Information Use Pattern of Research in Education Punjabi University, Patiala: An Analysis of Doctoral Theses during 2014-2018

Sonia Gupta
Research Scholar
RIMT University
Mandi Gobindgarh (Punjab)

Dr. Prem Chand Sehgal
Librarian
RIMT University
Mandi Gobindgarh (Punjab)

Abstract - *The presents study explored the citation analysis of Doctorial Theses submitted to the Punjabi University, Patiala in the Department of Education during the period of 2014-2018. Findings of the study revealed that ranked highest as the most Contemporary Indian and Education research subject area, while was the least research Information and Communication Technologies subject area. Books and monographs were cited more than other forms of library materials in the theses analysed. Similarly, out of the 3040 journals cited, 20 were identified as the most frequently cited. Most of the works cited by the researchers falls between 2014 and 2018.*

Keywords: Citation, Doctoral Theses, Education, Punjabi University Patiala**.**

Introduction

Literature is increasing day by day in libraries. It is available in print form such as books, theses, journals, bibliographies, dissertations, encyclopedias, and other secondary and tertiary sources and in non-print form such as C.D., floppy, pen-drive and online databases etc. The librarian has to give the accurate information to the users; for this purpose he has to consult different sources in the library available in different formats and media. All sources are not acquired by librarian in the library. It is not possible for any library to acquire all information sources, so the librarian has to decide which sources are going to be more useful to the users of that library and acquire them.

There are many methods of knowing the useful sources like user survey, analysis of the library records, analysis of documents produced by the users, etc. Analysis of different types of documents and their characteristics is quite popular in Library and Information Science, and is known as Bibliometrics.

Citation analysis is a branch of bibliometrics that examines the citations found in publications such as journal articles and books (Georgas and Cullars, 2005). Common approaches in the literature are to analyze faculty publications or graduate student theses for a particular department at a particular institution. Items cited in students' dissertations show the resources they used in their dissertation writing. This type of analysis can yield valuable insights into local citing trends, such as types and number of documents cited, age of citations, and changes in citation patterns over time (Ashman, 2009).

Citation analysis is extensively used as a tool in collection development. With ever increasing cost of library resources and the limited library budgets, the librarians are faced with the challenge of make decisions on collection development. This is increasingly difficult as journal subscriptions is rising up continuously when get limited shrinking budget.   Citation analysis can act as a tool for selecting and de selecting materials as it provides insight into the materials that are selected by various user groups. It can be a useful technique for identifying potential collection development weaknesses also (Rethiefsen, 2007). It further helps for the librarian to identify unique information that was not found from other library statistics.

Citation analysis is based on the assumption that documents cited by a researcher have been used in the research process. Consequently, this approach helps clarify both the information needs of researchers and what should be contained in a research library collection. Major use of citation analysis pertinent to collection evaluation include identify the core collection, using citation as a check list, ranking journals and analyzing a disciplines structure to assist collection development decision making(Waugh,2004).

Review of Related Literature

Alagu (2019) in his paper entitled Bibliometric Analyzed of Digital Literacy Research Output: A Global Perspective, the study aimed to assess the Digital Literacy research output during the period of 1992-2011. The performance of the most productivity countries, authors, journals, language wise, Institution –wise, keyword wise and citation reference was analyzed. Relative Growth rate and doubling time had assessed. The performance of the most productivity countries and the highest number of articles are published in the form of total articles that covers 512 records. The maximum number of papers 126 was published in the year 2011. Journal of Adolescent & Adult Literacy journal placed in the first position with 18 records.

Singh et.al. (2018) in his entitled Bibliometric Assessment of Library and Information Science Journals in India (1912☐2016) analyzed his paper briefly elucidates the journey of Library and Information Science (LIS) journals published from India since 1912☐2016. The study explores that 196 LIS journals had been produced in India during the past 11 decades covering the period from 1912☐2016. The states namely New Delhi, Tamil Nadu, Maharashtra and West Bengal had contributed significantly and New Delhi emerges as the most productive city among the others regarding the production of LIS journals. The study reveals that out of total 196 journals, 15 had been indexed in the University Grants Commission Academic Performance Indicators List and 41 had found their place in national and international indexing and abstracting sources.

