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Indexing and Abstracting Services Available in Federal University of Technology, Owerri, with Reference to Information Accessibility by Students

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 ABSTRACT

The study investigated the different types of indexing and abstracting services available in Federal University of Technology, Owerri: with reference to information accessibility by students of Federal University Technology, Owerri. The study adopted correlation research design. The population of the study was 134 staff (professional and para-professional) of Federal University of Technology, Owerri Library. Purposive sampling technique was adopted. The instrument for data collection is researchers made 4-point rating scale that was developed based on the research questions. The instrument was titled "Indexing and Abstracting and Information Accessibility Questionnaire (IAIAQ)". Out of the 134 copies of the questionnaire distributed, 125 copies representing 94% was duly completed and returned. The reliability coefficient index yielded 0.981>.71 which showed that the instrument was highly reliable. In analyzing the data collected for the study, the researchers used mean and standard deviation to answer the research questions at the mean criterion of 2.5 while Pearson Product Correlation Coefficient (PPMC) was used to test the null hypotheses at 0.05 significance level. The findings of the study showed that there are no automatic and periodic indexing and abstracting in Federal University of Technology Owerri, Library apart from subject indexing. The study recommended among others that university management should engage in the training and retraining of library staff for effective library services for students' access to information.

KEYWORDS: *Indexing, Abstracting, Services, Information, Accessibility, Students*

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INTRODUCTION

Indexing is a superior technique for retrieving relevant information contained in documents stored in the Library. The access points in indexing are analyzed in order to bring out the subject terms that have been sufficiently treated. For each of the subject terms that have been chosen as ahether or n access point using indexing techniques, the bibliographic details of the document will be provided and Users who have interest in the different subject areas that have been covered will be able to locate the same documents.

Abstracting provides an added value to the document being sought, apart from providing the full bibliographic details of the documents; it will also provide a summary of the document. This will enable the user determine if the document will be useful to him/her when it is finally retrieved. Abstracting and indexing databases have been found to still be both relevant and necessary (Rabe 2017). Abstracts, index entries, title listings, and other forms of document representations are highly organized and detailed guides that lead the user to the originals that the libraries are expected to furnish. In addition to acting as guides, document representations also provide the user with a means of appraising the value of the available literature, its relevance to his area of interest, and his need for the original. Abstracts are well thought out miniaturised representation of the original document or write-up, providing a lead to the information required. Abstracts follow a structured format with the intention of capturing the essentials and helping the user to make a decision whether or not to proceed to use the real information. Abstractors are not trying to duplicate the original. The skill of abstractors is crucial in creating good abstracts for reader or users (Rabe, 2017).

Rarely do data contained in secondary publications serve as substitutes for the originals. Without surrogates, such as indexes and abstracts, search through the accumulated literature would be impossible. This study considered the concept and practicalities of indexing and abstracting services available in the Federal University Technology, Owerri.

STATEMENT OF THE PROBLEM

Indexing and abstracting are like Siamese twin in information retrieval process. Abstract and indexing are two approaches to distilling information content into an abbreviated but comprehensive representation of an information resource. There are different types of indexing and abstracting of information resource. Subject indexing, periodic indexing and automatic indexing are some of the conventional indexing methods. The researchers have observed with utmost dismay that most university libraries only use subject indexing and don't even abstract their document. This could be as a result of ignorant of the other types of indexing and also inadequate knowledge about abstracting service. It is therefore based on this that this research investigation intends to find out the type o f indexing and abstracting available in Federal University of technology, Owerri.

AIM AND OBJECTIVES OF THE STUDY

The study investigated the availability of indexing and abstracting services and information accessibility by students of Federal University Technology, Owerri; with the following specific objectives:
- To find out the relationship between subject indexing/abstracting and information accessibility by students of Federal University of Technology, Owerri.
- To investigate the relationship between periodic indexing/abstracting and information accessibility by students of Federal University, Owerri
- To determine the relationship between automatic indexing/abstracting and information accessibility by students of Federal University, Owerri.

