In this paper, authors have set out to define and briefly explain reference sources and collection development, reference ethics and evaluation of reference services offered to library users generally. They made particular reference to the National Centre for Energy Research & Development (NCERD) at the University of Nigeria Nsukka campus. The general objective of the study is to identify library resources available at NCERD Library and assess the quantum of usability by patrons. The Code of Ethics by which reference services are guided consists of eight principles which include items I, II, III, IV, VII, and VIII are presented. Digital References Services are also discussed. Analytical survey design was employed in this study. Documentary sources are used because they contain the information the researchers want. Observational technique was used to collect primary data from ‘library users’ statistics records and loaning books’ of the library. Data collected were analyzed using statistical tools and percentages. Findings show that available reference sources in NCERD library include: books, journals, theses/dissertations, conference proceedings and newspapers. It also reveals that there were variations of number of materials consulted by library users between the periods 2005 and 2012 under study. The authors conclude with recommendations on which include that NCERD library staff should propose for the procurement of resources in order to satisfy the information needs of energy researchers in the establishment.

Keywords: reference sources, reference services, NCERD Library, reference ethics, evaluation

INTRODUCTION

Reference librarians must be able to respond to a wide variety of questions, depending on the needs expressed by library users. Increasingly, the concept of a reference collection made up of reference books is an inadequate characterization of the resources most frequently used by reference librarians. Although print materials continue to be used, they are supplemented by authoritative sources in microform, CD-ROM, or digital resources accessed via computers and network connections. With the availability of a growing number of freely available resources on the Web, it is limiting to think of the reference collection as only those materials that are purchased or licensed by the library. As more and more information has become available in digital form, libraries are finding that use of print reference collections has decreased substantially.

According to Smith (2010), it is possible to divide reference sources into two main classes: compilations that furnish information directly and compilations that refer to other sources containing information. In practice, this distinction becomes blurred because sources of the first type often refer to others for fuller information, and those of the second type are adequate for answering some questions. Sources of the first type include encyclopedias, dictionaries, almanacs, handbooks, yearbooks, biographical sources, directories, atlases, and gazetteers; sources of the second type include catalogues, bibliographies, and indexes.

The proliferation of digital products has allowed librarians to access content they may not have been able to collect in print but there are potential drawbacks. Rather than having the flexibility to select individual reference volumes from many different publishers, librarians increasingly have to select one aggregated package over another. This can have the effect of increasing the range and depth of a reference collection while also decreasing the flexibility to customize the collection to reflect the interests of the library’s specific user community. An additional concern is that digital content is often licensed rather than purchased, meaning that such titles are not permanently added to the collection.

Ethical issues such as confidentiality and privacy are also relevant in the digital environment, where it is possible records should be treated with the same respect for confidentiality and privacy as library circulation records. There is also the ethical issue of availability of and access to digital reference services. If librarians devote more of their resources and time to digital reference, then service to those who do not have Internet access could be negatively affected. Gorman, Polanka & Bibel (2010:1) noted that:

Librarian and patron usage patterns have changed, and the largest challenge facing both is accessing accurate information. Some formats, such as almanacs and printed encyclopedias, resist these changes, and libraries will want to retain them in print. What might the future hold for bibliographies and ready-reference materials? Obviously, there will be more electronic publishing. We can envision an electronic-reference-book centre, where publishers sell the content at an affordable price, and users search via a single search interface chosen by the libraries.

Background information on the NCERD Library

The National Centre for Energy Research and Development (NCERD) is a research institution established in 1982 with the mandate of carrying out research in the field of renewable and alternative energy technologies including manpower training, research output demonstration, dissemination and commercialization. The research centre operates with energy policy targeted for increased renewable energy output and usage. Engineers and research scientists in the energy sector generally as well as students with related disciplines are expected to maximally utilize major sources of information for higher result. It is this background that motivated the study whose principal objective is to identify the availability and the usage of library resources by NCERD staff and library clientele (who are made up of students from the University of Nigeria and from other universities and higher institutions). Assessment of readers and reference services is also conducted in order to determine the library’s efforts in effective service delivery.

LITERATURE REVIEW

Reference Collection Development

The work of reference librarians includes selection of an adequate and suitable collection of reference sources and arrangement and maintenance of the collection so that it can be used easily and conveniently. Increased costs of reference sources and proliferation of formats and titles have focused attention on the importance of a systematic approach to reference collection development. Decisions in collection development include whether to buy newly published titles, buy new editions of titles already in the collection, cancel a title that is now freely accessible on the Web, continue serials such as indexes, or license access to a newly published Web-based resource. A written collection development policy can
Table 1: Reference Policies of ALA (Principles I-VIII)

