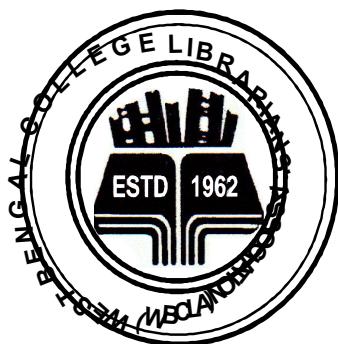


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Trends of Authorship and Collaboration Rate of IGBT Journal : an analytical study

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Abstract :

This paper aims to study and analyze authorship pattern and collaboration trends and testing Lotka's law of author's productivity in the field of biotechnology research. The authorship data was collected from Indian Journal of Biotechnology Research during the period (i.e. 2008-18). A total of 842 articles were examined which are contributed by 3,309 unique authors in respect of year wise authorship, co-authorship index, co-efficient of collaborations, geographic distribution of authors etc. The authors found that most of the papers are multi-authored (96.67%) paper. Co-efficient of collaboration between authors registered highest in 2016 (0.74). The Lotka's inverse square law has been applied to examine the productivity of authors and it is tested by K-S and Chi-square statistical tests and found that the productivity of author in IGBT journal follows the Lotka's law. This study will add value to scholarly literature and provide publications and authorship trends in IGBT journal.

Keywords :

Biotechnology; IGBT; Indian Journal of Biotechnology Research; Lotka's law; Co-authorship index; co-efficient of collaboration; K-S test; Chi-square test.

1. Introduction :

Authorship pattern has been recognized as a key attribute in the area of scientometric research since the metric-based studies were started (Das, 2017).



The authorship of research publication has been a prime bibliographic descriptor that gives an impactful measure of the researcher for conducting research in specialized subject field. Researchers from the various subject domain are facing the problems of dramatically changed environment because of the development of scientific tools, techniques and methods. Therefore, the collaboration trend among researchers with different specialties has increased in order to improve scientific research efficiency, quality and visibility (Cheng et al., 2017). Collaboration is very common in science discipline as compared to social science and humanities. In this present study, we have tried to investigate the various activities associated with authorship characteristics and trend in biotechnology research by assessing IGBT journal.

2. Review of Related Literature :

A significant number of researches have been published in different time span to analyze trends of authorship across disciplines. Suresh Kumar (2018) examined authorship pattern and application of Lotka's law of 556 articles published in Journal of Documentation during 2003-2015. This study found that almost half of the papers were published by single authors. Mondal and Jana (2018) to find out collaboration rate of authors in Indian Leading LIS journals. This study shows that two-authored (48%) papers are prominent in LIS research. It was found that Lotka's law follows for the particular dataset and this was confirmed by K-S test of goodness-of-fit test. Singh (2017) studied authorship and collaboration pattern in the field of biotechnology research with 24,888 articles from SCOPUS database during the year 2007-2016 and found that India has shared 65.12% of total research publication, this is followed by Brazil and South Africa. Singh and Singh (2017) also conducted a study based on SAARC countries and found that the authorship pattern was matched with Lotka's law. Zafrunnisha and Pullareddy (2009) conducted a study based on 114 Ph.D. thesis submitted in three universities in the field of psychology during 1963-2003. The study revealed that most of the papers were multi-authored and the degree of collaboration was 0.53 as a whole. Sudhier (2013) analyzed authorship pattern of journal citation to the doctoral thesis submitted to the University of Kerala by applying Lotka's law. The productivity of authors was not matched with the distribution of authors. Garg and Padhi (2001) analyzed 3,174 articles published in Laser Science and Technology research and found that the average collaborative coefficient value was indicated towards collaborative research trend. The highest number of articles were multi-authored article and collaboration



rate was maximum at the domestic level within different nations. Nath and Jackson (1991) reported in their research paper productivity of researcher in management information system and applied Lotka's law. This study has revealed that Lotka's inverse-square doesn't fit with the distribution of authors but the generalized version of Lotka's law fits remarkably well. Gupta (1987) examined 1,720 papers of entomology research publications in Nigeria and by analyzing Lotka's law using K-S test, he has identified that Lotka's law doesn't match with the obtained author's distribution.

3. Objectives :

The primary objective of this paper is to examine the pattern of authorship with regards to distribution of authors throughout the year, collaboration trend, geographical distribution of authors, and applicability of Lotka's law. Thus, the specific objectives are...

- * To examine growth rate of IGBT journal publications.
- * To identify nature of collaboration between authors.
- * To find out geographical distribution of authors.
- * To determine effectiveness of Lotka's law in IGBT journal.

4. Hypothesis :

The present study has one null hypothesis (H_0) i.e' the productivity of authors follows the Lotka law' which has been tested through Chi-square and K-S tests.

5. Scope of the study :

The authorship trend and collaboration rate were analyzed based on the data of the research articles, short communications and reviews published during 2008 to 2018 in the Indian Journal of Biotechnology (IBT) journal, an open access reputed journal published from CSIR-NISCAIR, New Delhi, started as a quarterly basis in 2002.

6. Methodology :

The bibliographic data for this study has been accessed and retrieved from the archive of IGBT journal (Archive IGBT). The total number of 842 articles were published in 11 volumes and 44 issues of this journal during 2008 to 2018 have been taken for this study. The retrieved data stored in MS Excel spreadsheet for analyzing and interpretation.



7. Analysis and interpretation :

This study has been carried out in two phases 1) Authorship pattern and collaboration rate between authors 2) Applicability of Lotka's law with the obtained author's distribution.

7.1 Year-wise authorship :

Year-wise distribution of authors is shown in table- 1. It clearly indicates the trends of authorship in biotechnology journal towards collaborative research. A total number of 842 articles contributed by 3,309 authors during the study period has been taken into consideration.

Table -1: Year-wise authorship

Authorship	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total	%
Single	5	3	2	1	2	2	3	4	0	3	3	28	03.33
Two	28	11	11	14	21	18	14	15	12	16	17	177	21.02
Three	20	21	17	17	20	18	21	16	13	15	11	189	22.45
Four	15	17	19	18	16	15	17	18	17	17	18	187	22.21
Five	7	8	12	12	8	8	8	8	16	12	12	111	13.18
Six & More	10	7	3	6	10	18	16	19	25	23	13	150	17.81
Total Authors	289	240	232	253	280	317	316	329	385	372	296	3309	
Total Articles	85	67	64	68	77	79	79	80	83	86	74	842	

Therefore, out of 3,309 authors, single authors were 28 (3.33%), two authors were 177 (21.02%), three authors were 189 (22.45%), four authors were 187 (22.21%), five authors were 111 (13.18%) and six and more than six authors were identified 150 (17.81%). The average number of authors per article was 3.93 and highest number of authors (385) recorded in the year 2016.

7.2 Relative Growth Rate (RGR) and Doubling time (Dt)

Relative Growth Rate (RGR) is a measure of per unit increase of publication with per unit of time and Doubling Time (Dt) indicates there is an equivalence existing between RGR and Dt (PK, 2018). RGR has been calculated by the formula given by Mahapatra (1985).

$$R(a) = \frac{W_2 - W_1}{T_2 - T_1}$$



Where,

R(a)= Relative Growth Rate over the specified time

W1= $\log w_1$ (Natural logarithm of the initial number of publications)

W2= $\log w_2$ (Natural logarithm of the final number of publications)

T2 - T1= the unit of difference between initial and final time.

Doubling Time (Dt) has been measured by using the following equation,

$$Dt = 0.693/R(a)$$

The data in table-2 clearly indicates that RGR of publications decreased from 0.58 to 0.10 in the year 2009 to 2018 and doubling time of publication is increased from 1.19 in 2009 to 6.93 in 2018. The mean RGR and mean doubling time of the whole study period is recorded 0.21 and 3.96 respectively.

It could be said that from the analysis, relative growth of articles has indicated declining trend, whereas increasing trend of doubling time has recorded.

Table -2 : Relative Growth Rate & Doubling Time in IJBT publications.

Year	No. of publications	Cumulative No. of publications	W1	W2	R (a)	Mean	Doubling Time $Dt = 0.693/R(a)$	Mean Dt
2008	85	85	0	4.44	0			
2009	67	152	4.44	5.02	0.58		1.19	
2010	64	216	5.02	5.38	0.36		1.93	
2011	68	284	5.38	5.65	0.27		2.57	
2012	77	361	5.65	5.89	0.24		2.89	
2013	79	440	5.89	6.09	0.2	0.21	3.47	3.96
2014	79	519	6.09	6.25	0.16		4.33	
2015	80	599	6.25	6.4	0.15		4.62	
2016	83	682	6.4	6.53	0.13		5.33	
2017	86	768	6.53	6.64	0.11		6.3	
2018	74	842	6.64	6.74	0.1		6.93	



7.3 Geographical distribution of contributors :

Table- 3 shows the geographical distribution of contributors in IJBT journal. The total number of 36 countries contributed 842 articles in this journal. It also shows that, out of 3,309 contributors, the maximum number i.e. 2,864 (86.55%) contributors are from India, this is followed by China 83 (2.51%) contributors, Iran 61 contributors (1.84%), Pakistan 48 (1.45%) contributors, Turkey 35 (1.06%) contributors, Korea 31 (0.94%) contributors, Bangladesh 20 (0.60%) contributors and so forth.

7.4 Collaboration trend

Collaboration may vary from discipline to discipline. In science domain, the trend of research towards collaborative research, whereas, social science and humanities domain show the trends towards solo research. Collaboration trend is demonstrated by how researcher collaborate with each other for the time of research. Collaboration can be country level, institutional level, departmental level, guide-scholar level and so on (Nirmala&Tadasad,2016). In this study the authors find out the Coefficient of Collaboration (CC) and Co-authorship Index (CAI) for measuring authorship from obtained author's distribution.

7.4.1 Collaborative Coefficient (CC)

To measure CC in research publications Ajiferuke et. al. (1988)has proposed the following formula,

$$CC = 1 - \frac{\sum_j^k \left(\frac{1}{j} \right) f_j}{N}$$

Where,

k = the greatest number of authors per paper, N = total number of papers, f_j = total number of papers having j number authors in this journal.

It clearly indicates from table-4, on average, the value of CC is 0.37 and the highest and lowest value varies in between 0.62 in 2008 to 0.74 in 2016, which focused that the trend of authors is collaborative researches.



7.4.2 Co-authorship Index (CAI)

CAI has been measured by calculating proportional output of single, double, multi and mega-authored papers for various nations. The equation has been proposed by Garg and Padhi (2001) as follows...

$$CAI = \frac{\frac{N_{ij}}{N_{io}}}{\frac{N_{oj}}{N_{oo}}} \times 100$$

Where,

N_{ij} : Number of articles having j authors in block I

N_{io} : Total Output of Block I

N_{oj} : Number of articles having j authors for all blocks;

N_{oo} : Total number of papers for all authors and all blocks $J=1, 2, 3, > 4$

The $CAI = 100$ indicate that co-authorship rate in a particular block for a particular type of authorship corresponds to the world average, $CAI > 100$ indicate co-authorship effort higher than average and $CAI < 100$ indicate co-authorship effort lower than average in a particular type of publications.

It is observed from table-4, co-authorship index of single authors have decreased from 176.89 in 2008 to 0.000 in 2016. The decreasing trend of co-authorship index has been seen for single, double and three authored paper and increasing trends has been seen for four, five and more than six authored paper.

7.5 Applicability of Lotka's Law :

Alfred J. Lotka gives inverse square law in relating to the number of scientific publication contributed by each author. According to him, the number of authors (y) with the number of articles (x) is inversely proportional to the number of authors contributed them. Lotka proposed the relation as expressed (Pao, 1985):

$$x^n \cdot y = c \quad \dots\dots (1)$$

where, number of authors y have contributed x number of articles, n and c are the constant value to be calculated for the obtained data set.



Author's productivity in biotechnology research shows that total 2,735 unique authors identified in this study, out of the total authors, 2,362 (86.36%) authors have published one article. This is followed by 260 (9.51%) authors who have published two articles, 64 (2.34%) authors who have published three articles, 29 (1.06%) authors who have published four articles and so on.

Table-3: Geographical distribution of contributors

Country	No. of Authors	% of Authors	Country	No. of Authors	% of Authors
India	2864	86.55	Germany	7	0.21
China	83	2.51	Japan	7	0.21
Iran	61	1.84	USA	6	0.18
Pakistan	48	1.45	North Africa	5	0.15
Turkey	35	1.06	Saudi Arabia	5	0.15
Korea	31	0.94	Portugal	4	0.12
Bangladesh	20	0.60	South Africa	4	0.12
Egypt	21	0.63	Canada	4	0.12
Malaysia	20	0.60	Bulgaria	4	0.12
Mexico	15	0.45	Thailand	4	0.12
Serbia	17	0.51	Four Countries with 1 Authors	4	0.12
Italy	15	0.45	Three Countries with 2 Authors	6	0.18
Vietnam	13	0.39	Two Countries with 3 Authors	6	0.18

The first step to examine the Lotka's law by calculating constant value c putting the value (Sen, 2010) of the first row (i.e. x=1, y= 2362) from the table- 5 in the equation (1).

$$x^n \cdot y = c$$

$$1^n \cdot 2362 = c [1^n = 1]$$

$$2362 = c$$

Now, using the value c= 2362 of first row, putting in the second row (i.e. x=2,



$y=260$) in the equation (1), we can find the constant value n as below...

$$2^n \cdot 260 = 2362$$

$$2^n = 2362/260$$

$$n \log 2 = \log 9.08462$$

$$n (0.30103) = 0.95831$$

$$n = 0.95831/0.30103$$

$$n = 3.18344$$

Using the constant value $n = 3.18344$ and $c = 2362$ in the equation number (1), the estimated value has been calculated and presented from the data set in the table-5.

Table - 4: Collaborative Coefficient and Co-authorship Index in IJBT Research.

Year	CC	Single	CAI	Two	CAI	Three	CAI	Four	CAI	Five	CAI	Six	CAI	TA
2008	0.62	5	176.89	28	156.70	20	104.82	15	79.46	7	62.47	10	66.04	85
2009	0.66	3	134.65	11	78.10	21	139.64	17	114.25	8	90.57	7	58.65	67
2010	0.68	2	93.97	11	81.76	17	118.34	19	133.67	12	142.23	3	26.31	64
2011	0.68	1	44.22	14	97.94	17	111.38	18	119.19	12	133.86	6	49.53	68
2012	0.66	2	78.11	21	129.74	20	115.71	16	93.56	8	78.81	10	72.90	77
2013	0.68	2	76.13	18	108.39	18	101.51	15	85.49	8	76.82	18	127.90	79
2014	0.68	3	114.20	14	84.30	21	118.42	17	96.89	8	76.82	16	113.69	79
2015	0.67	4	150.36	15	89.19	16	89.10	18	101.31	8	75.86	19	133.32	80
2016	0.74	0	0.00	12	68.78	13	69.78	17	92.22	16	146.23	25	169.08	83
2017	0.69	3	104.9	16	88.50	15	77.70	17	89.00	12	105.84	23	150.12	86
2018	0.67	3	121.91	17	109.28	11	66.22	18	109.52	12	123.00	13	98.61	74
Total														842

* TA= Total Articles.

7.5.1 Statistical test for conformity

To measure the differences between observed and theoretical distribution of authors, a goodness-of-fit-test has been used as a proper statistical test. In this present study, one sample is taken from a non-normally distributed population (Pao, 1985). Therefore, we should use the non-parametric test. However, Chi-square and Kolmogorov-Smirnov (K-S) one sample test has been used for non-parametric one sample test as a statistical tool.



7.5.1.1 Chi-square test :

To examine the Lotka's law whether it is applicable to the productivity of authors in biotechnology research or not, the Chi-square test has been applied to the obtained data. From the expected value in table- 6 reveals that 85.77% authors have published one article, 9.44% authors have published two articles, and 2.58% authors have published three articles and so on. The Chi-square value was calculated 6.63419, whereas the critical value at 5% significance level is 15.507 at 8 degree of freedom. Since, Chi-square value is greater than table value at 5% significance level, the null hypothesis is accepted and it is concluded that the productivity of author follows the law predicted by Lotka in the domain of biotechnology research.

Table-5: Observed and expected number of contributors

Number of contributions (x)	Observed number of contributors (y)	Percentage of observed contributors	Expected number of contributors (n = 3.18344)	Percentage of expected contributors
1	2362	86.36	2362	85.77
2	260	9.51	260	9.44
3	64	2.34	71	2.58
4	29	1.06	29	1.05
5	9	0.33	14	0.51
6	7	0.26	8	0.29
7	1	0.04	5	0.18
8	2	0.07	3	0.11
9	1	0.04	2	0.07
	2735	100.00	2754	100.00

Table-6: Chi-square test on observed and expected number of contributors

Number of contributions (x)	Observed number of contributors (Fi)	Expected number of contributors (Pi)	Fi - Pi	(Fi - Pi) ²	(Fi - Pi) ² / Pi
1	2362	2362	0	0	0.00000
2	260	260	0	0	0.00000
3	64	71	-7	49	0.69014
4	29	29	0	0	0.00000
5	9	14	-5	25	1.78571
6	7	8	-1	1	0.12500
7	1	5	-4	16	3.20000
8	2	3	-1	1	0.33333
9	1	2	-1	1	0.50000
	2735	2754			6.63419



7.5.1.2 K-S one sample test

To validate the results derived from Chi-square test, we conducted Kolmogorov-Smirnov (K-S) test, another tool for goodness-of-fit test. The maximum deviation (D_{max}) value is computed from the expected number of authors ($n=3.18344$) and the value is $D_{max} = 0.006661$. The critical value at 5% significance level can be calculated using the following equation...

$$\text{Critical value} = \frac{1.36}{\sqrt{2735}} = 0.02600$$

Table-7: K-S test on observed and expected number of contributors

Number of contributions (x)	Observed number of contributors (y)	Cumulative frequency of Observed contributors Cf (O)	Relative frequency of Observed contributors (F_o) = $Cf(O)/\text{Total Observed}$	Expected number of contributors ($n = 3.18344$)	Cumulative frequency of expected contributors Cf (E)	Relative frequency of expected contributors (F_e) = $Cf(E)/\text{Total expected}$	Deviation $D_{max} = (F_o - F_e)$
1	2362	2362	0.86362	2362	2362	0.85766	0.00596
2	260	2622	0.95868	260	2622	0.95207	0.00661
3	64	2686	0.98208	71	2693	0.97785	0.00423
4	29	2715	0.99269	29	2722	0.98838	0.00431
5	9	2724	0.99598	14	2736	0.99346	0.00251
6	7	2731	0.99854	8	2744	0.99637	0.00217
7	1	2732	0.99890	5	2749	0.99818	0.00072
8	2	2734	0.99963	3	2752	0.99927	0.00036
9	1	2735	1.00000	2	2754	1.00000	0.00000
	2735			2735			

As $D_{max}(0.006661)$ value is less than critical value tabulated at 0.05 significance (0.02600), we except null hypothesis and concluded that the productivity of author follows the Lotka's law.

