

Relationship between Information Literacy Skills and Research Output of Academic Staff in Nnamdi Azikiwe University Awka, Nigeria

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Abstract

Purpose: This study investigated the relationship between the information literacy skills of academic staff in Nnamdi Azikiwe University, Awka and their research output.

Methodology: Correlational research design was adopted for the study. The population of study comprised of 1,038 which included all the academic staff in Nnamdi Azikiwe University, Awka. The sample size consists of one hundred and fifty eight (158) respondents, selected through proportionate stratified random sampling technique. Five research questions guided the study and three hypotheses were tested at 0.05% level of significance. Two instruments comprising achievement test and research output index were used for the study. Mean was used to analyze the data obtained from research questions one and two, Pearson's correlation coefficient was used to answer research question three, four and five while the hypotheses were tested using person's correlation coefficient.

Findings: The major findings of the study are as follows: The level of information literacy skills possessed by the academic staff in Nnamdi Azikiwe University, Awka is moderate. The test for hypothesis indicates that there is a significant and positive relationship in the level of information literacy skills possessed by the academic staff in Nnamdi Azikiwe University, Awka and their rank. The research output of academic staff of Nnamdi Azikiwe University, Awka is high. The test for hypothesis indicated that there is significant and positive relationship in the research output and the rank of lecturers' in Nnamdi Azikiwe University, Awka. There is also significant relationship between the information literacy skills possessed by the academic staff of Nnamdi Azikiwe University, Awka and their research output. The test of hypothesis further indicates that there is positive correlation between the information literacy skills possessed by the academic staff in Nnamdi Azikiwe University, Awka and their research output.

Implications: High research output and moderately skilled in information literacy implies that the academic staff in NAU is following the new trend that is required for their creative output though not at the maximum level; the academics in NAU publish as not to perish and keep researching as it is a means of contributing their quota to the existing wealth of knowledge.

Value/Originality: The study's educational value rests on the recommendations that the academic staffs probably should lay more emphasis on the quality of the research output that is being produced. The academic staff should avail themselves of the available information technology training and workshops so as to enhance their information literacy skills. The university management should come to the aid of the academic staff by sponsoring their information literacy training and workshops where most of these skills will be acquired.

Keywords: Academic Staff, Information Literacy, Information Literacy Skills, Nnamdi Azikiwe University Awka, Research Output, Nigeria

Paper type: Empirical

Introduction

The application of information and communication technology (ICT) for academic pursuit has helped to improve research productivity of academics in universities, ICT is a diverse set of technological tools and resources used to store, communicate and manage

information (Lock, 2003). Before the 20th century, information was mainly in printed form and housed in the library for accessibility for research and enhancing one's knowledge. However from the 21st century, numerous information are now available in different

format both in printed and electronic media, which can be accessed in any environment provided the person is connected to the internet.

As the volumes of information are constantly increasing, there is need to acquire the knowledge and skills needed not only to gain access to the various available information resources, but to be able to sift from the large quantity of information and be able to use the appropriate information for the research purposes. Pezeshki-Rad and Zamani (2005) asserted that the real challenge is not producing information, storing or accessing information, but getting people to gain and use information resources. To gain access and use information resources effectively, information users must learn how to explore and exploit information. This will enable them interpret and utilize information for rational decision-making.

Information literacy is the ability of an individual to identify, locate and critically use and evaluate information for decision making, knowledge creation and problem solving (Bruce, 2003; US National Commission on Library and Information Science, 2003). Information literacy encompasses knowledge of one's information concerns and needs. It also includes strategies, skills, knowledge and adoption of appropriate information behavior that is required to define information needs, how to locate, evaluate, synthesize, organize, use and communicate the information in an ethical manner (Johnson & Webber, 2003; Chartered Institute of Library and Information Professionals, 2004; Williams & Coles, 2007; SCONUL ,2011), Information literacy is then defined as recognition of when and why information is needed, where to locate it, how to access and evaluate, use and communicate it in an ethical manner. An information literate individual can interpret and make informed judgments. It is a prerequisite for participating effectively in the information society and which form part of basic human right.

Information literacy (IL) is important in this era of rapid technological changes and information resource proliferation. According to Hof, Sluijs, Asamoah-Hassan and Agyen-Gyasi (2010), the abundance of information is not enough to build the information society but what is more important is to acquire skills to effectively use information. It is obvious that users of

information resources must possess requisite skills in order to harness information resources at their disposal. In order to change with the changing environment, users of information resources need just more than knowledge bases; they also need techniques for exploring information which will be used to make rational decisions (Owusu-Ansah, 2005). An information literate individual is able to recognize a need for information, determine the extent of information need, access information effectively, critically evaluate information and its sources, classify, store, manipulate and redraft information collected and generated, incorporate, select information into their knowledge base, use information effectively to learn, create new knowledge, solve problems and make decision, understand economic, legal, social, political and cultural issues in the use of information, access and use information ethically and legally and Experience information literacy as part of independent and lifelong learning (Etim & Nssien 2007).

Average information resources users as noted by Menou (2002) need some skills. These includes knowing the sources of information services, arrangement of information in various forms or sources, different means of using computers and websites to retrieve information, and being informed about laws ensuring their rights on use of information. According to Okiki and Mabawonku (2013), the availability and access to information is not sufficient to ensure that the information users will possess requisite skill to effectively make use of information resources at their disposal. However, the various ways of organizing and presenting information literacy indicates that information resources users need to possess information literacy skills in order to achieve a realistic outcome. Information literacy skills according to Nayda and Rankin (2008) is the ability that an individual needs in order to locate, access, evaluate and use information effectively for needed information purposes which will also make the individual to have a continuous learning process. Information literacy skills are the tools needed to empower the individual to be able to use the skills that is acquired to solve information problems. For the fact that information comes in various ways, the information literate person needs to acquire these skills to be able to access, acquire and evaluate the materials retrieved in order to carry out qualitative research output in their numbers.

Research output refers to the work that has been researched upon and published in journals, book chapters, monographs, articles, technical reports, bulletin, conference papers, working papers, short communication papers, patents and standards (Rashid, 2001). Research output according to Madu and Dike (2012) is the ability of the researcher to use his intelligent quotient (IQ) to collect, modify and critically analyze information and come out with an authentic results that will help in the advancement of knowledge. Research output enables the academics to be recognized nationally and internationally through the qualitative studies carried out. According to Okafor (2011), qualitative research output are research works that are accepted for publication in international journals. Research outputs are used as a yard stick for measuring success in an academic circle which in turn may lead to promotion and probably increase in salary. Creswell (2008) stated that research output are not only meant for solving practical problems but it also provides opportunities in acquiring new ideas that will help to improve human understanding, social, economic and cultural phenomena.

