

Undergraduate Students' Awareness and Use of the Multi-media Facilities in the University of Nigeria Nsukka Virtual Library

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Abstract

This paper appraised the University of Nigeria, Nsukka (UNN) undergraduate students' awareness and utilization of the multi-media facilities in the UNN virtual library. The aim of the study was to assess students' multi-media literacy in terms of awareness, exposure, and use. A sample size of 390 respondents was used, while all seven staff members of the digital library in UNN were interviewed. The findings indicated that awareness of the existence of the digital library is high, but exposure is low. The respondents did not know the precise meaning of multi-media. Use of the multi-media facilities in the library is limited to browsing for assignments. The library is being run as an internet café as against the real purpose of a digital/virtual library which should offer virtual access to other libraries, among other crucial services. The paper recommended that lecturers should direct their students to the library for specific assignments, and use it as a way to evaluate the relevance of the e-library and subsequently arm the university administration with information on ways to position the virtual library to serve students better. The library should also regularly renew subscriptions and collaborate with other libraries on networked resource sharing.

Key Words: awareness, use, multi-media, virtual library, exposure, access, virtual communities

DOI: 10.7176/NMMC.v11p9 **URL:** <http://dx.doi.org/10.7176/NMMC.v11p9>

Introduction

In line with the ever evolving information and communication technologies, libraries in universities have become a changing phenomenon. As centres that hold enormous amount of information, libraries have joined the train of information globalization. Many Nigerian universities are bracing to understand their role in the current learning and research environment. "Understanding and evaluating library usage patterns and developmental paths are prerequisites to formulating a critical and appropriate response to widespread, rapid changes in higher education" (Troll, 2001, p.1).

Communication scholars have to follow new frontiers being opened by technology especially as new ICTs close the lines between disciplines. This study underscores the need for communication research to seek out new areas in the interface of communication and other disciplines to ensure that mass communication continues to gain relevance in the era of fast-pace changes in the modes of public communication. Libraries need information/communication techniques and skill to package, deliver and publicise their services as well as to train potential users on use of virtual libraries.

There are many ICT studies in various universities in Nigeria on the dynamics of the new information order. Most of the studies have not looked in the direction of digital libraries as tools of communication globalisation, research and teaching/learning. This is especially in terms of virtual libraries within the context of the factors of media literacy (awareness, exposure and use) as well as the general IT policy objectives of Nigeria. Nigeria, like many other African countries, came late and is still slow in the use of ICT in almost all sectors of the nation's

life (Yusuf, 2005). This slow pace will not improve significantly if there is no improvement on the awareness and use of ICT facilities in Nigeria, especially in educational institutions hence the need for this study.

The real impact of ICT is with awareness, access, exposure and use, all factors of media literacy. A virtual library may only be so named and no more. In the end, the communication essence of technology can remain untapped. That is, digital libraries are meant to enhance learning through effective communication with the multi-media facilities. Technology, however, makes sense only to the extent that target users tap the communication essence that are their *raison d'être*.

Research questions

This study was guided by the following specific questions.

1. What is the awareness level of students about the multi-media facilities in the UNN virtual library?
2. What is the extent to which UNN undergraduate students are exposed to the multi-media facilities of the UNN virtual library?
3. How do UNN students use the virtual library in their university?

Theoretical framework

This work is based on the Technology Acceptance Model.

Technology Acceptance Model (TAM) implies belief in an active audience or users who rationally take decision on whether or not to use a given medium depending on the benefits derivable from the medium. TAM looks specifically at the predictions of an information system. Davis (1986) developed the TAM whose purpose “is to predict the acceptability of a tool and to identify the modifications which must be brought to the system in order to make it acceptable to users”. This model suggests that the acceptability of an information system is determined by two main factors: perceived usefulness and perceived ease of use.

The importance of this theory is that technology use depends on ease of use and usefulness of the system. This study was interested in assessing the degree of awareness, use, perceived usefulness and factors that might limit students' use of the virtual library in UNN. This helped to predict the acceptability of the virtual library and to identify the modifications which must be brought to the system in order to make it acceptable to students.

