

# Information Literacy and Research Skills Programme for Postgraduate Students: The First-Hand Experience of a Federal University of Agriculture in Nigeria

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## Abstract

*The study was carried out to assess the first-hand information literacy (IL) training organised for the postgraduate students of the Federal University of Agriculture, Abeokuta-Nigeria. The study adopted the survey research design using questionnaire as the only data collection instrument. Participants of the training were randomly selected (by a joint Team of the Postgraduate school and the University Library led by the Dean and the University Librarian) across colleges offering postgraduate programmes in the university. The following modules (designed and facilitated by Academic Librarians of the Library) were covered by the training, the roles of library in research, using the Basic MS Word for research, reviewing the literature, reference management software with focus on Mendeley, introduction to e-resources, citation and referencing, copyright and plagiarism, information sourcing, analysis and interpretation, and the use of reference feature in MS Word for creating and managing bibliographies. The ICT Resource Centre of the University was also approached to make internet available for effective delivery of the Internet-based aspects of the Training. Copies of questionnaire were administered on all the 34*

*participants at the end of the two-day training. Responses garnered from respondents were positive and encouraging as the postgraduate students were favourably disposed towards the training and desired its continuity annually. Few of the ripple effect of the training are an annual University-wide IL Training for undergraduates in their final year of study, special request from three different departments of the university to collaborate with academic staff members of the university library to teach the Use of Library Information Resources and Information Literacy as an aspect of Research methods in their different disciplines, drafting and development of a standard and Tailored-IL Curriculum based on disciplines of each College and the training also boosted the image of the Library and Librarians within the University Community.*

*The study concluded by proffering better ways of incorporating and running information literacy programmes for postgraduate students not only at the Federal University of Agriculture, Abeokuta, but in other universities in Nigeria and other climes.*

**Keywords:** Information Literacy Training, Postgraduate Students, Research Skills, University, Nigeria

## Introduction

The increase in the growth of information and communication technology has contributed to overflow of information, making information available everywhere in different formats which are increasingly important in the current environment of speedy change in technology. The paradigm shift is now too much information rather than inadequate or

lack of information. Despite this, it may still be difficult to find ready information that is useful in meeting certain needs. In other words, not all information is useful despite their availability. It is therefore, very important to know how to evaluate information because of the complexity of this environment; hence, the need to possess a set of abilities that would make one capable of knowing and locating useful and effective information. This is why the knowledge of information literacy is important especially to students and researchers. Information literacy (IL) does not involve using information rightly alone, it also include the ability to use information technology facilities in managing information which often requires training and knowledge.

Information literacy is a skill that forms the basis of a lifelong learning with individuals faced with diverse information choices in their academic endeavors, the work place, and in their personal lives. Hence, training in information access and use should be paramount in education. Furthermore, availability and accessibility of information literacy tools is essential to the learner. Consequently, an information literate person is one who possesses analytical and critical skills to search for and access varieties of information types in different formats in order to meet his or her information needs. Thus, Liu and Sun (2011) defined information literacy (IL) as the ability to apply information technology tools; ability to obtain information initiatively; ability to review, collect, use, deliver and exchange information; good coordinative awareness and cooperation ability; information immunity and information ethics cultivation; ability to use the information obtained to solve problems and carry out creative thinking activities. ACRL (2000) also define information literacy as a set of abilities requiring individuals to “recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information.”

Shane (2016) further, described IL as a set of characteristics that transform an ordinary student into a wise information consumer and lifelong learner. Information literacy therefore, can be said to be an act of becoming skilful and learned in the use of information. According to Fernandez-Villavicencio (2010) the goal of Information literacy is to help people become more efficient and effective in solving

their problems and making their decisions in an increasingly digital networking-based society rather than a physical document-based environment.

Consequently, Rader (2009) opined that Information literacy is a broad term that combines a number of literacies which include library literacy, media literacy, computer literacy, internet literacy research literacy and critical thinking skills. Hence The Chartered Institute of Library and Information Professionals (CILIP) (2014) defined IL as “knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner”.