<table>
<thead>
<tr>
<th>Principles I-VIII</th>
<th>Stipulations of the Principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principle I</td>
<td>“We provide the highest level of service to all library users through appropriate and usefully organized resources; equitable service policies; equitable access; and accurate, unbiased, and courteous responses to all requests.”</td>
</tr>
<tr>
<td>Principles II &amp; VII</td>
<td>“We uphold the principles of intellectual freedom and resist all efforts to censor library resources” and “We distinguish between our personal convictions and professional duties and do not allow our personal beliefs to interfere with…the provision of access to…information resources.”</td>
</tr>
<tr>
<td>Principle III</td>
<td>“We protect each library user’s right to privacy and confidentiality with respect to information sought or received and resources consulted, borrowed, acquired or transmitted.”</td>
</tr>
<tr>
<td>Principle IV</td>
<td>“We respect intellectual property rights and advocate balance between the interests of information users and rights holders.”</td>
</tr>
<tr>
<td>Principle VIII</td>
<td>“We strive for excellence in the profession by maintaining and enhancing our own knowledge and skills…”</td>
</tr>
</tbody>
</table>

Source: ALA Code of Ethics, 1997

provide guidance in making these decisions and will help in establishing and maintaining an effective reference collection.

Just as different libraries have somewhat different sets of titles making up their reference collections, there are different possible arrangements of titles. One possibility is to maintain a classified arrangement regardless of type. An alternative is to group types of sources together, creating sections for encyclopedias, biographical sources, directories, indexes, and so forth. Most collections designate a portion of the titles as ready reference, kept at or near the reference desk. With the increasing availability of resources in digital form, reference librarians are often involved in projects to design the interface or gateway to orient library users to available digital resources and aid weeding as well as for adding new titles to the collection. A growing number of libraries are weeding and reducing the size of their print reference collections, reflecting decreasing use of print resources as more materials become available in digital form.

In building the reference collection, Smith (2010:4489) observed that the librarian must evaluate the quality of individual sources and their suitability for inclusion in the library’s reference collection. Selection criteria can include format, scope, relation to similar works, authority, accuracy, arrangement, and cost. The Internet has facilitated new forms of collaborative authorship that make it more difficult to judge the authority and accuracy of the resulting product. For example, Wikipedia is written and edited by numerous volunteers, who can continuously change and add articles. Reference librarians need to exercise the same type of selectivity that they do in building physical reference collections when developing virtual collections. The Internet Public Library Ready Reference Collection and the Library of Congress Virtual Reference Shelf are two examples of virtual reference collections. As the emphasis on building digital collections grows, guidelines are being developed to inform their design (NISO, 2007).

Reference Ethics

Reference services are guided by both reference policies at the institutional level and the Code of Ethics of the American Library Association (ALA, 1997). The Code consists of eight principles. Those with particular relevance to reference services include Items I, II, III, IV, VII, and VIII. Table 1 illustrates these reference policies stipulated principles I-VIII.

In a nutshell, Table 1 shows that:

Principle (I) expresses the responsibility for providing courteous, accurate, unbiased, and equitable service (drawing on a strong collection of resources).

Principles (II & VII) emphasize the need to uphold intellectual freedom in building strong, balanced reference collections, and providing users the information they seek.

Principle (III) speaks of the need to respect user privacy and confidentiality in the context of reference transactions.

Principle (IV) outlines the provision of reference services needs to conform to authors’ and publishers’ intellectual property rights.

Principle (VIII) addresses the need for the reference librarian to stay up-to-date with the field and continually expand one’s knowledge.
Expectations for reference librarians are further elaborated in the Reference User Services Association (RUSA, 2003) Professional Competencies for Reference and User Services Librarians that describe the activities of a reference librarian performing ethically. Reference librarians also need to be aware of necessary limits on question answering, especially as they relate to medical, legal, and business questions where librarians must be careful to be assistance without offering advice (RUSA, 2001).

**Evaluation Services**

Principle I of the ALA Code of Ethics indicates that librarians should provide “the highest level of service to all library users.” In order to gauge the effectiveness of reference services, evaluation must be undertaken. At the individual level, evaluation can be continual self-assessment of the effectiveness of the reference interview and the quality of answers given. More formal evaluation of reference services in a library can focus primarily on inputs to the reference process, such as assessing the quality of the reference collections, whether physical or virtual. Or, evaluation can emphasize the process of the interaction between the librarian and the user. In a virtual reference transaction, this can include reviewing the text of e-mail exchanges or chat session transcripts.

Finally, evaluation may focus primarily on the outputs or outcomes of the transaction – was the user satisfied with the process and/or the information received. Evaluation data can be gathered through surveys and questionnaires, observation, or focus groups and interviews. As libraries face increasing pressures to demonstrate value to their parent organizations, methods to determine return on investment in reference services need to be developed (Kaufuman, & Watstein, 2008).