Factors affecting access to, and use of, school-based virtual libraries

Current research indicates that a growing percentage of library use happens outside the traditional library. Students are increasingly making less and less use of hard copy books in their quest for materials for academic work. With their personal computers connected to the web, students are in constant touch with virtual libraries, which have become a major source of academic information. Students can have access to many virtual libraries either on their own or through connections established in their universities. A study of online habits of 2000 American college students by *netlibrary* found that:

82% of the students surveyed own a computer and “virtually all of them use the Internet. 93% claimed that finding information online makes more sense than going to the library. 83% said they were frequently unable to get materials they need from the library because it is too late or too early to go the library. 75% said they do not have enough time. 75 liked the convenience. 71% liked the time saved by finding information on line any hour of the day (in Troll, 2001).

In effect, student connection to online libraries will affect use of public access libraries, especially those in universities. In addition, some schools have bandwidth and other logistic problems that may further discourage use of school-based libraries by students. Equipment configurations and replacement cycles are problems that can affect student's use of libraries. Some researchers even wonder if students would prefer obsolete equipment in school libraries to their own modern devices that could handle multi-media and loaded with all the software they need to handle assignments. Worse, some school libraries allow students to only retrieve information, forcing the students to go elsewhere for e-mail, word processing and programming. There is a further problem of universities that do not have enough equipment to meet the demands of growing student population. Where there is equipment, there is the problem of many non-functional ones added to the problem of constant power problems and slow network.

Rosenberg (2005, cited in Kabamba, 2008, p.11) investigated the status of university libraries, focusing on digitalization. He found that library automation started early in the 1990s but majority of institutions were unable to complete the process. Rosenberg observes that in many libraries, many computers were found to be in working order but connectivity to the Internet was very low. “Only 35% of libraries have 75% or over of their computers connected to the Internet, whilst 15% are not connected at all”. Rosenberg observed that connectivity was poor, and server speed was very low. He also noted that a wide range of e-resources was accessible in many libraries, but, generally libraries had little capacity to maintain subscriptions.

Chisenga (2004, p.v) did a study for The International Network for Availability of Scientific Publications (INASP) and found that apart from South Africa, automation of libraries was very rare. The study noted that outside South Africa computerized public libraries were virtually limited to e-mail communication as the only internet related activity. “Almost none are providing webbased library information services to users; ICT facilities are therefore not being used directly to benefit user communities” (Chisenga, 2004, pV).

Aduwa-Ogiegbaen and Iyamu, (2005) analysed the problems and prospects of using information and communication technology in secondary schools in Nigeria. They concluded that to integrate computer into teaching and learning in Nigeria, there must be proper and adequate funding and financing of education by government with international bodies. Okonedo (2004) observes that over 60% of the universities have web presence and facilities for staff and students for Internet transactions. He notes that 50 percent of the Federal budget on education in 2004 was allocated to federal universities, which has helped in the development of ICT in Nigeria universities.

Okebukola identified some problems with the implementation of ICT projects in Nigerian high institutions, namely, a general lack of project-management skills, unstable electric power supply and tendency to invest in equipment rather than human capacity. Okebukola forecasts that by the end of the year 2015, Nigeria would have a forward-looking national policy on e-education in place. His forecast was based on the expectation that the federal government, local government and development partners such as the UNDP, UNESCO and the African development Bank would help to fund the initiative (cited in Okonedo 2004, p.2).

The significance of school-based virtual libraries

The question then is whether there is yet any use for online libraries in universities. Ogunsola, (2004) believes that majority of higher institutions in Nigeria, even those with good Internet connectivity, are still at a low level of integration of ICT in teaching, learning, research, library, information and managerial services. Ekong (2005) noted though that in some of the first generation university libraries such as University of Benin Library, Kashim Ibrahim Library Ahmadu Bello University, Zaria, University of Nigeria Nsukka Library and a few others, digitalization is taking place in many of their libraries and library information networks are established with connectivity through the university campus network to the Internet.

