Relationship between Information Literacy Skills Acquisition and Research Self-efficacy of Library and Information Science Postgraduate students in Southeast Nigerian Universities

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Abstract
The study investigated the relationship between information literacy skills acquisition and research self-efficacy of Library and Information Science (LIS) postgraduate students in Southeast Nigerian Universities. A correlational research design was adopted for the study. The population comprised 326 postgraduate students which included all 2017/2018 and 2018/2019 PhD and Masters Degree students from the Departments of LIS in Southeast Nigerian universities that offer the postgraduate programme in LIS. The entire population was studied. Two validated instruments which included cognitive ability test for Information Literacy Skills (ILST) and Research Self-Efficacy Scale (RSES) adopted from Büyüköztürk, Atalay, Sozgunc, and Kebapçı were used for data collection. The internal consistency of ILST and RSES were established using Kudder-Richardson and Cronbach's alpha coefficient which yielded 0.85 for ILST and 0.86 for RSES. Data collected were analysed using Pearson's Product Moment Correlation (r). The study found out that there is a negative relationship between information literacy skills and research self-efficacy scores of LIS postgraduate students. Also, no significant relationship exists between information literacy skills and research self-efficacy scores of LIS postgraduate students. Based on the findings, it was recommended among others that the assessment of students' information literacy skills by the LIS Department, LIS educators, and LIS professionals should be employed frequently. This will help determine their strength and weakness and with that, the students will be able to know their stand which will encourage them to acquire these skills where it is lacking as well as instill confidence in their ability to conduct research.

Keywords: Information Literacy, Information Literacy Skills, Research Self-efficacy, Postgraduate Students, Universities in Southeast Nigeria

Introduction

The most salient characteristics of today's societies are the advancement in Information and Communication Technologies (ICT) which have created a revolution in every aspect of knowledge. Information packaging and dissemination have experienced this revolution to a great extent. On a daily basis, a huge amount of information is being generated in a variety of formats, all over the world, raising questions on its credibility, reliability, and authenticity. And as a result, individuals are puzzled by the abundance of information and the diversified resources available for finding solutions to their problems (Shelar, 2011).

In such an environment of information overload, information users need skills and knowledge required to find, access, evaluate and effectively use information. In other words, information stakeholders need to be information literate in order to be effective in such an environment of information overload.

Information literacy as noted by Association of College and Research Libraries (2016) is the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning. For an individual to become an information literate person, such an individual must possess the attributes of information literacy. When such an individual has actually possessed the attributes of information literacy and can put them in practice, it is assumed that such an individual has actually acquired information literacy skills.

Information literacy skills refer to an individual's ability to locate, access, evaluate and use information effectively for needed information purposes which will also make the individual have a continuous learning process (Kovalik, Jesen, Schloman & Tipton, 2010; Nayda & Rankin, 2008). In other words, information literacy skills deal with capability of an individual to identify, locate, evaluate, organize, and effectively use the information to address general and personal issues and problems especially using the existing information to produce new ones.

Information literacy skills acquisition is very essential to students' especially postgraduate students who are seriously involved in research activities. Library and Information Science (LIS) postgraduate students who are students pursuing advanced study (Masters or PhD) in the Department of LIS are expected to be grounded in LIS courses especially the information literacy courses. In other words, they are expected to have acquired information literacy skills during their undergraduate days which will enable them to find and use information, synthesize, evaluate and communicate it in an ethical way.

However, some researchers have observed that acquisition information literacy skills are very necessary but it may not be enough for research. Affective features of individuals such as research self-efficacy as noted by Ocak and Ataseven (2016) also govern their research process.