Globally, it is acceptable that research output plays an important role in advancing the prosperity of a Nation and its citizens; in this era of knowledge base (Abbot & Doucouliges, 2004). Research output has two major components which are knowledge creation and knowledge dissemination (Sabo, 2005). It has been ascertained that the benefits of research is the advancement of knowledge being created and facts, which are communicated in an academic environment through scholarly seminars, conferences and publications in the universities. An academic staff is being recognized and respected through the quality and quantity of research work produced and published.

Academic staffs are lecturers ranging from graduate assistant cadre to the highest level known as the professorial cadre (Okebukola, 2002). It has been known that academic staff members in any higher institution, especially the universities are given time and opportunities to carry out research programs that will help them to be able to share their acquired knowledge with their students through lectures and with others in the drive to develop professional skills and impact on their own field of specialization to

other members of the society. The major function of academic staff in the university is to carry out research and teaching with the aim of producing trained human resources for academic and social development.

Academic staffs at Nnamdi Azikiwe University, Awka are required to have minimum number of publications to warrant promotion from one cadre to another. There are certain criteria for promotion of academic staff as contained in the internal memorandum titled additional information on 2010/2011 appraisal dated 18th November, 2011., which was also included in Nnamdi Azikiwe University, Awka senior staff conditions of service. The two documents gave minimum number of points required by each academic staff to move from one level to the other and there are; Lecturer I 10, Senior Lecturers 20, Readers 30 and Professors 40. These are the people that show interest in the creation, dissemination and preservation of knowledge. Without the academic staff, there will be no university as they are the major stakeholders in the university environment. From all indication, information literacy skills are the instrument for lifelong learning and it is expected that university teachers have to acquire these skills in order to carry out their researches and teaching effectively (Islam & Tsuji, 2010). Since the information literacy skills is a skill they must possess in order to publish qualitative and quantitative research output, there is a need to find out if these skill acquired have any relationship with their research output.

Statement of the Problem

Previous study such as Madu and Dike (2012) has shown that research output plays a major role in attaining success in the academia, as it may serves as a means of promotion, academic recognition and might also increase the salary of the academic staff. The slogans “publish or perish” shows the relevance associated with research and publication in Nigerian academic environment and the number of research works that have been concluded and published. It has been noted that quality and quantity of research output by the academic staff depend greatly on the information literacy skills that they possessed, especially in this era of information overload.

Despite the abundance of information that is flowing around for research work, Okiki and

Mabawonku (2013) observed that most of the academic research works are published locally due to high rejection rate by the indexed journals. This is because the indexed journals are regarded as high quality journals and do not accept any research output that do not have good quality for publication. Some researchers have carried out studies on information literacy skills possessed by the academics with different outcomes, but to the researcher's best of knowledge none has been done to find out the information literacy skill of the academics in Nnamdi Azikiwe University Awka as it relates to their research output. In view of this background, the concern of this research work is to find out the relationship between information literacy skill and research output of academic staff in Nnamdi Azikiwe University, Awka.

Purpose of the study

The main purpose of the study is to determine the relationship between the information literacy skills of academic staff of Nnamdi Azikiwe University, Awka and their research output. The specific objectives are to:

1. Ascertain the level of information literacy skills possessed by academic staff of Nnamdi Azikiwe University, Awka.
2. Determine the number of research output of academic staff of Nnamdi Azikiwe University, Awka.
3. Ascertain the relationship between information literacy skills and research output of the academic staff of Nnamdi Azikiwe University, Awka.
4. Examine the relationship between the ranks and Information Literacy skills of academics in Nnamdi Azikiwe University, Awka.
5. Determine the relationship between the ranks and research output of academics in Nnamdi Azikiwe University, Awka.

Significance of the Study

This study will be of immense benefit to major stakeholders in the academic environment; and they are: the information literacy providers, the academics in the universities and the universities management.

The information literacy skill providers are those people that are saddled with the responsibilities of providing information literacy facilities such

as the Internet Service Provider (ISP), website designers, computer software packages programmers etc. These people will know the best information literacy skills packages that are needed for research by the academics and be able to make the facilities available for them to be skillful enough to carry out good research work that will meet the standard of accepting their research work. This work deals with the information literacy skills possessed by the academic staff in relation to their research output, which will also point out the strengths and weaknesses of the academic staff towards the information literacy skills they possessed and the ones they do not possess. The information literacy providers may through the findings of this research work decide to carry out research in order to find out the best way or means of providing the best facilities that will enhance the research output of the academic staff.

For the academics, the findings of this study will highlight the necessary information literacy skills that are needed for research output. It will expose the skills that the academics need, whether they have it or not, which will now encourage them to acquire the necessary skills that will enable them to produce high quality research work that could meet international standards and as such will help to raise their status and that of the institution standard to which they belonged. This work will also be useful for the academics in identifying the available information literacy skills that will enhance their research output.

For the universities management, it is anticipated that the findings from this research work will help to inform the management of a set of information literacy skills that should be put in place for academic staff. This will also assists the university management to consider constant information literacy skills programs so as to improve the literacy skill of academic staff and to be able to carry out sound and rich research output.

Scope of the Study

This study will be focused on the relationship between information literacy skill and research output of the academics in Nnamdi Azikiwe University, Awka. It will ascertain the information literacy skills that they possessed, determine the research output of the academics. This study covers all the fourteen faculties in the

university and only the faculty based academics in Nnamdi Azikiwe University, Awka will be used for the study.

Research Question

The following research questions were formulated to guide this study.

1. What is the level of information literacy skill possessed by the academic staff of Nnamdi Azikiwe University, Awka?
2. What is the number of research output of academic staff in Nnamdi Azikiwe University, Awka?
3. What is the relationship between information literacy skills and the research output of academic staff in Nnamdi Azikiwe University, Awka?
4. What is the relationship between the ranks and information literacy skills of the academics in Nnamdi Azikiwe University, Awka?
5. What is the relationship between the ranks and research output of academics in Nnamdi Azikiwe University, Awka?

