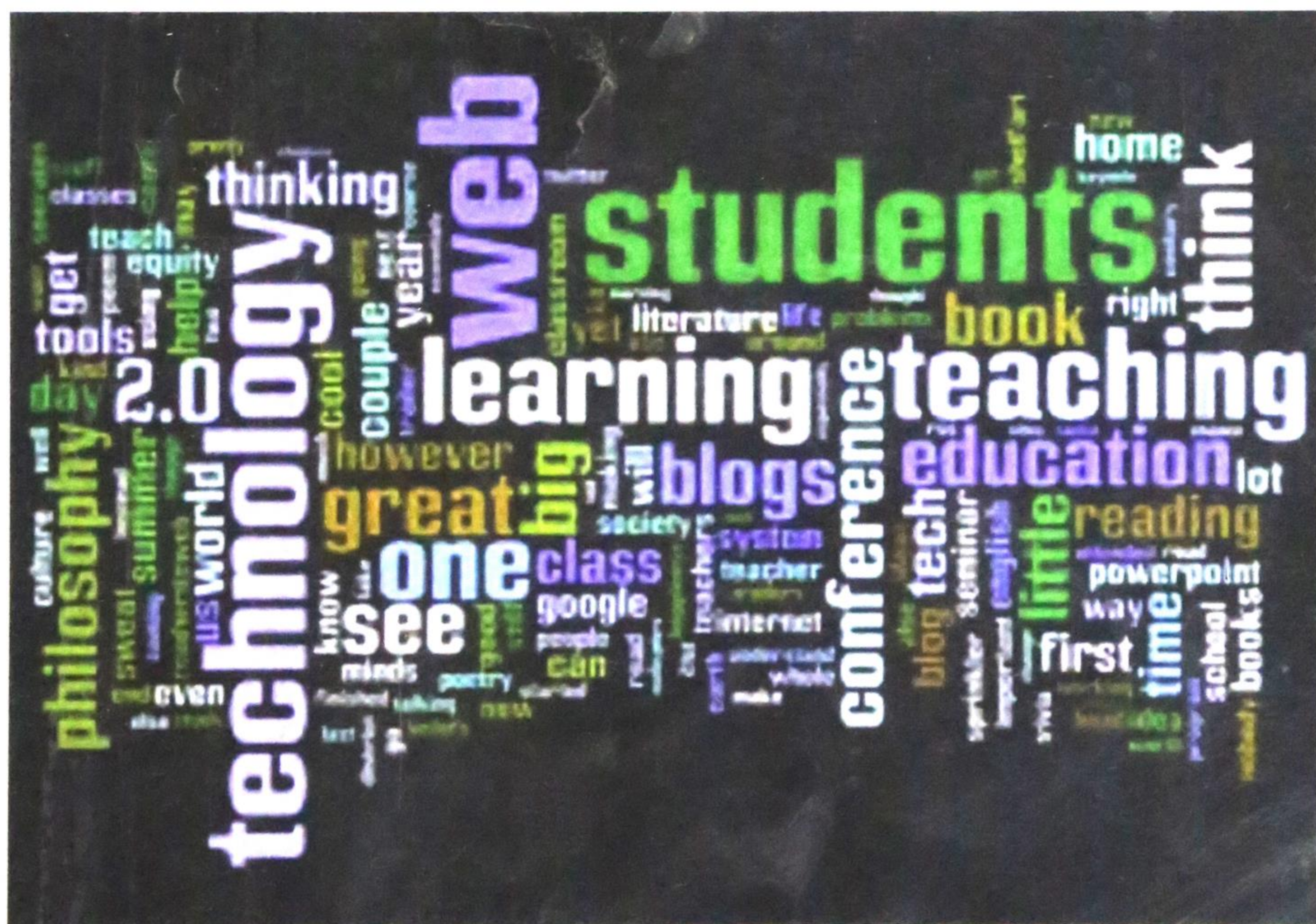


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Abstract

This study investigated university students' use of digital library services in selected Nigerian university libraries. Specifically it examined the factors that influenced their use of the collections in the university libraries studied. The study covered six Federal university libraries in Nigeria. The libraries are those of University of Ibadan; University of Ilorin; Federal University of Technology, Owerri; Abubakar Tafawa Balewa University, Bauchi; Nigerian Defence Academy, Kaduna; and University of Uyo. The study involved 682 respondents drawn from the institutions, using cluster stratified random sampling method. Two sets of structured questionnaires were applied on the respondents (students and heads of libraries) coupled with structured interview. The study discovered that, students are not ignorant of the existence of the materials in and outside their libraries, while few of them knew of their stock in these libraries. The materials are not regularly consulted by those that are aware. The relevance of multimedia to study; library staff advice; and course demands are major influencing factors for use of the collections in the university libraries by students, while users cut across all the class of students. The following recommendations were proffered: both faculty members and librarians must work hand-in-hand to effect positive change in the use of multimedia materials available in the library; interest of the students must be stimulated towards the multimedia materials in university libraries by drawing the attention of both teachers and students to new arrivals; by making attractive displays and/or by organizing regular exhibitions outside the library. Good human relations between all concerned (students, teachers and librarians) must be established.

Key words: Digital Collection, Academic Libraries, Library Users, User Study

INTRODUCTION

Most academic institutions in Nigeria were observed to have a standard library with qualified librarians. However, interactions with some students in some of the institutions show rare evidence of ICT knowledge in library let alone their use. Therefore, to what extent is ICT services adopted by Nigerian students in higher institutions? To what extent has the system enhanced academic activities of the students and what challenges facing its application by students? In the light of these submissions, the study examined: Students awareness of Digital Library Services (DLS) in their libraries, the category of students using DLS in the libraries, the frequency of DLS usage, factors influencing usage of DLS in the libraries and challenges facing students' use of ICT in libraries.

