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# Citation analysis of projects submitted to the Department of Chemistry and Petroleum Engineering of Afe Babalola University, Ado-Ekiti, Nigeria

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**Citation analysis of projects submitted to the Department of Chemistry and Petroleum  
Engineering of Afe Babalola University, Ado-Ekiti, Nigeria**

By

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**Abstract**

*The study evaluates the projects submitted to the Department of Chemistry and Petroleum Engineering of Afe Babalola University, Ado-Ekiti, Nigeria using citation analysis. Descriptive survey design was used for the study. A total of 107 copies of undergraduate projects submitted between 2015–2017 to the department were retrieved. Data were extracted manually from the title pages and reference lists of each of the project examined and analyzed. The findings show that information materials mostly cited by students were journals followed by books and Seminar/Conference Proceedings. An average of 32.10 citations was cited per project by the students. From a total of 3435 citations made, 173 citations did not have the source of information, 78 citations were without the date of the publication, and 140 citations did not have author(s). It was also revealed that 58.75% of materials cited were recent while the graduating students cited more of foreign authors compared to that of Nigerians authors. It is therefore concluded that the study has certainly revealed what to look at or consider among other factors while taking decision in developing the collection or strengthen the existing information materials in the engineering library used by undergraduate students of Department of Petroleum Engineering and Chemical Engineering of ABUAD. It is recommended among others that there should be an acquisition of frequently cited and up-to-date information materials in Petroleum and Chemical Engineering programmes. Also, the supervisor should always endeavor to discharge their responsibility effectively by guiding their students on how to carry out a review of the related literature and proper citations of materials consulted.*

**Keywords:** Citation analysis, Projects, Chemical Engineering, Petroleum Engineering, Information materials, Afe Babalola University.

**Introduction**

Citation analysis is the study of the impact and quality of an article, an author, or an institution based on the number of times a scholarly work and/or author has been cited by others (Fordham University Libraries, 2018). It is the examination of the frequency, patterns, and graphs of

citations in documents. It uses the pattern of citations, links from one document to another document, to reveal properties of the documents (“Citation analysis”, n.d). Gohain and Saikia (2014) affirmed that it is useful for understanding subject relationships, authorship pattern, impact, publication trends, and bring out useful information like the relative use of different kinds of documents such as books, periodicals, e-resources, reports, projects, thesis, conferences, standards, and patents which can be better utilized for bibliometric studies in many respects. Bibliometric study or assessments of university research are now increasingly valued by research managers in higher institution as a form of strategic input to decision-making (Boshoff and Akanmu 2017).

The Department of Chemical and Petroleum Engineering is one of the four (4) different engineering departments established in College of Engineering of Afe Babalola University Ado-Ekiti (ABUAD), Nigeria in September 2010, when the university came into existence. It runs two (2) degree programmes; Petroleum Engineering and Chemical Engineering that are fully accredited by the Nigerian University Commission (NUC). Its purpose is to produce competent engineers who are of high standard in Petroleum Engineering and Chemical Engineering. This will be achieved through the familiarization of students with the basic theoretical and practical tools and techniques required for excellent performance in their future professional work. The programmes were also created to provide world class training, research, consultancy and extension services to the oil & gas, and allied industries.

Presently, the students’ population has grown to one hundred and sixty five (165) in Petroleum Engineering and one hundred and eighteen (118) in Chemical Engineering degree programmes. Petroleum Engineering has eleven (11) lecturers, while Chemical Engineering has nine (09) lecturers. In addition to its programmes, the Departments commenced its Master degree in the two programmes in 2017. The programmes have led to the production of numerous project reports mandated to be submitted by undergraduate students at the end of their academic programmes in partial fulfillment of the requirements for the award of Bachelor of Engineering (B.Eng) Degree in Petroleum Engineering and Bachelor of Engineering (B.Eng) Degree in Chemical Engineering at Afe Babalola University. In preparing the project reports, the students consult various types of information materials available in university and/or engineering libraries as the case may be.

The engineering librarian in charge of these libraries has a crucial role to play in enhancing effective utilization of various research materials of their library knowing fully well that engineering is a field that is fast developing as a result of scientific and technological advancement. It is the responsibility of the engineering librarian to provide and guide engineering students on how to access information materials needed for their studies, research and other academic related programmes. That is the reason engineering librarian need to have adequate knowledge of the basic engineering services and the relevant components of the collection in order to be able to discharge his/her duties which are essential attributes of a given profession. In some instances, librarians often wonder what resources students use for research and whether the library provides access to these resources (Wilson, 2012). This is one of the reasons why librarians or libraries use citation analysis as measurable tools on their collection to ease these challenges.

