Recognition of Information Need Indicators and Graduate Students' Research Practices in University Libraries of South East Nigeria

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Abstract

This study sets out to determine the influence of recognition of information need on the research practices of graduate students in the university libraries of South East, Nigeria. The objective was to ascertain how information recognition need abilities as provided by libraries and librarians can enhance research practices of graduate students. As a guide to the study, three specific objectives which reflect essential components of the recognition of information need standards namely; recognition of nature of information need, and recognition of scope of information need are formulated. Also, three research questions and one hypothesis are also formulated to direct the study. The study adopts ex- post facto research design. Proportionate sampling technique was used to select a sample size of 556 graduate students out of a population of 5,565 registered graduate student users in the university libraries of South East Nigeria. The instrument for data collection is a researcher-developed and validated questionnaire. The reliability coefficient of the instrument was .742. The research questions were answered using mean and standard deviation, while regression method was used to test the hypothesis at .05 level of significance. Findings of the study showed that the individual recognition of information need indicators (recognition of nature of information need, and recognition of scope of information need) investigated, all have significant influence on graduate students' research practices in the university libraries of South East, Nigeria, though at varying degrees. Findings of the study also showed a significant combined influence of information need indicators on the graduate students' research practices. It is recommended among others that Librarians should collaborate with faculty members by sensitizing them on the need to engage students in regular information problem-solving tasks so that the students will be adequately trained on recognizing and defining their information need in their learning and research tasks and to do that early in the research process.

Keywords: Recognition of information need, Information Literacy, Research practices, Graduate students

Introduction

Every sphere of society today is driven by information and information-related activities. Information is now a critical resource for success in all spheres including education, research and development. Information is data which have been processed and is used to solve problems and take decisions. They are contained in book and non book resources and come in various sources which also reflect the nature of the information. Students need these information for their learning and research needs. It is the growing amount of information and people's increasing dependence on it for decision making and solution that make this era to be christened 'the information society'. Information and information sources have continued to expand at an unprecedented rate necessitating knowledge of information literacy. Information literacy is the ability to know when information is needed, how and where to search for the information, how to synthesize, and use the information in an effective way for the purpose of accomplishing a task or to make decisions (American Library Association, 2000).

Information literacy equips students with skills to become lifelong learners. In so doing, they will be able to make informed information choices in their personal life and academic endeavour. Information literacy cuts across all disciplines, now emerging as a distinct skill in this era of an increasingly complex information society.

Information literacy is an important part of higher education. Scholars have reiterated that learnings dominated by the reproduction of facts are deficient in students' achievement of success in learning outcome (Breivik, Carthy-MaeKarelse and Limberg as cited in Bruce, 2002). There appears to be a prevalence of this mode of learning which indeed is threatening students' learning and research. There is therefore, a call for a movement towards a learning and research model that is active and engaging and one which integrates real-world

information resources. Information literacy skills are highly transferable skills which can help students succeed in their academic work and beyond if the students embrace fully the concepts and the practice. Thus, information literacy starts from being able to recognize the need for information when faced with an information-needing problem, to searching, analyzing, synthesizing, evaluating and using the information to solving the problem.

Recognition of an information need is a fundamental ability in information literacy skills achievement. According to Chartered Institute of Library and Information Professionals (CILIP)(2013), the ability to effectively determine a need is knowing when information is needed, the type, extent, and nature of information needed. The ability to recognize the need for information is predicated on the premise that early knowledge of the role of information, scope, and nature of information needed are fundamental requirements for achieving success in any task. Similarly, in the research process, ability to identify key concepts gives a road map to that research in terms of type of information and information sources needed, and the scope of information needed. Otherwise, the research process may become herculean due to lack of direction leading to abandonment or delay.

. The Association of College and Research Libraries (ACRL) (2005) highlights specific indicators of the recognition of information need standard which include among others, the ability to;

i. define and articulate information need,

ii. understand the nature of information need, and

iii. know the extent of the information needed.