Some experts believe that students have the opportunity to learn many skills taught by librarians in school libraries. Students also have the opportunity to access more organized library systems offering deep web sources that students can rarely access on their own due to cost. Ashraf, Swatman, & Hanisch (2008) found that students typically turn to popular web search engines when they need to find information. These search engines index only the surface web, where less than 7% of the information is appropriate for educational or scholarly purposes. No single web search engine indexes more than 16% of the surface web, yet we have no evidence that students use more than one search engine when they look for information.

According to *Bright Planet*, the “deep web” is 500 times larger and growing faster than the surface web. The deep web provides information in all disciplines, for all constituencies, that is 1,000-2,000 times better in quality than the surface web. Approximately 95% of deep web content is publicly accessible using popular web search engines. The growing concern is that many undergraduate students may be searching only 0.03% of the web to complete their assignments, ignoring entirely the books, journals, databases, full-text digital resources and other scholarly materials provided by the library. Because of easy access to the web, undergraduates are using library collections and services less than in the past. For this reason, some faculty members do not allow their students to use web resources in class projects, (Ashton and Thorms, 2007).

In developing countries such as Nigeria, there may not be enough computers per student, and students may not be connected to any virtual libraries on their own. This means that school-based virtual libraries are the option. Thus it is necessary to study awareness and use of online libraries in developing countries. Access to computers (email and internet), affordability of computers and connectivity, telephone and electricity infrastructure, computer literacy, expertise are some of the constraints to ICT as a globalising agent in developing countries (Davis & Danning, 2001; Gumbo, 2003). Odusanya and Bamgbala (2002) found that the majority of final year students at the College of Medicine, University of Lagos had limited computer skills and only 23 percent of the students had used the Internet for medical research. They concluded that the Nigerian student population is computer deficient.

The National Universities Commission (NUC), the government agency responsible for registering and regulating universities described personal computer ownership as follows. 1 PC to 4 students, 1 PC to 2 lecturers below the grade of Lecturer 1, 1 PC per Senior Lecturer and 1 notebooks per Professor/Reader, Adomi and Anie, (2006). WikiEducator, (2007) notes that some universities like Nnamdi Azikiwe University have met this mark in this PC-lecturer ratio, but are unable to meet that of students. Some universities have equally made giant strides in campus wide area networking and e-learning course deliveries.

Ogunsola (2004) found that the Centre for Learning Resources (CLR) Covenant University, Ota ranks high on full application of ICT because funds are made available for such innovations. Ogunsola observed that some Nigerian University campuses are now jam-packed with IT facilities, adding that librarians or any member of the academic community at Obafemi Awolowo University Library can now easily find information concerning any book in the Library of Congress in the US.

University libraries can be transformed into a new information services unit, proving electronic cataloguing, OPAC, electronics acquisition/serials control, electronic inter-library loan and calculation functions (Ogunsola, 2004). Ekong (2005) observed that both the Federal Government of Nigeria and International funding agencies are now interested in the general development of ICT in Nigerian universities. The Federal Ministry of Education embarked on the establishment of the National Virtual (Digital) Library Project to provide in an equitable and cost-effective manner, enhanced access to national and international library and information resources and to share locally available resources with libraries all over the world using digital technology, among other objectives. A model Virtual (Digital) Library at the National Universities Commission (NUC) will be the laboratory of the university-based libraries (in Olarewaju, Ayodele, Abubakar and Aliyu 2011).

Ani (2005) investigated the extent of availability of relevant information infrastructure, human capacity building and ICT skills acquisition programmes available in Nigeria university libraries and their level of funding that will enhance the evolution of virtual library project. The approval and establishment of the Nigeria Virtual Library project in early 2002 by the federal government of Nigeria and the National workshop organized by UNESCO on the pilot virtual library project in May 2003 were also highlighted. He found that 64% of the surveyed university libraries had relevant information infrastructure such as telephone, VSAT and radio link to support the evolution of virtual libraries, and only 29 percent had a website on the internet and 86 percent of them were involved in human capacity building and ICT skills acquisition programmes. Ani (2005) concluded that the Nigeria virtual library project is not a myth but rather feasible and real. He recommended that the federal government, through the NUC, should increase the current level of funding of university libraries to support the effective evolution and implementation of the Nigeria virtual library project (in Olarewaju, Ayodele, Abubakar and Aliyu 2011).