The analysis of the citations of such projects submitted is in line with one of the major tasks of any university library in evaluating its impact in the area of usage and loans to users (Iivonen et al., 2009 in Maz-Machado, 2012). It will provide the real pictures of the citation made to information materials used by the graduating students. Edzan (2007) pointed out that librarians have been using citation analysis as a means to determine the usage of their collection development while others have used it to look at undergraduate information behaviour. It is against this background that this study examined the citation analysis of projects submitted to the Department of Chemistry and Petroleum Engineering of Afe Babalola University, Ado-Ekiti, Nigeria. Within this context, the researcher will be looking at the year the projects were submitted, source of citations, recency of the citations, types of authorship, as well as highest and lowest citation made by an individual project.

### **Objectives of the Study**

The main objective is to evaluate the information materials use in the Department of Chemical and Petroleum Engineering of Afe Babalola University, Ado-Ekiti, Nigeria. The specific objectives are to:

- determine the project reports submitted per year by the graduating students;
- find out the average number of citation per projects;
- examine citation made according to the types of information materials;
- determine the recency of information materials cited;

- find out the types of authorship cited; and
- identify the highest and lowest citation by an individual projects

### **Literature Review**

Citation analysis helps to evaluate and interpret citations received by articles, authors, institutions, and other indicators in order to identify the quality of the information sources which enable librarians in taking decision on user needs, users most used information resources and other varying information about the users (Curtis 2005 and Coleman 2005). Sam and Tackie (2007) quoting Smith indicated that it helps to determine what titles to purchase, to discontinue, or to weed. Librarians in various disciplines use it to guide against costly low used/ unused journals, purchase needed materials and ascertain core journals needed for patron use, and to reveal the most active research area in a particular area. Fuchs, et al (2006) evaluates 26 dissertations submitted between 1997-2002 by civil engineering and educational psychology students at the University of Texas, at Austin. A total number of 3,120 citations were recorded. From the first 30 citations from each dissertation, the work's format was identified and additional details were recorded, including date of publication, title, publisher, and whether the resource was currently held at the library and if so, in print or electronic or both. It was discovered that journals served as the primary source for each group and followed by monographs.

Edzan (2007) worked on the paper that analysis bibliography of final year project reports emanating from the Faculty of Computer Science and Information Technology, University of Malaya. A total of 73 reports were analysed using a pre-designed scoring sheet and results presented included number of pages, number of citations, types of sources used, usage of Web resources, currency of sources and citation style. The results indicated that the least number of citations per report is 6 and the most is 165 with the most number of citations within the range of 11 to 20 cites. There are more Web citations than citations to books, journal articles, undergraduate reports, Masters' dissertations and conference papers. Also, most citations are not dated and most of those dated are from within the last three years with the most current being 2005 and the oldest dated citation is 1935. Moreover, most references have their print citations cited correctly but the Web citations cited incorrectly.

In another related study, the New Review project at Loughborough University, according to Gadd, Baldwin, and Norris (2010), investigated how to improve students' information searching

skills and the resulting reference lists through a new approach to teaching the literature review. Final-year projects from the entire cohort of twenty-four M.Eng Civil Engineering students, and twenty-three B.Sc Construction Engineering Management students were selected for the study. Comparisons were made between the two programmes, and the students who were studying for an M.Eng cited more journal articles, more recent material and fewer web sources than their Bachelor degree counterparts. Despite the original assumptions that students would cite web-based sources very frequently in their work, the data showed that web based citations were less pronounced than expected.

Leiding (2005) examined a sample of 101 undergraduate honors theses from 1992-2002 to determine the adequacy of the library collections for undergraduate research. Twenty two academic departments were represented by the sample that includes of sciences, arts and humanities, and social sciences. Citations from the selected theses were accessed and a total number of 3,564 citations were generated. The study found that the overall reliance on journals (41.4%) and monographs (36.3%) was fairly equal. The internet did not seem to have an effect on the use of monographs over time, but the use of journals did increase slightly after the internet was introduced. This study suggested that undergraduate use patterns closely followed those of faculty and graduate students. Citation analysis has also been used to provide recommendations for library collection development because undergraduates expect to satisfy their information needs for research activities through library collection (Abeyrathne, 2015). While, Currie and Monroe-Gulick (2013) affirmed from citation analysis of faculty publications in three broad disciplinary areas; humanities, social sciences, and science from the University of Kansas, that citation analysis could be used for collection management decisions. Also, Williams and Fletcher (2006) studied the materials used by graduate students in engineering to direct library collection development decisions.