Research self-efficacy can be referred to as the degree to which students are confident in performing different research tasks (Jones, 2012; Rezaei & Zamani-Miandasshti, 2013; Westhuizen, 2014). Research self-efficacy, therefore, may simply be defined as a belief in one's capabilities to accomplish various research activities. Research self-efficacy has been found to predict students' interest in conducting research and is related to research productivity among students. Researchers have shown that low research self-efficacy can interfere with students' research training and their willingness to conduct research while high research self-efficacy is an important factor related to students successfully conducting research and pursuing research beyond graduate study (Love, Bahne, Jones, & Nilson, 2007; Forester, Kahn, & Hesson-Mclnnis, 2004)

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Researchers have shown that the acquisition of information literacy skills is very important to gain research skills. Acquisition of information literacy skills is very necessary to gain research skills because information literacy skills acquired are expected to boost students' confidence in carrying out research. Library and information science postgraduate students are expected to be experts in research strategies since they ought to have acquired information literacy skills especially the basic skills of literature search. Acquisition of information literacy skills is expected to boast postgraduate students' confidence in carrying out research. However, it is not certain if any correlation exists between LIS postgraduate students' information literacy skills acquisition and research self-efficacy. This justifies the need for this study. Therefore, this study aims to determine:

1. The relationship between information literacy skills acquisition and research self-efficacy of LIS postgraduate students in Southeast Nigerian Universities.
2. Whether a significant relationship exists between information literacy skills acquisition and research self-efficacy of LIS postgraduate students in Southeast Nigerian Universities.

Review of Related Literature

Information literacy skills acquisition

The amount of information available to students especially postgraduates who are into research necessitates that each individual acquires the skills to select, access, evaluate, and use information appropriately and effectively. Sasikala and Dhanraju

(2011) argued that information literacy skills are necessary and very useful in every aspect of a person's life. Acquisition of information literacy skills as noted by Ukachi (2013) requires being able to define a subject or area of investigation; selecting appropriate terminology that expresses the concept under investigation; formulating a search strategy that takes into consideration different information sources and the various ways information is organized; analyzing the data collected for value, relevancy, quality, and suitability; and subsequently turn them into knowledge. Similarly, Council of Australian University Librarians, (2001) stated that acquisition of information literacy skills will enable students to recognize a need for information; determine the extent of information needed; access the needed information efficiently; evaluate the information and its sources; incorporate selected information into their knowledge base; use information effectively to accomplish a purpose; understand economic, legal, social and cultural issues in the use of information; access and use information ethically and legally; classify, store, manipulate and redraft information collected or generated; and recognize information literacy as a prerequisite for lifelong learning.

Possession of information literacy skills as observed by Shapiro and Hughes (2006) gives library users especially postgraduate students the practical skills needed in the effective use of information technology and print or electronic information resources. They further opined that information literacy skills acquisition extends beyond technical skills as it is a user's critical reflection on the nature of information itself, its technical infrastructure and its social, cultural, and even philosophical context and impact. Doyle (2002) asserted that students need some level of information literacy skills to make decisions about academic matters and other aspects of their daily lives. Likewise, the University of South Carolina (n.d) averred that acquisition of information literacy skills will help students to locate, correctly evaluate, successfully use and clearly communicate information in its various formats. Ranaweera (2008) opined that “information literacy skills empower the people with critical skills which will help them to become independent lifelong learners. These skills will enable people to apply their knowledge from a familiar environment to the unfamiliar”.

The acquisition of information literacy skills as pointed out by Ilogho and Nkiko (2014) is imperative to the students' ability to search, evaluate and use information effectively. Ukpebor and Emojorho (2012) stated that possession of relevant information literacy skills and equitable access to learning resources will help the students to overcome barriers to academic achievement. In that regard, Grafstein (2002) stated that information literacy skills will equip students with knowledge about specific subjects, contents, research practices, and information retrieval

