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Information Retrieval Tools and Library Physical Environment as Correlates of Library Utilization by Students in Rivers State University Library, Nigeria

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Abstract

This study investigated information retrieval tools and library environment as correlates of library utilization by students of Rivers State University, Port Harcourt. Three research questions were posed and two hypotheses were formulated for the study. The study adopted a correlational design. The population of the study consisted of 682 registered undergraduate library users out of which a sample of 227 was drawn using YaroYamene’s statistical formula. The instrument used for data collection was researcher-made rating scale. The data collected for the research questions were analysed using the Pearson Product Moment Correlation (PPMC) and hypotheses tested at 0.05 level of significance using t-test. The result revealed that, students make use of the various information resources to a high extent; information retrieval tools are provided in the library to a high extent, there is a very strong and positive relationship between information retrieval tools available and students’ use of the library, which is also significant and a strong, positive and significant relationship exist between the library environment and students’ use of the library. It was recommended that students should be sensitized more on the use of periodicals and fiction for relaxation; even though the relationship between retrieval tools and use is significant, there is still need for students to be sensitized on how to use the library through adequate orientation on information retrieval tools. University management should ensure that the good library environment be maintained and sustained.

Keywords: Information Resources, Information Retrieval Tools, Library Environment, Utilization.
1.0 Introduction

Information resources as a variable play a role in the way libraries are utilized. According to Edom (2012) the traditional stock in trade of libraries all over the world is information resources. In order to provide effective and efficient services to the users of the library, information resources in print and non-print formats are acquired to enhance the knowledge the users need to excel in their various endeavours. However, the absence of these resources amount to the challenges of their underutilization as faced by some libraries. Information resources are not only acquired but organised in such a way they can be easily accessed and retrieved by users. Information retrieval is concerned with the exploitation and extraction of information and other contents of documents from different information sources (Akanwa & Udo-Anyanwu, 2017). Retrieval tools are crucial for retrieving information for educational outcomes. Information retrieval tools according to Edom (2012) are the simple mechanisms or apparatuses that aid the library user to locate, retrieve and use the needed documents from the library or information from a book or document. He further outlined the tools to include; bibliographies, indexes and abstracts, catalogues, computer filing or websites, subject index, title index, directories, OPAC, CD-ROMS, online databases, internet search engines, etc. Presently, there are various tools at students’ disposal to aid them in access the information they need.

To surmount the problem of retrieving information, certain skills are required to selectively retrieve accurate and sufficient information stored in documents instead of all the information that may not be relevant for the student’s needs. This is in accordance with the assertion of Gui (2007) that the skills for retrieving information needed by the users include the skill to navigate, select, evaluate and re-use information. These skills involve the ability to handle the different retrieval tools that abound. This is made possible if the students are exposed and encouraged to exploit all through various user orientation and education programmes available to them.
Furthermore, effective utilization of the library by students to a great extent depends on the conduciveness and adequacy of the facilities of the entire library environment. A good library is that whose environment is conducive and attractive, clean, free from noise with durable and comfortable furniture, and good lightening/illumination for meaningful study. Any academic library where these facilities are inadequately provided could result in low level of use by the students. McVey and Nock cited in Oyedum (2011) in their study asserted that the learning conditions such as light, temperature and sound if not properly incorporated into the library design may negatively affect human beings and deter learning. The undergraduate students, for instance, who use the library resources in carrying out academic related work or for other reasons, will only do so if the library environment is conducive. The absence of variables such as adequate retrieval tools and conducive, serene and adequate facilities within the library environment must be checked to enhance full utilization of the library and its resources.

2.0 Statement of the Problem

Despite the establishment of libraries in virtually all tertiary institutions of higher learning throughout the federation to enhance academic excellence through the effective utilization of its resources, yet, there is still continuous record of poor usage especially by students. The underutilization of library resources has remained a recurring issue in most university libraries in Nigeria. This however, has become a matter of serious concern and needs to be addressed. The researchers sought to find out if information retrieval tools and library environment have any role to play in the utilization of library resources by students. This study therefore, seeks to examine the relationship between availability of information retrieval tools, the library environment and utilization of the library by students of Rivers State University (RSU).