In Nigeria, Okoye and Okoye (2017)'s study on the citation analysis of the undergraduate degree projects submitted to the Department of Library and Information Science at Madonna University in Nigeria from 2009 to 2014, indicated that books are most highly cited and that major subject coverage in the degree projects reflects students' interest in employment after graduation. A research conducted by Iroaganachi, Itsekor, and Osinulu (2014) on the citations analysis of the research project reports of social science bachelor degree graduates between 2009 and 2013 submitted to the Covenant University Library shown that the authors cited more from textbooks than journal and internet / electronic resources as also confirm by Aliyu (2018). They stated that

citation from books was 69.4% followed by journals (16%) and Internet/ E-Resources (8%), among others. The average of 39 citations per report generally was revealed and 55.6% of the total citations made were “Recent” citations, while 44.4% were “Not Recent” citations. The study also indicated that researcher preferred foreign authors to African authors. But, Nkiko and Adetoro (2007) in their earlier analysis of “Pioneer Bachelor degree citation of Covenant University Students’ Research Projects” discovered that authors of these research reports cited more of textbooks of the university library.

Anyaeibu (2016)’s study sought to find out the types of information sources law students cite in their undergraduate research projects and the availability of these sources in faculty of law libraries in South East Nigeria. The findings showed that law students rely heavily on law reports, statutes and textbooks which generated 95.77% of the citations as against journals and other minority sources that produced 4.33%. None of the research projects cited the internet sources, while most of the frequently cited sources are not available in the law libraries as a result of poor funding and lack of autonomy of faculty of law libraries in Nigeria

## **Methodology**

Descriptive survey design was used for the study. The population of the study is 107 copies of undergraduate projects submitted between 2015 – 2017 to the Department of Chemistry and Petroleum Engineering of Afe Babalola University, Ado-Ekiti (ABUAD), Nigeria. The libraries hold copies of all completed projects, as such, the projects were retrieved and accessed in Engineering Library of the College of Engineering.

## **Data Collection**

Data were extracted manually from the title pages and reference lists of each of the project examined. The materials cited were categories into: books, journals, Internet, newspapers, reports (including annual, working papers and technical reports), government document, seminars/conference proceedings, projects/theses, lecture notes, manuscripts, manuals, bulletins, news, and magazine. Data obtained were collated between November and December, 2017.

## **Data Analysis**

The data collected were analyzed using descriptive statistics of frequencies and percentage and then presented in tables.

## Results and Discussion

A total of three thousand, four hundred and thirty-five (3435) citations were generated, while one hundred and seventy-three (173) citations did not have source of information. Seventy-nine (79) did not have date of publication and six hundred and forty-six (646) citations were cited without an author. The Table 1 below presented project reports submitted.

**Table 1: Submission of Project Reports per Year by Graduating Class**

Programmes	Years			Total
	2015	2016	2017	
Chemistry Engineering	13	12	11	36
Petroleum Engineering	22	16	33	71
<b>Total</b>	<b>35</b>	<b>28</b>	<b>44</b>	<b>107</b>
<b>Percentage</b>	32.71	26.17	41.12	

Table 1 above shows the project reports submitted by graduating students from 2015–2017. It was revealed that a total of 107 projects were submitted in between 2015–2017 where Petroleum Engineering has a total of 71 projects while Chemical Engineering received 36 projects. The highest numbers was recorded in 2017 with 44 project reports, followed by 35 received in 2015 which is the first year of the graduating students in the department. Petroleum Engineering programmes has the highest of 33 projects submitted in 2017 while that of Chemical Engineering was 13 projects recorded in 2015. The highest number of citations recorded in 2017 may be as result of the increase in copies of project submitted from 28 in 2016 to 44 that was recorded in 2017. This implied that the Department of Petroleum Engineering and Chemical Engineering has the highest number of graduate turn out in 2017.

**Table 2: Average number of Citation per Project**

Year	No. of Project	Total No. of Citation	Average Citations per Project
2015	35	1169	33.40
2016	28	696	24.86
2017	44	1570	35.68
<b>Total</b>	<b>107</b>	<b>3435</b>	<b>32.10</b>

Table 2 revealed the average number of citation made per project. From 107 projects submitted, a total of 3435 citation were made in the three years. It is observed from the study that an average of 32.10 citations is cited per project by the students. The highest number of citations of 35.68 per project was found in 2017 and the lowest average number of citations 24.86 was in the year 2016. The results indicated that in each of the project submitted in the department, at least 32.10 of citations were made.