When students do not know how to articulate their information needs, they would find the research process and task a difficult one. Sometimes students become aware of their information need at a very later stage in the research process. In addition, they tend to consult information sources not taking cognisance of the nature of their research. For instance,

historical research would need secondary sources and probably little or no primary source. When student researchers do not have this knowledge, it may affect their research adversely. It is on this premise that the study seeks to determine the influence of recognition of information need by graduate students and their research practices.

Statement of the Problem

Recognition of information need provides direction to the research in respect of nature of information need and the scope of information need. Recognition of an information need is a fundamental requirement in information literacy skills' achievement and subsequently in learning and research outcome. However, preliminary observation by the researcher indicates that graduate students become aware of their information need at a very late stage in the research process. In addition, they tend to consult information sources not taking cognisance of the nature of their research. When graduate students do not know how or when to articulate their information needs, they may find the research process and task a difficult one. The research process may become herculean due to lack of direction leading to abandonment or delay. The issue of excessively long period of completing research and presenting same is common among graduate students. No empirical study has been done to ascertain how the recognition of information need indicators namely; nature of information and scope of influence graduate students' research practices in the university libraries of South East Nigeria. It therefore becomes pertinent to ask: What type of influence can recognition of information need indicators have on graduate students' research practices?

Objective of the Study

The broad aim of the study is to ascertain the influence of recognition of information need indicators on graduate students' research practices in the university libraries of South East Nigeria. The specific objectives are to:

1. Determine the influence of recognition of nature of information need on graduate students' research practices in the university libraries of South East Nigeria.

2. Ascertain the influence of recognition of scope of information need on graduate students' research practices in the university libraries of South East Nigeria.

3. Determine the joint influence of recognition of nature of information need and scope of information need on the research practices of graduate students in the university libraries of South East Nigeria.

Hypothesis

The study is guided by one hypothesis:

There is no significant influence of recognition of information need indicators on the research practices of graduate students in the university libraries of South East Nigeria.

Literature Review

The ability to recognize that an information need exists and the definition of that need, is the first step towards achieving information literacy. The recognition of a need or problem is often said to be the beginning of the solution of that problem. A need is a fact or feeling of the lack of something (Vasudevan, 2012). Literature is replete with the concept of information literacy as beginning with identifying and defining of the need. According to CILIP (as cited in Peter and Jones, 2007), the ability to effectively determine a need is knowing when and why you need information. Abbot (as cited by Foster, 2014) calls this need 'the 'puzzle because one needs to understand why information is needed to solve the

problem at hand. The ACRL Standards and Guidelines (2005), stipulates that ability to determine information need comprises these indicators:

i. that the individual defines and articulates the need for information;

ii. identifies a variety of types and formats of potential sources of information;

iii. considers the cost and benefits of acquiring the needed information and

iv. re-evaluates the extent and nature of the information needed.

In other words, the student is aware of an information need; aware of possible sources of information, knows their cost implications, and understands the benefit of getting the needed information. Awareness is knowledge about something that exists or understanding of a situation or subject based on information or experience. It can also be seen as knowledge or perception of a situation, fact, consciousness, recognition, realization, grasp and acknowledgement; concern about and well-informed interest or familiarity in a particular situation or development (Akpojotor, 2016).

An information literate person considers the cost of acquiring the needed information. If monetary payments remain the only way in accessing the required materials, and the potential user is disadvantaged due to poor economic background; this may suggest to the student about changing his topic. However, how well informed (or otherwise) students are of costs and benefits at the time at which they make important decision about their research is necessary (Mcguigan, McNally and Wyness, 2012). Knowledge of potential information resources is very important so as to keep postgraduate students alert of the available media through which they can access needed information (Akpojotor, 2016). Awareness of an information need, cost of information, benefit of the information, and the nature and extent of information needed are core considerations of information usage in research.

The nature of information according to Ojedokun (2007) assumes different forms – factual information, statistical information, primary-sourced information. Facts are contained in dictionaries, atlases, handbooks and directories. Factual information do not need to be explained. They are known to have occurred or to be true or existing. The information produced through facts are referred to as analytical. Analytical information could be found in journal articles and technical reports. Information could be subjective in nature. In this case, a situation needs to be appraised or augured in favour or against. The resultant information is a reflection of the person's opinion. This type of information is found in reviews, and editorial pieces in newspapers. The information is objective where the content contains the findings from researches or investigations. Scholars have averred that some research may require to use certain types of sources such as primary or secondary sources or specific types of periodicals such as scholarly journals. Still others may require the researcher to limit number of sources such as Internet sources.

