drop in their usual cover price. This has stretched the periodicals’ budget further and enabled the libraries to increase their subscriptions and provide access to more journals than they normally have been able to. According to Harle (2007: 15), about 23 universities in SSA have benefitted from this scheme. This is laudable, but more support is needed in the areas of library automation and technological transfer through staff exchange. The cost of commercialised electronic library management programmes is prohibitive to many member ACU libraries in SSA. Though the Open Source Initiative has provided considerable number of software for library operations and

services, many of these open sources are often inadequate for academic library applications. The commercialised programmes are standard, fuller, more detailed and more suitable for academic library management. A low cost initiative that will enable libraries in developing countries to purchase standard library management software will assist them to computerise and manage their library services more effectively. Similarly, staff exchange is very crucial for skills' transfer, particularly to developing countries where essential technological skills are often lacking. An exchange programme between developed and developing ACU libraries will enable librarians in developing countries to acquire the appropriate technical skills needed for improved services.

Conclusion

The global knowledge-base economy and the need for graduates to acquire lifelong learning skills are dictating new rules for pedagogy and library services to members of the ACU. The adoption of a resource-based, problem-solving instructional system enhanced by IT is essential. This pedagogy has opened up a partnership relationship between the teaching faculty and the librarian who serves the academics on information issues. The librarian is increasingly being involved in course planning and teaching. He's providing assistance to the teaching faculty in identifying information sources, designing and implementing them in the learning process. As an information specialist, the librarian offers expertise to both students and the teaching faculty in understanding the world of information and the new ways information resources are prepackaged, accessed, applied and disseminated. The librarian's role has progressed from been the custodial of information to include teaching and consultancy services. These structural changes in teaching and learning will continue to evolve new roles and services for the university library.

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