**Table 3: Citation according to the types of information materials cited**

<b>Information Materials</b>	<b>Chemical Engineering Projects</b>	<b>Petroleum Engineering Projects</b>	<b>Total</b>
Books	165	611	776
Journals	639	824	1463
Internet/Web resources	119	209	328
Newspapers	01	04	05
Reports	39	142	181
Govt. Document	08	06	14
Seminar/Conference Proceedings	36	309	345
Projects/theses	24	79	103
Lecture Notes	01	09	10
Manuscripts	-	05	05
Manuals	-	15	15
Bulletins	01	13	14
News	-	02	02
Magazines	01	-	01
<b>Total</b>	<b>1034</b>	<b>2228</b>	<b>3262</b>
<b>No Source of Information</b>	<b>24</b>	<b>149</b>	<b>173</b>

Table 3 shows citation made according to the types of information materials cited by the students. Journal has the highest citations with 1463, followed by books and Seminar/Conference Proceedings with 776 and 345 respectively. Information materials cited in Chemical Engineering projects has a total of 1034 citations and that of Petroleum Engineering recorded 2228 citations. The Table also revealed that 173 citations did not have the source of information materials. The findings indicated that information materials mostly consulted and cited by graduating students of Petroleum Engineering and Chemical Engineering of ABUAD is

journals. The result corroborate the findings of Fuchs, et al (2006) and Gadd, Baldwin, and Norris (2010) that shows that journals happened to be the most cited materials by students from their studies. The study does not agree with Edzan (2007) who discovered that there are more Web citations from the analysis of bibliography of final year project reports emanated from the Faculty of Computer Science and Information Technology, University of Malaya in Malaysia. It does not also agree with the findings of Nkiko and Adetoro (2007), Iroaganachi, Itsekor, and Osinulu (2014), and Aliyu (2018) studies who all discovered that authors cited more from textbooks than journal, internet / electronic resources, and other information materials. Recently, Anyaegbu (2016)'s survey showed that law students rely heavily on law reports, statutes and textbooks.

**Table 4: Recency of Citations in each programme been offered**

<b>Year</b>	<b>Recency</b>	<b>Chemical Engineering</b>	<b>Petroleum Engineering</b>	<b>Total</b>
2013 – 2017	Highly Recent	572	303	875
2008 – 2012	Very Recent	425	272	697
2003 – 2007	Recent	318	142	460
1998 – 2002	Not Highly Recent	274	96	370
1993 – 1997	Not Very Recent	228	73	301
Before 1992	Not Recent	603	151	756
<b>Total</b>		<b>2420</b>	<b>1037</b>	<b>3357</b>
<b>No Date of Publication</b>		<b>21</b>	<b>57</b>	<b>78</b>

Recency of Citations in each programme undertaken in the department was presented in Table 4. It was observed that “Highly Recent” citations of 875 were cited between 2013–2017, followed by 697 citations that were “Very Recent” cited between 2008–2012, while 756 cited between 1992 were “Not Recent”. In other word, a total of 2032 (58.75%) of materials cited were recent and 1427 (41.25%) were not recent. Hence, the graduating students cited more of recent materials. The summation is in line with the results of Iroaganachi, Itsekor, and Osinulu (2014) who pointed out from their findings that 55.6% of the total citations made in research project reports of social science bachelor degree of Covenant University, Nigeria were “Recent” citations. It also agree with that of Gadd, Baldwin, and Norris (2010) that stated that M.Eng students cited more of recent materials compared with their B.Sc counterpart. Table 4

also shows that 78 citations cited did not have the date of publication which corroborate the findings of Edzan (2007) that noted that most citations are not dated and most of those dated are from within the last three years in Edzan’s studies.