RESEARCH QUESTIONS

The following research questions guided the study:
- How doe subject indexing/abstracting relate to information accessibility by students of Federal University of Technology, Owerri?
- How does periodical indexing/abstracting relate to information accessibility by students of Federal University, Owerri?

- How does automatic indexing/abstracting relate to information accessibility by students of Federal University, Owerri?

HYPOTHESES

The following null hypotheses guided the study:

- There is no significant relationship between subject indexing/abstracting and information accessibility by students of Federal University of Technology, Owerri.
- There is no significant relationship between periodic indexing/abstracting and information accessibility by students of Federal University, Owerri
- There is no significant relationship between automatic indexing/abstracting and information accessibility by students of Federal University, Owerri.
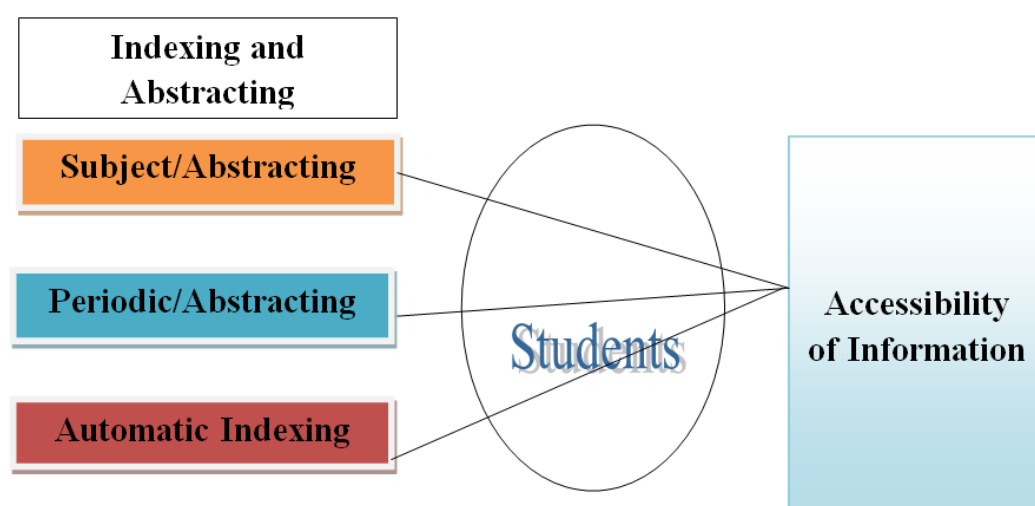
CONCEPTUAL CLARIFICATION

Figure 1: Researcher's Guide, 2021

LITERATURE REVIEW

Concept of Indexing
According to Salton (2015) in Chowdhury (2019) the process of constructing document surrogates by assigning identifiers to text items is known as indexing. Taylor (2019) agreed that indexing is the process by which the content of an information resource is analyzed, and the "aboutness" of that item is determined and expressed in a concise manner. Indexing is also concerned with describing the information resource in such a way that users are aware of the basic attributes of a document, such as author, title, length, and the location of the content.

An index is an important tool for retrieving information contained in documents stored in the library, documentation or information centre. It provides a means of locating the information relevant to a request. When the task of indexing is based on the conceptual analysis of the subject of the document, it is called Subject indexing.

Concept of Abstract
Abstracting is a process that consists of analyzing of the content of an information resource and writing a succinct summary or synopsis of that work. A lot of authors have defined the abstract from different points of view (Rowley, 2018).

Lancaster (2013) defines an abstract as a brief but accurate representation of the contents of a document and he opines that an abstract is different from an extract, an annotation or summary. Rowley (1996) defines an abstract as a concise and accurate representation of the content of a document in a style similar to that of the original document. She adds that an abstract covers all the main points made in the original document and usually follows the style and the arrangement of the parent document. Abstracts as documentary products

always take the form of short texts either accompanying the original document or included in its surrogate.