The process of researching, writing and presenting coursework assignments represented the key context for information literacy (IL) development among students. In particular, the final year research projects which are required components of both undergraduate and graduate degree programs in all disciplines, serves as opportunity for students to “take ownership” of their subjects, and develop independent view of their disciplines and the structures of scholarly communication that underpin it. This process, however, may appear to be somewhat unreliable, because it has been observed that students often receive very little formal training on how to do research or write academic research projects. Consequently, students might be expected to approach their research projects in a “learn by doing” mode, guided by their supervisors on a semi-regular basis (McGuinness, 2006).

Information literacy is a practical and strategic concept guiding the library field’s efforts in teaching information seeking and using skills. It evolves in the course of realizing specific work-related tasks and mundane activities, which usually involve a complex system of social relationships, sociotechnical configurations, and work organization (Tuominen, Savolainen, and Talja, 2005).

Libraries and librarians as custodians of information and knowledge are useful in this respect, libraries plays leadership role in faculty development efforts in universities all over the world. Librarians and teaching faculty can contribute to these skills in mutually reinforcing manner. In this case, information literacy skills can be fostered through the use of active learning strategies in which the librarian facilitates activities that promote an engaged flexible approach to the in-formation-seeking process.

Therefore libraries, especially the university libraries being citadel of learning as part of their information facilitating roles, are expected to be in the forefront of providing IL training for both the students and faculty staff of the university. From the perspective of a situated understanding of learning and learning requirements, information literacy skills cannot be taught independently of the knowledge domains, organizations, and practical tasks in which these skills are used, therefore researchers legitimized and motivated librarians' efforts in education for information literacy (IL) by defining it as a part of the wider literacy continuum and by coining the concept of lifelong learning (Eisenberg and Berkowitz, (1990).

The main objective of any university library among other is to support learning, teaching and research activities but the environment of teaching and learning is constantly changing resulting to new expectations of the users to be met by the library. This expectation can rightly be met through a well-structured information literacy programme. Postgraduate students comprises one of the key users of the university library, and most times it is assumed that they are matured students who doesn't need help and are often neglected by the library's users' orientation programmes. However, as part of its efforts to correct this anomaly, 'Nimbe Adedipe Library, Federal University of Agriculture, Abeokuta recently embarked on offering IL training to postgraduate students. This started on one-on-one basis but as more students began to demand for the training, the Automation Department of the library wrote a proposal to the University Management and the Postgraduate School to embark on a university-wide IL training for postgraduate students in June 2015 which was approved. The library has since then, been conducting IL training for the postgraduate students to adequately prepare them for their studies and subsequent research work as well as for the larger society.

### Statement of the Problem

It is often assumed that postgraduate students have competent research skills with critical minds and can handle information well in order to see them through their studies. This assumption forms part of the criteria for selecting them for admission into the

various programmes of study by majority of universities in Nigeria. It has however been observed that this assumption does not hold for a larger percentage of these postgraduate students. This is because; most postgraduate students sometimes have knowledge gaps about finding and using information, having come from diverse educational backgrounds. These often inhibit their performance as researchers. Closely related to this is that many of them do not understand the ethical and legal issues involved in using information which often times lead them to the problem of plagiarism and violation of copyright law. In furtherance to this, it has also been observed that the only pact that students have with familiarisation or orientation on library use is the fresher's orientation programmes usually run by most universities in Nigeria during the first week of undergraduates' resumption into the university which is usually not thoroughly done as to guide students in using information for academic purposes. It is against this background that this study aimed at assessing the Information literacy training program for postgraduate students of Federal University of Agriculture, Abeokuta embarked upon by the 'Nimbe Adedipe Library a couple of sessions ago, with the aim that, findings from the study would help improve on the programme and possibly set the pace for other Universities in Nigeria and other nations of the world to adopt.