Batcha (2018) in his paper entitled Research Output Analysis of Top Six Universities of Tamil Nadu, India : A Scientometric View. This article analyzed the various Scientometric components of the articles published by top six universities of Tamil Nadu from 2000-2017. The study identifies research trend, characteristics growth and collaboration pattern of published literature. The analysis of data reveals that the average growth rate increases at the rate of 9.76%. Further, the average citation per paper observed was 12.18%. High degree of international collaboration was notified and USA and South Korea were found to be the most preferred collaborative countries. The CAGR calculated for six universities are 9.76. The major research publications outputs are from the field of Chemistry, Crystallography and Pharmac.

Choudhary (2018) in his study entitled A Scientometric Study of NSIT Publications in Science and Technology During 2006 to 2015. The authors of nine departments produced 1184 publications as articles, conference papers and reviews. The average publication growth of NSIT was 10.9%. The maximum number of publications during study period was in the year 2015. Productivity per capita of the Institute was about 12.3 publications, the average productivity per author is 0.34 publications. Research output by single author had decreased in second block of 2011 to 2015. The transformative activity index of Biological Science and Engineering (BT) department and that of Instrumentation and Control Engineering (ICE) department had improved in second block of 2011-2015. Journals published from the United States of America.

Aliyu (2018) in her study entitled "Citation Analysis of Doctoral Theses in Education, University of Maiduguri, Nigeria". This study presents citation analysis of fifty-two doctoral theses in education accepted by the school of stridulate studies, university of Maiduguri, between 1987 and 2015. Bibliometric techniques were used in theanalysis, which involves counting and categorizing works cited in each thesis according to the following: books and monographs, journal articles, theses and dissertations, conference proceedings, unpublished materials, reports, newsletters and online sources. Books and monographs were cited more than other forms of library materials in the theses analyzed. Similarly, out of the 80 journals cited, twenty-four were identified as the most frequently cited.

Scope of the Study

The present study is based on 9193 citations appended at the end of 51 Ph.D. theses on education, submitted to Punjabi University Patiala, Punjab. The span of 5 years was taken into consideration that is from 2014 to 2018. The main purpose of the study is to find out the current citation trends of the doctoral thesis in the education department. For this purpose, each book and journal cited are taken for analysis 3040.

Punjabi University Patiala, Punjab

Punjabi University was established on the 30 April 1962 in the erstwhile princely state of Patiala with the main objective of furthering the cause of Punjabi language, art and literature. Punjabi University has since evolved into the Largest University in the state. Spread over 600 acres of land, its 500 teachers are imparting instruction and guidance to nearly 9,000 students in a multi-faceted, multi-pronged and multi-faculty environment comprising 65 Teaching and Research Departments covering disciplines in Humanities and Science, as diverse as Fine Arts, Computer Science and Business Management on its Campus, five Regional Centres, six Neighbor hoods Campuses and 166 Colleges affiliated to it.

Bhai Kahn Singh Nabha University Library

The University Library, named as Bhai Kahn Singh Nabha Library, housed in a spacious modern and Air-Conditioned, Wi-Fi enabled building stocks more than 5,20,000 volumes and subscribes to more than three hundred and fifty journals. Latest books are added regularly every year. The library is kept open for 360 days of the year from 8.15 a.m. to 8.15 p.m. every day. The library has a majestic reading hall, which has a capacity for more than 500 readers where they can sit and consult reference books and other relevant literature. A separate Night Reading Hall is available for readers 365x24x7 with facilities of A.C.,

Bathroom and Wi-Fi. The library is actively participating in the INFLIBNET programme. It caters to the requirements of all the teaching and research departments.