An abstract can also be defined as a "summary", usually by a professional, other than the author, of essential contents of a work, usually an article in a periodical, together with the specification of its original. Ashworth defines the term abstract as a précis of information, which in its narrower sense now usually refers to the information contained in an article in a periodical, short pamphlet, or serial publication as to who wrote the abstract.

Lancaster (2013) equally defines an abstract as accurate representation of a document without added interpretation or criticism and without distinction as to who wrote the abstract.

An abstract must be brief and accurate and it must be presented in a format designed to facilitate the skimming of a large number of abstracts in a search for relevant material. Guinchat and Menou in Chowdhury (2014) suggest that an abstract should possess the following qualities. Conclusion, Precision, Self-sufficiency and Objectivity.

The Subject analysis involves summarizing the essential points of the documents, noting important areas such as scope, the objectives of the study, the significant contributions, the special features of the document, the trends of the book etc. When the abstract is completed it should be edited to ensure that there are no grammatical errors, spellings, punctuation mistakes etc. The reference at this can be rechecked to ensure accuracy. Automatic Abstracting With the rapid increase in the availability of full text and multimedia information in digital form, the need for automatic abstracts or summaries as filtering tool is becoming extremely important. Craven (2017) in his works proposes a hybrid abstracting system in which some task are performed by human abstractors and others by an abstractors assistance software called Textnet.

Automatic abstracting and text summarization are now used synonymously to describe systems that generate abstracts or summaries of texts. In simple abstracting or summarization systems, parts of texts-

sentences or paragraphs-are selected automatically based on some linguistic or statistical criteria to produce the abstract. Interest in automatic abstracting and text summarization is reflected by the huge number of research papers that have appeared in a number of international conferences and workshops at the beginning of the 21st Century. With the rapid increase in the availability of full text and multimedia in the in digital form, the need for automatic abstracts or summaries as a filtering tool is very necessary.

Subject Indexing/Abstracting and Students' Accessibility of Information
In Aina (2019), there are various types of indexes, depending on what is being used as access points and the subject indexes are popularly used in the Library because most users generally approach the Library through the subject. The different types of Subject indexes are Citation Indexing, Permuted Title Indexes, PRECIS (Preserved Context Indexing System) Indexes and Citation Index.

Periodical Indexing/Abstracting and Students Accessibility of Information
Periodicals play a critical role in information centres since they convey the most up-to-date information on developments in the users" areas of expertise. Universities that are strong in research spend colossal sums of money on periodicals. More importantly, periodicals constitute the heart of academic research in universities. The importance of periodicals in university libraries cannot therefore be overemphasized. According to Matanji (2012), there are two types of periodical indexes. There are indexes to a single journal and indexes to several journals. Very often, the editors of most journals will issue an index at the end of the volume. This is generally an index of authors and subjects included in all the issues for a particular year. The terms are selected from the title of each article in the journal and there is no need for controlled language. These types of indexing language have been described with their unique characteristics (Rowly, 2013).

Automatic Indexing/Abstracting and Students' Information Accessibility
Salton (2018) gives the following lucid definition of automatic indexing as 'when the assignment of the content identifiers is carried

out with the aid of modern computing equipment the operation becomes automatic indexing'. Borko and Bernier (2019) suggest that the subject of a document can be derived by a mechanical analysis of the words in a document and by their arrangement in a text. In fact, all attempts at automatic indexing depend in some way or other on the original document texts, or document surrogatesThere are numerous software packages available for performing parts of the indexing process. Concordance-generators like AntConc (Anthony, 2016) use cluster analysis to study the relationships between words and surrounding text, but require the user to provide specific words to search. Another cluster analysis application, Grokker (Groxis, 2016), aids in text searches by creating visual maps of related terms. Many indexers use products like CINDEX (Rowly, 2013), MACREX (Macrex, 2015), and SKY Index (Sky, 2016), which function like databases, and can be integrated with Microsoft Access and dBASE.