3.0 Purpose of the Study

The purpose of the study generally is to investigate the relationship between information retrieval tools, library environment and utilization of the academic library by students. The specific objectives of the study include to:
i. establish the extent of use of information resources by students of Rivers State University;
ii. ascertain the relationship between information retrieval tools and the students’ use of the library; and
iii. determine the relationship between library environment and the students' use of the library.

4.0 Hypotheses
The following hypotheses were formulated for this study which were tested at 0.05 level of significance:

Ho₁: There is no significant relationship between availability of information retrieval tools and utilization of the library by students of RSU.

Ho₂: There is no significant relationship between the library environment and utilization of the library by students of RSU.

5.0 Literature Review

5.1 Information Resources
One of the objectives of university libraries is to develop and maintain collections of information resources in all formats such as print and non-print and to make these information resources available and accessible to all for use. Information resources are the tools with which library services are performed. They include books, microforms, tapes, computers and dairies among others. The importance of library materials can be seen from the fact that if they are removed, the library ceases to exist as what will be left is only a building. There are many types of information resources available for use in libraries and they are usually categorized into two forms - print and non-print materials. Akanwa and Udo-Anyanwu (2017) defined information resources as all information carriers that can be used to satisfy the information need of man and invariably bring him welfare. These include print materials such as books, periodicals, technical reports, pamphlets, conference or seminar papers of learned societies and professional associations etc. Non-print materials are in the form of audio visuals, magnetic tapes, blogs, internet, websites, web pages etc while electronic information
resources are e-book, e-journals, e-mail, e-theses and dissertations, CD-ROM, web based OPACs, internet and so on. These information materials are the raw materials that libraries acquire, catalogue, stock, and make available to their patrons.

Information resources constitute a range of materials and equipment gathered by the library in order to meet the information needs of both intended and anticipated users. Users especially students consult, read and borrow them for one information reason or the other.

5.2 Information Retrieval Tools and Students’ Use

The effectiveness of a library as an instrument of learning is determined by the success with which it is able to provide the users with the necessary tools capable of accessing and retrieving the information they seek. Nnadozie (2007) listed the library information retrieval tools to include: reading list, index, abstract, library catalogue, search engine, OPAC, bibliography, shelf guides, web-based information retrieval systems which are presently, at students’ disposal to aid them in accessing information.

Ajiboye, Oyedipe and Alawiye (2013) raised a vital point in their study that universities provided several information resources in their libraries but the university library-based retrieval tools for accessing these resources were occasionally used. This implies that the libraries’ resources were under-utilized. Based on the study, the effective use of these tools were hampered by some varying factors which include; lack of information search and retrieval skills, low level of user education and information literacy training, and students’ subject backgrounds (Fordjour, Badu and Adjei, 2010; Jegede & Owolabi, 2005). Supporting this, Adedibu (2008) in his study on catalogue use found out that the card catalogues and the OPAC, the most essential library tools in accessing the library collection, are not always consulted because of inadequate knowledge of how to use them. This inadequate use of the OPAC affects their benefit of accessing online materials which has adverse effect on their academic performance.
5.3 Library Environment and Students’ Use

For universities to achieve effective use of their library resources, the libraries should not only provide and preserve information materials for users but should endeavour to make the entire environment inviting and attractive for meaningful study. Thus, the environment includes such factors as good ventilation, noise-free reading areas and physical facilities such as furniture and lighting/illumination. These environmental factors will determine the way students use library.