Methodology

This study adopted the survey research method. The survey covered the undergraduate students, and staff of the digital section of the library of the University of Nigeria, Nsukka. The population of the study involved the entire undergraduate students of the University of Nigeria, Nsukka. The University of Nigeria, Nsukka is a first generation university with a virtual library, which has hardly been studied in terms of use of the MTN-sponsored virtual library therein. Undergraduate students were used because the pilot study done revealed an almost exclusive use of the digital library by undergraduate students. According to the Academic Planning Unit of UNN, the total number of registered undergraduate students of the UNN as at the 2010/2011 academic year stood at 15, 382. See table 1. The

population is therefore finite. The second set of population is made up of the entire (seven) staff of the UNN virtual library.

Table 1: Population Distribution of UNN Students by Faculty

<i>Faculty</i>	<i>Male</i>	<i>female</i>	<i>Total</i>
Agriculture	297	587	1184
Arts	787	1282	2069
Biological Sciences	1510	1269	2779
Education	484	870	1354
Engineering	1830	168	1998
Pharmaceutical Sciences	461	394	855
Physical Sciences	1214	542	1756
Social Sciences	1500	1369	2869
Veterinary Medicine	261	157	418
Grand Total	8744	6638	15382

The population of this study is therefore 15,382. Source: Academic Planning Unit, University of Nigeria, Nsukka
 The Taro Yamane (1967) formula was used to select the sample size of 390. Total sampling of the seven staff in the digital section of the UNN library was done because of the small number of samples. The sampling technique used was the stratified random and simple random sampling techniques. The University was first stratified into nine faculties as noted above. Then each of the faculties was stratified into departments and two departments were chosen from each faculty. The departments were selected using the ballot system of random sampling. The research adopted the questionnaire and interview schedule as its instruments of data generation from the respondents. Data were presented using simple percentages and frequency tables.

Discussion

Majority of the respondents (92%) were aware of the existence of the digital library. However, the respondents generally did not know the precise meaning of multi-media facilities. They did not also know what is included in the range of multi-media facilities. Many respondents could not describe the functional aspects of the multi-media facilities either singly or collectively for which they are called multi-media. The problem was more of inability to define multi-media than crass ignorance about multi-media facilities. The respondents have been using pieces of equipment which they did not know are called multi-media facilities.

In terms of exposure, respondents indicated that they use the library very often. Coming close to the *very often category* were those who visited often. Few respondents indicated that they visited rarely and very rarely. However, the question that inquired the last time respondents visited the digital section of the UNN library produced answers that contradicted the respondents' indication that they visited the digital library often as noted above.

Thus, on the question of the last time respondents visited the digital library, the greatest number indicated that they never visited the digital section of the library. Some said they did not even know of the existence of such a facility. Initially, this finding was a surprise because when these researchers visited the digital section a number of times to observe things, the hall was always filled beyond capacity, with some students waiting to take their turn for want of computers. The library staff indicated that engineering students were the most regular in the library.

This meant that almost the same groups of students use the virtual library often. Some respondents also pointed out that they were discouraged from returning after initial visits due to slow network and difficulty in reaching needed e-resources. However, the respondents who had never visited the library noted that non use of the digital library was not because of illiteracy in the use the facilities therein. Also, as part of suggestions on how to improve the services of the library, some respondents suggested awareness creation for the students who were not yet aware of the existence of the digital section as well as its benefits. In addition, some non users said they had not thought it necessary to use the library, and that was because they were not aware of the benefits they could derive from using the facilities.