Information Technology (IT) encompasses the notion of the application of computers to storages, retrieval, processing and dissemination of information, that is, the use of technologies especially computer system, digital electronics and telecommunications, to store, process and transmit information. The related term, Information and Communication Technology (ICT), arises as a result of the advancement in 'IT' that has partly led to the globalization of the world economy and requires seamless retrieval of information wherever it is provided, thus making communication and media essential parts of the technology. Communication among communities and between members of the community has been highly enhanced by international networking (internet), through electronic mail (e-mail) and Global System of Mobile (GSM) communication. ICT is a system for acquisition, processing, storage and dissemination of information by means of computers, office machines and telecommunications.

The computer provides the facilities for the transfer or communications of data and its application hence, Kuar (1996) observed ICT to be a network in information filed. To him it is a systematic organization and co-ordination of inter-connected libraries, documentation and information

centers for achieving greater economy and efficiency. The usefulness of multimedia resources as sources of reference to past and current information, coupled with technological advancement brought about the machine called computer and its accessories which has its advantages in terms of space and time. This made the use of multimedia materials indispensable.

Numerous forms of technology have been devised over the years to effectively handle information among which are radio, television, microforms, slides, film, etc. these are means with which some groups of people are only familiar but also comfortable to acquire information. Also, the use of these materials in learning is becoming a universal phenomenon. This is because experiences are abundant in visual stimuli and evoke the strongest responses in libraries or other learning situations.

According to Creaser (1980) the use of electronic media (part of multimedia collections) with some projectors make the whole nature of teaching and learning effective; enrich students' experience, and helping students in opening up a new world of challenging assignments and problem solving opportunity. To Erickson (1992), electronic media are interesting compelling springboard, which launch students into a wide variety of learning activities. Creative use of a variety of media according to him, It increases the probability that students learn more, retain better what they learn, and improve their performance of the skill.

In discussing the relevance of these materials in the library, Uche (1986), was of the view that they allow users to have variety of approaches, different experiences from that to be derived from reading a book, consolidate previous lectures, make services of experts available and break down emotional and intellectual barrier of learning.