**Table 5: Types of Authorship Cited**

Year	Nigerian Authors		Total	Foreign Authors		Total
	Chemical Engineering	Petroleum Engineering		Chemical Engineering	Petroleum Engineering	
2015	129	52	181	622	299	921
2016	117	12	129	334	210	544
2017	179	45	224	947	373	1320
<b>Total</b>	<b>425</b>	<b>109</b>	<b>534</b>	<b>1903</b>	<b>882</b>	<b>2785</b>
<b>Citation without Author(s)</b>						<b>140</b>

Table 5 shows the types of author cited by the graduating students of Petroleum Engineering and Chemical Engineering of ABUAD. Between the year 2015-2017 under study, 2785 citations were made to foreign authors, 534 citations were Nigerian authors while 140 citations cited did not have author(s). The Table indicated that Chemical Engineering programmes has the highest citations of 1903 to foreign authors followed by 882 citations made to Petroleum Engineering programmes. The result corroborates the findings of Iroaganachi, Itsekor, and Osinulu (2014) which discovered that the researcher preferred foreign authors to African authors. It was therefore clear that graduating students of Petroleum Engineering and Chemical Engineering of ABUAD cited more of foreign authors compared to that of Nigerians authors.

**Table 6: Highest and Lowest Citation by individual projects**

Programmes	Citation	2015	2016	2017
Chemical Engineering	Lowest Citation	10, 16, 20	7, 9, 15	6, 14, 30
	Highest Citation	49, 45, 44	52, 45, 35	76, 58, 47
Petroleum Engineering	Lowest Citation	12, 14, 15	8, 5, 19	8, 9, 9
	Highest Citation	103, 45, 35	52, 36, 35	118, 81, 61

Table 6 presents the highest and lowest citation made in the project submitted in the two programmes offered in the department. The highest citations was 118 made in 2017 in

Petroleum Engineering, followed by 103 made in 2015 and 81 citations in 2017 from the same programme. The lowest citations was 5 cited in 2016 in Petroleum Engineering, followed by 6 cited in 2017 in Chemical Engineering, and 7 cited in 2016. This implies that the highest citation made was 118 from Petroleum Engineering project, while the lowest citation was 5 cited in Chemical Engineering project. The high citation count revealed the depth and diversity in the review of related literature carried out by the author of the project. The low citation count may be as a result of not carrying out enough in-depth analysis of the topic given to them. It could also be that the students were not properly supervised by their supervisor(s).

## **Conclusion**

Citation analysis is a measurable method that transcends local needs and assures that core collections representing specific disciplines were in the book collections of Academic Libraries (Fasae, 2011). The study evaluates projects submitted between 2015–2017 to the Department of Chemistry and Petroleum Engineering of Afe Babalola University, Ado-Ekiti, Nigeria using citation analysis. It looks at the average number of citation per projects; types and recency of information materials cited; authorship pattern, among others. The findings show that information materials mostly cited by students were journals followed by books and Seminar/Conference Proceedings. An average of 32.10 citations was cited per project by the students. From a total of 3435 citations made, 173 citations did not have the source of information, 78 citations were without the date of publication, and 140 citations did not have author(s). It was also revealed that 58.75% of materials cited were recent while the graduating students cited more of foreign authors compared to that of Nigerians authors. It is therefore concluded that the study has certainly revealed what to look at or consider among other factors, while taking decision in developing the collection or strengthen the existing information materials in the engineering library used by undergraduate students of Department of Petroleum Engineering and Chemical Engineering of ABUAD.

## **Recommendations**

Based on the findings, the following recommendations were made;

- There should be an acquisition of frequently cited and up-to-date information materials in Petroleum and Chemical Engineering programmes.

- Regular subscriptions to reputable online database to encourage the use of Web resources and database.
- Supervisor should always endeavor to discharge their responsibility effectively by guiding their students on how to carry out review of related literature and proper citations of materials consulted.
- Citation analysis which is a valuable and measurable tool used in this study may be applied across other disciplines for the development of collections to meet the information and library needs of undergraduate students in ABUAD, and other universities in Nigeria.

## References

Abeyrathne, D. K. (2015). Citation analysis of dissertations for collection development. *Collection Building*, 34(2), 30-40. Retrieved February 26, 2018 from <https://doi.org/10.1108/CB-11-2014-0055>

Aliyu, Y. (2018). Citation analysis of doctoral theses in education, University of Maiduguri, Nigeria. *Library Philosophy and Practice (e-journal)*. Retrieved March 22, 2018 from <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1721&context=libphilprac>

Anyaeibu, M. I. (2016). Analysis of citation in undergraduate law projects in faculties of law libraries in Anambra and Enugu States of Nigeria. *Library Philosophy and Practice (e-journal)*. Retrieved February 16, 2018 from <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=3987&context=libphilprac>

Boshoff, N., & Akanmu, M. A. (2017). Scopus or Web of Science for a bibliometric profile of pharmacy research at a Nigerian university? *South African Journal of Libraries and Information Science*, 83(2), 12-22. Retrieved March 21, 2018 from <http://sajlis.journals.ac.za/pub/article/view/1682/1479>

Citation analysis. (n.d). In *Wikipedia*. Retrieved February 28, 2018, from [https://en.wikipedia.org/wiki/Citation\\_analysis](https://en.wikipedia.org/wiki/Citation_analysis)

Coleman, A. (2005). Instruments of cognition: use of citations and Web links in online teaching materials. *Journal of the American Society for Information Science and Technology* 56(4), 382-392.