Generally, respondents' ideas about multi-media revolved around computer and the internet. For instance, an open-ended question was used to establish a correlation between the respondents' answers to the question on knowledge of the meaning of multi-media facilities in the library, and what the respondents knew about multi-media facilities in general. The answers given revealed that respondents' idea of multi-media facilities was limited to what they saw in the digital library; that is, computers.

The specific task performed in the UNN digital library was term papers and assignments. This point still confirmed the computer-related applications with regard to knowledge and use of multi-media facilities in the library. Apart from doing assignments, respondents did not report other kind of activities based on their own schedule. That is, independent studies do not happen unless the student had assignments to do. Video facilities, music (lessons on composing for music students and music enthusiasts), web links via web cameras, block messaging by text and pictures, e-conferences were some of the services on offer in the library as listed by the library staff during the interview. No respondent mentioned them in their responses.

Furthermore, use of the digital library to design multi-media projects, perform practicals, form virtual communities and link with other libraries through the UNN network was virtually non-existent. Respondents had no idea that networked multi-media facilities could help them join other libraries or join reading groups in virtual communities. The library staff indicated that these were on offer in the digital library. The staff complained though that the library had not updated its subscription with relevant websites to allow students have access to e-books. Not surprisingly, the respondents noted that they found it impossible to find and/or download e-books. Other multi-media services, which are not yet obtainable in the library according to the library staff, include electronic cataloguing, electronics acquisition/serials control, deep web and surface web searches.

The UNN digital library web page have websites, which included full text database sites used to access *The Academic Search Premier*, for active full text peer-reviewed journals. There were also web sources for academic content on health, biodiversity, environment, conservation and international development. *African Index Medicus* gives access to information published in or related to Africa and encourages local publishing. No respondent indicated having used any of these services.

Therefore, in terms of problems, the respondents were the most concerned about slow network and non-functional systems. With 121 computers in the digital library, which include many bad ones, there is a ratio of one computer to 124 students. This is almost the same finding as that of Jensen (in Kabamba 2008, p.5) who had found that in Sub-Saharan Africa, there are 8 computers for every 1000 people. The library staff mentioned power failure as their most important frustration in serving students as well as students not being quick in heeding instructions.

The respondents indicated that they had other options for accessing multi-media facilities. Obviously, the UNN digital library is not the only option open to students. What is interesting is that students make greater use of cyber cafes where they pay to use the services available. The respondents revealed that the cafes are less crowded, and that it was possible to seek out those cafes with high speed servers. Some respondents also said that students feel a measure of greater freedom to socialize while making internet searches in the private cyber cafes than they were able to do in the UNN digital library. Focus group and survey research indicate that undergraduate students typically turn to popular web search engines when they need to find information, Ashraf, Swatman and Hanisch (2008). Some scholars have argued that government investment in public access digital libraries is redundant because there are many cafes offering the same services though at a profit. But the rate at which students use the school-based public access digital library such as in the case of UNN shows that the investment is worthwhile.

Additionally, digital libraries offer special sites that hold enormous amounts of books on all disciplines, a service that is rare in private cyber cafes. School-based digital libraries also offer library inter-loan systems and document delivery services that allow digital libraries to exchange books although these services are non-existent in the UNN digital library.

Conclusion

From the findings above, this paper concludes as follows:

- The respondents are aware of the existence of the virtual library
- The respondents have been using pieces of equipment which they did not know are multi-media facilities.

- The respondents are not sufficiently exposed to the library, even though the library is filled up each time. Thus, first time visitors rarely returned, and the same group of students mainly from engineering faculty were regularly using the library.
- Respondents use the library mainly to browse for assignments.
- There is no connectivity to other virtual libraries.
- The study has therefore confirmed the results of similar studies. Rosenberg (2005 in Kabamba 2008, p.11) had found that in most public libraries in Africa, many computers were found to be in working order but connectivity to the Internet was very low. Most libraries accessed e-resources through donor support or free of charge. Little progress was reported on digitalization of local content. In the words of Rosenberg (2006:10) “digitalization of full text and the establishment of IRs are even less common.”