systems that apply generally across disciplines. Brown and Mokgele (2007) identified three basic steps needed in the acquisition of information literacy skills to include; orientation, interaction, and internalization. Orientation, as observed by Jager and Nassimbeni (2003), involves users familiarising themselves with the information sources available to them, and defining their specific information needs, while interaction suggests that information-seekers make active use of the various information sources and refine their information needs as they go along, retrieving the most relevant material and analysing the information contained in it. The last stage, internalisation, indicates that they finally absorb the information obtained, and apply it usefully to a given situation. At the end of these three stages, true information literacy as pointed out by Jager and Nassimbeni should have been achieved. Similarly, Andretta, Hernon, and Dungan (as cited in King, 2007) opined that the attribute of information literacy skills belongs in three groups, the first being information skill, that is, to employ traditional and modern information technology to retrieve, manage and present information in an ever-widening array of information sources. The second is being the cognitive skills of analyzing, problem-solving, critically-thinking, critically evaluating, synthesizing, organizing and communicating information. The third is embanked in the values and beliefs resulting in using information wisely and ethically as well as with social responsibility and community participation.

University of South Carolina (n.d) identified top 10 information literacy skills to include the ability to: know when information is required; know how to write a research question, know where to find information, determine the sources of information, select the best sources, use the information, organize information, present information, evaluate information, and use information in an ethical manner. In an attempt to narrow information literacy skills to the research process, Dunn (2002) report on an assessment of information literacy skills at California State University identified six core skills that are needed for an information literate person. The six core skills identified by Dunn include to

- Formulate and state a research question, problem, or issue not only within the conceptual framework of discipline but also in a manner in which others can readily understand and cooperatively engage in the search.
- Determine the information requirements for a research question, problem or issue in order to formulate a search strategy that will use a variety of resources.
- Locate and retrieve relevant information, in all its various formats, using, when appropriate, technological tools.
- Organize information in a manner that permits analysis, evaluation,

synthesis, and understanding.
- Create and communicate information effectively using various media
- Understand the ethical, legal and sociopolitical issues surrounding information
- Understand the techniques, points of view and practices employed in the presentation of information from all sources.

From the foregoing discussion, it can be synthesized that information literacy skills has to do with the ability to: determine the extent of information needed; access information efficiently; critically evaluate information and its sources; classify, store, manipulate and redraft information collected or generated; use information effectively to learn, create new knowledge, solve problems and make decisions; access and use information ethically and legally; use information and knowledge for participative citizenship and social responsibility.

Research self-efficacy of Postgraduate students

Self-efficacy is an important psychological construct in understanding the reason people choose to pursue particular activities and the extent of effort they devote to these. Self-efficacy is a result or outcome of the belief that one has the confidence and the ability to execute the courses of actions required to deal with a given situation in which they are trained. Vaccaro (2009) posited that self-efficacy encompasses more than the ability to execute a task, rather it involves the person's thought processes, motivation, affective and psychological states. From studies of different researches on self-efficacy, Snyder and Lopez (2002) observed that there is evidence that self-efficacy is not observable skill. In other words, self-efficacy cannot be defined as a skill. Nevertheless, self-efficacy has effects on the cognitive, behavioral, affective and choosing processes. Pajares (2002) opined that self-efficacy does not actually relate to ability but rather a belief of what can be achieved with it, and hence is a pivotal factor for success through self-encouragement. In this regard, Gawith (as cited in Büyüköztürk, Atalay, Sozgun & Kebapçı, 2011) observed that a person would not be able to carry out a certain task for which he has the ability to unless he has the confidence to do so. Self-efficacy, as recorded by Mullikin, Bakken, and Betz (2007), is a good predictor of behavior and research self-efficacy is particularly useful in identifying the forces at work in career choices for graduate students regarding whether or not they will engage in research formally in their work.