Hypotheses

Three null hypotheses were formulated to guide this study and it was tested at 0.05% level of significance.

1. There is no significant relationship in the mean achievement score of information literacy skills possessed by the academic staff in Nnamdi Azikiwe University, Awka and their research output.
2. There is no significant relationship in the information literacy skills possessed by the academic staff of Nnamdi Azikiwe University and their ranks
3. There is no significant relationship in the research output and the rank of the academic staff in Nnamdi Azikiwe University.

Literature Review

It is evident from literature that there exist relevant literature on the information literacy skill and the research output, and thus, the term information literacy was first of all coined in 1974 by Paul Zurkowski, the former president of the United State Industry Association, in a paper prepared for National Commission for Libraries and information science (NCLIS), where he

pointed out the need for people to become information literate, in order to survive and compete in an emerging information society (Anunobi and Udem (2014), Horton, 2007; Kaushik & Mishra, 2009; Mittermeyer & Quirion, 2003). Webber and Johnson (2003), defined information literacy as the adoption of adequate information literacy skills to obtain from any medium, in which information is suitable for the researchers needs and other purposes. Therefore, Information literacy skill is the term that is applied to the skills of information problem solving (American Library Association, 2000). The means of changing data into information needs some literacy skills. "Towards knowledge societies" as stated by UNESCO (2005), information that is not processed is a raw data and cannot be used for any decision making. According to Raja, Raja and Kamaruzaman (2011), information literacy skill enables one to solve problems, critical thinking, decision making and collaborative learning that will prepare an individual to be a better informed citizen.

Information literacy skills as stated by Mitchell (n.d) are specific task that are used for specific information needs. Ranaweera (2008) is of the opinion that information literacy skills empower the researcher with critical thinking skills that will enable them to become independent lifelong learner. These skills will enable the academics to have the ability to be more at home with their academic environment. Information literacy skills as noted by Kovalik, Jesen, Schloman and Topton (2010) that it is a researcher's ability to recognize the time and extent of information need, locate, access, evaluate and use for solving the information problem at hand. Mitchell (n.d) also stated that information literacy skill is the ability to define a task, locate the source, access the source, evaluate the source and the ability to package, use and communicate the information sourced to the information seekers. Ojedokun (2007) opined that information literacy skill in all fields of knowledge need researchers that will be able to define problem in any given condition and situation and have the ability to initiate search plan that will lead to information discovery, have the ability to locate and access resources in any location that it has been stored, evaluate and use the information effectively. Bruce (2003) is of the opinion that all these skills that information literacy researcher possessed tend towards achieving critical and

decisive decision. Andretta said that researchers with high skills are the ones that have the capability for abstracting that will lead to development of hypothesis, while the researchers with low information literacy skills are those that can make use of the key words to search for the information that they need for their research work.

Lock (2003) stated that there are two major ways to look at information literacy skills in any learning environment. The first part has to do with the skills that the researcher, academics, students and numerous users of information apply during the process of their inquiries or research. This is the ability for an individual to make effective use of library and electronic resources for advancement of knowledge towards the research that is being carried out, ability to conduct literature search, ability to cite and reference materials properly. With this an individual is said to function effectively as a member of academic community.

The second part is about an individual being able to participate actively in any activity that is chosen for advancement of knowledge towards information literacy skills, in line with being aware and understanding the programs meant for information literacy. This may be in line with how information is sourced, accessed, acquired, evaluated and preserved for proper dissemination to the information seekers in different professions (Lock, 2003).

According to Bandura Kurbanoglu, Akkoyunlu and Umay (2006), source is all about being confident with the information literacy skills that is acquired and not just mere possession of skills, which may not be sufficient for information literate person. Catts and Lau (2008) observed that information literacy skill is the ability for an individual to know when there is need for information, locate, access and evaluate the quality of information, preserve and be able to retrieve the information and use the information for good and critical decision and being able to communicate meaningfully to other information seekers. University of Liverpool Teaching and Learning Committee (2007) conceptualized information literacy skills as to recognize when there is need for information and be able to locate and access the information, ability to diverse means of accessing the information, knowing the

keywords that will be used for searching and the appropriate search engines to be used, the ability to use library catalogue, abstracts and databases to source information.

The importance of information literacy skills is its potential to encourage deep and not just surface thinking and in its ability to transform dependent learner into independent self-directing and effective information users. Without information literacy skills, people are bound to be misinformed, (Chukwuma, 2006). Hepworth (2000) argues that in many countries, the government knows that acquiring information literacy skills is a lifelong learning. The relevance of locating, accessing and disseminating information is the benefits of information literacy skills.

Information literacy skill according to Madu and Dike (2012) is an aspect of information literacy that has been seen as a process of gaining the abilities that will help in the establishment of information literate person. Concerning his work on online skills, he defined skills as the capabilities to complete a task and the amount of time spent in completing the task. People without information literacy skill may spend much time in retrieving information, may be due to the challenges they may encounter when trying to download information stored in electronic format.

Information literacy skill in the researcher's opinion based on the literature reviewed so far, is the ability of the information literate individual to identify when there is need for information, have the ability to recognize the scope and extent of information needs, ability to locate and access the information wherever it is stored, have the ability to synthesize the information to ascertain the authority and currency of that information, the ability to use the information in a logical and in an ethical manner, have the ability to package the information located and accessed for onward transmission to the information seekers or users, who will in turn use the packaged information to communicate to the right person at the right time and at a least possible cost which will be used for effective communication and critical decision making. A good decision is based on the information that is used or applied for the decision making and good information depends so much on the skills that the person providing