### Objectives

The main objective of this paper is to assess the information literacy (IL) programme organised for the postgraduate students and see whether it met their needs and examine aspects of the programme that needs improvement. The following specific objectives will also guide the study:

- i. to examine the postgraduate students' perception about the programme offered by the library;
- ii. to find out whether the programme was relevant to the Postgraduate students' information needs;
- iii. to find out whether the IL training was well packaged;
- iv. to look out for aspects of the programme that needs improvement;

- v. to extract information which can help conclude whether or not the objectives of the programme were met and;
- vi. to provide a template for other universities in the country and other parts of the Globe on the role that the University Library can play in supporting the research programmes of postgraduate student.

### **Theoretical Frame Work and Review of Related Literature**

The Social Constructivism Theory propounded by Vygotsky (1978) was adopted for the study. Vygotsky emphasized the importance of interaction with others such as peers, teachers, and parents in order to build knowledge. He also emphasizes the need for tools such as language and computers to mediate knowledge construction. The Social Constructivism Theory is seen as the main theoretical base for information literacy. The theory was adopted because, it gives learners a concrete, contextually meaningful experience through which they search for patterns, raise their own questions, and construct their own models, thereby making learning what it ought to be, seeing the meaning or significance in a social experience or concept.

Information literacy skills (IL) among others includes library search skills and information technology literacy, it is not just about finding and presenting information, it is also about advanced analysis, synthesis, critical thinking and problem solving. It involves seeking and using information for independent learning, lifelong learning, participative citizenship and social responsibility. It forms the basis of lifelong learning, common to all disciplines, learning environments and all levels of education. It enables the learner to master the contents and extend their investigations. It has a deep awareness, connection and fluency with the information environment. Information literate people are engaged, enabled, enriched and embodied by social, procedural and physical information that constitutes an information universe (Lloyd 2004 and Lupton 2004).

The need to be information literate is now more needful than before because the environment we live in is not only information driven, but also technology driven where information and information

formats keeps changing. Although information is available everywhere but in an unprocessed state and needed to be filtered before it can be impactful. Fernandez-Villavicencio (2010) posited that even though information is everywhere these days, one of the most difficult challenges is to evaluate the information because there are thousands of channels with false and misleading information. Corroborating this, Okpala, Adomah, Sefu and Kalule (2014) and Anunobi and Udem (2015) opined that there is need for knowledge and strategies in order to utilise information maximally.

Although there are lots of literature on information literacy generally, but little has been written on information literacy services for postgraduate students (Rempel and Davidson, 2008). This may be due to the assumption that postgraduate students are matured enough to know the appropriate use of information for research. On the other hand, Wavel (2009) reported that, postgraduate students are likely to have had a range of different experiences with information literacy skills in the undergraduate days considering the role of teachers in information literacy development, or in their workplace. Corroborating this, Rempel and Davidson (2008) stated that most lecturers also believed that postgraduate students are competent enough to embark on scholarly research without the need for skill in information literacy. They further stated that this assumption often cause a disservice to the students and create challenges for librarians in their bid to offer information literacy services for the postgraduate students.

Previous studies have also confirmed that many postgraduate students do not have the sufficient skills for the level of academic research required of them (Donaldson, 2004, Streatfield, Allen and Wilson 2010, Anunobi and Udem, 2015). Rempel and Davidson (2010) also discovered from their study that graduate students were not familiar with web 2.0 tools and other social bookmarking sites and were not using it for keeping up with literature, stressing the need for information literacy (IL) for postgraduate students and researchers, Streatfield, Allen and Wilson (2010) stated that this is necessary because of changes occurring rapidly in information technology. It is also believed that information literacy skills cannot be acquired in a one-time lecture or training.

Dorvlo and Dadzie (2016) on the other hand observed that despite the fact that students of today have increasing access to computers and electronic media facilities they still need to develop skills that will help them to harness authoritative information. Iannuzzi (1998) addresses the connections between faculty development and information literacy and presents strategies for establishing partnerships listing five related topics: information literacy and campus culture, campus initiatives, strategies for partnerships, a faculty development model, and a university Model for Information Literacy.