**Reference Services**

The function of libraries is three-fold. Libraries acquire information, organize that information in a way it can be retrieved, and disseminate the information the library has acquired. Reference services fulfill this last function. Reference services may vary from library to library, but most libraries have an information or Reference Desk where assistance from a librarian is available. Almost all libraries also provide reference services via the telephone and in many libraries you can email your reference question, or Ask a Librarian, to a reference librarian who will e-mail you back with the answers (UAFL, 2014). The school library notes that there are three main types of reference assistance:

- Assistance or instruction in the use of the library, including location of materials, use of the catalog, use of computers to access information, and the use of basic reference sources.
- Assistance in identifying library materials needed to answer a question.
- Providing brief, factual answers to questions, such as addresses, statistics, phone numbers, etc. that can be quickly located.

**Reference Services in Digital Environment**

As Kieft (2008) observes, “The service edifice built by reference librarians beginning in the late nineteenth century does not so much threaten to collapse as to be reborn in ways that we are still groping to discern.” Certainly things have changed tremendously as a result of information communication technology whose advancement is a continuum. To fully realize the promise of reference service in the digital environment, Buckland (2008) argues that the objective should be to empower the user, developing organization and access mechanisms using digital technology and attentive to user needs and preferred modes of use.

Ekpenyong, & Edem, (2010) surveyed and investigated the extent of the application of digital reference services in academic libraries in Nigeria, highlighting the emerging formats and models of digital reference services, to include email and web forms, Ask A librarian services, online chat reference, video conferencing, digital robots, and collaborative digital reference. They employed descriptive survey design and document analysis to collect data from the official websites of the 27 Federal Universities in Nigeria was used in the study. They analyzed the data using simple percentages. The study revealed that thirteen (48%) of 27 Federal University libraries in Nigeria are offering some form of digital reference services to their users. This implies that digital reference services in Nigeria are yet to be fully embraced. This status can be either attributed to lack of ICT skill of some reference librarians and library users.

**STATEMENT OF THE PROBLEM**

Effective utilization of libraries has been a matter of concern to librarians, information scientists and educationists in general. Therefore underutilization of library and information resources has no doubt assume a worrisome dimension, given that libraries and librarians have a responsibility of ensuring that their resources and services are effectively utilized especial when huge amount of money is voted for resources procurement. Though there is statistical data on available resources at
NCERD library but these data have neither been analyzed nor current years’ users data compared with data on previous years users. Apparently, there is little or no statistical data on resources usability by NCERD library users especially in comparison with years of usage and quantity of resources used. Also there is perceived poor readers and reference service delivery in the NCERD library. Beyond this, research libraries are meant to provide, promote and facilitate access to specialized information resources. This study intends to investigate the available library resources and assess the extent of use by NCERD library users. Again, it appears, on a general note that some librarians are not aware of or have not fully understood the ethical demands of the profession in relation to rendering reference services to users especially in the special libraries and information centres. Citing ALA’s Code of Ethics is a solution to this particular problem.

OBJECTIVES OF THE STUDY

The general objective of the study is to identify library resources available at NCERD Library and assess the quantum of usability by patrons. Other specific objectives include:

i. to find out the type of library resources available and recorded as used by library users;
ii. to make a comparative analysis of the years (2005-2012) and varying usages of NCERD library resources;
iii. to ascertain specific reference materials available and consulted by library users.

Research Questions

i. What types of library resources are available and recorded as consulted and used by NCERD library users?
ii. Are there any variations in the usage of library resources between the periods: 2005-2012?
iii. What specific reference materials are available for and consulted by users at the Reference Section of the Library?

METHODOLOGY

Analytical survey design was employed in this study. Documentary sources are used because they contain the information the researchers want. Uhegbu (2009) noted that “what the researcher does is to synthesize the documents and extract whatever information he or she wants from such document. Such analysis can be done in a quantitative presentation using the appropriate statistical tools”. Observational technique was used to collect primary data from ‘library users’ statistics records and loaning books’ of the library.

RESULTS AND DISCUSSION OF FINDINGS

Research Question 1: What types of library resources are available and recorded as consulted and used by NCERD library users?

The Figure 1 shows that the volumes of books available at NCERD library are 250. Theses (PhD), Dissertations (M Sc.) and Projects (B.Sc/B.Eng.) are all together 32 volumes. Journals are 65, Conference Proceedings 43, Volumes of Newspapers 143. This is represented in a pie chart in Figure 2.
A Pie Chart Representing Library Resources Available at NCERD Library