Objectives of the Study

The main intention of this paper is to find out the resources used in Ph.D. doctoral theses in to Punjabi University Patiala, Punjab from 2011 to 2018 of Education Department.
The objectives of the present study are:

- To study the research areas/ topics covered by researchers in universities of Punjabi University Patiala, Punjab and find the research trends in the field of education;
- To observe the nature and pattern of authorship of doctoral theses in Education;
- To identify most cited sources both print and digital, apart from Journal;
- To prepare a ranked list of highly used journal and
- To observe the chronological distribution of cited literature.

Research Methodology

Fifty One doctoral theses of education accepted by the school of postgraduate studies, Punjabi University Patiala, Punjab between 2014 and 2018 has been analyzed in the present study. There are in all 9193 citations appended in 51 theses. The data was collected from the bibliographical entries listed at the end of the theses, which was used by the researchers for completing the theses The title pages, abstracts and references of each thesis were photocopied and examined thoroughly in terms of name of the researcher, title of thesis, year of award, subject area covered, number of citations, types of works cited and the total of each cited work. The information gathered was collated and analyzed using frequency counts and percentage scores, presented in tables.

Data Analysis

Table-1:Year-Wise Distribution of Theses

Year of submission	No. of Ph.D.theses submitted	%	Rank
2018	13	25.49	1
2017	11	21.56	3
2016	12	23.52	2
2015	07	13.72	5
2014	08	15.68	4
Total	51	100	

Table no. 1 revealed the year-wise distribution of theses submitted to the Punjabi University Patiala, Punjab in education. The highest number of 13 (25.49 per cent) theses have been submitted in the year 2018 followed by 12 (23.56 percent).

Table-2: Distribution of Theses by Subject Area

Subject Area	Frequency	Percentage
Contemporary Indian and Education	14	27.45
Learning and Teaching	12	23.52
Creating and Inclusive Education	10	19.60
Education Administration and Planning	09	17.64
Information and Communication Technologies	06	11.76
Total	51	100

Table no 2 shows the distribution of theses by subject area, ranked in the order of their scores from highest to lowest. Contemporary Indian and Education ranked highest with fourteen sources, representing 27.45 percent, Learning and Teaching with Twelve scores, representing 23.52 percent, Creating and Inclusive Education followed with ten scores, representing 19.60 percent, Education Administration and Planning recorded nine scores representing 17.64 percent, while Information and Communication Technologies recorded six scores representing 11.76 present.

Table- 3: Format of Cited Documents: Punjabi University, Patiala.

Sr. no.	Form of cited documents	No. of Citations	Cumulative Citations	%	Cumulative Percentage	Rank No.
1	Journals	3040	3040	33.06	33.06	1
2	Books	2629	5669	28.59	61.66	2
3	Dissertation/Thesis	850	6519	09.24	70.91	3
4	Reviews/ Newspapers	524	7043	05.69	76.61	5
5	Reports	692	7735	07.52	84.14	4
6	Conference Proceedings/ Seminars/ Discussion Papers/ Research Papers/ Working Papers etc.	500	8235	05.43	89.57	6
7	Ref. Books	225	8460	02.44	92.02	9
8	Unpublished	305	8765	03.31	95.34	8
9	Website	428	9193	04.65	100	7
	Total	9193				

Table no 3: The above table indicate that out of 9193 citations cited in the Ph.D. theses submitted in the Department of Education, journal comprised the highest citations (3040, 33.06%), followed by books' citations (2629, 28.59%), theses/dissertations (850, 9.24%), reviews/Newspapers (524, 5.69%), reports (692, 7.52%), conference proceedings (500, 5.43%), reference books (225, 2.44%), unpublished sources (305, 3.31%) and websites (428, 4.65%). Some of the sources could not be classified under any of the above categories as it could not be ascertained with surety whether they belonged to journals, books, newspapers, government documents, etc.