Furthermore, Adam et.al. (2016) noted that one of the key roles played by libraries in the provision of information literacy training is the recognition that both digital and information literacy are important in learning, teaching and research and are therefore essential skills for students and staff. That is why libraries are now taking up the challenge of providing information literacy training for students and staff. Fernandez-Villavicencio (2010) however, opined that information literacy skills are required not just by students and learners but also by teachers, administrators, government policy-makers and business employers. One can therefore conclude that IL is required by everyone as lack of it will hamper effective survival in an information-driven society (Baro, 2010).

Karisiddappa (2004) and Pawinun and Kemparaju, (2004) recommended that information literacy (IL) and capacity building in form of education programs developed by libraries such as literacy campaign, functional literacy and library instruction should be integrated into school curriculum.

Maughan (2001), Wolf (2007) and Walsh (2009) all canvassed that librarians should assess, measure and evaluate the usefulness of information literacy skill as a concept using various methods such as quizzes, tests, questionnaires, analysis of bibliographies and self-assessment tools.

## Methodology

The population of study comprised three hundred and fifty seven (357) postgraduate students from the seven colleges of the University running postgraduate programmes. These seven Colleges of the University running postgraduate programmes

are: College of Agricultural Management and Rural Development (COLAMRUD), College of Animal Science and Livestock Production (COLANIM), College of Biosciences (COLBIOS), College of Environmental Resources' Management (COLERM), College of Food Science and Human Ecology (COLFHEC), College of Physical Sciences (COLPHYS) and College of Plant Science (COLPLANT).

Thirty-four (34) respondents were evenly selected across these colleges. The 34 participants were selected through a multi-stage sampling technique; Colleges> Departments>Research Areas. A self-designed questionnaire was the main data collection instrument for the survey. This was administered on the thirty-four (34) participants at the information literacy (IL) training. The data were collated and analysed using the Statistical Package for the Social Scientists (SPSS). The survey featured questions on a range of issues including:

- (1) Aims and objectives of the Training
- (2) Facilitators' performance
- (3) Training outcome
- (4) Participants' satisfaction with the topics or modules covered by the training
- (5) Rating of the components of the training

## Findings and Discussion

Data collected were collated, analysed in line with the research objectives and presented in this section.

### Demographic Information

Programmes of study of the participants reported 23 (67.6%) respondents studying for Master's degree while 11 (32.4%) were doctoral students. Gender recorded 19 (55.9%) males and 15 (44.1%) female respondents. This shows that a higher percentage of the postgraduate students were registered for a degree of Masters than a Doctor of Philosophy degree. It can also be deduced that, there were more of males than female postgraduate students during the session of carrying out the research.

Respondents were selected across the colleges of the university running postgraduate programmes as shown on Table 1.

**Table 1: Distribution of participants by Colleges**

College	Frequency	Percent (%)	Valid Percent (%)	Cumulative Percent (%)
COLAMRUD	1	2.4	2.9	2.9
COLANIM	10	24.4	29.4	32.4
COLBIOS	3	7.3	8.8	41.2
COLERM	3	7.3	8.8	50.0
COLFHEC	1	2.4	2.9	52.9
COLPHYS	5	12.2	14.7	67.6
COLPLANT	11	26.8	32.4	100.0
<b>Total</b>	<b>34</b>	<b>82.9</b>	<b>100.0</b>	

The data collected revealed that postgraduate students from only seven of the ten Colleges in the University participated in the training. This is due to the fact that College of Management Science (COLMAS) and College of Engineering Science (COLENG) do not offer courses at the postgraduate level as at the time of conducting the study, while the absence of students of the College of Veterinary Medicine (COLVET) was due to the peculiarities of their programme of study which usually runs parallel to the school's sessions. College of Plant Science (COLPLANT) had the highest number of

participants (26.8%) followed by College of Animal Science and Livestock Production (COLANIM) which had 24.4% participants, while College of Agricultural Management and Rural Development (COLAMRUD and College of Food Science and Human Ecology (COLFHEC) both had one representative each.

The researchers sought to find out whether the aims and objectives of the training were met. To ascertain this, some questions were raised and responses were analysed and reported in Table 2.