Research is both an intellectual and academic activity that presents a need for information. A good research practice therefore is to start with the identification of a problem so as to ascertain the extent of information needed to solve the problem. A student who is asked to write a proposal (identifying and defining a need) usually entails that he or she looks for and selects a research topic, usually in his area. This is the beginning of an information need which will need to be tackled in a systematic manner. Ojedokun (2007) says that the student will need ideas for a research topic that will interest him as well as others. The student will need to research on a subject that is timely; something for which information exists but on which not too much has already been written. Abbot (2014) calls it the "puzzle' and says that the need to solve this puzzle is what drives the research. Corroborating, Foster (2014) says that the greater challenge lies in figuring what the puzzle is. It is easier to search when your research topic is clearly defined (Monash University, 2017). One way to define

the need is to put your topic into the format of a question to be answered by the literature. Example of a sample research question is: *What strategies can healthcare workers use to communicate effectively with clients with a hearing disability?*

Definition of the problem in research work is also synonymous with knowing the scope of work needed in that research otherwise the researcher may deviate from the focus of the research. This problem is usually stated precisely as first the topic before other explanatory notes like the problem statement and the research objective. It is this problem definition that should trigger the need for information. The type of question (problem/topic) will enable the student define the information needs in terms of type of information and source or studies to use (Monash University, 2017). According to these sources, for the student to find topic ideas, he may have to consider browsing relevant books, talking to friends and relatives, and browsing the net. In so doing, the student has been able to articulate the need for information. These preliminary searches give him a clue to understanding the quantity of existing literature in his area of interest and then how to narrow his broad area of interest, in order to get his own topic. Current issues would need current, primary, statistical information and government documents. The student identifies concepts and synonyms from the topic which he uses in finding relevant information. Concept identification and location also help to determine the amount of research done in that area he has chosen so as to consider further modification of his topic. It is this information need which has been identified that usually triggers information seeking.

An instance of the ability to determine information needed in research is reported in Foster's study in the information practice of some medical students who were adjudged to be outstanding college students, visible in their classroom medical studies and passing their first licensing examinations. Based on this standard, Foster describes them as having already demonstrated success in finding and using information. They are quite aware of a very wide

variety of sources from where they can draw from when faced with an information needing task. However, what informs their choice of source is the kind of problem at hand and the time available to perform the task. A simple inquiry task may take them to a Wikipedia source and a major one to a medical journal. They know how much information will be needed in a particular problem and deploy the commensurate amount of time, resource and effort in the information tool to use.

Methodology

The study adopts ex post facto research design. Firstly, information literacy is a factor that has already occurred with the students, principally in their university libraries. As such it was not possible for the researcher to manipulate or exert any form of control of this variable. Also ex -post facto is appropriate for this study because the study focused on determining the level at which information recognition need of graduate students is a plausible contributory factor to their research practices. Thus, the influence of recognition of information need on research practices.

The population of the study consists of the 5,565 registered graduate students' library users in the 2018/2019 session in six public universities in South-east Nigeria There are ten public universities in the south east namely; Abia State University, Uturu (ABSU), Alex Ekweme University, Ndufe-Alike (AEU), Anambra State Univerity, Uli (ANSU) now known as Chukwuemeka Odumegwu Ojukwu University, Ebonyi State University, Abakiliki (EBSU), Enugu State University of Science and Technology (ESUTH), Federal University of Technology, Owerri (FUTO), Imo State University, Owerri (IMSU), Michael Okpara University of Agriculture Umudike (MOUAU), Nnamdi Azikiwe University, Awka (NAU), and University of Nigeria, Nsukka (UNN). The use of public and conventional Universities is

also in tandem with the fact that they have exhaustive postgraduate programmes which many private and specialised universities do not have.