8. Major findings :

This paper has discovered some important facts about IJBT journal which are...



- a) The highest number of scholars comes from India, followed by China and Iran.
- b) The relative growth rate of this journal indicating towards decaling trend.
- c) The average collaborative coefficient indicates towards collaborative research trend and it is revealed that most of the papers were shared-authored paper.
- d) The highest contributions were made by three (22.45%) authored paper.
- e) The goodness-of-fit statistical test also confirms that the productivity of the author fits with the law predicted by Lotka.

9. Conclusion :

A total of 842 articles contributed by 3,309 authors of Indian Journal of Biotechnology journals during the time span 2008 to 2018. This present study also has some limitations. We have investigated only research articles that limited to 11 publication years. The results may vary over time and different form of documents, which could not include in this study. The study is entirely based on 856 articles published in a single biotechnology journal, which does not cover entire area of biotechnology research. The developing performance on biotechnology research have progressed the science & technology a step ahead for the better future.

References :

About Indian Journal of Biotechnology

<https://www.niscair.res.in/sciencecommunication/researchjournals/rejour/ijbt/ijbt0.asp> (Accessed on: June 25, 2019).

Ajiferuke, I., Burell, Q., & Tague, J. (1988) Collaborative coefficient: A single measure of the degree of collaboration in research. *Scientometrics*, 14(5-6), 421-433.

Cheng, F. F., Huang, Y. W., Tsaih, D. C., & Wu, C. S. (2019). Trend analysis of co-authorship network in Library Hi Tech. *Library Hi Tech*, 37(1), 43-56.

Das, P. K. (2017). Aspects of Authorship in Journal Special Issues: An Experience from DESIDOC Journal of Library and Information Technology. *Journal of Scientometric Research*, 6(3), 159-170. Garg, K. C., & Padhi, P. (2001). A study of collaboration in laser science and technology. *Scientometrics*, 51(2), 415-427.

Gupta, D. K. (1987). Lotka's law and productivity patterns of entomological research



- in Nigeria for the period, 19001973. *Scientometrics*, 12(1-2), 33-46.
- Indian Journal of Biotechnology Archive <http://nopr.niscair.res.in/handle/123456789/38> (Accessed on: June 25, 2019).
- Mahapatra, M. (1985). On the validity of the theory of Exponential growth of scientific literature. Proceedings on the 15th IASLIC Conference, Bangalore, pp. 61-70.
- Mondal, D., & Jana, S. (2018). Collaborative authorship trend in leading Indian LIS journals. *DESIDOC Journal of Library & Information Technology*, 38(5), 320-325.
- Nath, R., & Jackson, W. M. (1991). Productivity of management information systems researchers: Does Lotka's law apply?. *Information Processing & Management*, 27(2-3), 203-209.
- Nirmala, B., & Tadasad, P. G. (2016). Authorship patterns and collaborative research in Economics. *Journal of Indian Library Association*, 51(4), 21-29.
- Pao, M. L. (1985). Lotka's law: a testing procedure. *Information Processing & Management*, 21(4), 305-320.
- PK, S. K. (2018). Author productivity and the application of Lotka's Law in LIS publications. *Annals of Library and Information Studies (ALIS)*, 64(4), 234-241.
- Ranganathan, C. (2016). Evaluation of Research Productivity on GreenChemistry : A Scientometric Study (Doctoral Dissertation). Retrieved from <http://ir.inflibnet.ac.in:8080/jspui/bitstream/10603/218652/9/>. Accessed on: August, 2019.
- Sen, B.K. (2010). Lotka's law: a viewpoint. *Annals Libr. Inf. Stud.*, 57(2), 166-167.
- Singh, M. K. (2017). Authorship and Collaboration Pattern in Biotechnology Research: A study of IBSA Countries. *Library Philosophy & Practice*. 19(4), 7-24.
- Singh, M. K., & Singh, K. (2018). A Comparative Study of Authorship and Collaboration Pattern of Four SAARC Countries in Biotechnology Research. *International Journal of Library and Information Studies*, 8(1), 51-60.
- Sudhier, K. P. (2013). Lotka's law and pattern of author productivity in the area of physics research. *DESIDOC Journal of Library & Information Technology*, 33(6).
- Zafrunnisha, N., & Pullareddy, V. (2009). Authorship pattern and degree of collaboration in psychology. Vol. 56, December 2009, pp. 255-261.



Awareness and Uses of Digital Information Sources and Services among PG Students of IIT (BHU) : a survey

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Abstract :

The purpose of this study is to examine the awareness and uses of digital information sources and services among PG students of IIT BHU. The sample was selected purposive and out of 200 students-160 students were fully filled completed received from 14 IT departments. The questionnaire was based on survey method and the analysis was done in SPSS using only graphs and tables. The hypothesis were tested in excel based on data collected. The findings of this study have established a majority of students which are aware about the digital information sources and services, accessed from the library. It revealed that most of the users of IIT (BHU) are aware of digital information sources and services with including as on basis of satisfaction they are fairly satisfied with the uses. The title of this paper is not new but it presents a real picture of the awareness concerned digital information sources and services and targets certain system for future development.

Keywords :

Digital,Information Sources, Information Services, Internet, SPSS, Digitized.

1. Introduction :

The present stage is witnessing the knowledge revolution that results the rapid growth and development in the information and communication technology. The information is playing a vital role in digital environment. The digital world allows to every part of our lives homes, schools, workplaces public spaces (transport, libraries, cafes, cities). In upcoming future the digital media will be everywhere and internet advertising is constantly responding to the individual viewing it, inter-



acting with that subject, providing goods and services ideally matched to the users known profile. Now a day's libraries are not only seen with printed documents and non-printed documents but also with computer. Libraries of all sizes and types are embracing digital collections, although most libraries will continue to offer both print and digital collections for many years to come. Use of digital sources and services permits the library to save space of library and time of the users. Digital information is most essential in this modern society because everyone can access anywhere. Now web-based digital resources have become most popular tools in academic research. The door to libraries is becoming gateway to global digital contest through a new constantly changing technology. There has been a boom in digital resources across the world in particularly the library domain which significantly adds to the wealth of information.

2. Digital information sources and services :

Digital resources is very broad term means any electronic product that delivers the collections of data be in it text, numerical, graphical or time based as commercially available resources and a kind of document in digital formats which are made available to library users through computer based information retrieval system. The digital information estimates analogue data using only one and zero. The information stored in digital formats and retrieved over distributed networks, is known as digital information sources. These digital information sources are stored on different kinds of storage devices in high end computers and servers.

Digital information resources are those resources whose deal with both born digital and digitized materials which can be either accessible from library's in house database or from the world-wide-web(Islam, 2013). The born digital materials include ; e -books, e-journal, e-news paper, e-magazine, thesis, dissertations, reports, website, www resources etc. On the other hand digitized materials means converting the materials from other format into digital format in that case materials must have preserve the copy right law, for both the born digital and digitized format, some resources will be freely accessible for anyone from anywhere in the world and others will have limited accessibility due to the library's policy and for cost related issues and also for the authentication.

The librarians provide access to the various types of online information providing universally accessibility to their users, which are freely available on web in-



cluding Institution Digital Libraries, University Digital Libraries, e-journals, e-books, Encyclopaedias etc as because protecting of materials which are overuse and poor storage conditions.

A large number of digital information services are offered to users by library and information centres today. Table of contents services, full-text access to electronic journals, current awareness services, electronic document delivery, and virtual reference services are among them. The Internet plays a paramount role in providing these services. While Internet removes both temporal and spatial barriers and makes it possible to provide information services on a 24/7 basis, it also provides "instant gratification" to users. In other words, users can get what they want instantly, from anywhere at the best value for their money (Reich,2002).

3. Objective of the study :

The following objectives are evolved for the purpose of the present study:

1. To identify the awareness of digital information sources and services among PG students.
2. To find out the purpose of visiting the library.
3. To identify the satisfaction level with regards to information sources and services among PG students.
4. To identify the reasons for accessing the digital information sources and services by of students.

4. Need and scope of the study :

The work and resources that go into the creation of the product or services are essentially for things that frame scope of the project. The need of the study is a brief overview of awareness of digital information sources and services provided among post graduate students of IIT BHU. There is need to understand the ratio of digital resources awareness with its uses among the students which are provided or available to them by their institutional library. Digital information infrastructure brings library close to the users.

5. Hypothesis :

1. PG students of IIT BHU have high awareness level of Digital Information Sources.



2. PG students of IIT BHU have high satisfaction level with uses of Digital Information Services.
3. PG students of IIT BHU have high awareness level of Digital Information Services
4. PG students of IIT BHU have high satisfaction level with uses of Digital Information Sources.

6. Review of literature :

“Awareness and use pattern of Information Sources and Services in Maher (Meenakshi academy of higher Education and Research) deemed university” reveals that higher education has brought major changing out in the accomplishing the ICT (**Prakash, Muthusamy, Selvi&Ravikishan, 2003**).

“Online Journals and Databases: “A Study of Use and Awareness among Academics at Main Library, IT BHU” reveals the awareness and uses of online journal and database among M.Tech students, research scholars and faculty members of IIT BHU library which results favored to researcher (**Upadhyay and Chakraborty, 2008**).

“Access, Awareness and Use of Electronic by Research Scholars of Berhampur University: A Study” reveals that the attempt was taken to find out the major issues of electronic information resources feasibility. They also aims to draw the attention to the problems related and suggested some measures for its improvement (**Das &Maharana, 2013**).

“Use and Opinion of Digital Information Sources and Services by the Users of Self Financing Institution in Thiruvallur District (India)” states that in this digital world, the environment has become intensively explosive even implemented to the human brains. There is existence of use and awareness of digital information sources and services also with their availability among users (Amsavalli& Ramesh, 2013).

“Use of Information Sources in Digital environment: A Case Study” this study reveals that the its aims to make “Analytical Study of the use of Electronic Resources and Services by Faculty, Research Scholars and Students of SPMUL, Tirupati”(**Rajeshwari, n.d.**).

**Table - 7.1 Purpose of visit library**

What is the purpose of visiting library	Responses		Percent of Cases
	N	Percent	
Professional work	18	6.4%	11.5%
Academic work	102	36.3%	65.0%
Research work	47	16.37%	29.9%
any other	5	1.8%	3.2%
To Borrow books	67	23.8%	42.7%
To Read Journal & Magazine	42	14.9%	26.8%
Total	281	100.0%	1279.0%

a. Dichotomy group tabulated at value 1. (multiple choice questions)

Note : N - means no. of respondent

Case summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Visit Purpose	157	98.1%	3	1.9%	160	100.0%

a. Dichotomy group tabulated at value 1.

Note :- Missing N- It indicates that the no. of respondents who didn't attempt the questions. Valid N percentage and Cases with user-missing values are removed from the Simple percentage base even if User-missing categories are included in the table.

Interpretation - From the above table 2.1, we get that 6.4% visit for professional work, 36.3% visit for academic work, 16.7% visit for research work, 23.8% visit for borrowing books, 14.9% visit for reading journals and magazines and 1.8% visit for other purposes.

**Table - 7.2 Frequently visit of library**

Frequently visit of Library		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Everyday	15	9.4	9.6	9.6
	Once in a two days	29	18.1	18.5	28.0
	Once in a week	42	26.3	26.8	54.8
	Occasionally	71	44.4	45.2	100.0
Missing	Total	157	98.1	100.0	
	System	3	1.9		
Total		160	100.0		

N - Means no. of respondents

Missing System- It indicates the no. of respondents who didn't attempted the questions.

Interpretation - From the above table 2.2,we get that 44.4% respondents are visiting the library occasionally, 9.4% respondents visit everyday, 18.1% respondents visit once in a two days, 26.3% respondents visit once in a week, 44.4% respondents visit library occasionally and 1.9%(missing system) that indicates no. respondents didn't responded.

Table - 7.3 Uses of on-line resource

Uses of Online Resources		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	147	91.9	92.5	92.5
	No	12	7.5	7.5	100.0
	Total	159	99.4	100.0	
	System	1	0.6		
Total		160	100.0		

Missing System It indicates the no. of respondents who didn't attempt the question.

Interpretation - From the above table 2.3, we get that 91.9% users are using online sources, 7.5% are not and 0.6% has left this questions.

**Table 7.4 Awareness of digital information sources**

Awareness of Digital Information sources	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	115	71.9	73.3	73.2
Valid No	42	26.3	26.8	100.0
Total	157	98.1	100.0	
Missing System	3	1.9		
Total	160	100.0		

Missing system-It indicates the no. of respondents who didn't attempt the questions.

Interpretation - From the above table 2.4, the respondents were asked to specify their awareness of digital information sources .The table shows that 71.9% of users are aware of digital information sources, 26.3% are not and 1.9% didn't responded.

Table-7.5 Uses of various digital information sources (on-line databases)

Case summary

Uses of Various Digital Information Sources	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Online Databases	110	68.8%	50	31.2%	160	100.0%

a. Dichotomy group tabulated at value 1.

Missing N - The no. of respondents who didn't attempt the questions

*Database Frequencies*

Databases	Responses		Percent of Cases
	N	Percent	
CAB Abstract	11	3.4%	10.0%
Annual Review	6	1.9%	5.5%
Metadex	12	3.7%	10.9%
Springer Protocols(1980-2013)	65	20.1%	59.1%
Ceramic and Metal collection	12	3.7%	10.9%
GALE	13	4.0%	11.8%
Mathscinet	15	4.6%	13.6%
Indian citation Index	25	7.7%	22.7%
Library & Information Science Abstract	14	4.3%	12.7%
Sci-Finder scholar	46	14.2%	41.8%
Web of Science	54	16.7%	49.1%
Scopus	19	5.9%	17.3%
Merck Index on-line	7	2.2%	6.4%
Any other	24	7.4%	21.8%
Total	323	100.0%	293.6%

a. Dichotomy group tabulated at value 1. (multiple choice questions)

Note : N - means no. of respondent

Interpretation - From the above table 2.5, the respondents were asked to specify the uses of various digital information sources like online databases. The above table shows that respondents is 3.4% are using CAB Abstract, 1.9% are using Annual review, 3.2% are using Metadex, 20.1% are using Springer Protocol, 3.2% are using Ceramic and Metal collection, 4.0% are using GALE, 4.6% are using Mathscinet, 7.7% are using Indian Citation Index, 4.3% are using Library & Information Science Abstract, 14.2% are using Sci-Finder Scholar, 16.2% are using Web of science, 5.9% are using Scopus, 2.2% are using Merck Index on-line



and 7.4% are using others that includes, Sci-Hub, Sci-Direct, IEEE, NPTEL, Is Codes ASCE

Table - 7.6 Uses of digital information sources (on-line books)

Case Summary

Uses of Digital Information Sources	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Books	116	72.5%	44	27.5%	160	100.0%

a. Dichotomy group tabulated at value 1.

Missing N-It indicates that the no. of respondents who didn't attempt the question.

Books Frequencies

Books	Responses		Percent of Cases
	N	Percent	
ASM hand book online	13	4.2%	11.2%
Cambridge University Press	23	7.5%	19.8%
Encyclopaedia Britannica	41	13.4%	35.3%
Pearson E-books	43	14.1%	37.1%
Saga E-books	7	2.3%	6.0%
Springer E-books	66	21.6%	56.9%
Taylor & Francis	29	9.5%	25.0%
Mc-Graw Hill E-books	75	24.5%	64.7%
Any other	9	2.9%	7.8%
Total	306	100.0%	263.8%

a. Dichotomy group tabulated at value 1. (multiple choice questions)

Note : N - Means no. of Respondents



Interpretation - From the above table 2.6, the respondents were asked for the uses of various digital information sources like online books. The table shows that 4.2% are using ASM Hand Book On-line, 7.5% are using Cambridge University Press, 13.4% are suing Encyclopaedia Britannica, 14.1% are using Pearson E-Books, 9.5% are using Taylor & Francis, 24.5% are using Mc-Grew Hill E-Books and 2.9% are using others that include Google e-books, British journal of Pharmacy, Science Direct and IEEE.