**Table 2: Aims and objectives of the Training**

Items	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)	Total (%)
The training met my information needs	65.9	34.1	0	0	100.0
I was well informed about the objectives of the training	57.5	35.0	5.0	2.5	100.0
The training is ill-timing	13.2	5.3	44.7	36.8	100.0
The content is relevant to my research work	63.4	31.7	2.4	2.4	100.0
The content is not appropriately treated	9.8	0	46.3	43.9	100.0
The lectures are boring	0	0	56.1	43.9	100.0
There are many irrelevant topics	0	0	22.5	77.5	100.0
The training is long overdue	41.0	12.8	28.2	17.9	100.0

All the participants agreed that their information needs were met by the training; 65.7% of participants strongly agreed on this. A cumulative of 97.5% respondents indicated that they were well-informed of the objectives of the training while 7.5% revealed they were not. This however shows that more efforts need to be geared toward communicating the objectives of future trainings to the students so that subsequent participants will be able to appreciate the objectives of the training. Also, 63.2% of the participants disagreed that the training was ill-timing while 95.1% agreed that the contents of the training was relevant to their research work.

Participants were asked to indicate whether the contents of the training were not appropriately treated; 90.2% of them disagreed with the statement while all the participants (100%) disagreed that the lectures were boring. This indicated that all the participants enjoyed the lectures. Moreover, 53.8% of the participants agreed that the training was long overdue.

The researchers were also interested in knowing how the facilitators performed viz-a-viz the delivery of each module, hence the participants were asked to rate this (see Table 3).

**Table 3: Facilitators’ performance**

Items	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)	Total (%)
Facilitators performed below expectations	0	0	39.0	61.0	100.0
Facilitators were not adequately prepared	0	2.4	43.9	53.7	100.0
Facilitators stimulated my learning about information sourcing	85.4	14.6	0	0	100.0

Table 3 reported the participants’ rating of the training’s facilitators. All participants indicated that the facilitators did not perform below expectation. This implies that the participants’ were not disappointed with the facilitators’ performance; 97.6% disagreed that the facilitators were not adequately prepared; therefore, facilitators were adjudged to be adequately prepared for the training

and all the training participants (100%) agreed that facilitators stimulated their interest of learning about information sourcing.

Another important issue agitating the minds of the researchers is to know whether the training met its purpose viz-a-viz the expected outcome and benefits to the students. Result of this is reported in Table 4.

**Table 4: Training outcome**

Items	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)	Total (%)
The objectives of the training were met	63.4	34.1	2.4	0	100.0
The training was a good way for me to learn about information sourcing	68.3	31.7	0	0	100.0
The training exposed me to a better way of doing research	53.7	41.5	4.9	0	100.0
Training activities gave me sufficient practice and feedback	29.3	61.0	9.8	0	100.0

All the participants (100%) agreed that the training was a good way for them to learn about information sourcing, while a cumulative of 95.1% agreed that the training exposed them to a better way of doing research and another cumulative of

90.2% of the participants agreed that the training activities gave them sufficient practice and feedback. This is because; the training was an interactive one which gave participants opportunity for a hands-on practice.

**Table 5: Participants' satisfaction with topics or modules covered by the training**

Items	Highly satisfied (%)	Average satisfied (%)	Not satisfied	Total (%)
Role of library in research	81.6	18.4	0	100.0
Using Basic MS Word	87.5	12.5	0	100.0
Literature review	70.0	30.0	0	100.0
Focus on Mendeley reference management software	89.2	10.8	0	100.0
Introduction to E-Resources	48.8	43.9	7.3	100.0
Citation and Referencing	59.0	41.0	0	100.0
Copyright and Plagiarism	79.5	17.9	2.6	100.0
Information sourcing, analysis and interpretation	77.5	22.5	0	100.0
Use of reference feature in MS Word	76.9	23.1	0	100.0