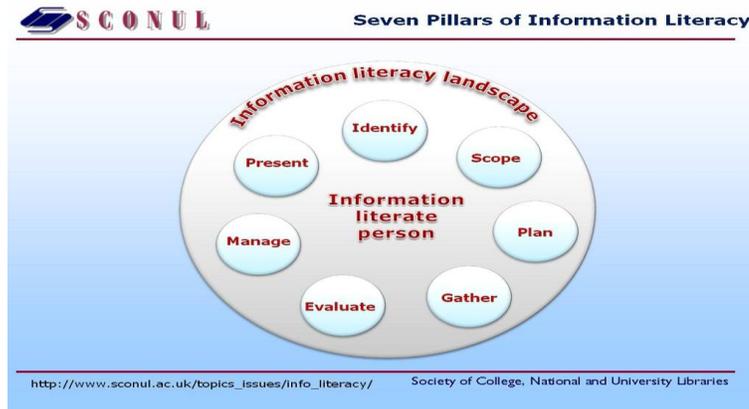
the information possessed. One of the major determinants of research output is to know the quality and quantity of publication which researchers have produced and communicated either through primary, secondary or tertiary sources. According to Creswell as cited by Okiki (2012), researchers output is a process of collecting, analyzing, modifying, reading, writing and at the end being able to communicate the knowledge they have acquired to others in the society through publications in professional and learned journals as well as giving lectures to their students. Research output as noted by Reitz (2004) is a write up or is a formal course of study. The writer is expected to state a thesis and advance a logical argument based on supporting information found in a systematic investigation of the topic. The source of questions, facts, ideas not those of the author must be documented in footnote or endnotes and a bibliography. Also Okafor (2011) in her work defined research output as a means through which the academics contribute their own knowledge to the existing body of knowledge. Another definition given by Creswell (2008) stated that research output is a process or steps used to collect and analyze information to increase our understanding of the topic or issues being researched on and to be able to pass their own ideas and knowledge to students or the general public through lectures and publications in journals. Harle (2009) stated that research output is a process of gathering data, information and facts for the advancement of knowledge when completed and published. For a researcher to be able to carry out good work, the researcher ought to have the ability to identify what resources are available, the best way or medium to locate and access it (Madu and Dike, 2012).

From the discussion so far, it is obvious that research output is a means whereby the academic staff members in the universities contribute their own quota to the existing wealth of knowledge, which in turn help in developing the entire nation, through the educating of the students and the general public, through seminar,

workshops, conferences and class room lectures given to students. It is a means to also impact on the general public their knowledge in their own field of specialization. It is a means where they have to research on a particular area in their field to have concrete evidence on that particular topic they are working on, and be able to have access to the existing knowledge, which will involve collecting of data and analyzing it, deduce the problem, proffer solution and probably fill the existing gap that prompted the study.

This study was anchored on the Seven Pillar model by the Society of College, National and University Libraries that was propounded by SCONUL, (1999). In 2011, the model was updated and expanded to state clearly different concepts and terminologies that are now referred to as "Information Literacy". The new model is a "core" model for higher education; series of "lenses" representing the different groups were developed. The research lens was developed first. This model that the researcher has adopted is usually used by researchers and academics globally as a means of moving from known to unknown skills that are needed for their research (Vitae 2010). This model describes information literate researchers as they demonstrate their ability on how to gather, use, manage, evaluate synthesis and create information and data in an ethical manner and will possess the information skills to do so effectively. Information literacy skills is evidence through which information and data are created, handled and to appreciate the role of information literacy skills in research. Developing an information literate researcher is a continuing, holistic process with simultaneous activities that encompassed the Seven Pillars of information literacy. Within each "Pillar", a researcher can develop from "novice" to "expert" as they progress in their research. The expectations of levels reached on each pillar may differ, and it all depends on experience and the information need of the researchers (Bent, 2008). These seven Pillars are presented in the diagram below:

Sconul's Seven Pillars of Information Literacy Model



The seven pillars presented in the diagram are discussed below:

Identify: A researcher is able to identify a need for information and have the ability to locate such information that will aid the researcher to answer research questions. The researcher will have the skills to know that data are constantly produced; therefore develop a search habit so that new information and data are actively sought at all times. The researcher also has the ability to know that there is published and unpublished information that could be useful for the research work.

Access: A researcher can access information sources that are available to know what he/she doesn't know in order to fill the gaps. The researcher identifies the scope and type of information that is being accessed such as data, people, videos and published information that will meet the researcher's information needs, have the ability to source search tools be it general or specific sources at different levels, different data collection methods and formats in which information is provided which could be in print, digital or multimedia and being able to use new tools as they become available.

Plan: The researcher is able to use research questions clearly and in an appropriate language, define search strategies by using appropriate keywords and concept to identify controlled vocabularies and taxonomies to aid in searching and develop specialist search tools that will be adequate to each individual needs.

Gather: An academic can locate and access information and data needed by using different means of retrieval tools and resources, construct complex searches for use across digital and print

resources thereby being able to translate the search strategies to work at different resources, redefine a search strategy based on previous results obtained, sort and manipulate results sets. The researcher should have the ability to access the full text information, both print and digital, read and download online materials; keep up to date with new information, engage with scholarly community via networking.

Evaluate: An academic can review the research process and compare and evaluate information, thereby distinguishing between information resources, such as web pages, scholarly, professional, trade and popular journals. The researcher can also choose a range of materials on topics, using appropriate criteria, access the quality, accuracy, relevance, bias, reputation and credibility of the information sources.

Manage: The academic can organize information professionally and ethically thereby having the ability to use appropriate bibliographical software to manage information, demonstrate awareness of issues relating to the right of other researchers and research participants, which includes ethics, data protection, copyright, plagiarism and other intellectual property issues, set and meet standards of conduct for academic integrity and make appropriate information available as may be required by information seekers.

Present: A researcher or an academic can apply the ability gained through the ways the research work is presented, synthesizing new and old information to add to the existing body of knowledge, disseminating it in a variety of ways. The researcher is able to use information and data found to address the research questions that

the researcher is working on, summarize document downloaded and report verbally and in writing, analyze and disseminate data properly, incorporate new research findings into the context of existing knowledge, communicate effectively using adequate styles in a variety of formats, such as abstract, literature review, scientific report, journal articles, posters, conference papers, visually and web 2.0, use open access as well as traditional publishing routes, develop personal profile in the scholarly community using appropriate personal and digital technologies as in discussion lists, social networking sites and blogs. All these are to enhance effective dissemination of the information.

Seven Pillars of Information Literacy Model as discussed is related to the present study because they were meant to find out the abilities of academics to handle different aspect of information, such as using information sources ethically, citation to the research works, know the academics ability to independently select and retrieve information at their disposal. This theoretical model frames the study because it tries to reveal how the academics can incorporate information literacy skills in their research activities which will affect their research output positively.