Table-7.7 The overall names of e-journals which are preferred by users
List of e-Journal

S.No	Name of Journals	Responde nts	S.No	Name of Journals	Responde nts
1	Clesuem	1	25	Architecture of CBT	1
2	Macromdecule	1	26	Machine Learning	1
3	Sage	1	27	Big date analysis	1
4	Pharmaceutical Journals	2	28	Compressed Sensing by Richard Bernak	1
5	Elsevier	3	29	MOTL	1
6	Springer	5	30	Vaccum Science	1
7	ACS	5	31	Vaccum System	1
8	R & C	1	32	Vacuum Management	1
9	Hindwai	1	33	Plasma Science	1
10	Science Direct	13	34	Microwave tubes	1
11	ASS	1	35	Research Gate	1
12	Sci-Hub	1	36	Stack- Exchange	1
13	Pub med	1	37	IJESR(International Journal of Engineering Science and Research)	1
14	Nature	1	38	IJEPS(International Journal of E-Planning Research)	1
15	Neuropharmacology	1	39	Journal of Biomedis	1
16	Journal of Neuro-inflammations	1	40	Sci-ELO(material research)	1
17	IPA(Integrated Publishing Associations)	2	41	Geo-tech & Geol	1
18	IJPS(Indian Journal of Pharmaceutical Science)	2	42	ASCE(American Society for Civil Engineering)	2
19	American chemical Society	1	43	Indian Journal Society	1
20	Taylor & Francis	1	44	ASTM(American Society for Testing & Material)	1
21	Web Master	1	45	Google Scholars	1
22	Microsoft Academic	1	46	AICHE(American Institute of Chemical Engineers)	1
23	IEEE	5	47	IJTE(Indian Journal of Teachers Education)	1
24	Optimized Pipeline Operations	1	48	ASME(American Society for Mechanical Engineering)	1



Interpretation - From the above table 2.7, the Students were asked to specify at least 10 e-journals which are mostly accessed by them. From the above table it reveals that most of the respondents are using science direct in compare to others e-journals.

Table -7.8 Showing the names of subject portal which are used by users

S. No.	Subject Portals	Respondents
1	Medscape	1
2	Libgen	1
3	Pharmaceutical Science	1
4	Verilog	1
5	Maths Power system	1
6	Material Science	1
7	Indian Ceramic Society	1
8	Science Direct	1
9	ISRM(International Society for Rock &Machines)	1
10	Engineering Portal	1
11	Ceramic Engineering	1

Interpretation - From the above table 2.8, the respondents were asked to specify any five subject portals which are used by them. From the above table shows that all the respondents using different subject portals according to their subject related individually.

Table-7.9 Showing the satisfaction of digital Information sources among users

Satisfaction of Digital Information Sources & Services		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very satisfied	20	12.5	13.9	13.9
	Fairly satisfied	94	58.8	65.3	79.2
	Don't know	27	16.9	18.8	97.9
	Fairly dissatisfied	3	1.9	2.1	100.0
Missing	Total	144	90.0	100.0	
	System	16	10.0		
Total		160	100.0		

Missing system - means the no. of respondents didn't attempt this question



Interpretation - From the above table 2.9, we get that 12.5% of users are fairly satisfied, 58.8% are fairly satisfied, 16.9% are don't know, 1.9% are fairly dissatisfied and 10% are missing that means the respondent didn't responded.

Table-7.10 Showing the awareness of digital information services

Showing the awareness of Digital Information Services		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	110	68.8	82.1	82.1
	No	24	15.0	17.9	100.0
	Total	134	83.8	100.0	
Missing	System	26	16.3		
	Total	160	100.0		

Interpretation - From the above table 2.10, we get that 68.8% users are aware of digital information services, 15% are not and 16.3% are missing system that means the respondent didn't responded.

Table-7.11 Showing of uses of various digital information services

Uses of Various Digital Information Sources	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Digital Service	102	63.8%	58	36.2%	160	100.0%

a. Dichotomy group tabulated at value 1.



Digital services frequencies

Digital Services	Responses		Percent of Cases
	N	Percent	
Digital reference services	25	15.3%	24.5%
OPAC/Web OPAC's	24	14.7%	23.5%
Online search services	73	44.8%	71.6%
CAS/SDI services	13	8.0%	12.7%
CD net based system	14	8.6%	13.7%
Current contents	14	8.6%	13.7%
Total	163	100.0%	159.8%

a. Dichotomy group tabulated at value 1.(Multiple choice Questions)

N- N means no . of respondents

Interpretation - From the above table 2.11, we get that 15.3% aware of Digital Reference Services, 14.7% aware of OPAC, 44.8% aware of online search services, 8.0% aware of CAS/SDI, 8.6% aware of CD Net Based system and 8.6% aware of current contents.

Table-7.12 Showing the showing level of digital information services

Satisfaction level of Digital Information Services	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very satisfied	15	9.4	11.1
	Fairly satisfied	76	47.5	56.3
	Don't know	40	25.0	97.0
	Fairly Dissatisfied	4	2.5	100.0
Missing	Total	135	84.4	100.0
	System	25	15.6	
Total	160	100.0		

Missing system-It means the no. of respondents who didn't attempted this question.



Interpretation - From the above table 2.12, we get that 9.4% are very satisfied, 47.5 are fairly satisfied, 25.0% are don't know, 2.5% are fairly dissatisfied and 15.6% are missing system that means the no. of respondents who didn't attempted this question.

Table-7.13 Showing the reasonsfor using digital information sources and services

Case Summary

Reasons of using Digital Information Sources and Services	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
Reasons	141	88.1%	19	11.9%	160	100.0%

a. Dichotomy group tabulated at value 1.

N - Means no. of Respondents

Reasons	Responses		Percent of Cases
	N	Percent	
Time saving	82	32.8%	58.2%
Easy to use	82	32.8%	58.2%
More information	79	31.6%	56.0%
More expensive	5	2.0%	3.5%
Difficult to use	2	0.8%	1.4%
Total	250	100.0%	177.3%

a. Dichotomy group tabulated at value 1.

N - Means no. of Respondents

Interpretation - From the above table 2.13, we get that the respondents is 32.8% finds time saving, 32.8% finds easy to use, 31.6% finds more information, 2% finds more expensive and 0.8% finds difficult to use.

8. Result of hypothesis testing

* It was noticed fromoverall responses, 71.9% of total users are well aware of digital information sources and with the use of 91.9%.



- * 58.8% users are fairly satisfied with the use of digital information sources.
- * 68.8% users are also well aware of digital information services.
- * 47.3% users are fairly satisfied with the use of digital information services.
- * 36.3% users are visiting library for academic purposes.

9. Discussion and conclusion :

The present study enlightened the awareness and uses of digital information sources and services among pg students of IIT (BHU). This study reveals most of the users are well aware of digital information sources and services and most of the users visit the library for academic purposes. From this study the investigator also finds that many of them users are using different types of digital information sources and services. Some of the users are fairly satisfied with the digital information sources and services.

References :

- Ahmad, M., & Panda, K.C. (2013). Awareness and Use of Electronic Information Resources by the Faculty Members of Indian Institute in Dubai International academic City (diac): A Survey. International Research Journal of Computer Science and Information System 2(1), pp.8-17.
- Amsavalli, R.,& Ramesh, R. (2013).Use and Opinion on Digital Information Sources and Services by the Users of Self Financing Engineering Institutions in Thiruvallur District (India). Journal of Advances in Library and Information Science 2(4), pp. 178-182.
- Bhardwaj, Kumar. Raj, Walia, K. Paramjeet. (2012).Web Based Information Sources and Services: A Case Study of St. Stephen's College, University of Delhi. Retrieved from <http://digitalcommons.unl.edu/libphilprac/768/>.
- Chandran, Velmurugan.(2013). Use and user perception of electronic information resources: A case study of Siva Institute of Frontier Technology, India.Chinese Librarianship : an International Electronic Journal, 36, pp. 85-98.
- Crawford, John. (2003). the use of electronic information services by students at Glasgow Caledonian University: background to the project and introductory focus groups. Library and Information Research, 27 (86), pp.30-36.



- Das, P., & Maharana, R.K. (2013). Access, Awareness and Use of Electronic Information Resources by Research Scholars of Berhampur University: A Study American International Journal of Research in Humanities, Arts and Social Sciences 3(2), pp. 254-259.
- Gakibayo, A., Odongo J.R.I., & Obura, O. (2013). Electronic Information Resources Utilization by Students in Mbarara University Library. Library Philosophy and Practice (e-journal), 869, pp.1-26.
- Girish.T, Dange, K. Jagannath., Savita, M., C, Kumari.Veena., & Jordan, N. Sushma. (2013). A Study on Awareness and Usages of Digital Information Sources and Services by P.G Students of Kuvempu University. Indian Journal of Education Research Experimentation and Innovation, 3(2), pp.1-8.
- Islam, S. & Mostofa, S. K. M., 2013. A Review of Digital Resources among Different Types of Libraries in Bangladesh. International Journal of Humanities and Social Sciences, 2 (1), pp. 109-120.
- Khode, S., & Kumar, D. (2004). Free Information Sources and Services on Internet for Libraries: A Selective compilation. DESIDOC Bulletin of Information Technology, 24(4), pp. 13-18.
- Kumar, D., Ansari, M.M.A., & Hussain, A. (n.d.) Use and Awareness of Electronic Information Resources and Services among the Teachers and Students of Institute of Informatics and Management Sciences (IIMS) Meerut, U.P (India): A Case Study. International Journal of Information Library & Society, pp. 8-18.
- Okiki, O.C. & Asiru, S.M. (2011). Use of Electronic Information Sources by Postgraduates students in Nigeria: Influencing Factors. Library Philosophy and Practice (e-journal), pp.1-10.
- Padma, P., Ramasamy, K., Chellappandi, P., & Kathiravan, M. (2014). Awareness and Use of Electronic Resources by the Engineering Students: A Case Study of Two Engineering colleges in Sivagangai district, Tamil Nadu India. E-Library Science Research Journal 2(10), pp.1-10.
- Popoola, S.O (2008). The Use of Information Sources and Services and Its effect on the Research Output of Social Scientists in Nigerian Universities. Library Philosophy and Practice (e-journal), pp. 1-10.



- Prakash. M, Muthusamy. C, Selvi. M.,&Ravikrishnan.D.(2013). Awareness and Use Pattern of Information Source and Services in Maher (Meenakshi Academy of Higher Education and Research) Deemed University, Chennai. E-Library Science Research Journal 2(2), pp. 1-7.
- Priyadarshani, R., Janakkiraman, A. & Subramanian, N. (2015). Awareness in usages of E-Resources among users at Agricultural College and Research Institute, Madurai: A Case Study. European Academic Research 2(11), pp. 1-7.
- Rajeshwari, D. (2005). Use of Information Sources in Digital Environment: A Case Study .3rd International Caliber, pp. 705-711.Retrieved from <http://ir.inflibnet.ac.in:8080/ir/bitstream/1944/1585/1/83.pdf>.
- Ranganadham, S.,&Babu, S.K. (2012).Awareness and Use of Library Information Resources and Services in Osmania University, Hyderabad.International Journal of Library and Information Studies, 2(3), 42-54.
- Thanuskodi, S. (2012). Electronic Information Sources and Services in Anna University Libraries in Tamil Nadu: A Study. International Journal of Library Science 1(3), pp.43-49.
- Togia, A., &Tsigilis, N. (2010). Awareness and use of electronic information resources by education graduate students: Preliminary results from Aristotle University of Thessaloniki.Retrieved from https://www.semanticscholar.org/paper/Awareness-and-use-of-electronic-information-by-from-Togia_Tsigilis /72b8a7fc6c7fb639de725762 779 c2f 2b 0e10d9e6.
- Tonta, Yasar. 'Integrated and Personalized Digital Information Services'. Retrieved from <http://eprints.rclis.org/9445/1/tonta-sofia-digiculf-paper.pdf>
- Tyagi, S. (2011). Use and Awareness of Electronic Information Sources at IIT Roorkee, India: A Case Study. Italian Journal of Library and Information Science 2(1), pp.1-22.
- Verma, R. and BaljinderKaur. (2009).Use of Electronic Information Resources: A Case Study of Thapar University. DESIDOC Journal of Library & Information Technology 29(2), pp. 67-73.



Library Outreach Programmes for Local Senior Citizens : a study

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Abstract :

Old age is a natural biological phenomenon of human beings but population ageing represents an increase in old age population over the total population. This increase in the proportion of the old age persons in the total population represents a demographic change. The policy of sustainable development and to cope up with this demographic transition, it is necessary to change the traditional activities of social institutions towards community-oriented activities. This paper highlights the role of libraries and library extension services for the betterment of senior citizens and tries to identify the information needs of elderly inmates of different government-aided old age homes in West Bengal. This study finds that elderly inmates have needed financial and health-related information. Again male inmates were more aware of information needs than female inmates. This paper also suggests some collaborative activities of public and academic libraries based on information needs of old age persons for their better life and social wellbeing.

Key Words :

Extension services, library outreach programmes, elderly, old age homes, information needs, public libraries, academic libraries.

1. Introduction :

Elderly citizens are becoming a larger part of the society. In different census report of the world as well as India, it is clear that the percentage of older population increases rapidly than their younger generation. At the same time, the older population is also ageing, i.e., percentage of oldest-old is increasing. There are various socio-economic reasons that are responsible for this high life-expectancy rate of the citizens. Therefore a new society is emerging where more old age persons are



living with the expectation of different services from the society. In this regard the role of community engagement of the library is important and libraries are one of the institutions which can bridge the older persons with others in all respect of their life. India has been faced a steady growth in the proportion of the elderly population in the total population over the decades. In 1961 there was 5.6% old age population against the total population and this proportion goes up to 7.4% in 2001 and 8% in 2011. According to the report of the Central Statistics Office, Government of India, 2011, the share of children (age 0-14) in the last few decades is decreasing. It was 37.6% in 1991 and is projected to be about 25% by the year 2021. Therefore the proportion of children over the total population is decreasing. On the other hand, the proportion of the population in the aged (60 & above) is increasing rapidly. This grey population which was 6.7% of the total population in 1991 is expected to increase its share to more than 10% by the year 2021. Rajan (2007) stated that the growth rate of old age person was 8% in 2011 and projected to 12% by 2025. It is also projected that India will have the largest elderly population in 2050 and 20% of its population will be elderly.

Outreach programme or extension services of the library may be extended to the elderly community; those are living in the family or in an institutional setup. Public libraries, as well as academic libraries, may organize different awareness programmes to solve their physical, mental, economic and other general information needs and organized some regular activities for improving their cultural, physical and mental health.

2. Literature review :

An investigation of the existing literature on the topic of academic libraries and space sharing for community engagement revealed several articles on its broad areas. Most of these focused on the role of academic libraries and transforming activities towards digitization or automation. In addition, several articles have been written about community engagement with public libraries and a few articles deals with outreach activities of academic libraries for their local communities but no one article deals with the specific concept on space sharing of academic libraries for old age persons.

Wilkinson (2017) in his paper highlighted the strategic plan of the Rutgers-University. In this paper, it is pointed out that their mission is to serve the needs of individu-



als in their community and they expand their problem-solving capacities by joining with neighbours in a host city. This University Library offers different programs under an outreach model of civic engagement.

Academic library faculty and staff can be active partners in campus initiatives for community engagement. In this article Yates (2014) describes the process of development and operations of a centre for Service-Learning within the Library at Indiana University East.

OCLC WebJunction partnered with public libraries in Washington State from May 2013 to June 2014, to explore practical and adaptable solutions for public library space transformation. This report identifies four sections and objectives to implement the idea of space sharing in any library. These are, create a community vision, design library space, and sustain library space and space planning in action. This report also provides a guideline for transforming public libraries for community engagement

Shrestha (2013) highlighted the success and challenges of the READ (Rural Education And Development) program in Nepal. This paper focussed on how the role and the scope of the community libraries have been changing to meet changing needs in local communities and Nepalese society at large. Under this program, the community libraries serve many diverse functions on grass-roots education, empowerment and economic development.

Goulding (2008) analyzed several selected literature and collected the required data from an interview-based study to establish the concept of community engagement in public libraries. Community engagement in public libraries includes making the library space available for community activities, working in partnership with the voluntary and community sector as well as with other public services, involving volunteers in the delivery of library services, activities to support community involvement in various levels of decision making. This paper concludes that library services have been quite effective at involving local people in community services.

3. Objectives :

Based on the above literature review it is clear that some papers reflect the engagement & active participation of the community with libraries, but studies on the specific topic of connection elderly communities with libraries and for this purpose, the study of information needs of elderly in West Bengal has not been carried



out anyone. Therefore we have to identify our elderly users and nonusers, their information needs and the use of available information sources by them. The specific objectives of the study are :

1. To examine the information needs of old age persons those, who are living in the Government aided old age homes in West Bengal.
2. To examine the use of available information sources by the elderly inmates of different old age homes.
3. To identify different services, that to be offered by different libraries to connect the old age community for the betterment.

4. Methodology :

This study has explored the information needs of older adults living in old age homes in West Bengal. Thus this study was mainly based on a survey which includes a survey of old age homes and their inmates in West Bengal. According to the Department of Women & Child Development and Social Welfare, Government of West Bengal there are twenty active Government aided old age homes. These homes are running in collaboration with Non-Governmental Organizations (NGO) under the project of the Integrated Program for Older Persons (IPOP). The total population of the research was 421 out of which 317 respondents had studied in-depth for the research purpose. Rest of the inmates did not consider under the study because of their serious illness, restrictions imposed by the authority, outstation movements of the inmates, and non-willingness of inmates to participate in the study. A printed schedule incorporating with all the questions of elderly socio-economic background and information behaviour was used. At the same time the interview method also used for collecting primary data.