Research self-efficacy as noted by Lev, Kolassa, and Bakken (2010) is very important for doing or not doing research. Similarly, Onwuegbuzie (2003) asserted that research self-efficacy is believed to influence students' choices of behaviour, effort invested, persistence and consequently task success. Several studies as

observed by Niehaus, Garcia, and Reading (2018) have pointed to the importance of research self-efficacy in the development of independent researchers. Evans (2011) noted the importance of internal perceptions like self-efficacy in the attitudinal development of researchers. Likewise, Akerlind (2008) noted the importance of developing confidence as one way of understanding researcher development, especially in doctoral students and early career researchers. Evans concluded that confidence was a foundation for other more complex ways of understanding one's development as a researcher. Chesnut, Siwatu, Young, and Tong (2015) noted that the confidence that one maintain about one's ability to design studies, collect and analyze data, and write a well-organized manuscript might further influence one's research-oriented goals, expectations of performing research, and the effort expended during the process. Furthermore, Akerlind (2008) asserted that confidence involved not just the development of skills, but also a sense of belief that you are on the right track with your research. Research self-efficacy is not just important in the development of one's research identity; it is also a key predictor of future research productivity.

Furthermore, Forester, Kahn, and Hesson-McInnis (2004) argued that research self-efficacy may foster students' research interest and productivity. Büyüköztürk (1997) opined that apart from one's knowledge of research methods, his interest in the subject of research, his values and whether or not he perceives the research process as a threat further impact upon the conduct of his research. In this regard, Büyüköztürk , et al. (2011) observed that self-efficacy is a meaningful identifier of research interest and output. Büyüköztürk, et al. further noted that research self-efficacy is central to education strategies in encouraging student research interests and output. Similarly, Deemer (2010) asserted that research productivity and research interest are positively correlated with research self-efficacy. Lei (2008) observed that individuals who show high research self-efficacy often become productive researchers, and that self-efficacy is significantly and positively related to skills acquisition. In line with Lei assertion, Lev, Kolassa, and Bakken (2010) who equated research self-efficacy as the confidence of students in their ability and perception of their research skills, observed that research self-efficacy plays a key role in predicting an individual's research.

Students who have low research self-efficacy are not sure about their ability to perform research and do not believe that their attempt will lead to success and are often anxious, especially when they are evaluated they feel a lack of competence. Instead, the students who have higher self-efficacy believe in their competence, have the ability to investigate and are more successful in research (Bierer, Prayson & Dannefer, 2015; Garavand, Kareshki & Ahanchian, 2014). Similarly, research has shown that low research self-efficacy can interfere with students' research training and practitioners' willingness to conduct research and add scholarly

contributions to their field of study (Love, Bahner, Jones, & Nilson, 2007). Research has also shown that high research self-efficacy is an important factor related to students successfully conducting research and pursuing research beyond graduate study (Forester, Kahn, & Hesson-McInnis, 2004). Baltes, Hoffman-Kipp, Lynn, and Weltzer-Ward (2010) opined that increased research self-efficacy leads to the improvement of performance in various fields and low self-efficacy causes unwillingness to do research and participate in scientific projects, low learning, and poor performance. In other words, people with higher research self-efficacy are expected to show more effort and insist on performing research and research-related tasks than those with low research self-efficacy. Research self-efficacy as noted by Garavand, Kareshki, and Ahachian (2014) is the milestone of success during the postgraduate period and enhances the performance of academic students. According to Chesnut, Siwatu, Young, and Tong (2015) postgraduate students' research self-efficacy beliefs have been examined and have even been able to account for the variability in postgraduate student research productivity. As postgraduate students master various aspects of research, their levels of confidence to successfully engage and maintain a research project also increase. The increase in research self-efficacy beliefs subsequently influences the attitudes that postgraduate students hold toward research and the extent to which they engage in research. High research self-efficacy as noted by Kahn (2001) is expected to orient graduate students to establish more challenging research goals, maintain positive expectancies for their engagements, and increase the frequency of productive research behaviors. In line with Kahn's assertion, Brancolini and Kennedy (2017) opined that research self-efficacy has been found to be a predictor of postgraduate students' research interest and productivity. Similarly, Rezaei and Zamani-Miandasshti, (2013) noted that research self-efficacy has been found to predict students' interest in conducting research and is related to research productivity among students especially postgraduate. Research self-efficacy has also been linked with motivation. It has been established that postgraduate students with higher levels of research self-efficacy tend to be more motivated to carry out research-related activities than their peers and are more likely to persist when presented with challenges. Thus, the results of their persistence will actually lead to research productivity.