Supporting this assertion, Lombardo and Condic (2001) emphasized that the library needs to be a comfortable place, else students will decide to use alternative methods to gather the information they need. This remark was borne out of their observation of students’ growing dependence on electronic resources and students’ lack of understanding that some of the best sources that they could use for research are in print format. Students, for instance, who use the library resources in carrying out some research work or doing any type of class assignment such as writing of projects, term papers, seminar and workshop papers, and other practical assignments, would be encouraged to do so if reading chairs and tables as well as bright lighting system are adequately provided. Any academic library where these facilities are inadequately provided could result in low level of use by the undergraduate students.

Clee and Maguire (1993) conducted a study on the effects of the environment on library use. It was revealed that the perception of the total library environment has more impact than that of individual factors. They noted that the total environment is made up of many different factors and that any one of these factors could potentially affect a user’s perception of the library. They recommended better guiding, better lighting, a fresher atmosphere, more seating, and a quieter library. Similarly, the study of Folorunso and Njoku (2016) found that the characteristics of library environment included good library building,
seating arrangement, and availability of library information resources. Furthermore, library furniture, library personnel, temperature within the library, lighting, décor of the library (interior designs), signage within and outside the library, as well as noise level within the library encouraged the use of the library by the undergraduate students.

Noise as one of the environmental factors is simply unwanted or unpleasant sound to the ear which could constitute a nuisance. This situation in the library most of the time discourages the users from using the university library to satisfy their information needs which in turn will create a devastating effect on academic performance especially the students. The undergraduate students, for instance, who use the library resources in doing any type of class assignment, or for other reasons, will be encouraged to do so if only the library environment is quiet. According to Oyedum (2011) in his noise survey study on relationship of noise to undergraduate students’ use of six (6) federal university libraries in Nigeria, revealed that noise from conversations and use of mobile phones in the library has become a pressing problem.

Reading is made enjoyable, if the users or readers are provided with comfortable seating carrels arrangement. Pierce cited in Oyedum (2011) revealed that, it is important that study chairs be large enough for the comfort of today's users. Studies have shown that library users in study chairs shift their positions to some degree with great frequency.

Furthermore, lighting especially the natural light should be used more, that is, positioning of the library building so that sun-light can get as far inside the building as possible for most part of the day is equally important. This will prevent eye strain, headaches etc. for the users. Adequate illumination for libraries according to Idachaba (1998) could be derived from two sources: power (electricity) and natural light (energy). In Nigeria, for instance, light supply is so erratic and unstable that for a whole day, week, or even months, there may not be light supply in most areas. The only way to circumvent this, he maintained, is for the library to have a stand-by generator. Many do so, but its maintenance and
running-cost give a cause to worry about. Without adequate lighting, libraries cannot perform their functions, particularly when it opens into the night as in most university libraries. All these may lead to underutilization of the library resources by students.

5.4 Library Utilization

Utilization is regarded as the use of something for a particular purpose. Library utilization however, refers to the extent of usage of libraries by students. In view of this, students in tertiary institutions make use of the library for academic materials, assistance and guidance for research. Information utilization is the actual putting into appropriate use of acquired information. People’s expectations are high when it comes to searching for information as such they feel frustrated when their expectations are not met. Therefore, their information needs should be understood in order to provide corresponding services. Oluwatobi, Ehioghae, Aluko-Arowolo and Ayoola (2014) research on utilization of library resources discovered that students use library resources to a high extent. In line with this, an evaluative study of information resources and services conducted by Bitagi and Garba (2014) revealed that factors such as inadequate funding of the libraries were found to be militating against the provision and utilization of information resources and services. Utilization of library resources is essential for the justification of the existence and survival of any university library.