5. Data Analysis :

This study is based on a survey of Government aided old age homes in West Bengal and their inmates. There were 421 inmates in these old age homes, out of which 317 inmates were considered for detailed study. Among this population 118 were male inmates and 199 were female inmates. This distribution is shown in the following figure

Figure 1: Distribution of inmates according to sex

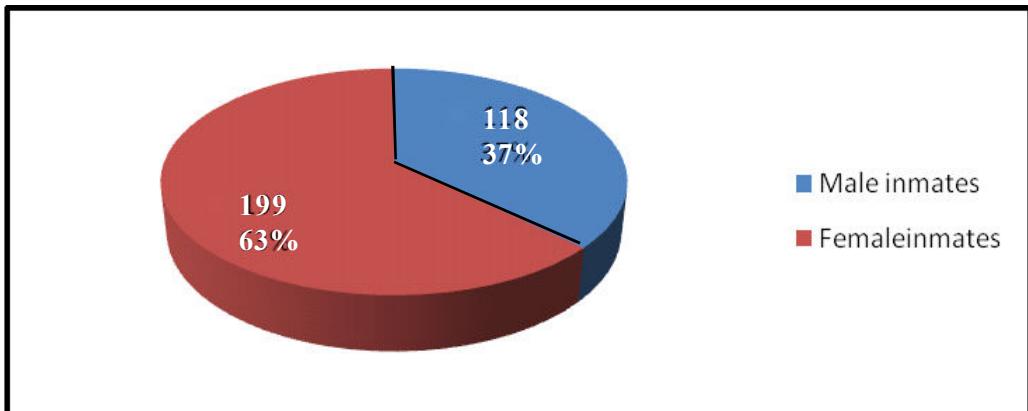


Table 1: Age group wise distribution of inmates

Age group	No. of total inmates
60-69	124(39.12%)
70-79	122 (38.49%)
80-89	62 (19.56%)
90-99	09 (2.84%)
Total	317 (100%)

Table 1 shows the age-wise distribution of inmates of old age homes. According to this table, 124 inmates belong in the age group 60-69 years followed by 122 inmates in the age group 70-79 years. There were only 62 inmates in the age group 80-89 years and only 9 inmates in the age group 90-99 years.

Table 2: Distribution of inmates according to educational qualification

Age	Illiterate	Primary	Middle Class	Secondary	H.S.	Graduate	Total
60-69	45 14.20%	38 11.99%	22 6.94%	14 4.42%	0 1.58%	05 (1.58%)	124 (39.12%)
70-79	40 12.62%	42 13.25%	25 7.89%	11 3.47%	0 (1.26%)	04 (1.26%)	122 (38.49%)
80-89	22 6.94%	25 7.89%	08 2.52%	04 1.26%	1 0.32%	2 63.09%	62 (19.56%)
90-99	04 1.26%	03 0.95%	02 0.63%	0 0	0 0	0 0	9 (2.84%)
Total	111 35%	108 34.07%	57 17.98%	29 9.15%	1 0.32%	11 3.47%	317 (100%)



It is clear from Table 2 that a large number of inmates were illiterate 111(35%) followed by primary level 108 and middle class passed inmates were 57. Only 29 inmates completed secondary level i.e. class X and 1 inmate completed Higher Secondary (H.S.) level and 11 completed graduate level. Therefore most of the inmates were illiterate or just had a primary level of education.

Table 3: Distribution of inmates according to their financial information needs

Financial information	No of inmates		
	M	F	Total
Income related	39 (12.30%)	26 (8.20%)	65 (20.50%)
Savings related	6 (1.89%)	1 (0.32%)	7 (2.21%)
Old age scheme related	4 (1.26%)	2 (0.63%)	6 (1.89%)
Total	49	29	78

Table 3 describes the financial information needs of inmates. Here it is seen that 65 respondents needed income related information, 7 respondents' needed savings related information, and only 6 respondents needed information on old age schemes. In male and female distribution it is observed that male inmates needed more information than female inmates.

Table 4: Distribution of inmates by health information needs

Types of Health information	No of inmates		
	Male	Female	Total
Diseases related	84 (26.50%)	80 (25.24%)	164 (51.74%)
Medicine related	36 (11.36%)	32 (10.09%)	68 (21.45%)
Doctors related	15 (4.73%)	13 (4.10%)	28 (8.83%)
Physical fitness related	72 (22.71%)	44 (13.88%)	116 (36.59%)
Total	207	226	433*

N = 317, * respondents have exercised needs multiple options



Table 4 shows the health information needs of inmates of the old age homes. It is found that 164 inmates needed diseases related information, 68 inmates needed medicine-related information, 28 inmates needed doctor-related information and 116 inmates needed physical fitness-related information.

Table 5: Distribution of information sources used by the respondents

Information Sources	No. of total inmates
Newspapers	74 (23.34%)
Library	15(4.73%)
Staff and other Human sources	158 (49.84%)

Table 5 shows the sources of information used by inmates of the old age homes. It is clear from this table that 158 inmates used staff and other human sources to meet their information needs followed by newspapers and library of the old age homes.

6. Findings :

The study of information needs of old age persons involves a detailed enquiry of inmates' physical, financial and legal information needs. To explore the information needs of the elderly living in old age homes and the available sources of information, they used to meet their need, a survey was conducted and the collected date analyzed and finally, the following inferences had been drawn. This study also shows that out of 421 admitted inmates 317 inmates i.e. 75% has considered for in-depth analysis under this study. Among the total respondents, 37% was male and 63 % was female inmates.

It was revealed that 35% of inmates were illiterate, followed by primary level 34% i.e., Class i-iv and middle class i.e., Class v-viii pass out inmates were 18%. Secondary and graduate-level pass out respondents were 9% and 4% accordingly. Information on financial issues and social securities are important factors for elderly persons. In this category, we subdivided five items related to old age income and social security, i.e., information on income, savings, insurance, financial organizations and old age schemes. Old age people those were living in the Government aided old age homes, felt that they need some information on financial matters but at the same time, for some of them at that stage of life it was meaningless to gather information on financial issues. Therefore they declared that they did not need any information. This study was revealed that among the respondents, 20.5% were interested in income-related information, 2.21% of inmates interested on the informa-



tion of savings and only 1.89% of inmates required information on old age scheme related issues.

Health information is an important factor for the well being of older persons. It was revealed that 51.7% of inmates required diseases related information. 21.5% of inmates needed medicine related information, 8.8% of inmates needed doctors related information and 54.65% inmates needed physical fitness-related information.

The available source of information is important because these sources were used by them to meet their basic information needs. It indicates that 49.84 % respondents' relied on human beings as a source of information. The staff of the old age homes was the only reliable and easily available source for them. It was revealed that 23.34 % of respondents used newspapers and only 4.73% of used old age home's library for their information needs.

7. Role of libraries :

An academic library may extend its resources and services to other residents of the community in which it is located. Not every village of India has a public library, but every village has a school and some villages have colleges also (Ray & Sharda, 20). Therefore it is possible to an academic library to serve the old age persons. "Community engagement in public libraries includes making the library space available for community activities, working in partnership with the voluntary and community sector as well as with other public services, involving volunteers in the delivery of library of library services, activities to support community involvement in various levels of decision making" (Goulding, 2009). In another study, it was revealed that Libraries are the commonplace that serves the population of all ages. It also highlights the library as a center for nurturing creativity and space for performance and exhibition. These performance-based programs allow their members to use the library as poetry slams and to meet and talk with authors about their works. Libraries also offer the theatrical programme, local art exhibits, and musical events to their citizens (Zurinski, 2013). The library is well-positioned to help the senior citizen. As a source of information, knowledge, and community connections the library has inherent qualities to make the older adults more powerful and engaged with community members (Zeisel, 2006).

Academic institution and academic library consists of a large number of documentary and human resources. These resources can be used by the institution for old-age care and aware them to solve their day to day problems.



7.1 Resources of public libraries for old age persons

1. Books and other printed document.
2. Reading rooms
3. Computers and internet connection for remote communication

7.2 Resources of academic libraries for old age persons

1. Books and other printed document.
2. Reading rooms
3. Computers and internet connection for remote communication
4. Gym and yoga centre
5. Counseling unit
6. Health check-up unit
7. Faculty members and subject experts.

8. Library services for senior citizens

1. Sharing academic library space (reading Room) for senior citizens.
2. Library infrastructure and furniture should be familiar for old age persons.
3. Library documents should be organized in such a way that, senior citizens can meet their information (financial, health and legal etc.) needs.
5. Sharing institutional space for yoga and physical activities.
6. Arrangement for cultural activities and training programs on music and other cultural activities.
7. Organize different awareness programs with the help of learned faculty members.
8. Election awareness programme for elderly people.
9. Film show.
10. Supplying old popular magazines to local health centres.
11. Monthly Blood pressure checkup facilities by students and faculty members.

9. Conclusion :

With the rapid increase in the proportion of older people in the world, the social



meaning of ageing has also changed in many societies. The 'Old age' is now more attached with the terms like 'Active Ageing', 'Healthy Ageing', 'Productive Ageing', and 'Successful Ageing' rather than the negative association with disease, disability, loneliness and mental illness etc. But successful aging does not depend upon the use of new terminology of ageing; it depends on the moral values of the society. Understanding how societies with older adults can age with grace and dignity by erasing the negative stereotypes associated with old age is one of the first steps towards understanding successful ageing. (Nagalingam, 2007). Rowe and Kahn (1998) define the concept of successful ageing as "low risk of disease and disability, maintenance of cognitive and physical functions and sustained engagement with life that involves behaviour that is productive and one's relationships with other people." Therefore successful ageing indicates living with no diseases and disabilities; this allows mental and physical fitness and in turn enables an active engagement in life. In addition, another study defined successful ageing as having a good family and being financially independent and healthy (Nagalingam, 2007). On the other hand, an academic library has a large number of subject documents, books, journals and traditional library services. The process of collection development and services they offered are related to institutional vision and legitimacy and resources restrictions. Transforming an institution with long traditions is difficult. Many features of the academic library have tremendous power to resists change (Michalak, 2012). Therefore most vital role and initiative would be played by the academic institution, librarian and Library Management Committee by changing their nature and activities. This paper finds that the sharing library space may be a way of community engagement and extension service of an academic library.

References :

- Central Statistics Office. (2011). Situation Analysis of the Elderly in India. New Delhi: Central Statistics Office.
- Goulding, A. (2009), Engaging with community engagement: public libraries and citizen involvement, *New Library World*, 110 (1/2), 37–51. Retrieved from <http://dx.doi.org/10.1108/03074800910928577>
- Kumar, K. (1987). Library administration and management. New Delhi. Vikas Publishing House. P 166-167.
- Michalak, S.C. (2012). This changes everything: transforming the academic library. *Journal of Libnrary Administration*. 52(5),411-423.



- Nagalingam, J. (2007). Understanding successful aging: a study of older Indian adults in Singapore. *Care Management Journals*. 8 (1). 18-25.
- OCLC Webjunction, (2014). Transforming Library Spaces for Community Engagement.Ohio: OCLC. Retrieved from <https://www.webjunction.org/content/dam/WebJunction/Documents/webJunction/2014-07/reports/Transforming%20Library%20Spaces%20for%20Community%20Engagement.pdf>
- Okiy, R.B., (2012). Towards Accelerated Development of Academic Library Services in Nigeria for National Development in the 21st Century: Library Philosophy and practice. Available online: <http://unllib.unl.edu/LPP/>
- Rajan, S. I. (Ed.). (2007).Social security for the elderly: experiences from South Asia. New Delhi: Routledge.
- Rao. P.V., & Sharda, P. ().Institutional and Social Context of Academic Libraries: extension work. Retrieved from http://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/S000021LI/P000203_M002001/ET/1463138583P11_M2_et.pdf
- Rowe, J. W., & Kahn, R. L. (1998). Successful aging. New York: Pantheon/ Random House
- Shrestha, S. (2013). The changing role of community libraries: emerging centres for sustainable development. Paper presented at IFLA world Library and Information Congress. Retrieved from <http://library.ifla.org/216/1/150-strestha-en.pdf>.
- Yates, F. (2014). Beyond library space and place: creating a culture of community engagement through library partnerships. *Indiana Libraries*. 33(2). 53-57.
- Zeisel, W. (2006).Designs for change: Libraries and Productive aging: report on the national library leaders forum. Retrieved from https://www.imls.gov/sites/default/files/publications/documents/designsforchange_0.pdf
- Zurinski, S, Osborne, V., Ney, M. A. & Kenney, j. M. (2013). Libraries in the community:changing opportunities. *Maine Policy Review*, 22(1), 71-79. Retrieved from<https://digitalcommons.library.umaine.edu/cgi/viewcontent.cgi?article=1584&context=mpr>



School Books in the India Office Library : an evaluative study

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Abstract :

The study has confined its focus on the evaluation of school textbooks in colonial Bengal especially deposited in the India Office Library as it found authentic depository of the period. It has been carried out with the objectives, to acquaint with knowledge worthy for colonial students, to what extent published textbooks were consistent to it, to evaluate school textbooks in the India Office Library, to familiar with the pioneer textbook writers in different subjects. A thorough study of the catalogue of the Bengali books in the nineteenth century in the India Office Library has been done to do a comparative study with school books and books on other subjects. 2400 Bengali books are found collected in the library. 12 % books found for schools. School books comprised of grammar, mathematics and readers. A good number of mathematics and zamindari account are found collected in the library. Ishwar Chandra Vidyasagar, Akshay Kumar Dutta, SatkariDutta, JadugopalChattapadhyay, RamgatiNayaratna Bhattacharya, Madan Mahan Tarkalankar, Gopal Chandra Bandopadhyay were pioneer child book reading writers. The India Office Library collection appeared as an authentic source of school books and its contributors which is helpful in present-day syllabus and textbook designing in elementary education.

Keywords :

Colonial Bengal, School books, India Office library, Colonial students, Grammar, Mathematics, Readers.

1. Introduction :

The centrality of school textbooks in the Indian education system means



that concerns, debates and controversies in Colonial and Post- Colonial India must be the focus of discussion to understand the central question of the curriculum as well as prescribed textbooks. In the present context, the study has confined its focus on the evaluation of school textbooks in Colonial Bengal especially deposited in the India Office Library as it found authentic depository of the period. An attempt has been made to examine the topics with some definite objectives.

2. Objectives :

Objectives are given below, such as,

- i) To acquaint with knowledge worthy for colonial students.
- ii) To what extent published textbooks were consistent with it.
- iii) To evaluate school textbooks in the India office library.
- iv) To familiar with the pioneer textbook writers in different subjects.

Non-availability of textbooks of the nineteenth century was the main problem to determine the merits of the same. Text books used to preserve seldom in personally or in the library though few textbooks were preserved in libraries of India and abroad. We have to depend upon old lists of textbooks to determine their characteristics.

There are so many books; articles have been written on colonial education, curriculum, and textbooks selection policy. Ashis Khastagir has contributed a representative work on Bengali Primer. The numbers of lists, catalogues have been found on colonial publications. But an exhaustive collection of school books in the India Office Library which has been attracting source to the scholar of Indology, authentic document to present-day educational planning is almost absent in the preceding studies. The present study is an attempt to fill up the gap in the subject.

3. Methodology :

A thorough study of the catalogue of the Bengali books in the nineteenth century in the India Office Library has been done to do a comparative study with school books and books on other subjects. Physical verification has been done by the help of the historical collection of the Bangiya Sahitya Parishad and Asiatic Society library, Kolkata. Educational records have been consulted to acquaint with the Colonial education policy in Bengal. The data sheet has been prepared to comprise subjects' name, authors' name, and publishers' name and so on to



collect data. Collected data have been analyzed and presented in a tabular form for their qualitative and quantitative evaluation.

4. Findings and discussions :

Our study has laid special emphasis to the School books in the India Office Library catalogue. The sudden boom in the book trade after the mutiny in 1857 had another very important consequence. It summoned the state to intervene and take cognizance of this rapidly proliferating industry. Ostensibly to keep itself informed about the effects of education on the native mind, the colonial state began to devise mechanisms of control and censure. The state's intervention was not without its effects on Bengal's literate society and how it set out its criteria of classifying printed literature by quality and taste. The massive spate of new books in the 1860's prompted the government to put in place comprehensive machinery for the surveillance of Bengali publications. An act was passed in 1867 for the regulation of printing presses and Newspapers, for the preservation of copies of books printed in British India, and for the registration of such books (Act XXV, 1867).

The India office library has been in existence since 1798, when the court of Directors of East India Company passed a resolution to denote a portion of their famous India House in Leaden hall Street, London to the establishment of a library and museum. Employees of East India Company including high-rank English officials' rulers brought books and manuscripts of Indian language with them of the time of their return from India and deposited them to the Company's Leaden hall Street. Directors of the company established India Office Library with those books and manuscripts. The library of the East India Company was no longer a store of books though it was a merchant institution. The company was keen to enrich the library with a new publication. It was unknown how much money allotted to purchase books of the library but it was usable to the inquisitive researcher of Indology due to the attachment of the personal collections of different persons.

The Indian Press and Registration of Books Act of 1867 was a landmark in the library's history, for under its proceedings the library was given the privilege of requisitioning a copy of every book printed in British India in any language. As a result, a flood of Indian printed books and periodicals began to appear in the library. Printed books in the library number about 300,000 of which about three quarters are in someone hundred oriental languages (mainly Indian and one quarter in



English and other European languages. 24000 books on the Bengali language i.e. highest among all Indian languages). Converting the figure into different subjects, it appears as 55.4 % are classified as literature. This compares with 22.5 % theology, 12.4 % arts and sciences, and 12 % books for schools. Of the literature titles, 33.2 % were dramas, 37.7 % poetry, and only 18.3 % fiction. (Blumhardt, 1905) Following table shows broad classification School books in the India Office Library catalogue.

Table - 1

School books in the India Office Library

School Books		
Grammar	Mathematics	Readers
Bengali	Algebra	Bilingual
English	Arithmetic	General
French	Geometry	Keys and Glossaries
Hindi	Trigonometry	Miscellaneous Manuals
Hindustani		
Persian		
Sanskrit		

As the then elementary education primarily based on three R's, i.e. reading, writing and arithmetic. So, School books were written and published basically on Grammar, mathematics and books for readers. Naturally, School books collection comprised of grammar, mathematics and readers. Grammar had divided in Bengali, English, French, Hindi, Hindustani, Persian, and Sanskrit. Mathematics divided into Algebra, Arithmetic, Geometry, and Trigonometry. Readers had also divided among Bilingual, General, Keys, Glossaries, and Miscellaneous Manuals.