Method

The correlation research design was adopted in this study. The study was carried out in universities that offer a postgraduate programme in library and Information science in southeast Nigeria. These universities include; Nnamdi Azikiwe University Awka, University of Nigeria Nsukka, Michael Okpara University of Agriculture Umudike, Abia State University, Imo State University and Enugu State University of Science and Technology. The population comprised 326 postgraduate students of the Department of library and information Science in

2017/2018 and 2018/2019 academic session. Out of 326 postgraduate students selected for the study, 236 completed the exercise, giving a return rate of 72 percent. Two validated instruments which included cognitive ability test for Information Literacy Skills (ILST) and Research Self-Efficacy Scale (RSES) adopted from Büyüköztürk, Atalay, Sozgunc, and Kebapçı (2011) were used for data collection. The internal consistency of ILST and RSES were established using Kudder-Richardson and Cronbach's alpha coefficient which yielded 0.85 for ILST and 0.86 for RSES. Data collected were analysed using Pearson's Product Moment Correlation.

Results

The results were presented to actualize the purpose of the research.

The relationship between information literacy skills and research self -efficacy scores of LIS postgraduate students in Southeast Nigerian Universities

Table 1

Pearson r on Relationship between Information Literacy Skills and Research Self - efficacy Scores of Library and Information Science (LIS) Postgraduate Students

Source of Variation	N	Information Literacy Skills (r)	Research self-efficacy (r)	Remarks
Information Literacy Skills	236	1.00	-0.10	Very low negative relationship
Research self - efficacy	236	-0.10	1.00	

Table 1 show that there is a very low negative relationship between information literacy skills and research self-efficacy scores of LIS postgraduate students in Southeast.

Testing the null hypothesis

Null hypotheses were tested at 0.05 level of significance

There is no significant relationship between information literacy skills and research self-efficacy scores of LIS postgraduate students in Southeast Nigerian Universities.

Table 2
Significance of Pearson r on Relationship between Information Literacy Skills and Research Self-efficacy Scores of LIS postgraduate students

Source of variation	N	Information Literacy Skills (r)	Research self-efficacy	P-value	Remarks
Information Literacy Skills	236	1.00	-0.10	0.121	Not significant
Research self-efficacy	236	-0.10	1.00		

Table 2 shows that the relationship between information literacy skills and research self-efficacy scores is not significant, the calculated r of -0.10 has P-value of 0.121 which is greater than the 0.05 significance level ($r=0.10$, $p>0.05$). Therefore, the null hypothesis that there is no significant relationship between information literacy skills and research self-efficacy scores of LIS postgraduate students in Southeast Nigerian Universities is not rejected.

Discussion

Relationship between information literacy skills acquisition and research self-efficacy of LIS postgraduate students

The result of the relationship between information literacy skills acquisition and research self-efficacy of LIS postgraduate students reveals that there is a very low negative relationship between information literacy skills and research self-efficacy scores of LIS postgraduate students in Southeast Nigerian Universities. This indicates that LIS postgraduate students' information literacy skills acquisitions have an inverse relationship with their research self-efficacy. In other words, the results show that as LIS postgraduate students' scores in information literacy skills increases, their related scores in research self-efficacy decrease but to a very low extent. On the other hand, it can also mean that as LIS postgraduate students' scores in information literacy skills decrease, their related scores in research self-efficacy