The advent of CD-Roms as publishing medium for information of all kinds including encyclopedia, reference works, dictionaries, full text database and data banks (locally or internationally produced) has also enhanced the status of multimedia in library (Mohammed, 1999). According to Rowley (1995) CD-Roms have a major source of international information and communication that aid research works. To Fapohunda (1995), the adoption of computer in the new information age and, the development of its software connect users that care to multiple information sources from corporate proprietary database to generalized news services (such as CNN), to Personal electronic mails services etc. However, Spoonly (1997) observed that, to a large extent, information technology in society as a whole is used only for mundane tasks with little effect to date especially on the actual learning process which continue to be eliminated by lectures and books of various forms. He noted that, multimedia shows promise of offering an alternative to lectures and books at a much reduced cost, and networks like internet permit a learner to search the world for information and knowledge.

Most academic institutions in Nigeria were observed to have a standard library with qualified librarians. However, interactions with some students in some of the institutions show rare evidence of ICT knowledge in library let alone their use. Therefore, to what extent is ICT services were adopted by Nigerian students in higher institutions? To what extent has the system enhanced academic activities of the students and what challenges facing its application by students? In the light of these submissions, the study examined: Students awareness of multimedia services in their libraries, the category of students using multimedia in the libraries; the frequency of multimedia usage; factors influencing usage of multimedia in the libraries and challenges facing students use of ICT in libraries.

Current Trend of ICT In The Modern Libraries

One of the materials that facilitate academic works nowadays is information and communication technology (ICT) facilities. Acquisition and installation of ICT in any educational institution, and more importantly in the library, enhance search and access of members of the academic community to information. Apart from networks, quite a number of typical library based resources are available in on-line, tapes and CD-ROMs which cover a variety of areas. This, according to Mohammed (1999), includes: bibliography and bibliographical references, periodicals, including abstracting and indexing. Their availability in library has been a source of information to library and library users.

Examining multimedia library as applied to Nigerian libraries, Ike (1982) stressed what needs to be done to improve the status. These include: Librarians becoming aware of the value of acquiring all media including audio-visual materials as sources of information for their users; actually acquiring relevant audio visual materials; proper organization of such collections they have acquired; and ensuring that the library clientele actually use the materials so organized.

The main objective of an information network is to promote avenue for effective utilization of information through sharing of resources by group of libraries based on acceptable agreements and policies.

The use of computer technology and telecommunications added new dimension to the concept of networking in the libraries. To Bada (2001), the goals and objectives of information technologies as relate to library system are to; increase the volume of work that can be performed, expand services without the need for additional staff, free staff from much routine work as possible, speed up process of materials, improve the quality of existing services, encourage better control over resources and services, encourage cooperation ventures among institutions, improve the status of library and librarians through effective performance and facilitates creation of data bases.

Kabala (2004) observed that, with ICT, staff and students can satisfactorily get answers to their queries within the shortest time, they can look up for items of interest in electronics encyclopedia, an article on particular subject from variety of publishers could be culled without having to buy the publication. To him, librarians can perform their functions more effectively by communicating with other users, worldwide. Internet can be used to obtain important resources for teaching and learning by sending out orders to publishers and producers of teaching materials and requirements at ease. File transfer, and protocol for journal articles, magazine etc can be down loaded.

Adetimirin (2007) observed that ICTs can facilitate communications between teachers and students. It also provides students with additional opportunities to write edit and undertake multimedia project but the adoption of the learning tools in higher education is dependent on awareness, availability and ability to use it.

Users and Use Study

Users' studies have been carried out by scholars to justify selection and collection of materials in libraries. This is by studying the characteristic of users to understand users' behaviours and to meet their information needs. The objective of use studies is to justify, explain or, extend library usage (Beeler 1975, Busha and Harter 1980). Use studies concern themselves on knowing what, and how the facilities and materials provided for users are utilized.

The importance of use studies to library management is that it keeps management informed of materials and services that are effectively put to use; identify problem area(s), meet users' needs and enhance efficiency through sound decision that requires some facts to effect change. Ochai (1977) quoting Whitely stated that, use studies have been effective in intelligent planning and so shall they continue to be in future because use study brings to light information which is crucially important for library.

Multimedia or Digital in librarianship cover "collections or materials that include kits, artifacts, audio, video and computer readable materials" (Feather and Sturges, 1997). This according to Hick and Tillim (1970) furnishes the library patrons' access to knowledge in whatever form it is carried.