Information literacy skills have been described as skills that a researcher needs to carry out good research output Madu and Dike (2012). Access without skills is useless, so it becomes very necessary for every researcher to acquire information literacy skills. With the criteria from Southern Association of Colleges and Schools (SACS) (2000), institutions repositories and learning resource centers should be put in place where instructions should be given to people on different skills. These instructions should be made consistent with the sole aim of helping researchers and academia to develop information literacy skills. This is in line with the research that talked about the information needs of information seekers that can be met by prospective people who have acquired information literacy skills. Wopereis, Brand-Gruwel and Vermetten (2008) divided participants with higher education levels as experts and those with lower educational levels as novices in checking their experiences in information problem-solving process and there were differences in their skills. Andretta (2005)

is also of the opinion that people with low information literacy skills are those people who can use their skills to identify keywords that will enable them establish search strategies while those that are highly skilled in information literacy are those that can abstract information in order to formulate new hypotheses.

To retrieve information for problem solving in the open web, it is not only formal literacy skills that are required but substantial information literacy skills that will automatically transform into sophisticated searching skills Thomas (2004).

Information cannot be retrieved without the necessary information literacy skills. Academics may lack operational skills that will enable them to retrieve information for their research work (Saunders, 2007). Skills are developed through continuous and frequent use of information retrieval system. There is the need for well-defined programs that will motivate people to be competent in the use of information retrieval system. To provide programs for training of users in an academic environment, it is necessary for African Information Searchers to acquire the necessary skills, (Mutshewa, 2008). Training is often accompanied with improvement when workers are trained, there will be high level of productivity Sumpter (2006).

Okello-Obure and Magara (2008) are of the opinion that most of the researchers learn how to access electronic media and databases skills by self-development, such as attending workshops, self-training, information technology training (IT), therefore information providers should assist researchers and information seekers in their search by teaching them different search methods or search engines that could be used when the method they know could not fetch them desired results. For information to be properly and effectively retrieved, information users should value and implement information retrieval skills, because it will have an effect on how they find and use information, concepts and ideas for their research work.

Information literacy skill is necessary to be possessed at an early stage in life as it will enhance the capabilities in an individual for socialization and for educational purposes (CILIP, 2006). Information literacy skills are the skills that are acquired for information problem

solving (American Library Association, 2005). Changing information into knowledge requires literacy skills. Information that has not been processed is nothing but a raw data. Bawden and Nisen (2001) asserted that an information literacy skill is a continuous learning process that comprises abilities and competencies, which includes the notion of values of information.

Information literacy skills in various fields' needs individuals that will be able to define problems, initiate ideas to locate information, find and access resources and use the information accessed; synthesize information and carry out evaluation on the information acquired Ojedokun (2007). Bruce (2003) opined that information literacy skill is the ability to harness information and preserve the information in order to disseminate the information either for critical decision making or for solving a particular problem. Information literacy is a means by which people solve a particular problem. It is also a means whereby people that possessed these skills will become independent lifelong learners. Information literacy skills help the information literate researcher to know how to initiate plans to get information; locate and access information resources; use the information accessed; synthesize the information; and carry out evaluation on the materials accessed. Mitchell (n.d) is of the opinion that information literacy skills are exemplified by ideas such as the abilities to discover, retrieve and use information, ability to manage information and the capability to make critical selection and choice of information.

Cameron and Erwin (2003) summed up information literacy skills into the following: Devise appropriate search strategy to locate research paper. Locate access and process required information sources. Carry out evaluation of sources in terms of accuracy, authority and recency of the materials gathered. Process and Preserve collected information. Know the law guiding the use of information by ethically using the law of copyright. The International Federation of Library Associations and Institutions (IFLA) Information Literacy Standards (2001) basically grouped information literacy skills as follows: Access, Evaluate and Use.

A researcher should recognize when there is need for information; know the reason why information is needed as well as any challenges that may be encountered by the researcher, such as time, format, currency and access. Recognizing that the available information is in various formats and in a wide range. The ability to understand questions and develop a focus for a research work at hand is an important skill. The ability to efficiently search and use information. These include, searching across several resources, using the index and abstracting journals, participating in social media discussion list, bulletin board, making use of Boolean logic, making use of truncation on getting information. Basically, evaluation is often used to characterize and apprise subject of interest in a wide range of human enterprise. Evaluation according to Armstrong (2005) involves the ability to evaluate information for its authenticity, accuracy, currency value and bias. It is also a means by which the results obtained are properly synthesize so that the information is free from bias.

Understanding how to work with the results obtained. Examine and work with the result that you have to be able to produce presentable research result or to establish knowledge and understanding. Ensure that you make use of the appropriate software, such as database management and spreadsheet. The researcher should know why a particular information is needed at that point in time. Respect people's ideas and always give credit to peoples work. Understanding the tone people are talking and not being bias over somebody's work. Whenever required, provide a balanced report and do not use sentiment. Ensures that the researcher has the ability to present and disseminate information to the right person at the right time and in a good format (Chukwuma, 2006). Determine when the information is mostly needed and know the various means of presenting it to the people that needs it. Participating fully in collaborative writing and publication, this involves collaborative software such as students group, discussion groups and internal knowledge base group. Ability to have the skills on the means of preserving and conservation of information one have acquired. Reflect critically on the process and achievement as well as on the sources found in order to learn from the experience of finding information. From the above discussion, it is quite clear that

information literacy skills and information literacy skill acquisition are related. For the simple fact that before one will say to acquire the real information literacy skill, he/she will have to be acquainted with the information literacy. There is a gap between an individual's understanding and his ability to access what he/she needs from the external environment. Information literacy provides what we can refer to as Meta information that helps to bridge the gap and provide ways of increasing the individual's ability to access what they need from the external information environment.

Research outputs of the academics are measured in various ways. Institutions of higher learning measures their research output based on what they have published internally, externally, funded grants and the number of citation the published work have received (Chiemeka, Longe, Longe and Shaib, 2009). The published work could be journal articles, books, monographs, conference papers and research proposals written and awaiting external and internal grants (Okiki and Mabawonku, 2013). Okiki (2012) stated that good research output is more than just collecting information. It entails planning ahead, taking decisions on which source to source information, think of how to synthesize the information gathered and determine how effective research work would be. Research process according to Okiki (2012) involves three important operations which include: **Searching** : for you to get a researchable topic, you have to search very well more than most people do, because you cannot get a good topic by mere thinking of a problem. Therefore you must learn how to surf the internet and the library materials very well to be able to come out with a good researchable topic. **Reading**: This reading should be the reading of in between lines to know and understand the information that is contained in the materials that you are reading and be able to synthesize this information logically and in a presentable manner. **Writing**: Since the researcher has read so many information materials and as a result has so much information at his or her disposal, it is now the ability of the researcher to bring in his or her own writing styles in order to present his research work to the members of the public.