Recommendations

1. The university administration should show interest in ascertaining the functionality of newly established methods of learning and research to see how well they are going in view of the university’s ICT goals and the general ICT policies of Nigeria.
2. The library staff should also do more training sessions to upgrade students’ skills in using the multi-media facilities;
3. Library staff as well need to upgrade their skills whenever the digital library install newer technologies;
4. Lecturers should direct their students to the digital library for specific assignments, and use it as a way to evaluate the relevance of the e-library and subsequently arm the university administration with information on ways to equip and generally position the digital library to better serve the students;
5. The library can do electronic signposts as part of public relations to alert students to the services on offer in the digital library.
6. The library can also pre-programme pop ups on the internet to remind students all they can do with the facilities at their disposal
7. Better ways of storing information should be adopted to make it easier for students to store soft copies of information sourced. The digital library can use separate networked computers to offer paid services of storing information for students;
8. Students are often frustrated when they cannot find functional, free systems to use, yet there are many systems not in use as a result of being faulty. As such, the library should fix the many faulty systems in their possession and increase the cyber speed of their servers to make searches meaningful and faster.
9. The library should obtain a stand-by power generator as obtains in private cyber cafes.
10. The digital library should also regularly renew subscriptions and look for ways to collaborate with other libraries on resource sharing to help students have better and greater access to books stored in other libraries.
11. The library should acquire more computers.
12. The library should provide more and better staff assistance to students. There are many non-literate students who often need help.
13. The library should have schedule for departments to avoid overcrowding and monopoly of the digital library. There were complaints that some people monopolize the library.

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Appendix

Table 1: Respondents' ideas about the multi-media facilities of the UNN virtual library. Responses came from an open-ended question and the following responses were isolated from respondents' answers.

VARIABLE	Frequency	%
Computer and internet	254	82
Projectors	41	13
Computer web camera	1	0.3
CPU and monitor	2	0.7
Printers	11	4
Total	309	100

Table 2: What is a multi-media facility?

Table 2 analysed an open-ended question that further tested respondents' knowledge of the meaning of multi-media facility beyond what they saw in the UNN digital library. The following responses appeared in respondents' answers.

Options	Frequency	%
Computer and the internet	312	82
Those facilities that can handle multiple tasks ICT	50	13
Facility for global communication	2	.5
Phone for music and calls	3	.7
A facility that makes the library digital with different applications	4	1.05
A device for browsing	4	1.05
	5	1.75
Total	380	100

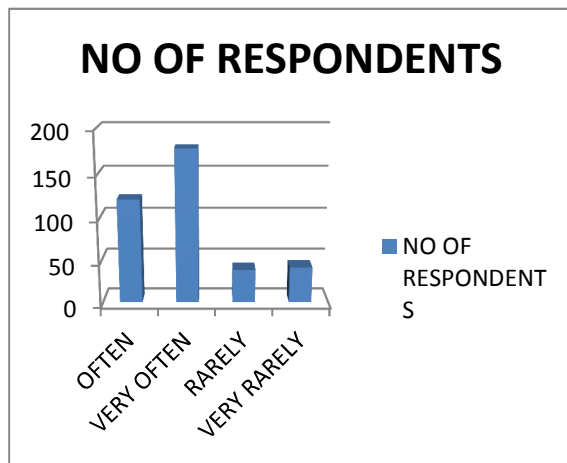


Figure 1: How often UNN students visit the digital section of the UNN library?

Table 3: Respondents’ rating of the UNN digital library in terms of its inevitability to e-resource location in their academic pursuits. A rating of 1 means it is of no use to the respondent, a rating of 10 means that it is virtually the only e-resource used by the respondent.