Six out of the ten universities are used for the study and they are ABSU, IMSU, ANSU (COOU), EBSU, UNN, and NAU. However, Federal University Ndufe Alike, Ikwo (FUNAI), now Alex Ekweme University, which is among the non specialized universities, is not used in the study because the institution's postgraduate school is recent and undeveloped, therefore not considered suitable to be used for the study. The sample size of the study is 556 graduate students' users in the university libraries of South East, Nigeria. The study adopted a multistage sampling technique. Proportionate sampling technique was employed to select the sample size (10%) from each of the institutions, while simple random technique was adopted to select the actual respondents in each institution. A researcher-developed questionnaire entitled "Recognition of Information Need Indicators and Graduate Students' Research Practices Questionnaire" (RINIGSRPQ) was used for data collection. Face validity of the instrument (ILGSRPQ) was determined by three validates in line with the variables of the study. Thus, all corrections made on the instruments by the validates were effected before administering the instrument on the respondents The index of the reliability using Cronbach Alpha was .742. The research questions were analyzed using Mean and Standard Deviation while the hypothesis was tested using regression analysis at .05 Significance level.

Results

Research Question 1: What is the influence of recognition of nature of information need on graduate students' research practices in the university libraries of South East Nigeria?

Table 1: Mean and standard deviation of respondents on Recognition of nature of information need and graduate students' research practices

Recognition of Nature of Information Need	N	Mean	S D	Remark
I can effectively determine the type of information materials suitable for my information need e.g. primary source and secondary sources	556	3.19	1.08	High
I cannot determine when I need print or electronic sources	556	3.07	.93	High
I can effectively determine the attributes of an information source/articles in terms of the benefit of the information	556	3.34	.80	High
Grand Mean	**556**	**3.20**		

Source: Field Data (2019)

Table 1 depicts the influence of graduate students' recognition of nature of information need on their research practices in the university libraries of South East of Nigeria. As shown in the Table, the grand mean of 3.20 indicates a high influence of recognition of nature of information need on graduate students' research practices. The item "I can effectively determine the attributes of an information source/article in terms of the benefit of the information" with mean of 3.34 has the highest influence while the item " I cannot determine when I need print or electronic sources" with mean of 3.07 has the lowest influence.

Research Question 2: What is the influence of recognition of scope of information need on graduate students' research practices in the university libraries of South East Nigeria?

Table 2: Mean and Standard Deviation of Recognition of scope of information need and graduate students' research practices

Recognition of Scope of Information Need	N	Mean	S D	Remark
I can ascertain the amount of information needed for a task	556	3.21	.95	High
I can effectively determine the attributes of an information source/article in terms of the time available for the task	556	3.35	.88	High
I can identify all potential sources of information for my information need	556	2.87	.88	High
Grand Mean	**556**	**3.14**		

Table 2 depicts the influence of graduate students' recognition of scope of information need on their research practices in the university libraries of South East of Nigeria. As shown in the Table, the mean of all the items was greater than 2.5 which indicates that graduate students' recognition of scope of information need has a high influence on their research practices in the university libraries. Also, the grand mean of 3.14 indicates a high influence of recognition of scope of information need on graduate students' research practices. The item "I can effectively determine the attributes of an information source/article in terms of the time available for the task" with mean of 3.35 has the highest influence while the item "I can identify all potential sources of information for my information need" with mean of 2.87 has the least influence.

Research Question 3: What is the joint influence of recognition of information need indicators on the research practices of graduate students in the university libraries of South East Nigeria?

Table 3: Mean and Standard Deviation of Joint influence of recognition of information need indicators and research practices of graduate students

Recognition of Information Need	N	Mean	S D	Remark
I can determine when I need information to solve a particular problem	556	3.42	.78	High
I can effectively determine the type of information materials suitable for my information need e.g. primary source and secondary sources	556	3.19	1.08	High
I cannot determine when I need print or electronic sources	556	3.07	.93	High
I can ascertain the amount of information needed for a task	556	3.21	.95	High
I can effectively determine the attributes of an information source/article in terms of the time available for the task	556	3.35	.88	High

I can effectively determine the attributes of an information source/article in terms of the cost of access	556	3.39	1.01	High
I can effectively determine the attributes of an information source/articles in terms of the benefit of the information	556	3.34	.80	High
I can identify all potential sources of information for my information need	556	2.87	.88	High
Grand Mean	**556**	**3.23**		