6.0 Research Methodology

This study employed the correlational design which is used to determine relationship between two variables. The instrument that was used to collect data for this study is a researcher-made rating scale. The total population of the study was 682 registered library users of Rivers State University out of which a sample of 227 was drawn. Out of the 227 copies of instrument distributed, only 218 copies were properly filled and returned. The rating scale was structured with items rated on a 4-point scale of Very High Extent (VHE,4), High Extent (HE,3), Low Extent (LE,2) and Very Low Extent (VLE,1); and Strongly Agree (SA,4), Agree (A,3), Disagree (D,2) and Strongly Disagree (SD,1). In analysing the data collected from
the study, mean and standard deviation was used to answer research question one, Pearson Product Moment Correlation (PPMC) was used to answer the remaining research questions while the hypotheses were tested at 0.05 alpha level using t-test statistical tools.

7.0 Data Analysis

Research Question 1: To what extent do students’ use information resources in the library?

Table 1: Extent Students’ Use Information Resources in the Library

<table>
<thead>
<tr>
<th>S/N</th>
<th>Item</th>
<th>VHE</th>
<th>HE</th>
<th>LE</th>
<th>VLE</th>
<th>Total</th>
<th>Mean</th>
<th>Stand. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Textbooks</td>
<td>178</td>
<td>22</td>
<td>9</td>
<td>9</td>
<td>218</td>
<td>3.69</td>
<td>0.739</td>
</tr>
<tr>
<td>2</td>
<td>Reference materials</td>
<td>154</td>
<td>48</td>
<td>13</td>
<td>3</td>
<td>218</td>
<td>3.62</td>
<td>0.663</td>
</tr>
<tr>
<td>3</td>
<td>Journals</td>
<td>129</td>
<td>53</td>
<td>27</td>
<td>9</td>
<td>218</td>
<td>3.39</td>
<td>0.858</td>
</tr>
<tr>
<td>4</td>
<td>Internet resources</td>
<td>89</td>
<td>48</td>
<td>48</td>
<td>33</td>
<td>218</td>
<td>2.89</td>
<td>1.107</td>
</tr>
<tr>
<td>5</td>
<td>Periodicals</td>
<td>58</td>
<td>51</td>
<td>44</td>
<td>65</td>
<td>218</td>
<td>2.47</td>
<td>1.176</td>
</tr>
<tr>
<td>6</td>
<td>Fiction</td>
<td>43</td>
<td>44</td>
<td>24</td>
<td>107</td>
<td>218</td>
<td>2.11</td>
<td>1.215</td>
</tr>
</tbody>
</table>

Grand Mean 3.03

Source: Field Work (2017)

Table 1 reports the respondents’ opinion on the extent students use information resources in the library. The result reports a grand mean of 3.03 indicating that the respondents reported in most cases that the extent of students’ use of information resources in the library is to a high extent. The result has further shown that students use information resources in the library such as textbooks (with mean score of 3.69 and a standard deviation of 0.739), and reference materials (with a mean score of 3.62 and a standard deviation of 0.663) to a very high extent. While information resources in the library such as journals (with a mean score of 3.39 and a standard deviation of 0.858), and internet resources (with
a mean of 2.89 and a standard deviation of 0.907) were used to a high extent. Information resources in the library used to a low extent by undergraduate students are periodicals (with a mean of 2.47 and a standard deviation of 1.176) and fiction (with a mean of 2.11 and a standard deviation of 1.215). This result concludes that the students in Rivers State University, studied were reported to make use of information resources in the library to a high extent.

**Research Question 2:** What is the relationship between information retrieval tools provided in the library and students’ use of the library?

**H₀₁:** There is no significant relationship between information retrieval tools provided in the library and students’ use of the library.