Traditionally, multimedia materials and contents have been used as teaching support materials thus; a lecture might be illustrated with slides, while the still projection materials have attention focusing values. With multimedia, concepts are easily comprehended. The numerous advantages from the use of computer control information retrieval system are also limitless. For instance, the advent of computers have brought about the use of CD-Rom in libraries, therefore, information that are got from sources like books, journals, and other reports are now in CD-Rom (Olaoye 1998). But how effectively are these materials and contents put to use by the students?

Akande (2004) identified that the educational use of internet is still very rudimentary, with heavy reliance on print materials. That no information communication technologies are used as such to deliver the content and provide students support. There are hardly any other resources such as audio or video materials to accompany the materials therefore attempt should be made to take advantages of the emerging and new information and communication technologies.

Corbett and Williams (2002) observed the student use of technology on education is expected to improve educational outcomes, increase skills in the use of technology and decrease in equalities between groups therefore the adoption and use of ICTs could facilitate access to unlimited and current information irrespective of geographical location and time.

Opaleke (2005) in separate studies highlighted factors such as non-availability of ready access to infrastructure, availability of facilities, up – grading equipment, dearth of competent manpower to handle all aspect of automation and poor maintenance of ICT system in libraries affect the effective use of ICT.

Going by the this background, it is obvious that, ICT is no longer new to the development of education in Nigeria as it has quite enormous advantages or benefits to users. Its acquisition, storage and utilization enhance academic activities. Use of ICT, from the review, largely depends on users' awareness, availability of facilities and acquisition of appropriate skills to use while maintenance and administration should be handled by competent manpower or staff (Kuar, 1996; Akande, 2000; Barraket and Scott, (2001); and Opaleke, 2005).

The very salient point of this review is that, ICT development or growth to education cannot be overemphasized while the usefulness to students on assignment undertakings, literature search, and self-learning are enamors and highlighted. To this end, a library activity, where one exists, enhances library productivity. However, it could only enhance educational growth when users have free access, training and devoted time to use (McMahon (1999); Bada (2001); Corbett and Williams (2002); Kabala (2004); and Adetimirin (2007).

Methodology

The study involved the twenty five (25) federal universities as at the time of this investigation. This is because they were more funded by Nigerian federal government while the libraries are supported regularly by Tertiary Education Trust Fund (TETFUND) Board. For this study, cluster stratified random sampling method was applied, because the set of federally owned university libraries was used, geopolitical zones of the country and generations of universities were considered in the selection. Any of the universities and respondents stood equal chance of being selected for the study. For the choice of the universities to select respondents, the university classification into generations prepared by Agutu (1996) was adopted for use. While the six geo-political zones in Nigeria each with four universities located in the area except South West with five universities was equally considered in sampling selection.

Table 1: The result of the ballot selection

S/N	Name of University	Geo-Political Zone	Generation
1	University of Ibadan, Ibadan	South-West	1 st Generation
2	University of Ilorin, Ilorin	North-Central	2 nd Generation
3	Federal University of Technology, Owerri	South-East	3 rd Generation
4	Abubakar Tafawa Balewa University	North-East	4 th Generation
5	University of Uyo, Uyo	South-South	5 th Generation
6	Nigeria Defence Academy, Kaduna	North-West	6 th Generation

The respondents considered for the study were six librarians (Digital or University Librarian) and seven hundred and sixty-two students who were selected from the sampled universities. However, six hundred and eight-two (682) responses were found usable. Two sets of structured questionnaires were used coupled with a structured ten (10) item interview questions for the study. One was for each of the six university librarians in the six universities and the other was for the student users of the sampled libraries.

Data Analysis and Discussion

This part present the analysis of data collected and discuss in relation with existing literature on the subject. Part I, examines the opinion of respondents perception to provision of ICT resources in libraries while part 2 analyses the attitude towards use and usages.