Source: Field Data (2019)

Table 3 depicts the joint influence of graduate students' recognition of information need indicators on their research practices in the university libraries of South East of Nigeria. As shown in the Table, the mean of all the items was greater than 2.5 which indicates that graduate students' recognition of information need has a high influence on their research practices in the university libraries. Also, the grand mean of 3.23 indicates a high influence of recognition of information on graduate students' research practices. The item "I can determine when I need information to solve a particular problem" with mean of 3.42 has the highest influence while the item "I can identify all potential sources of information for my information need" with mean of 2.87 has the least influence.

Hypothesis

There is no significant influence of recognition of information need indicators on the research practices of graduate students in the university libraries of South East Nigeria.

Table 4: Regression analysis of the influence of graduate students' ability to recognize information need on their research practices

Sources of Variance	Sum of Squares	Df	Mean Square	F-cal	F-cri
Regression	833.582	1	833.582	6.214	3.86
Residual	74313.166	554	134.139		
Total	75146.748	555			

R = .105; R^2 = .011

Table 4 indicates that the calculated F-value (6.214) is greater than the critical F-value (3.86) at degrees of freedom of 1 and 554 and at .05 significant level. This is an indication that the R^2 value of .011 is significant. This implies that the null hypothesis is rejected; hence recognition of information need has significant influence on graduate students' research practices in the university libraries of South East Nigeria.

Discussion of Findings

Recognition of Information Need Indicators and Graduate Students' Research Practices

The findings of this study showed that there is a significant influence of recognition of information need indicators- nature of information, and scope information- on research practices of graduate students in the university libraries of South East Nigeria. The reason was because the findings in tables 1, 2 and 3 indicated that the variables in question have a high influence on graduate students' research practices because they have a grand mean above the criterion mean. In the same vein, table 4 shows that the calculated F value (.013) was greater than the critical F value(3.86). Hence the null hypothesis which states that there was no significant joint influence of recognition of information need indicators on graduate students' research practices, was rejected. These findings support the view of Mcguigan, *et al*. (2012) that how well informed students are about their information needs influences their decision about their research. This implies that at the point of starting a research venture, students need to take prior decision regarding type of information needed, nature of research and of information needed, the scope, and identification of potential sources of information as well as the cost, time and benefits of accessing the information. This finding agrees with the first approach to solving information related task which according to Eisenberg and Berkowitz's (1990) Big 6 information model is 'task definition'. Abbot (2014) calls it the "puzzle' and says that the need to solve this puzzle is what drives the research. Corroborating, Foster (2014) says that the greater challenge lies in figuring what the puzzle

is. Thus, it becomes easier to search when your research topic is clearly defined (Monash University, 2017). Akpojotor (2016) also opined that postgraduate students need to be aware of different media and information sources available for their research topics. In the same vein, Ojedokun (2007) maintains that a student would require ideas for a research topic that will interest him as well as others, on a subject that is timely, something of which information exist but not too much has been written. The implication of this, is that when graduate students do not have a perfect understanding of their research and do not know at every stage of the research, the type, nature, and extent of information that is needed for the research, this would jeopardize quality research works.

Conclusion

Based on the findings of the study, it can be concluded that the research practices of graduate students in South East of Nigeria can be significantly influenced by the individual recognition of information need indicators (recognition of nature of information need, and recognition of scope of information need). It could also be concluded that a combined interaction of the recognition of information need indicators have significant influence on the graduate students' research practices in the university libraries of South East Nigeria.

Recommendations

Consequent upon the findings of the study, the following were recommended:

1. Librarians should collaborate with faculty members by sensitizing them on the need to engage students in regular information problem-solving tasks as well as varying the tasks, so that the students will be adequately trained on recognizing and defining their information need, the nature, and scope of the information needed in their learning and research tasks.

2. Librarians should collaborate with faculty members to educate students on how to apply knowledge of recognition of information need in their learning and research tasks.

3. Efforts should be made by Library educators and Librarians to concentrate more on areas of information recognition need skills that present more difficulties for students, such as ability to recognise when to use print or electronic information sources and identifying potential sources of information..

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