Figure 2: Pie chart of Available Library Resources

Table 2: Variations of Number of Materials Consulted between 2005 - 2012

<table>
<thead>
<tr>
<th>Period</th>
<th>Books/TDPs</th>
<th>Percentage</th>
<th>Journals/Conference Proceedings</th>
<th>Percentage</th>
<th>Newspapers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>100</td>
<td>24.3%</td>
<td>30</td>
<td>18.3%</td>
<td>35</td>
<td>19.3%</td>
</tr>
<tr>
<td>2006</td>
<td>71</td>
<td>17.3%</td>
<td>28</td>
<td>17.1%</td>
<td>30</td>
<td>16.6%</td>
</tr>
<tr>
<td>2007</td>
<td>40</td>
<td>9.7%</td>
<td>35</td>
<td>21.3%</td>
<td>28</td>
<td>15.5%</td>
</tr>
<tr>
<td>2008</td>
<td>112</td>
<td>27.3%</td>
<td>25</td>
<td>15.2%</td>
<td>40</td>
<td>22.2%</td>
</tr>
<tr>
<td>2009</td>
<td>13</td>
<td>3.2%</td>
<td>10</td>
<td>6.1%</td>
<td>10</td>
<td>5.5%</td>
</tr>
<tr>
<td>2010</td>
<td>30</td>
<td>7.3%</td>
<td>6</td>
<td>3.7%</td>
<td>12</td>
<td>6.6%</td>
</tr>
<tr>
<td>2011</td>
<td>25</td>
<td>6.1%</td>
<td>20</td>
<td>12.2%</td>
<td>14</td>
<td>7.7%</td>
</tr>
<tr>
<td>2012</td>
<td>20</td>
<td>4.8%</td>
<td>10</td>
<td>6.1%</td>
<td>12</td>
<td>6.6%</td>
</tr>
<tr>
<td>$f_{ij}$</td>
<td>411</td>
<td>100</td>
<td>164</td>
<td>100</td>
<td>181</td>
<td>100</td>
</tr>
</tbody>
</table>

Research Question 2: Are there any variations in the usage of library resources between the periods: 2005-2012?

Data in Table 2 shows that in 2005, 100 (24.3%) books/TDPs were consulted for use. In 2006 usage of books, Theses, Dissertations & Projects, (TDPs) dropped to 71 (17.3%). In 2007 usage further dropped to 40 (3.7%). However in 2008 usage increased rapidly to 112 (27.3%) but later dropped drastically to 13 (3.2%) in 2009; other decrease in usage were recorded as follows: 2010, 30 (7.3%), 201, 25 (6.1%) and 2012, 20 (4.8%).

Journals and conference proceedings consulted within the period under review were as follows: 2005, 30 (18.3%), 2006, 28 (17.1%), 2007, 35 (21.3%), 2008, 25(15.2%), 2009, 10 (6.1%), 2010 ,6 (3.7%), 2011, 20 (12.2%), and 2012, 10 (6.1%). Consulted newspapers were 35 (19.3%) in 2005, 30 (16.6%) in 2006, 28 (15.5%) in 2007, 40 (22.2%) in 2008, 10 (5.5%) in 2009, 12 (6.6%) in 2010, 14 (7.7%) in 2011 and 12 (6.6%) in 2012.

Research Question 3: What specific reference materials are available for and consulted by users in the Energy Research Centre Library?

The National Centre for Energy Research and Development (NCERD) Library at the University of Nigeria Nsukka renders reference services for staff and other users who are made up students from University of Nigeria and other Universities and Polytechnics within the South East geopolitical zone. Among others, reference sources for renewable energy research include:

- General Dictionaries
- Solar Energy Dictionary
- The World Directory for Renewable Energy Suppliers and Services
- Projects, Dissertations and Theses
CONCLUSION AND RECOMMENDATIONS

Reference services have changed considerably since the core concept was first proposed in the nineteenth century. Reference librarians are now providing “personal assistance to readers” both within the library and far beyond library walls, and embracing new technologies as they retain traditional values. Rapid changes in technology will likely continue and those changes will affect the ways in which users seek and manage information. Those changes in user behaviour will, in turn, continue to challenge the ways that reference librarians offer their services. As the popular perception that “everything is on the Web” grows, reference librarians must find ways to show which types of information resources answer which questions best. As reference librarians develop and work with hybrid collections of purchased, licensed, and freely available Web resources, a better understanding of the questions most easily answered by each will emerge.

Consequent upon the findings, library staff of NCERD library should improve themselves with ICT so that they would be better equipped to render more satisfactory readers and reference services. Library staff should press on to the Research Centres Management for the procurement of resources in order to satisfy the information needs of researchers and technologists in the establishment. Librarians’ readers and referral services will be improved if they establish official linkage with the larger Nnamdi Azikiwe Library of the University of Nigeria Nsukka for materials exchange. This will make it easier for them to refer their users to access any information sources available in the larger library and the resultant effect is effective service delivery.

Abbreviations used in the manuscript

NCERD – National Centre for Energy Research & Development
RUSA – Reference User Services Association
ALA – American Library Association
TDP – Theses, Dissertations & Projects
NISO – National Information Standards Organization
UAFL – University of Alaska Fairbanks Library

REFERENCES