PART I: Respondents' perception of ICT service in library

The respondents' perception of storage and use of ICT in the library were found out. This is to establish the respondents' concept of ICT collection and management in the library. Six hundred and eighty two (682) respondents opinion were sort on their perception of ICT services in the library on the data collated from respondents' responses. The analysis show that, the 682 (100%) respondents **strongly agreed** that with ICT both librarians and Clientele can: get answers to their queries within shortest time, checkup items of interest in e-packs and nets such as internet & intranet, afford access to published articles and research reports, Librarians can perform their functions more effectively by communication with other users worldwide, Link with collections of other libraries far apart, encourage the use of internet service in teaching/learning and sending orders to publishers producers, Journal articles, magazine etc can be accessed and down loaded, facilitate communication between librarians and clientele, teachers and students, Provide clients with additional opportunities to develop search skill, encourage better control over resources and services, improve the quality of existing services and speed-up process of materials and ease reorganization of recorded statistical presentation.

However, some respondents have descending opinion to ICT in library. For instance, 136 (20%) of respondents **sparsely agreed** that: ICT expands services without the need for additional staff, ICT increases the volume of work that can be performed and ICT free staff from much routine work as possible.

PART II: Respondents Use and Usage

Table 2 present student's awareness of multimedia collection and services in the library. This is because awareness in most cases creates accessibility to use.

Table 2:
Student's awareness of multimedia services in their libraries.

Status	Aware	Not aware	Total	%
Graduate	48	16	64	9.38
Undergraduate	287	331	618	90.61
Total	335	347	682	100.00
%	49.1	50.9	100	

Table 2 show that, 335 or 49.1% of the respondents were aware of the collection and services of multimedia in their library. 347 or 50.9% were not. Furthermore, the table shows the number and percentage of both graduate and undergraduate student's awareness of multimedia resources and services in their libraries. From this result, less than half of the respondents were not aware of this type of collection in the library. This suggests low awareness of the study. It further suggests that there were low level of publicity by the libraries on availability and training. To Ochai (1977) quoting Whitely, the use of library collection is effective through awareness creation as this to him brings to light information which is crucially important to library and the users.

Multimedia Usage in the library

It is one thing to be aware of existence of certain resources; it is another to use them. Therefore category of students using multimedia in the libraries is shown in the next table.

Table 3:

Student's awareness of multimedia services in their libraries.

Status	Science	Humanities	Total	%
Graduate	27	21	48	9.38
Undergraduate	125	791	204	90.61
Total	152	812	252	100.00
%	22.3	40.7	37.0	

Table 3, shows that all categories of students: science, humanities, graduates and undergraduates use multimedia resources in these libraries. Furthermore the table shows that, 252 or 37.0% of the 682 respondents used multimedia in library, while 430 or 63% of the total respondents did not. Of the 252 users, only 152 or 22.3% were science students and 812 or 40.7% were in the humanities. This result shows that an insignificant percentage of 37.0% use the resources. This could be as a result of lack of awareness as earlier noted in table 1 above. This result affirmed Akande (2004) which claimed that educational use of internet is still very rudimentary with heavy reliance on print materials and that no ICT are used as such to deliver it content or provide students support.

Frequency of multimedia usage

Table 4:

Frequency of multimedia resources usage by students.

Status	Regular	Occasional	None	Total	%
Graduate	5	42	16	63	4.34
Undergraduate	62	142	414	618	90.61
Total	68	184	430	682	100
%	10.0	27.0	63.0	100	

The table shows that, there are 68 or 10.0% regular users, 184 or 27.0% occasional users and 430 or 63% none users. This implies that, 252 respondents use the materials either regularly or occasionally. Of this figure 204 are undergraduates while graduates are 48.

Factors for multimedia usage in library

Certain factors were considered influencing use of ICT resources anywhere. Table 5 below presents nine factors to determine what influence students' use of multimedia in library. Three factors however were observed to have positively influence respondents use of the resources.