Table-4: Authorship Patterns of Cited Journals and Books: Punjabi University Patiala, Punjab

Authorship Pattern	Journals				Books			
	No of Citations	Cumulative Citations	%	Cumulative %	Citations	Cumulative citations	%	Cumulative %
Single	1131	1131	37.20	37.20	965	965	36.70	36.65
Joint	975	2106	32.07	69.27	812	1777	26.71	67.59
Three	572	2678	18.81	88.09	510	2287	19.39	86.99
More than Three	362	3040	11.90	100.00	342	2629	13.00	100.00
Total	3040		100.00		2629		100.00	--

Table no 4 deals with the authorship patterns of cited journals and books in Punjabi University Patiala, Punjab. A total of 3040 citations to journals and books were analyzed to ascertain the authorship pattern in the Ph.D. theses submitted in the Department of Education, during the study period. It is clear from the above table that citations to single authorship was higher in journals (1131, 37.20%) as well as in books (965, 36.70%). Joint authors accounted for 975 citations (32.07%) to journals and 812 citations (26.71%) to books, followed by three

authors with 572 citations (18.81%) to journals and 510 citations (19.39%) to books. Citations to more than three authors were the least in journals (362, 11.90%) and books (342, 13.00%).

Table-5: Ranking list of highly cited Journals of these : Punjabi University, Patiala

Sr. No.	Title	Citations	Cumulative citations	%	Cumulative %	Rank
1	Dissertation abstract International	135	135	4.44	4.44	1
2	Indian Education Review	122	257	4.01	8.45	2
3	Indian Journal of Psychometry Education	102	359	3.35	11.80	3
4	Journal of Education Research and extension	94	453	3.09	14.90	4
5	Journal of education Research	86	539	2.82	17.73	5
6	Journal of Personality and Social Psychology	65	604	2.13	19.86	6
7	Journal of Education Psychology	62	666	2.03	21.90	7
8	Journal of Experiment Education	52	718	1.71	23.61	8
9	Journal of Indian Education	43	761	1.41	25.03	9
10	Journal of Research and Personality	41	802	1.34	26.38	10
11	Journal of Education Research and Review	35	837	1.15	27.53	11
12	Journal of all India Association	31	868	1.01	28.55	12
13	Journal of counseling and development	31	899	1.01	29.57	12
14	Journal of Education Planning and Development	29	928	0.95	30.52	13
15	Journal of Vocational Behavior	27	955	0.88	31.41	14
16	Journal of Learning Disability	25	980	0.82	32.23	15
17	Journal of Environmental Education	24	1004	0.78	33.02	16
18	Journal of Abnormal Psychology	24	1028	0.78	33.81	16
19	Journal of Theory and Practice	22	1050	0.72	34.53	17
20	Learning of Individual Differences	21	1071	0.69	35.23	18
	Others	1969	3040	64.76	100	
	Total	3040		100		

The above table shows that 'Dissertation abstract International' was the most highly cited journal (135, 4.44%), followed by 'Indian Education Review' (122,4.01%) 'Indian Journal of Psychometry Education' (102, 3.35%), 'Journal of Education Research and extension '(94,3.09%)'Journal of education Research' (86,2.82%), Journal of personality and social

Psychology'(65,2.13%) Journal of Education Psychology' (62, 2.03%),   'Journal of Experimental Education (52,1.71) Journal of Indian Education' (43,1.41) Journal of Research and Personality' (1,34) journals were cited in the Department of Punjabi University, Patiala respectively.

Table- 6: Chronological Distribution of Book and Journal Citations : Punjabi University, Patiala

Sr. no.	Period	Journals				Books			
		No. of Citations	% of Citations	Cumulative Citation	Cumulative %	No. of Citations	% of Citations	Cumulative Citation	Cumulative %
1	1918 and before Now	45	1.48	45	1.48	60	2.28	60	2.28
2	1919-1928	38	1.25	83	2.73	86	3.27	146	5.55
3	1929-1938	94	3.09	177	5.82	70	2.66	216	8.21
4	1939-1948	82	2.69	259	8.51	87	3.30	303	11.52
5	1949-1958	147	4.83	406	13.35	107	4.06	410	15.59
6	1959-1968	120	3.94	526	17.30	123	4.67	533	20.27
7	1969-1978	174	5.72	700	23.06	182	6.92	715	27.19
8	1979-1988	305	10.03	1005	33.05	330	12.55	1045	39.74
9	1989-1998	411	13.51	1416	46.57	405	15.40	1450	55.15
10	1999-2008	710	23.35	2126	69.93	554	21.07	2004	26.22
11	2009-2018	914	30.06	3040	100.00	625	25.29	2629	100.00
	Total	3040	100.00			2629	100.00		