increases but to a very low extent. This implies that LIS postgraduate students' acquisition of information literacy skills does not actually have much influence on their research self-efficacy. This is surprising because one would have expected information literacy skills scores to have a positive relationship with research self-efficacy scores. However, the result may not be misleading because some researchers such as Manhood (2016); Gross and Latham (2007) had related results. Gross and Latham (2007) carried out a study to know whether competency theory prediction that students with a high level of information literacy skills are more likely to question their ability to perform while those who lack competence tend not only to be unaware of their lack of ability but to overestimate what they can do. Their study revealed that the relationship between information literacy skills and self-assessments predicted by competency theory is evident in the domain of information literacy. Similarly, Mahmood (2016) study concluded that there is no calibration in people's perceived and actual information literacy skills, in most cases; low performers overestimate their skills in self-assessments while high performers underestimate their skills in self-assessment. Maughan, (2001) concluded that "students think they know more about accessing information and conducting research than they are able to demonstrate when putting to the test" (p. 71). In the case of this present result, it may be that the majority of LIS postgraduate students in Southeast Nigeria Universities performed low in the information literacy skills test but overestimated their own abilities and believed that their research abilities were above average. On the other hand, it may also be that the majority of LIS postgraduate students performed high in the information literacy test but underestimated their abilities to carry out research activities.

The result for hypothesis reveals that there is no significant relationship between information literacy skills and research self-efficacy scores of LIS postgraduate students in Universities in Southeast Nigeria. It implies that despite the fact that LIS postgraduate students' information literacy skills acquisitions have an inverse relationship with their research self-efficacy; the relationship is still not significant.

Conclusion

The results of the study show that there is a negative relationship between information literacy skills acquisition and research self-efficacy of 2017/2018 and 2018/2019 LIS postgraduate students in Southeast Nigerian Universities. The results also revealed that no significant relationship exists between information

literacy skills and research self-efficacy scores of LIS postgraduate students. It can be concluded that the acquisition of information literacy skills does not really have a strong influence on postgraduate students' research self-efficacy.

Recommendations

The following recommendations have been made based on the findings and conclusions made in this study.

1. The assessment of students' information literacy skills by the LIS Department, LIS educators, and LIS professionals should be employed frequently. This will help determine their strength and weakness and with that, the students will be able to know their stand which will encourage them to acquire these skills where it is lacking as well as instill confidence in their ability to conduct research.
2. LIS and research educators should incorporate the affective contents when teaching the postgraduate students' information literacy and research course. This will help to instill confidence and motivate students to carry out research to a conclusion.

References

Akerlind, G. S. (2008). Growing and developing as a university researcher. *Higher Education, 55*(2), 241-254. https://doi.org/10.1007/s10734-007-9052-x.

Association of College & Research Libraries. (ACRL). (2016). *Framework for Information Literacy for Higher Education: American Library Association*. Retrieved from http://www.ala.org/acrl /standards/ilframework

Bierer, S. B., Prayson, R. A., & Dannefer, E. F. (2015). Association of research self-efficacy with medical student career interests, specialization, and scholarship: A case study. *Adv in Health Sci Educ. 20,339–354*. doi 10.1007/s10459-014-9531-7

Brancolini, K. R., & Kennedy, M. R. (2017). The development and use of a research self-efficacy scale to assess the effectiveness of a research training program for academic librarians. *Library and Information Research, 41*(24), 44-84.

Brown, L., & Mokgele, M. (2007). *Information literacy skills training of staff and students in the Unisa Library: Challenges and opportunities. World Library And Information Congress: 73rd IFLA General Conference And Council 19-23 August 2007, Durban, South Africa*. Retrieved from http://www.ifla.org/iv/ifla73/index.htm

Büyüköztürk, S. (1997). Development of research anxiety scale. *Educational Management in Theory and Practice, 3*(12), 453–464.

Büyükoztürk, S., Atalay, K., Sozgun, Z., & Kebapcı, S. (2011). The development of research self-efficacy scale. *Cypriot Journal of Educational Sciences, 6*(1), 22-29.