Table 5: Factors influencing usage of multimedia

Factors	Effect influenced	Not influenced
	(N%)	(N%)
Application in the classroom	54 (21.4)	198 (78.6)
Teachers ref. to the materials in the library	45 (17.9)	207 (82.1)
Course Requirement	183 (72.6)	69 (27.4)
Relevance to assignment	214 (84.9)	38 (15.1)
Easy access to the collection	39 (15.3)	213 (86.5)
Awareness of multimedia services	76 (30.2)	176 (69.8)
Library orientation programme	34 (13.5)	218 (86.5)
Shelves arrangement	29 (11.5)	223 (88.5)
Library staff advice	86 (73.8)	66 (26.2)

Table 5 shows that, 183 or 72.6% of users were influenced by course requirements, 214 or 84.9% by relevance of the materials to assignments and 186 or 73.8% by library staff advice. Even though other factors had influenced students' usage of the materials, table 4, further shows that the numbers of respondents influenced were relatively very low compared to the three factors earlier mentioned.

Respondents' Suggestion for ICT Use

This research went further to sort respondents' opinion as to what improves their use of ICT in libraries. The respondents were of the following opinion: That ICT skill acquisition be made compulsory at secondary school level, ICT unit be established in the library, libraries should open for twenty-four hours, libraries should prepare lists of their electronic software subject by subject with abstracts to encourage use, standby generators should be provided for library to allow all time utilization of the ICT facilities in the library, ICT skill acquisition should be made compulsory at 100 or 200 level of the institution, faculty staff should have knowledge of ICT and contents of library stock for teaching/ learning exercise, library should be made to open for twenty-four hours, libraries should prepare lists of their electronic software subject by subject with abstracts to encourage use and standby generators should be provided for library to allow all time utilization of the ICT facilities in the library.

Summary of the Findings

From the tables 1-4 above, the finding shows that most of the undergraduates are not aware of the multimedia services available in their various university libraries; it also shows that those that are aware don't usually make use of them. Also there are factors that influence the usage of multimedia in the library such as listed in the table 4 which shows the level of influence on the users.

Low level of multimedia stock was observed from the libraries under study. The low level of stock in the libraries, were as a result of poor administrators' interest, funding, space, etc. This corroborates Opaleke (1998)'s assertion that problem of funds, space, personnel etc. posed limitations on the extent to which many libraries can be stocked with digital resources in this country. This situation prompted the Library Association (2004) to suggest improvement in this direction.

The limited level of use cannot be linked with the low level of awareness, because, awareness programs were actually organized. The program has its merits as this study showed that all segments of the students (graduate, undergraduate, science and humanities), used the multimedia materials in the libraries – showing a general level of awareness.

Users tend to avoid utilizing complicate materials going for less complicated ones like slides, microfilms, charts and maps according to the observation in this study. This could be due to the constraints which developing countries like Nigeria have in the use of information technology like the lack of technical knowhow, lack of the capability to operate them and the inability to build and manage services involved in the technology (Fasanya, 2000).

Furthermore, students may not find some of the materials useful as observed by Izang (1993), while poor quality data and inconveniences may be other reasons for students' attitude as observed by Hsich and Yee (1996). The collections, again, may not satisfy the curriculum as well as the cultural and general educational requirements of the students; as the library association (1973) again observed. The students are not totally ignorant of the usefulness of the multimedia resources available in the libraries since about 49% of the respondents (students) are actually aware of them and use them. Many of the libraries actually organized awareness programmes to sensitize users. However, it has little or no effect.

The major factors which influence the use of the multimedia in the Nigerian university libraries are: Library staff advice, student class assignment and the relevance of the resources to the students' area of study. With the analysis of the responses, it was obvious that, ICT system was yet to be embraced by the higher Institutions. This is a dangerous trend to the educational development of the nation. By now all the institutions were expected to have automated their library system and have reliable ICT section with such units like digital, automation, audio-visual, and archival site in the libraries with a minimum ratio of a computer to five library registered users. Such section should have a trained staff such as a computer expert or a technologist to train users and maintain the system. On space and number of ICT facilities, the library's ICT facilities in the institutions fall short of expectation even though no standard have been prepared for the requirements; hence the need for library extension or annex building to create space and accommodate enough ICT facilities.