Okiki and Mabawonku, (2013) noted that in terms of quality research, Nigerian academics were rated the best in 1980 before it declined.

There are various reasons of the decline in research output in Nigeria academic and it has been summarized by Okebukola (2002) and it is stated as follows: Lack of modern method of research. Lack of necessary infrastructure for carrying out proper and sound research. Academics are overloaded with teaching and administrative work and as such do not have time for research. The institution no longer fund research work. Lack of mentoring program by the senior colleagues in the academics. Most methods used in measuring research output is through numerical counting of journal articles published, chapters in a book etc. Research productivity has been mentioned in several studies as regard higher education, the problem now is quantifying the quantity and quality of various publications. These publications may be ranked as follows: articles in referred journals, commercial published peer reviewed, books, major referred conference presentations; commercially published referred journals, postgraduate research and dissertation supervised to completion. Okafor, (2011) stated that the best way of measuring research output is by making use of the bibliometric. Some researchers have conducted studies on the relationship between information literacy skills and research output of the academics. Madu and Dike (2012) conducted a research to find out the relationship between information literacy competencies and academic productivity amongst academic staff in Nigerian Universities in North Central Geographical Zone. The study examined the extent to which information literacy correlates with the academic productivity in Nigerian Universities in the North-Central geopolitical zone. They adopted correlation survey design for the study. The population of the study was 2810 academics in the 12 universities. A total number of 421(15%) of academics from 6 universities were involved in the study through sampling that they used multi-stage sampling by means of proportionate stratified random sampling. The instrument for data collection was a standard information literacy test, and academic productivity index. From the findings, it was gathered that there is a relationship between information literacy skill and research output of the academics. The correlation coefficient (R) is 0.692 which shows that there is positive relationship and it is fairly strong.

The relationship between this research work and the present study is that both of them seek to know the relationship between information literacy skills and the research output of the academics. While the differences between this study and the present study is that it was done in Nigerian Universities in the North while the present study is being carried out at Nnamdi Azikiwe University, Awka.

Also Okiki and Mabawonku (2013) carried out a research to determine the impact of information literacy skills on the academics research productivity in Nigerian Federal Universities. The study was limited to only Federal Universities in Nigeria in the six geo-political zones and only academic members that are faculty base were included in the study. The multi-stage sampling procedure was adopted. The population of the study was (10,573) of only the academics that teach. The findings of the research shows that the academics in Nigerian Universities acquire information literacy skills through attending workshops/seminars (N=853; 98 percent), assistance from colleagues (N=714; 82%), guidance from library staff (N=1050; 73%) and faculty/departmental training (N=610; 70%). In the same study, Okiki and Mabawonku tried to find out the level of information literacy skills possessed by the academics in Nigerian Federal universities, and the findings shows that the mean score of each of the seven components tested under the information literacy skill is higher than the Nigerian Federal Universities possessed high information literacy skills.

The present study will derive from this research finding as it is determined to find out the relationship between information literacy skill of the academics and their research output of the academics in Nnamdi Azikiwe University Awka. The difference between the findings of this research work and this present work is that Okiki and Mabawonku did not study the whole faculties in Nnamdi Azikiwe University, Awka, and this is what this study is going to do by using the fourteen faculties in Nnamdi Azikiwe University, Awka.

Udem (2013) carried out a research to determine the information literacy competencies possessed by Library and information Science Postgraduate students in Federal Universities in South East Zone Nigeria. The study was limited to only Federal universities Library schools that offer postgraduate studies. Descriptive survey design

was used for the study. The population of the study was seventy two students of Nnamdi Azikiwe University and University of Nigeria, Nsukka. The findings of the study show that LIS postgraduate students in federal universities in South East Zone Nigeria possessed moderate level of information literacy skills. The present study will derive from this study because it determined the information literacy skills possessed by the postgraduate students of Library and Information Science. The difference between this study and the present study is that this study was meant to find out information literacy competencies of LIS postgraduate students while the present study is meant to find out the relationship between the information literacy skills possessed and research output of academics in Nnamdi Azikiwe University, Awka.

Methodology

The research design that was adopted for this study is correlational study. The area of study was Nnamdi Azikiwe University Awka, Nigeria, The population of the study according to Personnel unit of Nnamdi Azikiwe University, Awka was one thousand and thirty-eight (1,038) academic staff as at the end of 2012/2013 academic sessions. The sample size consists of one hundred and fifty eight (158) respondents, selected through proportionate stratified random sampling technique. The proportional stratified random sampling technique was adopted to ensure that sub-groups in the population participated in the study in the same manner as their population appeared. The instruments for data collection for this study were questionnaires, designed by the researcher and they are titled information Literacy Skills Test (ILST) and Research Output Index (ROI). The reliability of the instrument was established using Kuder-Richardson 20 formula. Data obtained from the study were analyzed using descriptive and inferential statistics. Mean was used to answer research questions one and two. Pearson correlation coefficient was used to analyze data obtained from research questions three, four and five. The three null hypotheses were tested using Pearson's correlation coefficient and were tested at 0.05% level of significance.