METHODOLOGY

The study adopted correlation research design. The population of the study was 134 staff (professional and para-professional) of Federal University of Technology, Owerri LibraryPurposive sampling technique was adopted to cover the library staff in the two libraries. This technique is considered appropriate because the size of the population is small and can be managed and studied by the researcher (Lavrakas, 2008).

The instrument for data collection is a researcher made 4-point rating scale that was developed based on the research questions. The instrument was titled "Indexing and Abstracting and Information Accessibility Questionnaire (IAIAQ)". The rating scale was structured with items rated on a 4-point scale of: Strongly Agree (SA)= 4 points; Agree (A)= 3 points; Disagree (D)= 2 points; and Strongly Disagree (SD)= 1 point. Out of the 134 copies of the questionnaire distributed, 125 copies representing 94% was duly completed and returned. In order to make sure that the instrument used for the research is valid, it passed through content validity. This was done by two specialists in Library and Information Science and one specialist in Educational Measurement and Evaluation all in the faculty of Education.

The reliability (internal consistency) coefficient of the instrument was computed, cluster by cluster, using Cronbach alpha. The reliability coefficient index yielded .981>.71 which showed that the instrument was highly reliable.

In analyzing the data collected for the study, the researcher used mean and standard deviation to answer the research questions at the mean criterion of 2.5 while Pearson Product Correlation Coefficient (PPMC) was used to test the null hypotheses at 0.05 significance level.

RESULTS

Research Question 1: How does subject indexing/abstracting relate to information accessibility by students of Federal University of Technology, Owerri?

Table 1: How subject indexing/abstracting relate to information accessibility by students of Federal University of Technology, Owerri

Items	Descriptive Statistics (N=125)		
	Mean	**Std. Deviation**	**Remark**
Academic materials are indexed alphabetically according to subject area	2.5600	0.78699	Agreed
Books are classified according to their meanings	2.8320	1.26832	Agreed
Materials are indexed according to citations at the back cover	2.6800	1.26746	Agreed
Library materials are classified according to authors	2.4000	0.80322	Disagreed
Grand Mean	2.62		Agreed

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Table 1 showed in item 1 mean score of 2.5600 and SD .78699 which showed that respondents agreed that Academic materials are indexed alphabetically according to subject area. In item 2 mean score of 2.8320 and SD 1.26832 showed that respondents agreed that Books are classified according to their meanings. In item 3 mean score of 2.6800 and SD 1.26746 showed that respondents agreed that Materials are indexed according to citations at the back cover. However, in item 4 with mean score of 2.4000 and SD .80322 showed that

respondents disagreed that Library materials are classified according to authors.

Thus aggregate mean score of 2.62>2.5 showed that respondent agreed that subject indexing/abstracting relate to information accessibility by students of Federal University of Technology, Owerri

Research Question 2: How does periodical indexing/abstracting relate to information accessibility by students of Federal University, Owerri?

Table 2: How periodical indexing/abstracting relate to information accessibility by students of Federal University, Owerri

Items	Descriptive Statistics (N=25)		
	Mean	Std. Deviation	Remark
Academic materials are indexed according to periods of publication	1.9360	1.08319	Disagreed
Library resources are accessed on intermittent basis	1.1440	0.35250	Disagreed
Current journals and magazines are usually indexed for access	2.2240	1.19045	Disagreed
Grand Mean	1.77		Disagreed

Table 2 above showed in item 5 mean score of 1.9360 and SD 1.08319 which implied that respondents disagreed that Academic materials are indexed according to periods of publication. In item 6 mean score of 1.1440 and SD .35250 showed that respondents disagreed that Library resources are accessed on intermittent basis. In item 7 respondents disagreed with mean score of 2.2240 and SD 1.19045 that Current journals and magazines are usually indexed for access.

Thus, aggregate mean score of 1.77<2.5 showed that respondents agreed that periodical indexing/abstracting relate to information accessibility by students of Federal University, Owerri.