**Table 2: Information Retrieval Tools Provided**

<table>
<thead>
<tr>
<th>S/N</th>
<th>Item</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
<th>Total</th>
<th>Mean</th>
<th>Stand. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Card catalogue</td>
<td>165</td>
<td>45</td>
<td>6</td>
<td>2</td>
<td>218</td>
<td>3.71</td>
<td>0.563</td>
</tr>
<tr>
<td>2</td>
<td>Bibliography</td>
<td>172</td>
<td>42</td>
<td>2</td>
<td>2</td>
<td>218</td>
<td>3.76</td>
<td>0.506</td>
</tr>
<tr>
<td>3</td>
<td>Indexes</td>
<td>167</td>
<td>39</td>
<td>8</td>
<td>4</td>
<td>218</td>
<td>3.69</td>
<td>0.631</td>
</tr>
<tr>
<td>4</td>
<td>Abstracts</td>
<td>159</td>
<td>48</td>
<td>6</td>
<td>3</td>
<td>216</td>
<td>3.68</td>
<td>0.598</td>
</tr>
<tr>
<td>5</td>
<td>Search engines</td>
<td>107</td>
<td>77</td>
<td>22</td>
<td>12</td>
<td>218</td>
<td>3.28</td>
<td>0.859</td>
</tr>
<tr>
<td>6</td>
<td>OPAC</td>
<td>119</td>
<td>73</td>
<td>12</td>
<td>14</td>
<td>218</td>
<td>3.36</td>
<td>0.854</td>
</tr>
<tr>
<td></td>
<td><strong>Grand Mean</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>3.58</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Table 2B: Relationship between Information Retrieval Tools Provided and Students’ Use of the Library**

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Correlation Coefficient</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information retrieval tools provided</td>
<td>218</td>
<td>3.58</td>
<td>0.635</td>
<td>0.904</td>
<td>0.000</td>
</tr>
<tr>
<td>Use of library</td>
<td>218</td>
<td>3.03</td>
<td>0.857</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2B reports the relationship between information retrieval tools provided and students’ use of the library. The result has shown that the mean score for information retrieval tools provided in the library accounts for a mean of 3.58 and a standard deviation of 0.635 indicating that most of the respondents strongly agreed to most of the six itemized information retrieval tools are provided in the library. The study has further revealed the information retrieval tools provided in the library and the extent of students’ use of the library, observing that a correlation coefficient of 0.904 exist. This result shows that information retrieval tools provided in the library records a very strong and positive relationship with students’ use of the library.

The analysis in Table 2B shows a p-value less than 0.05% level of significance (i.e. P < 0.05), which implies that the correlation coefficient between the independent and dependent variables is statistically significant. Therefore, the null hypothesis (H_0) is rejected and the alternative accepted, stating that: “there is a significant relationship between information retrieval tools provided in the library and students’ use of the library”. It is therefore concluded that there is a positive and strong relationship existing between information retrieval tools provided in the library (independent/predicting variable) and students’ use of the library (dependent variable) in Rivers State University is statistically significant.

**Research Question 3:** What is the relationship between library environment and students’ use of the library?

**H_02:** There is no significant relationship between library environment and students’ use of the library.

**Table 3A: Library Environment**

<table>
<thead>
<tr>
<th>S/N</th>
<th>Item</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
<th>Total</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The reading chairs and carrels are comfortable for reading purposes.</td>
<td>185</td>
<td>26</td>
<td>4</td>
<td>3</td>
<td>218</td>
<td>3.803</td>
</tr>
<tr>
<td>2</td>
<td>There is a library standby power supply system.</td>
<td>162</td>
<td>46</td>
<td>8</td>
<td>2</td>
<td>218</td>
<td>3.688</td>
</tr>
</tbody>
</table>
The library is always well illuminated.
The library reading hall is usually quiet.
There is adequate toilet facility to serve the number of users.
Location of the windows in the library allows for cross ventilation.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3B: Relationship between Library Environment and Students’ Use of the Library

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Correlation Coefficient</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library environment</td>
<td>218</td>
<td>3.49</td>
<td>0.679</td>
<td>0.941</td>
<td>0.000</td>
</tr>
<tr>
<td>Use of library</td>
<td>218</td>
<td>3.03</td>
<td>0.857</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3B reports the relationship between library environment and students’ use of the library. The result accounts a mean score of 3.49 for library environment and a standard deviation of 0.679 indicating that most of the respondents agreed to all the six itemized library environmental factors. The study has further related the library environment and the extent of students’ use of the library, observing that a correlation coefficient of 0.941 exist. This result shows that library environment has a very strong and positive relationship with students’ use of the library.