Table no 6 clearly indicates that the highest number of journal citations belong to publications published during 2009-2018 (914, 30.06%), and 2009-2018 citations (625, 25.29%) to books were published followed by during 1999-2008, 710 citations (23.35%) to journals published and 554 (21.07%) books were published. It was noted that during 1919-1928 only 38(1.25%) journals and during 1939-1948 only 82(2.69%) books were published in the Punjabi University, Patiala respectively.

Conclusion

Citation analysis is one of the important and assessable methods to solving the transcend restricted requirements and assures those core collections on behalf of specific disciplines are in the journal bunches of academic libraries. The present paper doctoral thesis in the education department of Punjabi University, Patiala tells that researchers mainly depend on journal sources for their use of academic and research activities.

References

1. Aliyu, Y. (2018) Citation Analysis of Doctoral The *and Pract*ses in Education, University of Maiduguri, Philosophy ice NigeriaLibrary. Cited on 11.06.2018 https://digitalcommons.unl.edu/libphilprac/1721

2. Ashman, A. B. (2009). An examination of the research objective of recent citations analysis studies. *Collection Management,* 34(2), 112-128.

3. Batcha, M. (2018). Research Output Analysis of Top Six Universities of Tamil Nadu, India A Scientometric View. *Library Philosophy and Practice E-Journal* University of Nebraska - Lincoln Digital Commons@University of Nebraska – Lincoln.

4. Choudhary P.K. & Singh K.P. (2018). A Scientometric Study of NSIT Publications in Science and Technology During 2006 to 2015. *Library Herald, 56*(3),343-354**.**

5. Georgas, H., & Cullars, J. (2005). A citation study of the characteristics of the linguistics literature.*College and Research Libraries*, 66(6), 496-515.

6. Kittur, and Bankapur, V. (2017). Citation Analysis of Doctoral Theses Submitted to Department of Agronomy in University of Agricultural Sciences Dharwad: Obsolescence Study. *International Journal of Information Movement*, 2(2): 35-39.

7. Madkey, V.D. and Rajyalakshmi, D. (1994).Citation analysis of Ph.D. thesis in Environmental Science and Engineering used by NEERI scientists during 1977-1991.Annals of Library Science and Documentation, 41(2), 63-78.

8. Nayak, S.C.and Patil, D.B. (2017). Citation Analysis of Ph.D. Theses in Economics Submitted to University of Gulbarga, Karnataka during 1984-2002". *Research Journal of Library Sciences,* 5(3): 1-8.

9. RavichandraRao, I. K. (1983). Quantitative methods in Library and Information Science. New Delhi: Wiley Eastern.

10. Rethlefsen, M. (2007). Citation analysis of Minnesota department of health officials publications and journal articles: A need assessment for the RN Barr Library. *Journal of the Medical Library Association,* 95 (3), 260-66.

11. Singh et.al. (2018). Bibliometric Assessment of Library and Information Science Journals in India. *International Journal of Knowledge Content Development & Technology, 8*(3), 69-85.

12. Sharma, S. and Rani, A. (2014). 'Citation Analysis of Management Doctoral Dissertations Submitted to the Universities of Haryana, Punjab & Himachal Pradesh". *Kurukshtra university kurukshetra.* 8(2), 114-123.

13. Veerabasavaiah, M., and Padmavathi, N. (2014). Citation analysis of doctoral theses in Education submitted at the Bangalore University, Bangalore, during 2003-2012. *PEARL-A Journal of Library and Information Science*,

14. Waugh, C. K., & Ruppel, M. (2004). Citation analysis of dissertation, thesis, and research paper references in workforce education and development.*The Journal of Academic Librarianship,* 30(4), 276-284.