Research Question 3: How does automatic indexing/abstracting relate to information accessibility by students of Federal University, Owerri?

Table 3: How automatic indexing/abstracting relate to information accessibility by students of Federal University, Owerri.

Items	Descriptive Statistics (N=25)		
	Mean	Std. Deviation	Remark
There are computer systems for students access to locate required materials	2.7760	1.08408	Agreed
University library provides alternative to traditional indexing	1.9280	1.10844	Disagreed
The library provides e-tools for searching of materials	1.2960	0.45833	Disagreed
There are automated directories to access materials	1.7200	1.14723	Disagreed
Grand Mean	1.93		Disagreed

Table 3 above showed that respondents agreed with mean score of 2.7760 and SD 1.08408 that there are computer systems for students'

access to locate required materials. In item 2 mean score of 1.9280 and SD 1.10844 showed that respondents disagreed that University

library provides alternative to traditional indexing. In item 3 mean score of 1.2960 and SD .45833 showed that the library provides e-tools for searching of materials. In item 4 mean score of 1.7200 and SD 1.14723 showed that respondents disagreed that there are automated directories to access materials.

Thus aggregate mean score of 1.93<2.5 showed that respondents disagreed that automatic indexing/abstracting relate to information accessibility by students of Federal University, Owerri.

Test of Hypotheses

Ho$_1$: There is no significant relationship between subject indexing/abstracting and information accessibility by students of Federal University of Technology, Owerri.

Table 4: PPMC test of the relationship between subject indexing/abstracting and information accessibility by students of Federal University of Technology, Owerri

Variables		Students Accessibility of Information			
		Item 1	Item 2	Item 3	Item 4
Subject Indexing/Abstracting	Pearson Correlation	1	0.083**	-0.151**	0.544**
	Sig. (2-tailed)		0.002	0.000	0.000
	N	125	125	125	125
	Pearson Correlation	0.083**	1	0.600**	0.475**
	Sig. (2-tailed)	0.002		0.000	0.000
	N	125	125	125	125
	Pearson Correlation	-0.151**	0.600**	1	0.039
	Sig. (2-tailed)	0.000	0.000		0.150
	N	125	125	125	125
	Pearson Correlation	0.544**	0.475**	0.039	1
	Sig. (2-tailed)	0.000	0.000	0.000	
	N	125	125	125	125

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4 above showed N-value of 125, correlation coefficient (Spearman rho) value of 0.039, p-value of 0.002<0.05 which showed that there is significant relationship between subject indexing/abstracting and information accessibility by students of Federal University of Technology, Owerri. The null hypothesis is therefore rejected.

Ho$_2$: There is no significant relationship between periodic indexing/abstracting and information accessibility by students of Federal University, Owerri.

Table 5: PPMC test of the relationship between periodic indexing/abstracting and information accessibility by students of Federal University, Owerri

Variables		Students Accessibility of Information			
		Item 5	Item 6	Item 7	Item 8
Periodic Indexing/Abstracting	Correlation Coefficient	1.000	0.048	0.613**	0.805**
	Sig. (2-tailed)	0.000	0.001	0000	0.000
	N	125	125	125	125
	Correlation Coefficient	0.048	1.000	0.576**	0.113**
	Sig. (2-tailed)	0.001	0.000	0.000	0.000
	N	125	125	125	125
	Correlation Coefficient	0.613**	0.576**	1.000	0.540**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000
	N	125	125	125	125
	Correlation Coefficient	0.805**	0.113**	0.540**	1.000
	Sig. (2-tailed)	0.000	0.000	0.000	0.000
	N	125	125	125	125

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5 above showed N-value of 125, coefficient value of 0.805, p-value of 0.001< 0.05 which showed that there is a relationship between periodic indexing/abstracting and information accessibility by students of Federal University, Owerri. The null hypothesis is therefore rejected.

Ho₃: There is no significant relationship between automatic indexing/abstracting and information accessibility by students of Federal University, Owerri.