The analysis in Table 3B has also revealed a p-value of 0.000 which is less than 0.05% level of significance (i.e. P < 0.05), which implies that the correlation coefficient between the independent and dependent variables is statistically significant.
significant. Therefore, the null hypothesis ($H_0$) is rejected and the alternative accepted, stating that: “there is a significant relationship between library environment and students’ use of the library”. It is therefore concluded that the positive and strong relationship existing between library environment (independent/predicting variable) and students’ use of the library (dependent variable) in the university studied is statistically significant.

**8.0 Findings and Discussion**

Based on data analysis in research question one, result of the finding shows that various information resources are used by the undergraduate students in the library studied to a high extent. The finding of this research question is in agreement with Oluwatobi, et al. (2014) on utilization of library resources which found that students in academic libraries make use of library resources to a high extent.

The result of the analysis for research question two shows that the retrieval tools provided include; catalogues, bibliographies, indexes and abstracts, OPAC, and search engines, etc. The level of relationship that exists between information retrieval tools provided in the library and students’ use of the library is said to be very strong and positive. Also there is a significant relationship between information retrieval tools provided in the library and students’ use of the library. Retrieval tools are crucial for retrieving information for educational outcomes. However, the result of this study differs from the study of Ajiboye, Oyedipe and Alawiye (2013) that raised a vital point that universities provided several information resources in their libraries but the university library based retrieval tools for accessing these resources were occasionally used.

Analysis based on research question three reveal that a relationship between the library environment and students’ use of the library strongly exist. The responses of most of the students agreed to the six items in Table 3B which shows that library environment relates to students’ use of the library accounting about 89.7% level of positive correlate. Further analysis proved this relationship to be significant. This finding corroborates that of Clee and Maguire (1993) who
conducted a study on the effects of the environment on library use. It was revealed that the perception of the total library environment has more impact than that of individual factors. They noted that the total environment is made up of many different factors and that any one of these factors could potentially affect a user’s perception of the library. For libraries and its resources to be adequately utilized, the entire environment must be inviting and attractive for meaningful study. Thus, the environment includes such factors as good ventilation, noise-free reading areas and physical facilities such as furniture and lighting/illumination becomes very necessary.

9.0 Conclusion

The quality of an institution of higher learning is judged based on its library. Information retrieval tools aid the library user to locate, retrieve and use the needed information in various formats. These information retrieval tools are bibliography, index and abstract, shelve lists, Online Public Access Catalogue (OPAC) and library card catalogue.

Universities can only achieve effective use of her libraries and its resources if it makes the entire environment inviting and attractive for meaningful study. The environment includes good ventilation, noise-free reading areas and the provision of physical facilities such as furniture (reading chairs and carrels) and lighting/illumination. It is therefore necessary that these variables be put in place to encourage optimal utilization of the library by students of RSU.

10.0 Recommendations

Based on the findings of this study, the researchers came up with the following recommendations:

1. Bearing in mind the general roles academic libraries play in the lives of the students, students should be sensitized more on the use of periodicals and fiction for relaxation.

2. Even though the relationship between retrieval tools and use is significant, there is still need for students to be sensitized on how to use the library through adequate orientation on information retrieval tools. However, library
use as a course should cut across all the departments of universities. All academic libraries across the nation should strive for their libraries to be automated to enhance the use of the OPAC and reduce the stress of searching and retrieving information through the card catalogue.

3. The management of Rivers State University should ensure that the good environment be maintained and sustained. This is the only way to continually cause, create room and sustain students’ high patronage which will in turn enhance their academic excellence and success.

11.0 REFERENCES