Result and Discussion

The findings of the study are presented under the following sub-section in the same manner the research questions were phrased, namely: what is the level of Information Literacy Skill possessed by the academic staff of Nnamdi Azikiwe University, Awka, what is the number of research output scores of academic staff of Nnamdi Azikiwe University, what is the

relationship between the information literacy skills and the research output of the academic staff of Nnamdi Azikiwe University, Awka, what is the relationship between the information literacy skills possessed by the academic staff of Nnamdi Azikiwe University and their rank, what is the relationship between the ranks and research output of the academics in Nnamdi Azikiwe University, Awka,

Table 1: *Lecturers’ response to Achievement Test on the Level of Information Literacy Skills they possessed*

Variable	Rank of lecturers	N	Mean	SD	Decision
Information literacy skills achievement score	Lecturer I	39	63.33	9.27	Moderate
	Sen. Lecturer	38	59.74	9.15	Moderate
	Reader	41	75.37	16.67	High
	Professor	40	58.50	9.14	Moderate
	Average		64.37	13.34	Moderate

Table 1 shows the lecturers mean scores on 20 achievement test questions. It also shows that the lecturers in the rank of L1, has a mean of 63.33 which is moderate according to the decision rules. Senior lecturers have a mean of 59.74 which is still moderate, although the mean score of the senior lecturers is lower than that of the lecturers in the rank of Lecturer 1. The lecturers in the rank of readers has a means score of 75.37, which is high according to the decision rule, which means that they have high proficiency in information literacy skills. The lecturers in the professorial cadre have a mean of

58.50 which is moderate, and it implies that most people in this cadre are moderately skilled in information literacy. The average score in table 1 shows that the mean achievement score in information literacy skill for all the ranks used for this study is 64.37. The score is between 50 - 69 decision rules and thus it was concluded that the mean of the information literacy skills score of Nnamdi Azikiwe University lecturers is moderate, this implies that Nnamdi Azikiwe University lecturers possessed moderate level of information literacy skills.

Table 2: *Nnamdi Azikiwe University Lecturers’ response on the Mean Research Output Score*

Variable	Rank of lecturers	N	Mean	SD	Decision
Research output scores	Lecturer I	39	59.72	6.45	Moderate
	Senior lecturer	38	69.50	7.67	Moderate
	Reader	41	72.70	8.88	High
	Professor	40	78.52	9.17	High
	Average score	158	70.20	10.57	High

Table 2 shows that the mean of the research output scores for lecturer one is 59.72 which is moderate according to the researcher decision rule. The senior lecturers have a mean score of 69.50 which still falls under the moderate category. The lecturers in the category of readers have 72.70 mean score of research output, which

is high while the lecturers in the professorial cadre has a mean score of 72.52 which is also high. The average mean scored by all the ranks used for this study is 70.20. The score is above 70.00 decision rule and thus was conclude that the mean of the research output scores of Nnamdi Azikiwe University lecturers is high

.Table 3: *Pearson’s Correlation Coefficient of Nnamdi Azikiwe University Lecturers’ Information Literacy Skill and Research Output (N = 158)*

Variable	Mean	Pearson Correlation Coefficient (σ)
Information literacy Skill achievement scores	64.37	0.226
Research output scores	70.20	

Table 3 result shows that there is a relationship between the level of information literacy skills possessed by the academic staff of Nnamdi Azikiwe University Awka and their research output. The Pearson's correlation coefficient is

equal to 0.226 indicating positive relationship between the scores of the lecturer's level of information literacy skills and their research output.

Table 4: The Test of Correlation between Lecturers' Information Literacy Skill and their Rank using Pearson Correlation Coefficient(N =158).

Variable	Mean	Pearson Correlation Coefficient (σ)
Information literacy skill achievement score	64.37	0.009
Rank of lecturers	2.52	

The result in table 4 revealed that there is a relationship between the scores of the lecturer's information literacy skills and their ranks. The Pearson's correlation coefficient is equal to

0.009 indicating positive relationship between the scores of their level of information literacy skills and their ranks.

Table 5: The Test of Correlation between Lecturers' research output and their Rank using Pearson Correlation Coefficient(N =158).

Variable	Mean	Pearson Correlation Coefficient (σ)
Research output score	70.20	0.633
Rank of lecturers	2.52	

The result in table 5 revealed that there is a relationship between the scores of lecturers' research output and their ranks. The Pearson's correlation coefficient is equal to 0.633 indicating positive relationship between the scores of lecturers' research output and their ranks.

Null hypotheses

There is no significant relationship in the information literacy skills possessed by the academic staff in Nnamdi Azikiwe University, Awka and their research output.

Table 6: The Pearson's Correlations Coefficient indicating the Measure of Relationship between the level of Information Literacy Skill scores and the Research Output of the Lecturers (N =158)

Variable	Mean	Pearson Correlation Coefficient (σ)	p-value
Information literacy skill achievement score	64.37	0.23	0.000
Research output score	70.20		

Table 6 indicated that there is significant relationship in the achievement score of information literacy skills possessed by the academic staff of Nnamdi Azikiwe University and their research output score ($\sigma = 0.23$, $p = 0.00$). The value of Pearson's correlation coefficient is positive. The null hypothesis is rejected and then was concluded that there is

significant relationship in the information literacy skills possessed by the academic staff of Nnamdi Azikiwe University Awka and their research output.

Hypothesis 2

There is no significant relationship in the information literacy skills possessed by the

academic staff of Nnamdi Azikiwe University and their ranks.

Table 7: *The Test of Correlation between Lecturers' Information Literacy Skill and their Rank using Pearson Correlation Coefficient(N =158).*

Variable	Mean	Pearson Correlation Coefficient (σ)	<i>p</i> -value
Information literacy skill achievement score	64.37	0.01	0.91
Rank of lecturers	2.52		

Table 7 indicates that there is a significant relationship in the information literacy skills possessed by the academic staff in Nnamdi Azikiwe University and their rank with a correlation and *p*-value as ($\sigma = 0.01, p = 0.91$). The value of Pearson correlation coefficient is positive. The null hypothesis is upheld and then was concluded that there is a significant

relationship between information literacy skills possessed by the academic staff in Nnamdi Azikiwe University and their rank.

Hypothesis 3

There is no significant relationship in the research output and the rank of the academic staff in Nnamdi Azikiwe University, Awka.

Table 8: *The Test of Correlation between Lecturers' research output and their Rank using Pearson Correlation Coefficient(N =158).*

Variable	Mean	Pearson Correlation Coefficient (σ)	<i>p</i> -value
Research output score	70.20	0.633	0.00
Rank of lecturers	2.52		

Table 8 indicates that there is a significant relationship between the ranks of academic staff in Nnamdi Azikiwe University and their research output score. The value of Pearson correlation coefficient is ($\sigma = 0.633, p = 0.000$), which show moderate and positive correlation. The null hypothesis is rejected and then was concluded that there is a significant relationship in the research output and the rank of the academic staff of Nnamdi Azikiwe University Awka, Nigeria.

Discussion of Results

The findings of this study resulted from the data gathered using the questionnaires and the achievement test. They are organized for discussion in line with the five (5) research questions and three (3) of this study. They shall thus make up the subheadings.