Currie, L., & Monroe-Gulick, A. (2013). What do our faculty see? An interdisciplinary citation analysis study. *The Journal of Academic Librarianship*, 39(6), 471-480. Retrieved March 21, 2018 from <https://doi.org/10.1016/j.acalib.2013.08.016>

Curtis, D. (2005). *E-Journals: A how-to-do-it-manual for building, managing, and supporting electronic journal collections*. New York: Neal-Schuman.

Edzan, N. N. (2007). Tracing information literacy of computer science undergraduates: a content analysis of students' academic exercise. *Malaysian Journal of Library & Information Science*, 12 (1), 97-109. Retrieved February 28, 2018 from <http://ajba.um.edu.my/index.php/MJLIS/article/view/6991/4650>

Fasae, J. K. (2011). Citation analysis of M.Tech theses submitted in the department of agricultural economics and extension, Federal University of Technology Akure, Nigeria. *Collection Development*, 30 (4), 179–183.

Fordham University Libraries (2018, March 14). Research methods and citation analysis. *Fordham Library Guides*. Retrieved March 21, 2018 from <https://fordham.libguides.com/c.php?g=279597&p=3192802>

Fuchs, B. E., et al (2006). Behavioral citation analysis: toward collection enhancement for users. *College & Research Libraries*, 67(4), 304-324.

Gadd, E., Baldwin, A. N., & Norris, M., (2010). The citation behaviour of civil engineering students. *Journal of Information Literacy*, 4 (2), pp. 37-49

Gohain, A., & Saikia, M. (2014). Citation analysis of Ph.D theses submitted to the department of chemical sciences, Tezpur University, ASSAM. *Library Philosophy and Practice (e-journal)*. Retrieved February 20, 2018 from <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=2641&context=libphilprac>

Ibegwam, A., Uzuegbu, C. P., & Uzuchukwu, O. V. (2013). Citation study of research related internet use by students in Nigerian academic institutions: the Michael Okpara University of Agriculture Umudike example. *Library Philosophy and Practice (e-journal)*. Retrieved January 20, 2017 <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=2206&context=libphilprac>

Iroaganachi, M. A., Itsekor, V., & Osinulu, I. (2014). Citation analysis of social science research: a case study of bachelor degree research project reports of a Nigerian university 2009-2013.

<https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=2807&context=libphilprac>

Leiding, R. (2005). Using citation checking of undergraduate thesis bibliographies to evaluate library collections. *College and Research Libraries*, 66, 417-429.

Maz-Machado, A. (2012). Citation patterns in educational science theses at the University of Córdoba. *Library Philosophy and Practice (e-journal)*. Retrieved February 28, 2018 from <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1908&context=libphilprac>

Nkiko, C., & Adetoro, N. (2007). Pioneer bachelor degree: citation analysis of Covenant University students' research projects. *Library Philosophy and Practice (e-journal)*. Retrieved January 20, 2017 from <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1151&context=libphilprac>

Okoye, M. O., & Okoye, N. C. (2017). Citation analysis of library and information science degree projects accepted at Madonna University, Okija, Nigeria. *Chinese Librarianship: an International Electronic Journal*, 44, 33-50. Retrieved March 21, 2018 from <http://www.iclc.us/cliej/cl44OO.pdf>

Sam, J., & Tackie, S. N. B. (2007). Citation analysis of dissertations accepted by the Department of Information Studies, University of Ghana, Legon. *African Journal of Library, Achieves & Information Science*, 17 (2), 117-124.

Wilson, E. K. (2012). Citation Analysis of Undergraduate Honors Theses. *The Southeastern Librarian*, 60(1), 39-50. Retrieved March 21, 2018 from <https://digitalcommons.kennesaw.edu/cgi/viewcontent.cgi?referer=https://www.google.com.ng/&httpsredir=1&article=1425&context=seln>