We have found more than fifty Bengali grammar books preserved in the India Office Library. More than 20 Bengali grammar books are found edited time and again proved them as a bestseller. SahityaPravesa grammar of the Bengali language with a history of the Bengali language and literature and the rules for the



construction of sentences by Prasanna Chandra Chakraborty appeared as most popular among Bengali grammar books of the nineteenth century. It had edited Sixteen times from 1869 to 1883. Vyakarnasara, 9thed., 1860, Dacca by Gobinda Prasad Roy earned popularity followed by Bangla Byakarana by Loharama Siroratna, 1867, Calcutta and Vyakarna Manjari by Kalikumar Das, Calcutta, 1869. Other Bengali grammars were Bodhasaraby Nilmani Mukhopadhyay, Calcutta, 1872, Gauriya Byakarna by Raja Rammohan Roy, Loghuvyakarna by Joygopal Goswami, Calcutta, 1868, Sishubodh Vyakarana by Loharama Siroratna, Calcutta 1867, Vyakarnama Pravasa by Jugeschandra Chakraborty, Calcutta 1867 and so on occupied better position in student's community.

The same number of both English and Sanskrit grammars are found acceptable to the student's community. Twenty-two Sanskrit grammars have been collected in the India office library. Upakramanika, introduction to Sanskrit grammar for the use of the government Sanskrit College of Calcutta by Ishwar Chandra Vidyasagar was praiseworthy to the students. Vyakarana Kaumudi outlines of Sanskrit grammar by same Ishwar Chandra Vidyasagar was also favourable to the students.

More than twenty-one English grammar books were in current, side by side Bengali and Sanskrit grammar. Elementary lessons on English composition prepared on Dr Arnold's plan for the junior classes of schools by Gangadhar Bandopadhyay published from Calcutta in 1875 acquired popularity followed by Help in learning English by H.F. Harding, Calcutta, 1871; Engreji Byakarana Sanjibani, the grammar of the English language with occasional explanations grammatical editions and phases, adopted to the use of the middle-class English Schools in Bengali by Jasodanandan Sarkar, Calcutta, 1878, and like (Blumhardt, 1905).

A good number of books on mathematics had published in the century to develop students' mental horizon in science. Jasodanandan Sarkar won fame for his Bijaganita pravesika introduction to Algebra. It was first published at Calcutta in 1872. Patiganita, arithmetic and mensuration (mental mathematics) by Gopal Chandra Bandopadhyay was regarded as best book to the students. It had edited seven times from 1873 to 1878. Ganitika: arithmetic, comprising the five fundamental rules by J. Harley and Ganita Vijnana. Arithmetic by Joygopal Goswami won equal fame in the students' community. Dharapat; arithmetical tables, weights and measures were effective to the students. A good number of Dharatpat books written and published by A good number of 'Dharatpat' books written and published by Calcutta School Book Society, Gopal Chandra Das, Hemendra Majumdar, Saratchandra Sil etc.



Influence of Zamindars in the social and cultural life of Bengal in the nineteenth century was undeniable. Most of Pathsalas and elementary schools were established under the assiduity of them. A good number of people were employed to maintain the Zamindari account. So, books were also composed and written to fulfil the purpose.

Zamidari Mahajani o Byaye rHisab: Zamindari, Mahajani and cost accounts with a short history of Zamindari revenue and commerce in Bengal by Nrisingha Chandra Mukhopadhyay edited in time and again, which proved its popularity. Other books, such as Zamindari Mahajani Hisab by Haridas Gangopadhyay, Tarini Charan Basu Chowdhury, Kaliprassana Sengupta etc.

At least thirty-five geometry books of different authors were in current for the school students. EucliderJyamiti: Simpson's Euclid, books I and II translated with notes and exercises by Brahmamohan Mallick followed by Jarip o Parimiti, surveying and mensuration by Kshetranath Bhattacharya and Sahaj Parimiti, simple mensuration for the use of Primary school by Nrisinha Chandra Mukhopadhyay had appeared as a bestseller (Blumhardt, 1905).

Akshay Kumar Dutta wrote Padartha bidya: Jarer gun o Gatir Niyam in 1865 and probably it was first physics textbook by native writer. Rajkrishna Adhya wrote PadarthaGyandarpan in 1858. Nabin Krishna Bandopadhyay and Dwaraka Nath Das wrote Prakritatwatwabibek and Padar thatatwa in 1860 and 1862 respectively. In 1863, Bastusiksha printed in Sulavjantra Dacca. In 1867 and 1870, Padarthatatata by Pratap Chandra Sen and Padartha darshan Mahendra Nath Bhattacharya printed from Maymensingha.

Gopal Lal Mitra and Bhuban Mohan Mitra jointly advanced to write textbooks on chemistry. They translated Kautktarangini from English in 1844. Priyanath Sen wrote Rasayanik PadarthaBijyanin 1872. 'Rasayan' of Jadav Chandra Basu published from Roy Press in 1878. Some more Chemistry textbooks were Kanai Lal Dey's Rasayan Bijyan, Bhuban Chandra Basak's Rasaratneswar, Chuni Basu's Rasayan Sutra etc.

Some textbooks on Botany were written in the century and included in the collection of the library. Balak Sikshartha Udvijjbidya translated from English by Braja Nath Vidyalankar in 1854. Shiv Chandra Dev published a list of Indian plants in 1856. Hara Narayan Roy's Chara Prasanga published from Bengali Press in Dacca. The sixth edition of Udvid Bichar by Jadu Nath Mukhopadhyay published in 1877.



An important Botany text book was Hari Mohan Mulhopadhyay's *Udvid Byabachhed Darshan*, published in 1880. Librarian of Bengal Library was put up his comment on the book that it was a useful publication, and was believed to be the only one of its kind in the language (Khastagir, 2000).

A significant number of history and geography textbooks were written by Bengali writers after the introduction of these two subjects in the school curriculum and included in the library collection. Missionaries were also found pioneer in these subjects as in the case of Science textbooks. Tarini Charan Chattapadhyay's book acquired popularity as a text book. Its eleventh edition was published in 1870. Rajani Kanta Gupta won fame as a writer of Sipahi Judhyer Itihas. Mahendra Nath wrote Prachin Arya Ramaniganer Itibritta. Naba Gopal Mitra wrote Hindu Melar Bibaran in 1870. Apart from books on the history of Bengal and India, writers were also enthusiastic to write books on world history. Nilmoni Basak wrote Itihassar in 1859. Trailokya Sanyal wrote Prithibir Itihas in 1875. Shyama Charan Bhattacharya wrote Gurushisha Sambad, a world history in verse. An ample number of geographies textbooks were also written in the age. The geography textbook by Tarini Charan Mitra was most popular among the books. Shyama Charan Basu translated Bharatbarsher Bhugal Brittanta in 1862. Pyaricharan Sarkar's Bhugal Brittanta published in 1855 (Khastagir, 2000).

More than a hundred child reading books were in vogue in the market to a developmental horizon of the pupil. Calcutta School Book Society, Christian Vernacular Society, Sreerampore Mission were relentless in this work. More than a hundred authors contributions enriched the library collection. Ishwar Chandra Vidyasagar, Akshay Kumar Dutta, Satkari Dutta, Jadugopal Chattapadhyay, Ramgati Nayaratna Bhattacharya, Madan Mahan Tarkalankar, Gopal Chandra Bandopadhyay were pioneers among them.

Aphorism book series is found was another popular textbook in that age. Bengalese first acquired real taste of Aesop's fable through Aphorism. School Book Society published several Fable books. Aphorism book series was sovereign before the appearance of rudiments of knowledge series. Ramkamal Sen translated 49 fables of Aesop in Bengali as Hitopadesha. It was later familiar as Nitikatha. A good number of aphorism school textbooks were written by authors in that time, such as Jnanarnab by Prem Chand Roy, Jnanachandrika by Gopal Chandra Mitra, Nitidarshan by Ram Chandra Bidyabagish, Pratham Nitipustak by Chandra



NathBasu, Subodhiniby Bipin Chandra Pal etc. Madhusudan Mukhopadhyay brought a new taste in the world aphorism textual book. He translated Hence Anderson's tales published by Vernacular Literature Society (Bandopadhyay, 1961). Badhoday, rudiments of knowledge by Ishwar Chandra Vidyasagar appeared as the best child reading in contemporary time. It was edited fifty-eight times from 1852 to 1878. Barnaparichay, spelling book and primer by Vidyasagar was appreciated by both teacher and taught. His Kathamala, Charitabali and Barnaparichayawere equally popular even in the Twenty-first Century. Vidyasagar entered the textbook world through Betalpanchabingshatiin 1847. Despite detraction, Bodhodaya, Barnaparichaya, Kathamala, Charitabali used to read in schools of Bengal organized by Missionaries (Basu, 1993) (Khastagir, 2000). Pratham Path and Tritiyapath by SatkariDutta had edited more than twenty times which proved its popularity. Sishusiksha, the infant teacher by Madan Mohan Tarkalankar well-regarded in the door to door in Bengal. It was proved as ideal education book not only for girl student but also all students (Khastagir, 2000).Sisupatha, a reader in prose and verse by Ramgati Nayaratna, SaralPatha, by Kashinath Bhattacharya were accepted as premier category child reading books. Charupath, entertaining lessons in science and literature by Akshay Kumar Dutta was a book to introduce scientific knowledge by means of literary flavour. The book had a great attraction to the students.

Question papers for Entrance Examination by the Senate of the Calcutta University for the year 1869 to 1866 used to access for the students too. Sishubodhaka, a manual of useful instruction for Hindu boy's comprising rules of simple arithmetic, a letter writer and poetical reader or NabaSisubodha, the Pathsala course or a manual of instruction in arithmetic, mensuration and Bookkeeping by KshetraNath Bhattacharya were popular and effective to the students. Notes and glossaries on different subjects were popular among students in the nineteenth century. Not only keys of English prose or verse, notes on Bodhodaya,Charupath, Sishusikha, Narisiksha etc. were in popular in the book market. More than fifty keys and notebooks were in vogue in the book market (Shastry, 2003). An ample number of textbooks were written and published to cope with the gradual increase in school and colleges. Central Textbook Committee was formed to maintain qualities of textbooks in the eighth decade of the century (Mamun, 1985).

In the curriculum of the post-1858 era, Girls would have been provided needlework. For girls in both town and village, course of botany, natural history



and domestic economy were prescribed. (Government of Bengal, 1899) Library collection reveals that Balabodhu, Narisiksha, Balabodhika, Balikabodh and like texts were included in the school curriculum to spread female education in the nineteenth century. Despite low literacy among females, some of them found as female text book writer. Balabodhika by Kaminisundari Debi, Balikabodhika by Pratul Kumari Dasi, and Balika Sikshasopan by Sarojini Devi were significant among them (Long, 1855).

5. Conclusion :

The ability of children to make meaning and construct knowledge, place of disciplinary knowledge and boundaries, local knowledge and formation of a nation are incorporated in the present-day school curriculum. Such a culture, with its Colonial legacy, laid less emphasis on memorization, on recitation without meaning rather involve cognitive engagement and interaction with the contents of the textbook. Bengali textbook collection of the India Office Library has been bearing authentic historical information of the knowledge provided as worthy for colonial students. The library collection appeared as an authentic source of school books and its contributors which is helpful in present-day syllabus and textbook designing in elementary education. Research on nineteenth-century school education would be incomplete without a thorough knowledge of the school books collected in the India Office Library.

References :

- Act XXV of 1867. (1890). (reprint Calcutta: Superintendent of Government Printing).
- Bandopadhyay, B N. (1961). Sahitya Sadhak Charitmala. Dwijendra Nath Tagore, Puratan Prasanga, (Bangiya Sahitya Parishad; Kolkata), Vol.6. , 2nd part, pp.5.
- Basu, S. (1993). Samakale Vidyasagar, (PustakBipani; Kolkata), pp. 124.
- Blumhardt, J F. (1905). Catalogue of the Library of the India Office, (India Office; London), pp. 171.
- Blumhardt, J F. (1905). Catalogue of the Library of the India Office, (India Office; London), pp. 171-201.



- Blumhardt, J F. (1905). Catalogue of the Library of the India Office, (India Office; London), pp. 180-188.
- Government of Bengal Programmes of Education.(1899). September, No. 23-26, pp.195-198.
- Khastagir, A. (2000). Bangla primer Sangraha, (Paschimbanga Bangla Academy; Kolkata), pp. 13-27.
- Khastagir, A. (2000). Bangla primer Sangraha, (Paschimbanga Bangla Academy; Kolkata), pp. 193-211.
- Kahastagir A, (2000) Bangla primer Sangraha, (Paschimbanga Bangla Academy; Kolkata), pp. 253-281.
- Khastagir, A. (2000). Bangla primer Sangraha, (Paschimbanga Bangla Academy; Kolkata), pp. 309.
- Long, James. (1855). A Descriptive Catalogue of Bengali works: Containing a classified list of fourteen hundred Bengali books and pamphlets which have issued from the press during the last sixty years with occasional notes of the subjects. (Forgotten Books; London).
- Mamun, M. (1985).Unish Satake Bangladesher SambadSamayik Patra, (Bangla Academy; Dacca), vol. 2, pp. 341.
- Shastry, S N. (2003).Atmacharit.(Dey's Publishing; Calcutta), pp.25.



Citation Analysis of the Doctoral Theses on Shakespeare Submitted to the University of Calcutta during 1957-2014 : a study

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Abstract :

The importance of the citations lies in the fact that as an integral part of any research document they create a link between the cited and citing documents. Keeping this in mind, citation analysis was conducted on the bibliographical references collected from 19 doctoral theses on Shakespeare submitted to the University of Calcutta with the aim to observe the features of the citations as well as the citing behaviour of the researchers in this specific field of literature. Finally 3310 references were taken into consideration, on the basis of which a database was created using Microsoft Office Excel 2007. The study shows that books were the highly cited documents, and that one-authored books and articles received maximum citations in the theses. UK was the highest cited country in case of both book and article citations. Shakespeare Quarterly was the most productive journal on Shakespeare, as observed from the study. This study is very much authentic and original. No research work on this topic has been published elsewhere previously.

**Keywords :**

Citation Analysis, Ph.D. theses, University of Calcutta,bibliographical references, book citations, article citations.

1. Introduction :

Citation analysis is one of the most widely used methods of bibliometrics in the field of Library and Information Science covering the analysis of the bibliographical references or citations which are appended to the scholarly communications in a particular field of subject. Various patterns and characteristics of the cited documents such as the authorship pattern, degree of collaboration, publication trends, usage of different kinds of documents by the researchers, frequently cited documents and authors, subject, language and country-wise distributions of the citations are dealt with in such studies. Citation analysis has two major aspects. By analyzing citations, on the one hand, the librarians can evaluate the library collections, and on the other hand, scientific research activity and the citing behaviour of the scientific researchers can be measured. Citations are the integral part of all kinds of research articles. When an author writes a research article, he or she often takes the help of part or whole of several previously written documents and mentions them with its bibliographical details in his or her article, thus creating a relationship between the cited documents and the citing document. The authors cite documents, because they want to pay homage and give credit to the pioneering as well as related works, provide background study, search for methodologies, correct as well as criticize previous works. According to Garfield (1975), "when one document (B) mentions, or refers to another document (A), the latter (A) has been cited by the former (B) as a source of information, as support for a point of view, as authority for a statement of fact, etc. The word citation is used to indicate not only the fact that document A has been cited in a reference of document B, but also for the description of document A contained in the reference. In this sense, citation and reference are frequently used interchangeably." The first recorded study of citation analysis is observed in the work entitled 'College Libraries and Chemical Education' by Gross and Gross in the year 1927. They did this study for the purpose of helping the small college libraries decide which chemistry journals should be purchased by them.

It is a common phenomenon that in the sphere of higher education, doctoral



or Ph.D. theses are very much vital to the researchers for acquiring degree as well as for the research purposes. Through the theses, they unfold many unidentified and hidden or unknown areas of knowledge to the world. One such research paves the way for another related research and thus growingly helps to the development of a specific field of knowledge and discipline. In this way the previous researcher shows the path of further research aspects to the future researchers. In this point, citation analysis, which is a measuring technique in the field of Library and Information Science, can help them a lot, by making them known the citing behaviour of the previous researchers as well as the use and handling of the research documents by them in a specific field of study. The knowledge about the citation behaviour of the previous researchers may help the new researchers gain an idea about how they should proceed with their research works.

William Shakespeare, popularly known as the 'Bard of Avon', is considered as one of the greatest playwrights in the history of English literature, due to his profound literary contributions in this literature. The magnitude of his literary endeavour can be observed in different types of dramatic genres like comedies, tragedies, histories, etc. His comedies like As You Like It, The Merchant of Venice, Twelfth Night, and A Midsummer Night's Dream, etc. and the tragedies like King Lear, Othello, Hamlet, and Macbeth, etc. are the examples of some dramatic treasures in the world literature. Not only dramas, but he also wrote 154 sonnets and poems like Venus and Adonis, The Rape of Lucrece, A Lover's Complaint, The Phoenix and the Turtle, and The Passionate Pilgrim. So great is Shakespeare's power of writing skill and literary imagination that various literatures all over the world have been influenced by his works. Not only literature, the immensity of his literary capacity has diversely affected the cultural, political and educational spheres throughout the world. In various countries, his works are being continuously adapted, translated, re-interpreted and recreated. In various educational institutes including universities all over the world, his works are devotedly being taught. Many Researches in various languages are also being performed continuously in these institutes. So from all these, it is clearly visible that Shakespearean literature has not only enriched the English literature but also literature in other languages to a great extent.