Response	Frequency	%
1	8	2.10
2	21	5.52
3	167	43.94
4	175	46.05
5	-	-
6	-	-
7	-	-
8	--	-
9	-	-
10	9	36
Total	380	100

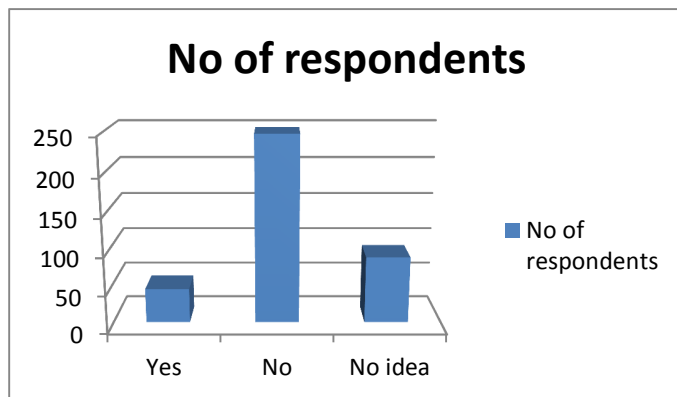


Figure 2: Connection to Other Digital Libraries

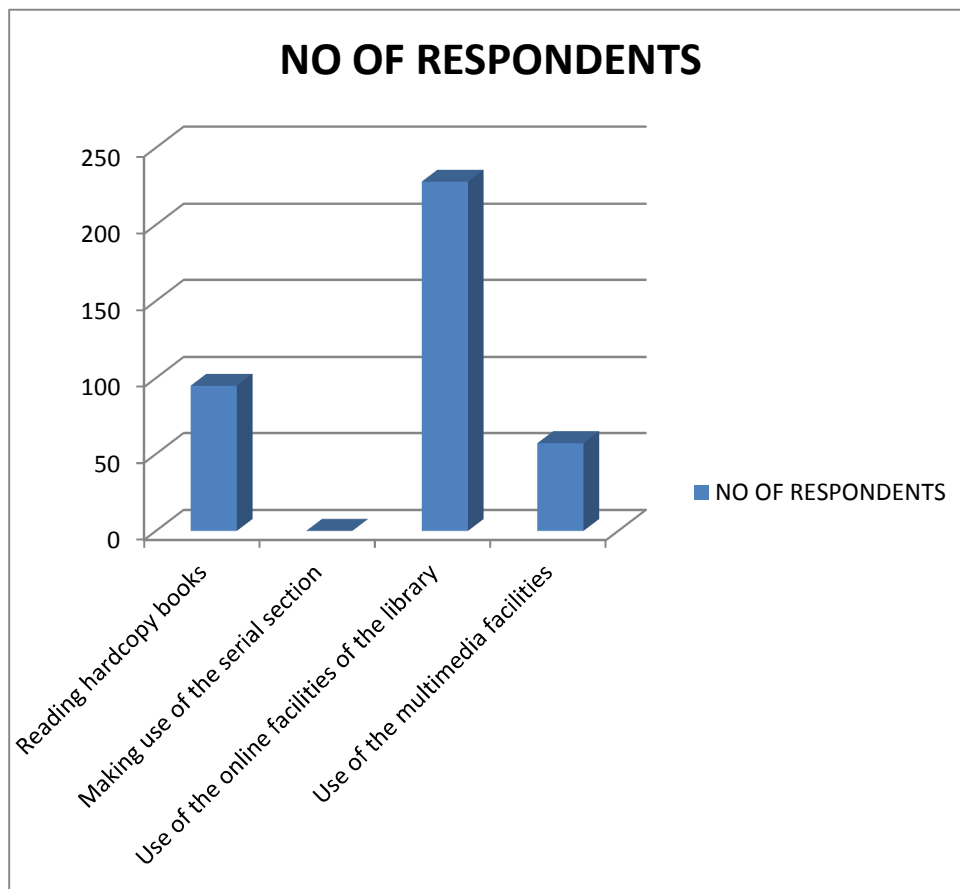


Figure 3: Use of facilities of the Library

Table 4: How often UNN students visit the digital section of the UNN library?

VARIABLE	NO OF RESPONDENTS	PERCENTAGE
OFTEN	121	32
VERY OFTEN	178	47
RARELY	39	10
VERY RARELY	42	11
Total	380	100

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