Chesnut, S. R., Siwatu, K. O., Young, H. A., & Tong, Y. (2015). *Examining the relationship between the re-search training environment, course experiences, and graduate students' research self-efficacy beliefs. International Journal of Doctoral Studies, 10, 399-418*. Retrieved from http://ijds.org/Volume10 /IJDSv10p399418Chesnut0914.pdf

Council of Australian University Librarians. (2001). *Information literacy standards. Canberra, Council of Australian University librarians.* Retrieved from http:// ilp.anu.edu.au/Infolit_standards_2001.html

Deemer, E. D. (2010). Achievement goals as predictors of research self-**efficacy.** *Individual Differences Research, 8*(4), 229-238. Retrieved from http:// www.idr-journal.com

Doyle, C. (2002). *Outcome Measure for Information Literacy within the National Education Goals of 1990: Final report of the National Forum on*

Information Literacy. Summary of findings. Washington, DC: US Department of Education. ERIC Document on ED 351033.

Dunn, K. (2002). Assessing information literacy skills in the California State University: A progress report. *Journal of Academic Librarianship 28* (1), 26-35.

Evans, L. (2011). What research administrators need to know about researcher development: Toward a new conceptual model. *Journal of Research Administration, 42*(1), 15-37.

Forester, M., Kahn, J. H., & Hesson-Mclnnis, M. (2004). Factor structures of three measures of research selfefficacy. *Journal of Career Assessment*, 12(1), 3-16.

Garavand H, Kareshki H, & Ahanchian M. R. (2014). The role of educational-research environment and social factors on the research self-efficacy of students of Mashhad University of medical sciences. *J Med Educ Dev, 8*(4), 32-46.

Grafstein, A. (2002). A discipline-based approach to information literacy. *Journal of Academic Librarianshi, 28* (4), 197-204

Gross, M. & Latham, D. (2007). Attaining information literacy: An investigation of the relationship between skill level, self-estimates of skill, and library anxiety. *Library & Information Science Research, 29,* 332–353. doi:10.1016/j.lisr.2007.04.012

Ilogho, J. E., & Nkiko, C. (2014). Information literacy search skills of students in five selected private Universities in Ogun State, Nigeria: a survey, ***Library** Philosophy and Practice* (e-Journal), Paper 1040. Retrieved from http://digitalcommons.unl.edu/libphilprac/1040

Jager, K., & Nassimbeni, M. (2003). An exploration of the current status of information literacy tuition in South African tertiary institutions and proposals for curriculum design. *South African Journal of Library & Information Science*, 69(2), 108-114.

Jones, E. (2012). Predicting performance in first semester college basic writers: Revisiting the role of self-belief. Contemporary Educational Psychology, 33, 209-238.

Kahn, J. H. (2001). Predicting the scholarly activity of counseling psychology students: A refinement and extension. *Journal of Counseling Psychology, 48,* 344-354.

King, L. (2007). *Information literacy of incoming undergraduate arts students at the University of the Western Cape* (Doctoral dissertation), University of the

Western Cape). Retrieved from http://etd.uwc.ac.za/usrfiles/modules/etd/docs/etd_gen8Srv25Nme4_4797_12169920995.pdf

Kovalik, C. L., Jensen, M. L., Schloman & Tipton, M. (2010). Information literacy collaboration, and teacher education. *Communication and Information Literacy, 4*, 145-169. Retrieved from http://www.comminfolit.org/index.php

Lei, S. A. (2008). Factors changing attitudes of graduate school students toward an introductory research methodology course. *Education*, 128(4), 667-685.

Lev, E. L, Kolassa, J., & Bakken, L. L. (2010). Faculty mentors and students' perceptions of students' research self-efficacy. *Nurse Education Today, 30*(2), 169-174

Love, K. M., Bahner, A. D., Jones, L. N., & Nilson, J. E. (2007). An investigation of early research experience and research self-efficacy. *Professional Psychology: Research and Practice, 38*(3), 314-320.

Mahmood, K. (2016). Do people overestimate their information literacy skills? A systematic review of empirical evidence on the Dunning-Kruger Effect. *Communications in Information Literacy, 10* (2), 199-213. Retrieved from https://doi.org/10.15760/comminfolit.2016.10.2.24

Maughan, P. D. (2001). Assessing information literacy among undergraduates: A discussion of the literature and the University of California-Berkeley assessment experience. *College & Research Libraries, 62,* 71- 85.