2. Literature Review :

Literatures related to the field of citation analysis were reviewed to get an insight



into the similar types of studies that were done previously by different authors. All these reviewed literatures have been arranged in a reverse chronological order. For example, Das and Deka (2020) applied citation analysis method on 2725 citations appended to 27 doctoral theses in Library and Information Science submitted to Manipur University during 1989-2017 to examine bibliographic form-wise distribution of citations, authorship pattern and degree of collaboration, chronological distribution of citations, applicability of Bradford's law, rank-wise distribution of journals, core-list of journals, and country-wise distribution of citations. Gupta and Khare (2013) carried out a citation analysis on 7284 citations from 28 Ph.D. theses of LIS submitted in Dr. Harisingh Gour University, Sagar till 2010 and stated that most of the cited sources were journals and the most cited journal was IASLIC Bulletin with 11.89% citations, followed by ILA Bulletin with 9.35% citations. More than 70% of literature was in the form of journals and books. Mishra, Gawde and Solanki (2012) conducted a bibliometric study on 55 Ph. D. theses submitted to Vikram University during the Thirty Three years (1975-2007) in English and studied various bibliometrical aspects along with the study of the references used in the Ph.D. theses, bibliographical forms of references, authorship pattern of books used in the references and ranking of journals. Analysis on 4875 citations in 40 doctoral dissertation submitted between 1990 and 2010 in the department of Economics, Aligarh Muslim University, Aligarh was presented by Nasir and Kumar (2011). Knievel and Kellsey (2005) found that citation patterns varied widely among different humanities disciplines like art, classics, history, linguistics, literature, music, philosophy, and religion. Wolfe-Thompson (2002) provided some insight into the current state and patterns of academic publishing in the humanities discipline through the analysis of citations from scholarly monographs and journals in the field of nineteenth century American and British literature. Barooah and Sharma (1999) conducted bibliometric analysis on 4253 citations collected from 19 doctoral dissertations on Organic Chemistry during 1977 to 1997 to determine the use pattern of literature in the area. Deshmukh (1998) analysed 11698 citations appended to 89 Ph.D theses in agricultural science submitted to Punjabrao Krishi Vidyapeeth during the year 1990-94. Mubeen (1996) observed the information use pattern of researchers by analyzing 5012 citations from 22 doctoral dissertations in Chemistry submitted to Mangalore University during the period 1980-93. Cullars (1988) analysed the nature, language and chronological spread of the bibliographical sources or references cited by books. Heinzkill (1980) analyzed footnotes from English literary



journals and observed that literary researchers depend more heavily on books than do scholars in other disciplines.

3. Research questions :

Perceiving Shakespeare's importance and influence in the various areas of research in the field of literature, the most relevant research questions which have come in our mind in the context of this study are as follows:

1. What is the citation pattern of the documents cited in the Ph.D. theses on Shakespeare?
2. What were the various types of documents that the researchers had cited in their theses?
3. Did the researchers cite books in their Ph.D. theses? Did they also cite articles in their theses?
4. What is the publication year-wise distribution of the books and articles cited in the Ph.D. theses?
5. What is the language wise distribution of the cited books and articles?
6. What is the country wise distribution of the cited books and articles?
7. Which are the mostly cited publishers of the cited books and articles?
8. What is the authorship pattern in the cited books and articles?
9. Which are the most ranked journals cited by the researchers?

For answering all the above research questions, we have undertaken the present study entitled '**Citation Analysis of the Doctoral Theses on Shakespeare Submitted to the University of Calcutta during 1957-2014:a study**'. Keeping in mind all these questions, we have framed the following objectives for carry out this study smoothly and effectively.

4. Objectives of the study :

The objectives of this study are as follows:

- 1) to find out the bibliographic form wise distribution of the documents cited in the Ph.D. theses on Shakespeare submitted to the University of Calcutta;
- 2) to observe the publication year-wise distribution of the books and articles



- cited in the Ph.D. theses;
- 3) to study the language wise distribution of the books and articles cited in the Ph.D. theses;
 - 4) to analyse the country wise distribution of the books and articles cited in the Ph.D. theses;
 - 5) to examine the publisher wise distribution of the books and articles cited in the Ph.D. theses;
 - 6) to determine the authorship pattern of the books and articles cited in the Ph.D. theses; and
 - 7) to see a ranked list of cited journals.

5. Methodology :

Data were collected from the theses personally by the researchers by visiting frequently to the central library of the University of Calcutta. Sodhganga database was also consulted for cross-checking, so that no thesis was left out for the collection of data. For citation analysis, each reference cited in the footnotes, at the end of each chapter and at the end of the Ph.D. theses was taken into account ascitation data. There were many duplicate and incomplete references which were discarded by the researchers. The references cited only in English and Bengali languages were collected. References written in Urdu had not been taken into consideration. Thus, finally 3310 bibliographical references were taken into consideration for this study and a database was generated using Microsoft Office Excel 2007.

6. Scope and coverage :

The scope and coverage of this study is limited to the bibliographical references collected from 19 doctoral theses on Shakespeare submitted to the University of Calcutta (CU) from the period 1957 to 2014.

7. Citation analysis on the bibliographical references in the theses from the CU :

Analysis and discussion about the citation patterns of the bibliographical references collected from 19 theses on Shakespeare submitted to the CU was made with the help of various tables and figures in the following three sub-sections :



7.1. Bibliographic form wise distribution of the bibliographical references :

Table : 1							
Form-wise distribution of the bibliographical references collected from the CU theses							
Sl. No.	Type of Documents	No. of Source Documents	No. of Documents Citation	Cumulative No. of Source Documents	Cumulative No. of Documents Citations	Percentage of Source Documents	Percentage of Documents Citations
1	Book	2187	2475	2187	2475	66.073	62.061
2	Article / Essay	694	724	2881	3199	20.967	18.154
3	Journal	101	309	2982	3508	3.051	7.748
4	News paper	30	119	3012	3627	0.906	2.984
5	Chapter	72	72	3084	3699	2.175	1.805
6	Misscel laneous	56	56	3140	3755	1.692	1.404
7	Year- Book	1	52	3141	3807	0.030	1.304
8	Magazine	26	32	3167	3839	0.785	0.802
9	Letter	25	25	3192	3864	0.755	0.627
10	Film	19	19	3211	3883	0.574	0.476
11	Encycl- opaedia	15	17	3226	3900	0.453	0.426
12	Lecture	14	16	3240	3916	0.423	0.401
13	Diction- ary	15	15	3255	3931	0.453	0.376
14	Bibliogr- phy	12	13	3267	3944	0.363	0.326
15	Web Content	11	11	3278	3955	0.332	0.276
16	Treatise	10	10	3288	3965	0.302	0.251
17	Glossary	5	6	3293	3971	0.151	0.150
18	Interview	6	6	3299	3977	0.181	0.150
19	Pamphlet	4	4	3303	3981	0.121	0.100



Table : 1							
Form-wise distribution of the bibliographical references collected from the CU theses							
Sl. No.	Type of Documents	No. of Source Documents	No. of Documents Citation	Cumulative No. of Source Documents	Cumulative No. of Documents Citations	Percentage of Source Documents	Percentage of Documents Citations
20	Thesis	2	2	3305	3983	0.060	0.050
21	Memo-irrl	2	2	3307	3985	0.060	0.050
22	CD/DVD	1	1	3308	3986	0.030	0.025
23	Thesaurus	1	1	3309	3987	0.030	0.025
24	Report	1	1	3310	3988	0.030	0.025
Total		3310	3988			100.000	100.000

It is observed from the Table 1 that among 24 document types, books were the highest cited documents (62.061% citations), followed by articles/essays (18.154% citations) and journals (7.748% citations) respectively. The document types like CD/DVD, thesaurus and report received 0.025% citations each, the lowest among all citations.

7.2. Analysis of the citations patterns of the books cited in the Ph.D. theses of the CU :

The analysis of the patterns of the cited books was made with the help of the following tables and figures.

A. Publication year wise distribution of the cited books:

Table : 2					
Publication year wise distribution of the books cited in the CU theses					
Sl. No.	Range of 20 Years (inclusive)	No. of Source Books	No. of Books Citations	Percentage of 2187 Books	Percentage of 2475 books Citations



1	1521-1540	1	1	0.046	0.04
2	1541-1560	0	0	0	0
3	1561-1580	5	6	0.229	0.242
4	1581-1600	10	10	0.457	0.404
5	1601-1620	7	7	0.32	0.283
6	1621-1640	2	2	0.091	0.081
7	1641-1660	0	0	0	0
8	1661-1680	0	0	0	0
9	1681-1700	0	0	0	0
10	1701-1720	2	2	0.091	0.081
11	1721-1740	0	0	0	0
12	1741-1760	2	2	0.091	0.081
13	1761-1780	1	1	0.046	0.04
14	1781-1800	0	0	0	0
15	1801-1820	3	4	0.137	0.162
16	1821-1840	5	5	0.229	0.202
17	1841-1860	9	10	0.412	0.404
18	1861-1880	30	30	1.372	1.212
19	1881-1900	53	55	2.423	2.222
20	1901-1920	121	135	5.533	5.455
21	1921-1940	240	292	10.974	11.798
22	1941-1960	422	516	19.296	20.848
23	1961-1980	649	742	29.675	29.98
24	1981-2000	233	238	10.654	9.616
25	2001-2020	63	64	2.881	2.586
Total Books with Publication Years		1858	2122		
Books with No Publication Year Mentioned		329	353	15.043	14.263
Total Books		2187	2475	100	100

From the Table 2, it is clear that the number of source books with publication years mentioned was 1858, whereas the number of book citations with the same was 2122. There were 353 book citations with no publication years mentioned in the theses. The highest number of book citations (742 book citations) was made from the period 1961-1980, followed by 516 book citations from the period 1941-1960 and 292 book citations from the period 1921-194

B. Language wise distribution of the cited books :

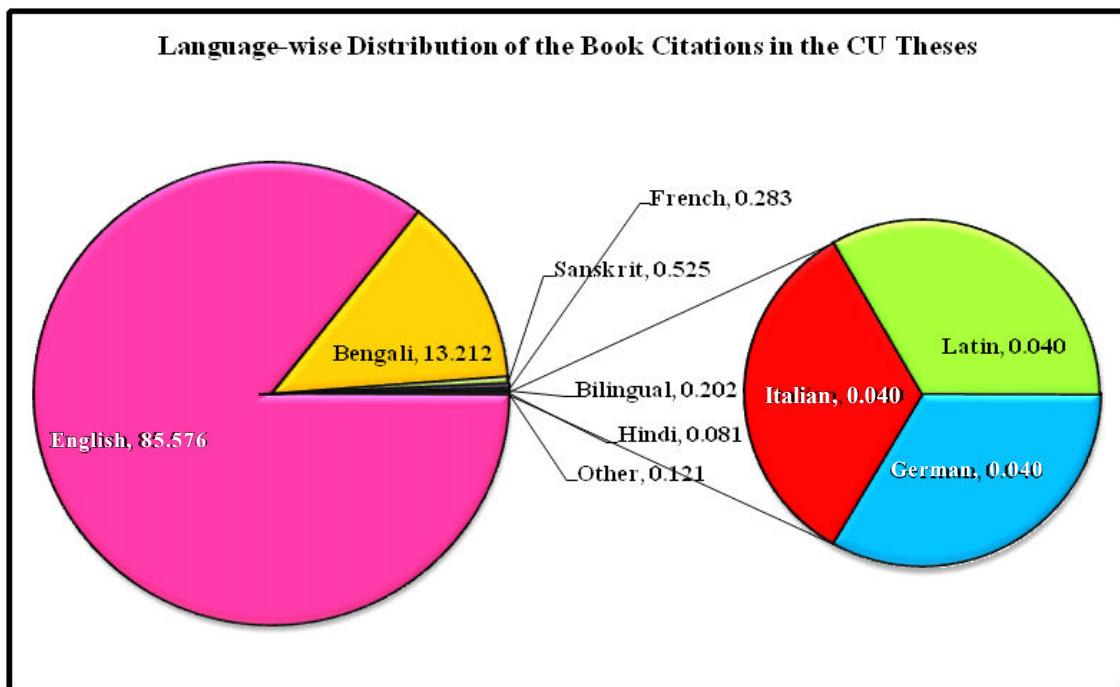


Figure 1

The Figure 1 shows that books written in English language got 85.576% citations, followed by Bengali language books with 13.212% citations. Italian, Latin and German languages got 0.040% citations each.

C. Country-wise distribution of the cited books:

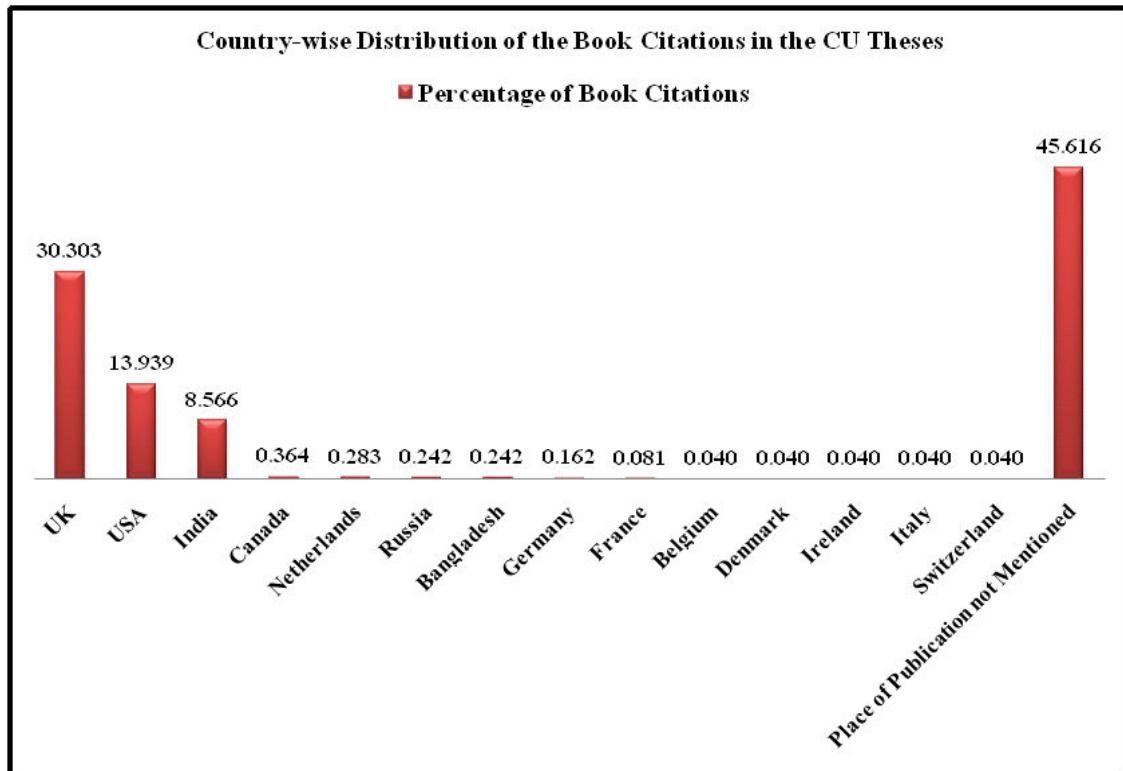


Figure 2

The Figure 2 displayed that UK received the highest position by getting 30.303% book citations, followed by USA with 13.939% citations and India with 8.566% citations.

D. Publisher-wise distribution of the cited books :

Table: 3									
Distribution of the Publishers of the Books Cited in the CU Theses									
Sl No .	Publishers	No. of Books	Cumulative No. of Books	No. of Citations	Cumulative No. of Citations	Percentage of Books	Cumulative Percentage of Books	Percentage of Citations	Cumulative Percentage of Citations



1	Oxford University Press	105	105	124	124	4.801	4.801	5.010
2	Methuen	69	174	103	227	3.155	7.956	4.162
3	Cambridge University Press	86	260	102	329	3.932	11.888	4.121
4	Macmillan	58	318	71	400	2.652	14.540	2.869
5	Penguin	63	381	69	469	2.881	17.421	2.788
6	Routledge	47	428	55	524	2.149	19.570	2.222
7	Clarendon Press	30	458	39	563	1.372	20.942	1.576
8	Chatto and Windus	26	484	35	598	1.189	22.131	1.414
9	Longmans Princeton	21	505	29	627	0.960	23.091	1.172
10	University Press	17	522	23	650	0.777	23.868	0.929
11	Other 338 Publishers	786	1308	868	1518	35.940	59.808	35.071
Books with No Publisher Mentioned		879	2187	957	2475	40.192	100.000	38.667
Total No. of Books		2187		2475		100.000		100.000



The Table 3 presents that there were total 348 book publishers mentioned in the theses. The books with their publishers mentioned got 1518 (61.333%) citations, and the books with no publishers mentioned received 957 (38.667%) citations. Oxford University Press was the highest cited publisher with 124 (5.010%) citations, followed by Methuen and Cambridge University Press with 103 (4.162%) and 102 (4.121%) citations respectively.