Training modules were thematic and structured around the different aspects of information literacy to which participants were asked to rate their levels of satisfaction; 89.2% were highly satisfied with the module on Mendeley Reference Management Software, 87.5% with using Basic MS Word, 81.6% were highly satisfied with the module on the role of library in research, 79.5% of the participants were highly satisfied with the module on copyright and plagiarism, 77.5% on information sourcing, analysis and interpretation, 76.9% were satisfied with the

module on use of reference feature in MS Word, while 70% with the module on Literature review. Furthermore, information extracted from the data collected for the study revealed that 59% were highly satisfied with module on citation and referencing. However, only 48.8% were highly satisfied with the module on introduction to e-resources; this implies that, the module needs to be re-examined in order to stimulate the interest of the students in its usage; being pivotal to research.

**Table 6: Rating of training components**

Items	Average (%)	Good (%)	Excellent (%)	Total (%)
Content and agenda	6.9	34.5	58.6	100.0
Practical and activities	15.4	64.1	20.5	100.0
Facilitators	38.5	61.5	0	100.0
Time allotted to lectures	38.5	53.8	7.7	100.0
Assistance rendered to participants	8.1	48.6	43.2	100.0
Logistics and arrangement	10.3	53.8	35.9	100.0
Training venue	25.6	74.4	0	100.0
Tea breaks	37.8	32.4	29.7	100.0



According to the participants' rating, 74.4% rated the venue (the Postgraduate Hall of the University) used for the training as good, 64.1% indicated that the training's hands-on-practical was good, 61.5% agreed that the choice of facilitators were also appropriate, viz-a-viz the module delivered, while 58.6% indicated that the content and agenda of the training were excellent. It is therefore, clear that the participants had a good rating of the training components. Although, these components can be well-improved upon to record an excellent performance in the future.

### **Extracts from Responses to Open-Ended Questions**

Participants were asked a few open-ended questions that bothered on the most valuable and least valuable aspects of the training; in which various responses extracted shows majority of them indicating that valuable aspects of the training was the information sourcing, analysis and interpretation module and the expertise of the facilitators in delivering the lectures on the different aspects of the training modules. However, none of them mentioned anything to be less valuable. Participants were also asked to comment generally on the training, giving advice on future ones; majority of the participants suggested that the training should come up at the beginning of all postgraduate programmes annually and should hold for more than one day. Other suggestions made was that all postgraduate students should be invited to participate in future trainings and not a selected few randomly picked from different colleges as was done in the maiden one. Other suggestions made also bothered on the need to make alternative source of internet access available so as to maximise the internet-based modules of the training.

The study revealed that the participants of the training have a good perception of the training as most of them agreed that the contents of the modules were relevant to their research and information needs. The facilitators also performed very well based on the respondents' assessment. However, they wished the training had run for more than a day and to have accommodated all postgraduate students of

the university rather than the selected few. Hence, they suggested that the training should hold annually during the first year of the postgraduate programmes so that they will be able to apply the knowledge gained to their research.

### **Conclusion and Recommendations**

From the foregoing, it can be concluded that, the training was a welcome development which the participants wished could continue. On the part of the organisers, findings of the study has contrasted the assumption that postgraduate students are mature students who are considered to be experts and expected to know how to find information unaided without necessarily assisting or training them on information literacy. The following suggestions emanating from the study are therefore proffered in order to adequately equip postgraduate students for lifelong learning and research:

1. There should be a teaching collaboration between faculty members and librarians where librarians would teach research skills to postgraduate students, while the former teach course contents. As a matter of fact, few departments of the University have sought collaborations with librarians by inviting them to teach the Information Literacy and Library Use aspect of Research Methods in their fields since after the Training.
2. The body (ies) responsible for censoring university education in different countries such as the National Universities' Commission (NUC) in Nigeria; should as a matter of urgency Integrate information literacy and library use into the curriculum of all postgraduate programmes; this can as well begin from the undergraduate level.
3. Faculty members and librarians should also collaboratively develop strategies for the implementation of information literacy programmes within participants' institutions.
4. Efforts should be geared towards maintaining a seamless synergy between research skills and course contents of postgraduate programmes.

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