Mullikin, E. A., Bakken, L. L., & Betz, N. E. (2007). Assessing research self-efficacy in Physician-Scientists: The clinical research appraisal inventory. *Journal of Career Assessment, 15*(3), 367-387.

Nayda, R., & Rankin, E. (2008). Information literacy skill development and lifelong learning: Exploring nursing students' and academics' understanding. *Australian Journal of Advanced Nursing, 26* (2), 27-33. Retrieved from http://www.ajan.com.au/vol26/26-2.pdf

Niehaus, E., Garcia, C. E., & Reading, J. (2018). The road to researcher: The development of research self-efficacy in higher education scholars. *Journal for the Study of Postsecondary and Tertiary Education, 3,* 1-20. https://doi.org/10.28945/3950

Ocak, G., & Ataseven, N. (2016). Relationship between Turkish graduate students' research anxiety and uneasiness levels in information literacy. *Journal of Higher Education and Science, 6(3), 364-37.*

Onwuegbuzie, A. J. (2003). Expanding the framework of internal and external validity in quantitative research. *Research in the Schools, 10*(1), 71-90.

Pajares, F. (2002). Gender and perceived self-efficacy in self-regulated learning. *Theory into Practice, 41*(2), 116-125. doi: 10.1207/s154304211tip4102_8

Ranaweera, P. (2008). Importance of information literacy skills for an information literate society. *In proceedings NACLIS*. Retrieved from http://eprints.rclis.org/archive/00014146/

Rezaei, M., & Zamani-Miandashti, N. (2013). The relationship between research self-efficacy, research anxiety and attitude toward research: A study of agricultural graduate students. *Journal of Educational and Instructional Studies in the World, 3* (4), 69-78.

Sasikala, C., & Dhanraju, V. (2011). Assessment of information literacy skills among science students of Andhra University. *Library Philosophy and Practice* (e-Journal), paper. 626. Retrieved from http://digitalcommons.unl.edu/libphilprac/626.

Shapiro, J. J., & Hughes, S.K. (2006). Information literacy as a liberal art: enlightenment proposals for a new curriculum. *Educom review, 31*(2), 31-35.

Shelar, V. R. (2011). *Towards Information Literacy: Faculties attitude and pedagogical practises followed by science faculty members at MES Abasaheb Garware College, Goa University, Goa*, INFLIBNETCentre, Ahmedabad, 8th International CALIBER.

Snyder, C. R., & Lopez, S. J. (2002). *Handbook of positive psychology*. New York: Oxford University Press.

Ukachi, N. B. (2013). *Accessibility and students variables as correlates of the use of electronic information resources in university libraries in south-west, Nigeria* (Ph.D Thesis), University of Nigeria, Nsukka.

Ukpebor, C. O., & Emojorho, D. (2012). Information literacy skills: a survey of the transition of students from secondary to university education in Edo State, Nigeria. *Library Philosophy and Practice (e-journal).* Retrieved from http://digitalcommons.unl.edu/libphilprac/824

University of South Carolina. (n.d). *Top ten information literacy skills*. Retrieved from http://www.sc.edu/cic

Vaccaro, N. (2009). *The Relationship between Research Self-Efficacy, Perceptions of the Research Training Environment and Interest in Research Counselor Education Doctoral Students: An Ex-Post-Facto, Cross- Sectional Correlational Investigation* (Ph.D. Dissertation). College of Education, University of Central Florida, USA. Retrieved from http://etd.fcla.edu/CF/CFE0002511/Vaccaro_Nicole_200905_PhD.pdf

Westhuizen, S. V. (2014). Postgraduate students' attitudes towards research, their research self-efficacy and their knowledge of research. *SAJHE 28* (4), 1414–1432