E. The authorship pattern in the cited books :

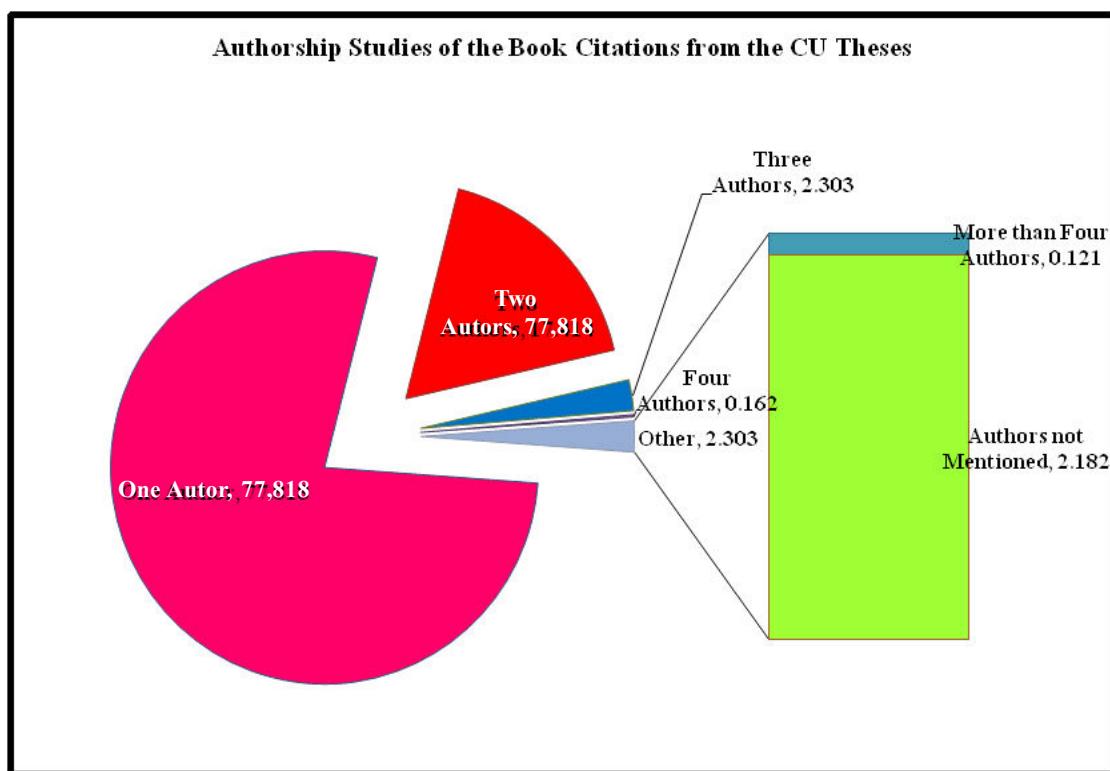


Figure 3

The Figure 3 shows that single-authored books got 77.818% citations, followed by two and three-authored books with 17.414% and 2.303% citations respectively. It is seen that books written by four authors and more than four authors received 0.162% and 0.121% citations respectively. Books with no authors mentioned in the theses received 2.182% citations.



7.3. Analysis of the citations of the articles/essays :

The analysis the patterns of the articles/essays cited in the CU theses was made with the help of the different tables and figures.

A. *Publication year wise distribution of the cited articles/essays:*

Sl N o.	20 Years Range (Inclusive)	No. of Artic les	Cumulative No. of Articles	No. of Citatio ns	Cumulative No. of Citations	Percentag e of Articles	Percentag e of Citations
						Percentag e of Articles	Percentag e of Citations
1	1771-1790	2	2	2	2	0.288	0.276
2	1791-1810	0	2	0	2	0.000	0.000
3	1811-1830	0	2	0	2	0.000	0.000
4	1831-1850	2	4	2	4	0.288	0.276
5	1851-1870	2	6	2	6	0.288	0.276
6	1871-1890	3	9	3	9	0.432	0.414
7	1891-1910	11	20	11	20	1.585	1.519
8	1911-1930	13	33	13	33	1.873	1.796
9	1931-1950	55	88	60	93	7.925	8.287
10	1951-1970	230	318	248	341	33.141	34.254
11	1971-1990	192	510	199	540	27.666	27.486
12	1991-2010	100	610	100	640	14.409	13.812
13	2011-	2	612	2	642	0.288	0.276
No Publication Year Mentioned		82	694	82	724	11.816	11.326
Total No. of Articles		694		724		100.000	100.000



The Table 4reveals that the number of source articles with publication years mentioned was 612, whereas the number of article citations with publication years mentioned was 642. Articles with no publication years mentioned got 82 (11.326%) citations in the theses. The years 1951-1970 noticed 248 (34.254%) article citations, followed by the years 1971-1990 and 1991-2010 with 199 (27.486%) and 100 (13.812%) citations respectively.

B. Language-wise distribution of the cited articles/essays :

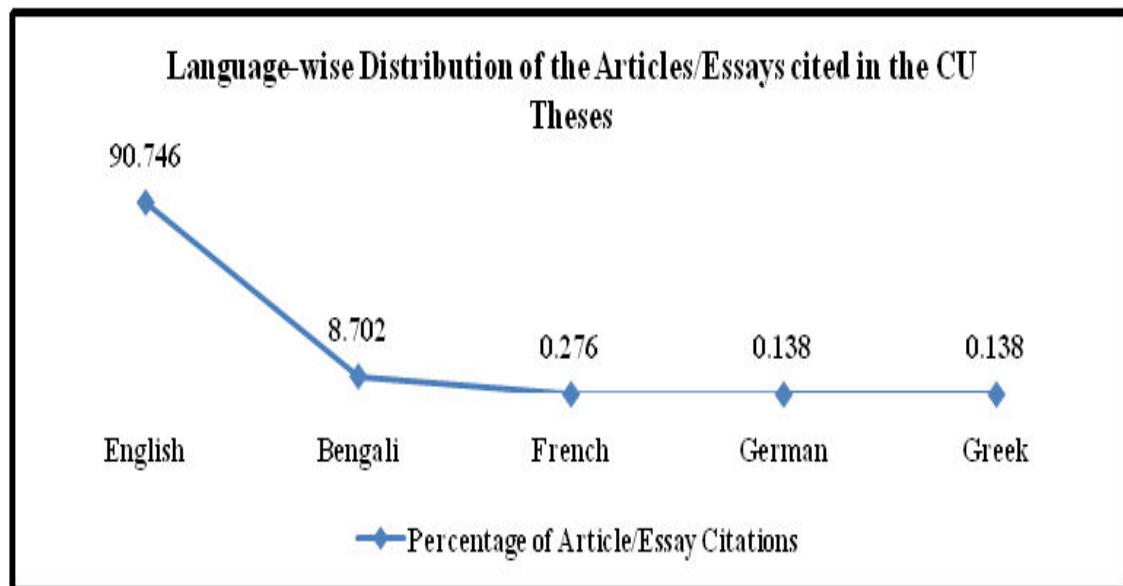
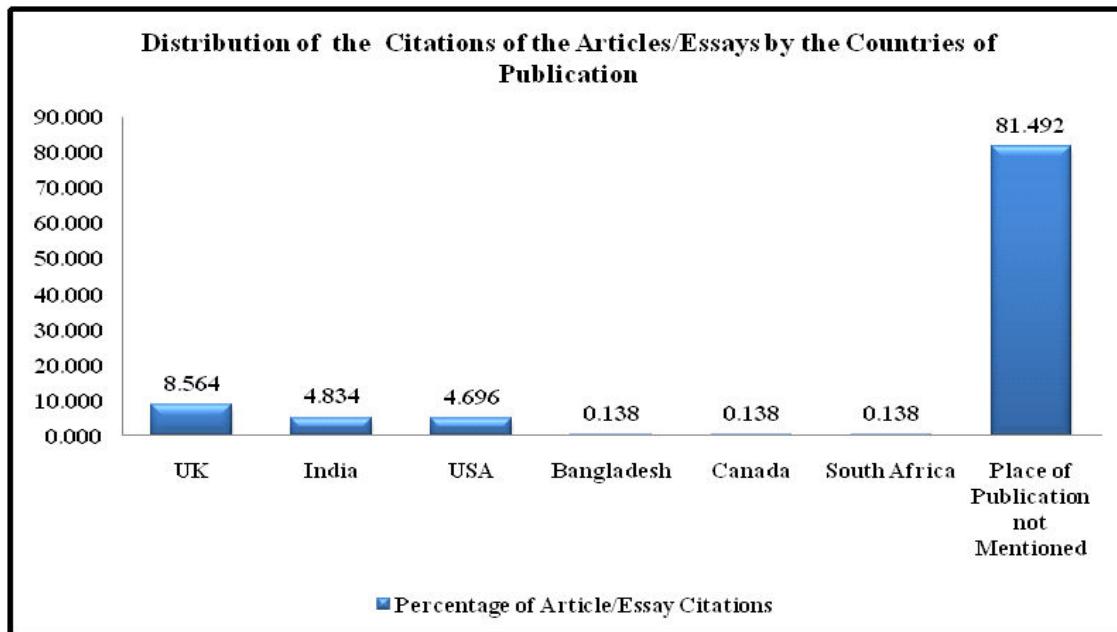


Figure 4

The Figure4points out thatthe articles/essays written in Englishgot maximum citations, i.e.,90.746%citations, followed by those written in Bengali with 8.702%citations.

**C. Country-wise distribution of the cited articles/essays:****Figure 5**

The Figure 5 exhibits that articles/essays produced in the UK got 8.564% citations, followed by India and USA with 4.834% and 4.696% citations respectively.

D. Publisher wise distribution of the cited articles/essays :

Sl No.	Publishe rs	No. of Articles	Cumulat ive No. of Articles	Citations of Articles	Cumulat ive No. of Citations of Articles	Percenta	Percenta
						ge of Articles	ge of Citations
1	Universit y of Calcutta	31	31	34	34	4.467	4.696



2	Cambridge e Universit y Press	24	55	27	61	3.458	3.729
3	Jadavpur Universit y	11	66	11	72	1.585	1.519
4	Oxford Universit y Press	10	76	11	83	1.441	1.519
5	Rabindra Bharati Universit y	9	85	11	94	1.297	1.519
6	Gale	9	94	9	103	1.297	1.243
7	Parichay	6	100	9	112	0.865	1.243
8	Penguin	6	106	6	118	0.865	0.829
9	Macmilla n	5	111	5	123	0.720	0.691
10	Routledg e	4	115	4	127	0.576	0.552
11	Other 60 Publisher s	81	196	82	209	11.671	11.326
Articles/Essays with no Publishers Mentioned		498	694	515	724	71.758	71.133
Total No. of Articles/Essays		694		724		100.000	100.000



The Table 5 shows that there were total 70 articlepublishers. There were 209 article citations with publishers mentionedand515 (71.133%) article citations with no publishers mentioned in the theses. It is seen that 34 (4.696%) citations were received by the articles published by the University of Calcutta, followed by 27 (3.729%) citations by the articles published by the Cambridge University Press.

E. Authorship studies of the cited articles / essays :

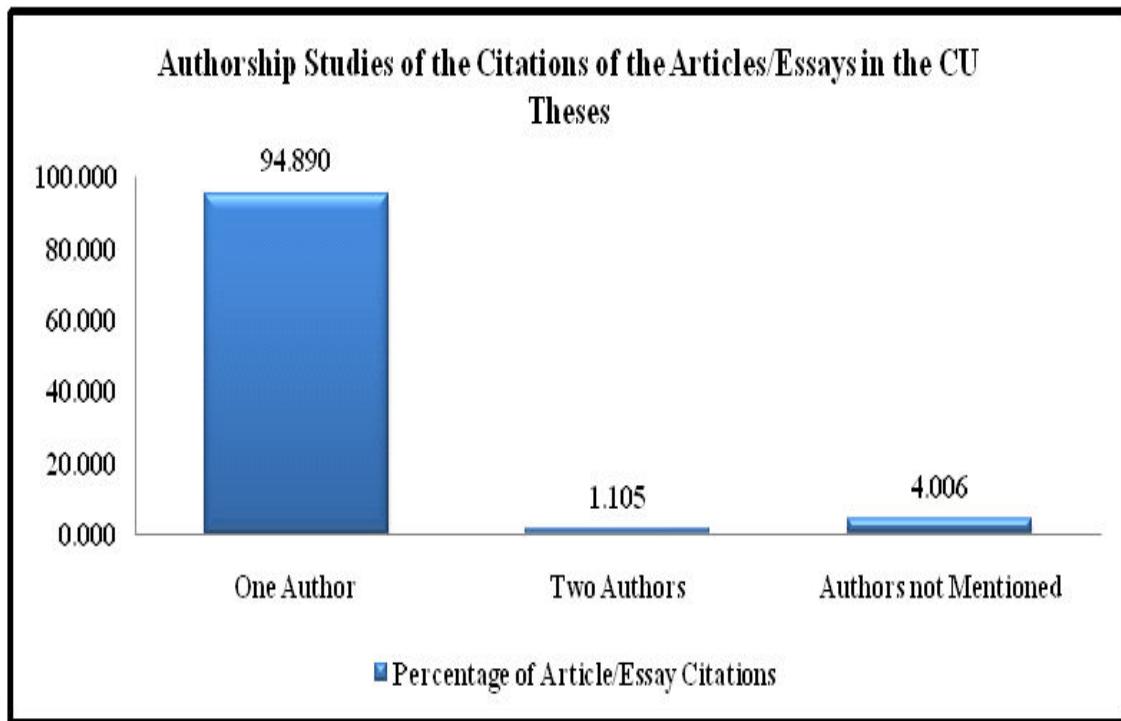


Figure 6

From the Figure 6, we noticed that single-authored articles/essays received 94.890% citations, followed by those written by two authors with 1.105% citations. 4.006% article citations were mentioned in the theses without their respective authors.



F. Rank-wise distribution of the journals according to their article Productivity :

Table: 6

Rank-wise Distribution of the Journals Contributing Articles Cited in the CU Theses

Sl N o.	Title of the Journals	No. of Articles	Cumulative No. of Articles	No. of Citations	Cumulative No. of Citations	Percenta ge of Articles	Percenta ge of Citations	Rank by No . of Ar ticles
1	Shakespeare Quarterly	85	85	88	88	24.496	24.309	1
2	Journal of the Department of English, CU	28	113	31	119	8.069	8.564	2
3	Hamlet Studies	13	126	13	132	3.746	3.591	3
4	SEL(Studies in English Literature)	13	139	13	145	3.746	3.591	3
5	Parichay	12	151	15	160	3.458	4.144	4
6	Essays & Studies, JU	11	162	11	171	3.170	3.039	5
7	PMLA	11	173	11	182	3.170	3.039	5
8	Other 77 Journals	174	347	180	362	50.144	49.724	
Total No. of Journal Articles		347		362		100.000	100.000	



It is viewed from the Table 6that there were 84 journals which contributed 347 articles in the theses. Shakespeare Quarterly was the highest productive journal contributing 85 (24.496%) articles, followed by the Journal of the Department of English, CU producing 28 (8.069%) articles.

8. Findings :

The findings drawn on the basis of the objectives stated earlierin this study are as follows :

- I. According to the objective number 1, we found that books (62.061%)were the highest cited documents in the CU theses, followed by the articles with 18.154% citations. (vide Table:1)
- II. Following the objective number 2, it was observed that the highest number of book citations (742 citations) was made from the period 1961-1980, followed by 516 book citations from the period 1941-1960 and 292 book citations from the period 1921-1940. (vide Table: 2)
The period 1951-1970 noticed the highest, i.e., 248 (34.254%) article citations, followed by the period 1971-1990 and 1991-2010 with 199 (27.486%) and 100 (13.812%) citations respectively. (videTable: 4)
- III. Following the objective number 3, we found that books written in English language were the highest cited documents with 85.576% citations. This was followed by Bengali language books with 13.212% citations.(vide Figure: 1)
It was also found that articles written in English languagereceived maximum citations, i.e., 90.746% citations, followed by Bengali language articles with 8.702% citations (vide Figure: 4)
- IV. Coming to the objective number 4, it was seen that UK was the most productive country of publication with 30.303% book citations, and 8.564% article citations.(vide Figures: 2 & 5)
- V. In line with the objective number 5, the findings drawn were thatOxford University Presswas the highest productive publisher with 5.010% book citations, followed by Methuen with 4.162% citations and Cambridge University Press with 4.121% citations.(vide Table: 3)
University of Calcutta was the highest productive publisher with 4.696%



article citations, followed by Cambridge University Press with 3.729% citations. (vide Table: 5)

- VI. According to the objective number 6, we saw that Single-authored books received the highest citations (77.818%) in the theses, followed by the two-authored books with 17.414% citations. (vide Figure: 3)
Single-authored articles got the highest citations (94.890%) in the theses, followed by the two-authored articles with only 1.105% citations. (vide Figure: 6)
- VII. Finally, following the objective number 7, we noticed that Shakespeare Quarterly was the highest productive journal with 85 (24.496%) articles, followed by the Journal of the Department of English, CU with 28 (8.069%) articles. (vide Table: 6)
The top-most journals cited in the CU theses were Shakespeare Quarterly, Journal of the Department of English, CU, Hamlet Studies, SEL (Studies in English Literature), Parichay, Essays & Studies, JU, PMLA, etc. (vide Table: 6)

9. Conclusion :

This study provides a scenario of the characteristics of the citing behaviour of the researchers in a specific field of English literature. It is clear from the study that they have cited books more than other kinds of documents in the Ph.D. theses. This indicates the popularity of the use of books in the field of Shakespearean research by the scholars. The library professionals should take notice of this while collecting documents on Shakespeare for their library. While purchasing books for their library, they should also take into their consideration about the publishers like Oxford University Press, Methuen and Cambridge University Press, because books produced by these publishers have been highly cited by the scholars. They should also keep such highly cited journals like Shakespeare Quarterly, Journal of the Department of English, University of Calcutta, Hamlet Studies, Studies in English Literature in their libraries, because these journals are the good sources of articles on Shakespeare. From the study it is observed that researchers have consulted books published in the earlier period like 16th century. So the libraries may collect old literature on Shakespeare for the use of the researchers.