Table 6: PPM test of the relationship between automatic indexing/abstracting and information accessibility by students of Federal University, Owerri

Variables		Students Accessibility of Information			
		Item 9	Item 10	Item 11	Item 12
Automatic Indexing/Abstracting	Correlation Coefficient	1.000	-0.056*	0.127**	0.652**
	Sig. (2-tailed)	0.000	0.0040	0.000	0.000
	N	125	125	125	125
	Correlation Coefficient	0.056*	1.000	0.780**	0.026
	Sig. (2-tailed)	0.000	0.000	0.000	0.000
	N	125	125	125	125
	Correlation Coefficient	0.127**	0.780**	1.000	0.233**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000
	N	125	125	125	125
	Correlation Coefficient	0.652**	0.026	0.233**	1.000
	Sig. (2-tailed)	0.000	0.003	0.000	0.000
	N	125	125	125	125

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Table 6 above showed n-value of 125, coefficient value of .652, p-value of 0.003< 0.05 which showed that there is a significant relationship between automatic indexing/abstracting and information accessibility by students of Federal University, Owerri. The null hypothesis is therefore rejected.

SUMMARY OF FINDINGS

The summary of the findings of the study are hereunder itemized:

- Tested hypothesis one showed that there is a significant relationship between subject indexing/abstracting and information accessibility by students of Federal University of Technology, Owerri.
- The result of hypothesis two showed that there is significant relationship between periodic indexing/abstracting and information accessibility by students of Federal University, Owerri.
- Result of hypothesis three showed that there is significant relationship between automatic indexing/abstracting and

information accessibility by students of Federal University, Owerri.

DISCUSSION OF FINDINGS

The findings of the study are hereunder discussed:

Subject Indexing/Abstracting and Information Accessibility By Students
The findings of hypothesis one showed that there is a significant relationship between subject indexing/abstracting and information accessibility by students of Federal University of Technology, Owerri. The stance of the respondents was supported by Aina (2019), stating that there are various types of indexes which supports students' access to information, depending on what is being used as access points and the subject indexes are popularly used in the Library because most users generally approach the Library through the subject.

Periodic Indexing/Abstracting and Information Accessibility by Students

Findings of hypothesis two showed that there is significant relationship between periodic indexing/abstracting and information accessibility by students of Federal University, Owerri. Matanji (2012), there are two types of periodical indexes which students access to information. There are indexes to a single journal and indexes to several journals. Very often, the editors of most journals will issue an index at the end of the volume. This is generally an index of authors and subjects included in all the issues for a particular year. The terms are selected form the title of each article in the journal and there is no need for controlled language. These types of indexing language have been described with their unique characteristics (Rowly, 2013).

Automatic Indexing/Abstracting and Information Accessibility by Students

Result of hypothesis three showed that there is significant relationship between automatic indexing/abstracting and information accessibility by students of Federal University, Owerri. Salton (2018) gives the following lucid definition of automatic indexing as 'when the assignment of the content identifiers is carried out with the aid of modern computing equipment the operation becomes automatic indexing'. Borko and Bernier (2019) suggest that the subject of a document can be derived by a mechanical analysis of the words in a document and by their arrangement in a text. Concordance-generators like AntConc (Anthony, 2016) use cluster analysis to study the relationships between words and surrounding text, but require the user to provide specific words to search.

CONCLUSION

The study reached that there are no automated and periodic indexing in Federal University of Technology, Owerri. The only available indexing type in the university is the subject indexing. The study revealed that if there are proper indexing and abstracting methods, students of Federal University of Technology, Owerri would have greater access to information to enhance learning.

RECOMMENDATIONS

Based on the findings, the study recommended that:
* The university authority should enhance indexing and abstracting techniques by installing mundane tools for students' access to information.
* Management should engage in the training and retraining of library staff to enable them understands modern approaches to indexing and abstracting.
* The university management should always ensure regular supply of current or discovery magazines and journals to enhance periodic indexing approach of the university library.

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