Level of Information by Academics Staff of Nnamdi Azikiwe University, Awka

The result of this study showed that the academic staff of Nnamdi Azikiwe University, Awka possessed moderate level of information literacy skills. This implies that they are

moderately skilled in their ability to locate access and evaluate information that is needed for their research output thereby communicating it in an ethical and logical manner. This is in line with the definition of information literacy skill given by Bruce (2003) which states that information literacy skills have to do with how information is being sourced or located, how to access information that is required for the research output at hand and how to evaluate the accessed information to suit the information need at that point in time as well as being able to communicate it to the information seekers. Udem (2013) supported the findings of this present study in his research to find out the level of information literacy competencies possesses by library and information postgraduate students in Federal Universities in the South East zone Nigeria. Similarly, the findings of Okiki and Mabawonku (2013) is very close to the findings of the present study in which they tried to find out the level of information literacy skills possessed by the academic staff of Federal Universities in Nigeria. The study revealed that the level of information literacy skill possessed by the academic staff is high. Also the finding of this study is also in agreement with the study

carried out by Sumpter (2006) to some extent. In Sumpter's findings, there was evidence which proved that majority of the academic staff demonstrated a high proficiency in information literacy skills and it is fairly strong. The information literacy skill of the academic staff of Nnamdi Azikiwe University Awka is moderate as revealed in this study and also in table 4 where the researcher was trying to find out the relationship between the information literacy skills of the academic staff and their ranks and from the findings, there is an evidence that there is a relationship between the lecturer's information literacy skills and their ranks. This may be due to the fact that the lecturers are those people that are in charge of educating the public of the need for being an information literate persons.

Research Output of the Academic Staff of Nnamdi Azikiwe University, Awka

The result of this study revealed that academic staffs of Nnamdi Azikiwe University, Awka have high research output. This result is strongly in agreement with the culture in the University environments, which is publish or perish. The respondents that were selected for this study were those from Lecturer 1 to Professorial cadre in Nnamdi Azikiwe University, Awka and thus have put in good number of years in the academic environment and that has also reflected in the number of research output that they have produced. From table two and 5, it is clear that the more an academic stays in the University environment, the more research output they have as stated in table two and 5. This finding is in line with the study carried out by Okafor (2011), where the researcher found out that academic staff in the University have high research output, which means that the number of years an academic staff spends in the University environment the more research output that will be produce. In the research carried out by Sulo, Kendagor, Tuitoek and Chelangat (2012) in their research to find out the factors that affect research output in public Universities in Kenya, among these factors is the qualification of the academic staff which is also the same as the rank of the academic staff, which they also found out that the rank or qualification of an academic staff positively affects the research output positively.

Relationship between Information Literacy Skills and the Research Output of Academic Staff of Nnamdi Azikiwe University, Awka

The findings of this study revealed that there is significant relationship between information literacy skills of academic staff of Nnamdi Azikiwe University, Awka and their research output, the correlation coefficient is positive. The finding is an interesting one in the sense that the academic staff with high information literacy skills often find it easier to publish their research work than those with lower skills. The possession of information literacy skill is very paramount in making significant contributions to research work as most of the present day research works require the researcher's versatility in computer and library usage. The finding of this work is in agreement with that of Madu and Dike (2012) which stated that information literacy skills and research output of academic staff in the North Geopolitical Zone have relationship which they said was positive and fairly strong. In the same vein, the result of this finding also supported the study carried out by Okiki and Mabawonku (2013) which stated that there is a relationship between the information literacy skills and research output of academic staff of Federal Universities in Nigeria.

Conclusion

From the analysis, interpretation and discussions of results of this study as regards the research questions and hypotheses, the following conclusions were made.

This study has shown that the academic staff of Nnamdi Azikiwe University, Awka possessed moderate level of information literacy skills this implies that they are moderately skilled in their ability to locate access, use and evaluate information wherever it is stored and preserved, be it printed or electronic media, they have the skills to navigate different sources either on web or the library materials and even in various research institutions to access the information that they need for their research works, and they have the skills to evaluate it and to communicate the information in an ethical and logical manner to the information seekers.

The academic staff of Nnamdi Azikiwe University, Awka has high research output. This confirms the relevance of research in the academic environment and the academic staff is living up to expectation in order to remain

relevant as they contribute to the existing wealth of knowledge and nation development.

The study further showed that there is a relationship between the level of information literacy skills possessed by the academic staff of Nnamdi Azikiwe University, Awka and their research output.

The study also showed that there is a relationship between the information literacy skills and the ranks of lecturers and that of the research output and ranks. The professors has the highest mean score of research output than the younger lecturers and it follows in that order, and the lecturers that have the least mean scores are that lecturers in the Lecturer one cadre and it is expected as they have not spend so many years in the University environment like the professors.

Implications of the Study

The results of this study have some obvious educational implications. It has provided empirical evidence as regards the level of information literacy skills possessed by the academic staff of Nnamdi Azikiwe University, Awka and their research output. The study revealed that the research output of the academic staff of Nnamdi Azikiwe University (NAU) is high. This means that the academics in NAU publish as not to perish and keep researching as it is a means of contributing their quota to the existing wealth of knowledge.

The study also revealed that the level of information literacy skills possessed by the academic staff in NAU is moderate. It implies that the academic staff of NAU is following the new trend of information literacy skills that is needed for research though not at maximum level. An evidence shows that there is a relationship between the information literacy skills possessed by the academic staff of Nnamdi Azikiwe University, Awka and their research output. This implies that the academics in NAU publish for the fact that they have the required information literacy skills though moderate and that could be as a result of not having quality research work that is internationally acceptable for publication.

Recommendations

The following recommendations have been made based on the findings in this study:

The academic staffs have high research output and they should keep it up and probably lay

more emphasis on the quality of the research output that are being produced. As this will make them to be recognized nationally and internationally, and continue to contribute their quota to human resources and nation development.

The information literacy skills of the academic staff in UNIZIK are moderate. The academic staff should avail themselves of the available information technology training and workshops so as to enhance their information literacy skills. The university management should come to the aids of the academic staff by sponsoring their information literacy training and workshops where most of these skills will be acquired.

There is relationship between the information literacy skills and the research output though it is low relationship. The academic staff should therefore be motivated by the University management to always develop their information literacy skills so as to improve on their research output. The motivation could be in the form of finance or staff in-service training.

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