Conclusion and Implications

Training on ICT facilities should be made compulsory at 100 and 200 levels in all Nigerian Universities. To be able to do this, Academic staff in faculties and librarians must work hand in hand to effect positive changes in the use of multimedia materials available in their library. Students must be stimulated and encouraged towards the multimedia materials in the library by calling their attention to new arrivals, making attractive displays and making exhibition in the library. This will enhance the use of ICT in the digital libraries and promote education.

References

- Adetimirin, A. E. (2007) Availability, Accessibility and Use of Information and Communication Technologies by Undergraduates in Nigeria Universities: What role for University Libraries? Nigeria Library Association 45th Annual National Conference and AGM Compendium September 9 -14 2007 p.
- Akande, Florence Fumilayo (2004) The Relevance and Application of Information Technology (Internet) To Open and Distance Learning. African Journal of Information Technology Vol. 8 (1&2): pg. 18 -25.
- Bada. B. A. (2001) Information Technologies, Unpublished Dissertation, LARIS Department University of Ibadan.
- Barraket J and Scott, G (2001) Virtual equality? Equality and Use of Information Technology in Higher Education. Australian Academic and research Libraries Vol.32 (3) retrieved April 26, 2004 form <http://alia.org.au/publishing/aar/32.3>
- Beeler, Rocjard K. (1975), Evaluating Library Use Michigan: Preriorn Press.
- Busha, Charles H. & Harter, Stephen P. (1980) Research Methods in Librarianship Techniques and Interpretation. New York: Academic Press.
- Corbett, B and Williams (2002) Information and Communication Technologies: Access and use. Education review Quarterly. Vol.8 (4): 8 – 14.
- Creaser, H. (1980), The Impact of media on learning. School Library Media Centre 12(1):7-9
- Enrickson, W.H. Carton (1992) Fundamental Teaching with Audio-Visual Technology. Macmillan: New York.
- Fapohunda, Akin (1995) understanding and using micro computers Abuja: AFLON Ltd.
- Fasanya, Moses (2000), The effect of Information Technology on Goods and Services in Developed and Developing Nations
- Feather, J.E. and Surges P. (ed: 1997), International Encyclopedia of Information and Library Science London: TJ Int. Ltd
- Hick, N.E and Tillim, A. (1980) Developing Multimedia Libraries. New York: R.R Bowker Co.
- Ike, Adebinspe O. (1982) Multimedia Services in Nigerian Libraries.Lagos Librarian 9 (2): 110-115
- Journal of Computer assisted Learning Vol. 15 (4): 302 – 311.
- Kabala, Denuwa (2004) the need for computerization in the colleges of education in BornoState,Waka Journal of Vocational, educational, Art and Science Studies Vol. 1(1): 68 – 77.
- Kuar, Amritpal (1996) Networking of the Libraries of agricultural Universities and Research Institution in the states of Punjab, Haryana and Himachal Pradesh (PHHALNET): A proposal, Library Herald Vol. 33:3-7
- Learning Resources Journal, 13 (1): 7-11 (USA: July, 1997: 7537)
- McMahon, J., Gardner, J Gray, C and Mulhern, G. (1999) Barriers to student' Computer Usage: staff and student' Perception.
- Mohammed, Zakari (1999), Internet and globalization of information paper presented at the Nigerian Library Association (Kaduna State Branch) Conference, ABU, Zaria.
- Ochai, A. (1992), The Use of Kashim Ibrahim Library by Undergraduates of Abmadu Bello University Zaria. Unpublished MLS Thesis Zaria, ABU.
- Olaoye, J.O. (1997, Nov) Information Technology Application: The Library Users and the Information Specialist. Paper presented at the Kwara State Chapter NLA Conference, Ilorin.
- Opaleke, J. S. (2005) Steps for Effective Maintenance of Library Automation Equipment in Developing Countries. Middle Belt Journal of Library and Information Science5(2):34 -38.
- Rowley, Jenny (1995), Multimedia Kiosks; a new medium of Information provision. AVL: The multimedia Information journal.

Spoonley, N. (1997) Strategic Implications of the continuing Development of Information Technology for Learning in Education.

Uche, G.A. (1986) non-book Media and Libraries in Developing Countries. *Nigerbiblios* 11(14): 4-8
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