As citation analysis plays very important role in measuring the scholars' re-



search activities and in evaluating collections of a library, so similar kinds of studies on the theses on Shakespeare submitted to the other universities in West Bengal as well as in other states of India should be conducted to observe the similarities and dissimilarities between the findings of this study and the findings of those studies. This kind of studies can also be applied to the theses on other English writers submitted to the different universities in India.

We should state here that the researchers should follow the proper referencing style while citing bibliographical references in their theses. Otherwise it can create huge confusion and difficulty about understanding the references properly. In this regard, they may also take the help of various softwares like Zotero, Mendeley, etc. for proper management of references.

References :

- Barooah, P. K., & Sharma, N. N. (1999). Bibliometric study of doctoral dissertations in organic chemistry submitted by S & T workers of RRL, Jorhat to evaluate the utility factor of the library. *Annals of Library Science and Documentation*, 46(1), 1-8.
- Cullars, J. (1988). Characteristics of the monographic scholarship of foreign literary studies by native speakers of English. *College & Research Libraries*, 49, 157-70.
- Das, J. M., & Deka, D. (2020). Citation Analysis of Doctoral Theses in Library and Information Science Submitted To Manipur University during 1989-2017. *Library Philosophy and Practice (e-journal)*. <https://digitalcommons.unl.edu/libphilprac/4590>
- Deskmukh, P. P. (1998). Citation analysis of Phd thesis submitted to PunjabraoKrishi Vidyapeeth during 1990-1994 (Unpublished doctoral thesis). Amravati University, Amravati.
- Garfield, E. (1975). *Journal Citation Reports (Vol. 9)*. ISI.
- Gross, P. L. K., & Gross, E. M. (1927). College Libraries And Chemical Education. *Science*, 66(1713), 385-389.



Gupta, J., & Khare, V. P. (2013). Citation Analysis of Ph.D Theses of LIS in Dr. Harisingh Gour University, Sagar. International Journal of Information Dissemination and Technology, 3(2), 118-124.

Heinzkill, R. (1980). Characteristics of References in Selected Scholarly English Literary Journals. The Library Quarterly, 50(3), 352-365. Retrieved from <http://www.jstor.org/stable/4307248>

Knievel, J. E., & Kellsey, C. (2005). Citation Analysis for Collection Development: A Comparative Study of Eight Humanities Fields. The Library Quarterly, 75(2), 142-168. Retrieved from <http://www.jstor.org/stable/10.1086/431331>

Mahapatra, G. (2020). Bibliometric Studies: On Indian Library & Information Science Literature. Crest Publishing House.

Mishra, D. K., Gawde, M., & Solanki, M. S. (2012). Bibliometric Study of Ph.D. Thesis in English. Global Journal of Academic Librarianship, 1(1), 1-18. Retrieved from <http://www.ripublication.com>

Mubeen, M. A. (1996). Citation analysis of doctoral dissertations in chemistry. Annals of Library and Documentation, 43(2), 48-58.

Nasir, J., & Kumar, D. (2011). Citation Analysis of Doctoral Dissertations Submitted between 1990 and 2010 in the Department of Economics, Aligarh Muslim University, Aligarh (India). Chinese Librarianship: an International Electronic Journal, 32. Retrieved from <http://www.iclc.us/cliej/cl32NK.pdf>

Wolfe -Thompson, J. (2002). The death of the scholarly monograph in the humanities? Citation patterns in literary scholarship. Libri, 52, 121-136.



A Study on the Newspaper Reading Habits of Post Graduate Students in West Bengal State University

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Abstract :

Newspaper is the primary source of information. Through it not only one does get information about the world in which one lives but also about all the events happening or imminent to take place on this planet. The present study aims at investigating the nature of newspaper reading habits and specific reading interest of Post Graduate students of West Bengal State University. This particular study attempts to explore purpose of reading, language preferences and time spent on reading newspaper daily by the students. The study also tries to find out the place where the students accustomed to read their required newspaper and language version of that particular newspaper. The paper finds out some of the barriers of newspaper reading among the students and finally concludes with some suggestions how they overcome from these barriers.

Key words :

Newspaper reading habits, newspaper, online newspaper, news seeking, PG students.

1. Introduction :

Newspaper is the store house of knowledge and provides knowledge of various disciplines of our society. (Kaushik&Khanchi, 2007).Newspaper is one of the important collections of any types of library irrespective of its user group. It is equally important for the entire society from young pupil to old aged persons. Reading habit of newspapers makes the students more aware about their society as well as builds their vocabulary skills. In most cases like many other habits newspaper reading habits also influenced by the reading habits of the parents. Newspaper reading habit has also been associated with improvement in student's



attitude towards reading overall. This habit builds the communication skills in different languages. Besides building vocabulary skills newspaper reading habit helps the students to learn the rules of behavior and life style of own as well as foreign country.

Newspaper is one of the primary information sources for the researchers; it provides the contemporary information to the readers. Newspaper also provides up to date information on local as well as world affairs. (Fendrick, 1941).

A newspaper is not only a primary source of recent information but also a store house of information which helps to find out real fact of any incidents of our society. In other words newspaper is the mirror of the society and newspaper reading habits of students not only helps them to see the society in a neutral environment but also assist them in expressing their ideas and thoughts on various aspects. It can be said that reading of newspaper is very much important to the young learners in becoming a knowledgeable citizen.

2. Review of literatures :

After an analytical study on the post- graduate students of Karnataka University about their newspaper reading habits it has been found that reading of newspaper provides better knowledge to the readers and enriches one's own experiences and at the same time helps in the journey to self-discovery. Reading provides experiences to the individual in developing one's horizons in understanding the world better. It also enhances his or her interest on the different aspects of life as newspaper provides all the information happening in the world for the interest of the readers (**Krishnamurthy & Awari, 2015**). A study among the university graduate students in Bangladesh about newspaper reading habits reveals that that majority of the graduate students read either Bengali or English newspapers. It has been found that the respondents either prefer hall library to read printed newspaper or prefer computer center of the university central library. There are various obstacles faced by the students in reading printed and online newspapers but there are certain ways to overcome the problems (**Akanda & Haque , 2013**). A study on the students of world university of Bangladesh with the objective to examine the level of newspaper reading habits of students reveals that there are various ways and methods to improve the newspaper reading habits of the students (**Majumder & Hasan, 2013**).A survey among school girls from urban area regarding the reading habit reveals that



reading habit inculcates ideas and thoughts among them and an important findings is that most of the girls enjoyed reading and half of the respondents spent about an hour or so in reading every day (**Nath&Razeena, 2012**). On the basis of a study on the reading habits of the students of LIS of Annamalai University it has been observed that reading is the most important tool for lifelong learning and the LIS students normally are very interested in reading for enhancement of their Learning capabilities (**Thanuskodi , 2011**). It has been observed from a research on newspaper reading habit of the students of Chaudhary Charan Singh university that newspaper reading can nurture reading practice, inculcate knowledge and manifest awareness among young learners and the librarians has to play very important role to assess the significance of newspapers and provide better service to the students (**Kumar, Singh & Siddiqui, 2011**).

3. Objectives of the study :

The objectives of the study are as follows:

1. To find out the purpose of reading newspaper by PG students of West Bengal State University;
2. To identify the different areas of interest in newspaper by PG students of West Bengal State University;
3. To know the time being devoted by PG students for reading newspaper;
4. To find out how many newspapers that the PG students read daily;
5. To identify the barriers of newspaper reading by PG students of WBSU;
6. To provide possible suggestions to make newspaper reading convenient.

4. Methodology :

4.1 Scope and coverage

This study is only confined to the Post Graduates students of West Bengal State University (WBSU) pursuing their master degree in different disciplines.

4.2 Methodology :

The work is mainly based on survey method that consists of the structured



questionnaire. Data are collected personally by visiting the PG departments of the WBSU by distributed 280 questionnaire of which 154 questionnaire given to male students and 126 questionnaires given to female students of Arts, Science, Commerce discipline who read newspaper daily.

5. Results and discussion :

Table No. 5.1: Discipline wise distribution.

Discipline	No of Students	Percentage
Arts	66	23.58
Science	120	42.85
Commerce	94	33.57
Total	280	100

Table No. 5.1 shows the discipline wise distribution that read newspapers daily. It is found that out of 280 students 66 are arts students, 120 science and 94 are commerce students who are pursuing postgraduate in their respective discipline.

Table No. 5.2: Gender wise distribution.

Gender	No. Of Students	Percentage
Male	154	55
Female	126	45
Total	280	100

Table No. 5.2 shows the gender wise distribution of the students which shows that 154 nos. (i.e.55%) are male students and 126 nos. (i.e.45%) are female students,



who were found reading habit newspaper daily.

Table No. 5.3: Number of newspapers daily read by users.

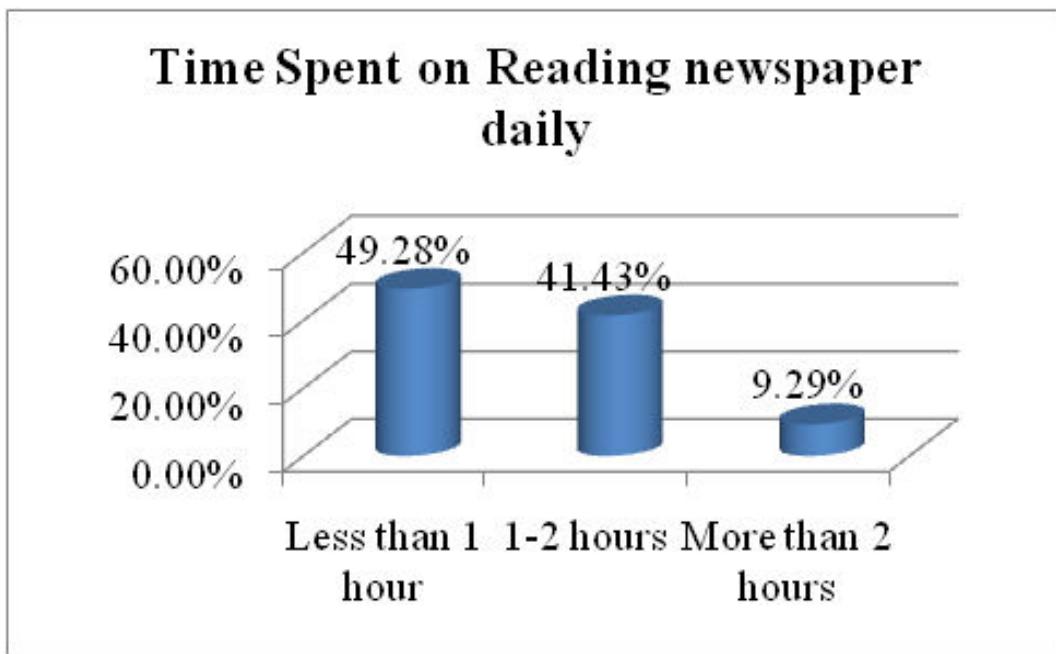
Number of Newspaper	No. of Students	Percentage
1-2	144	51.43
3-4	76	27.14
4-6	44	15.72
More than 6	16	5.71
Total	280	100

Table No. 5.3 shows the number of newspapers daily read by users. It shows that majority number 144 nos. (i.e. 51.43%) of the students read 1-2 newspapers while 76 nos. (i.e. 27.14%) students read between 3-4, 44 nos. (i.e. 15.72%) students read between 4-6. Moreover, 16 nos. (i.e. 5.71%) read more than 6 newspapers daily.

Table No. 5.4: Language preference in newspaper reading.

Language	No of Students	Percentage
Bengali	130	46.42
English	68	24.29
Hindi	46	16.43
Urdu	36	12.86
Total	280	100

Table No. 5.4 shows that majority number 130 nos. (i.e. 46.42%) of the students read Bengali news papers, while 68 nos. (i.e. 24.29%) read English newspapers, 46 nos. (i.e. 16.43%) read Hindi newspapers and 36 nos. (i.e. 12.86%) read Urdu news-papers.

**Fig. 1 : Time spent on reading newspaper daily.**

With time, the regular reading of newspaper has become an integral part of our culture. So the study of acceptance or rejection of reading at various academic levels can add dimension in the overall personality development of the student. Fig.1 reveals that 49.28% students spent less than 1 hour per day reading newspaper followed by 41.43% that 1-2 hours and 9.29% more than 2 hour.

Table No. 5.5: Purpose of reading newspaper.

Purpose	No of Students	Percentage
Collect information	210	75.00
Improvement of general knowledge	220	78.57



Career Development	216	77.14
Higher Education	226	80.00
Entertainment Related	156	55.71
News about Sports	230	82.14
Usual task	128	45.71
Leisure Related	104	37.14
Improvement of self status in the society	40	14.28
up-to -date with current affairs	110	39.28
Scholarship related information	36	12.86
Health-related news	6	27.14

Table No. 5.5 Shows that majority of the students 230 nos. (i.e.82.14%) read newspaper to obtain information about sports while 220 nos. (i.e.78.57%) of the respondents read newspaper for improve general knowledge and 226 nos. (i.e.80.00%) of the students read for higher education purpose. Only 36 students 36. (i.e.12.86%) read newspaper as is their as for getting various scholarship information respectively.

Fig. - 2: Sources of newspaper.

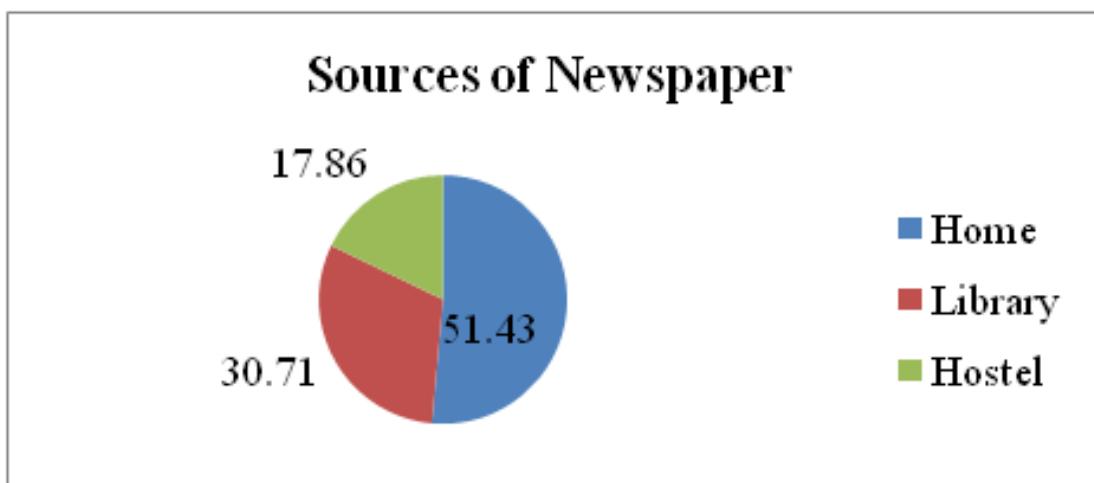




Fig. - .2 shows that 51.43% majority of the students read newspaper at home, while 30.71% students read newspaper at libraries and only 17.86% students read in the hostel.

Fig. - 3: Section of newspaper that the users like most.

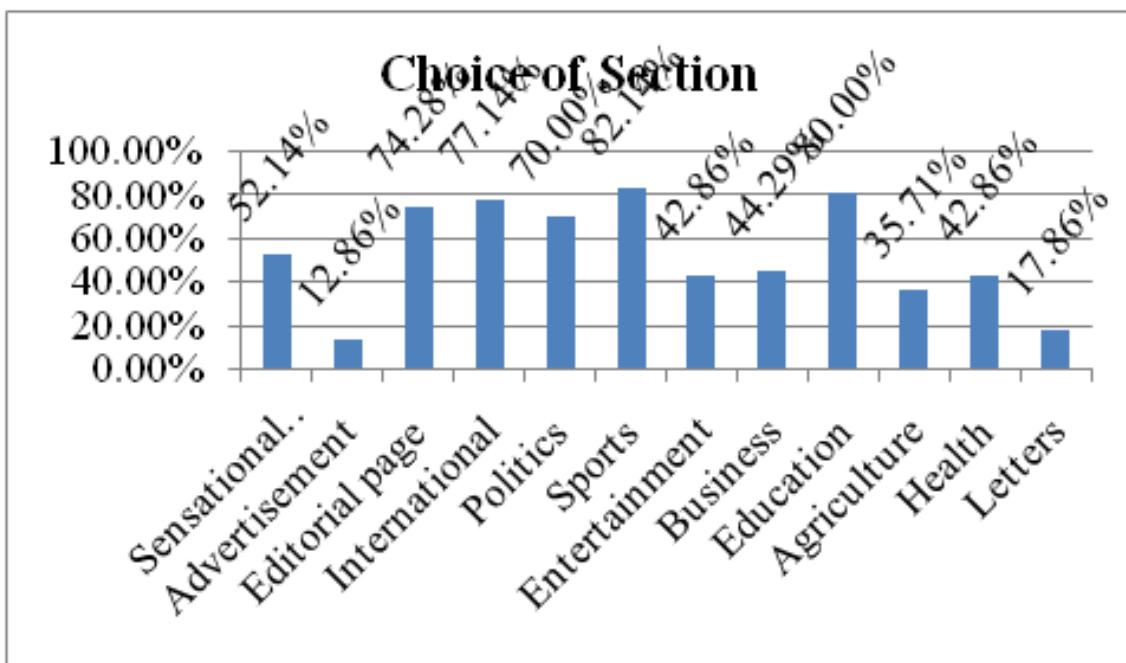


Fig. - 3 depicts the information related to the section of newspaper that the users wish to read in their day to day newspaper as different people prefer to read different sections of newspapers. It shows that 82.14% of the students prefer sports news followed by 80.00% in educational news, 77.14% interested in international issues, 74.28% follows editorial page, 70.00% in politics, 52.14% in sensational news, 44.29% in business related news, 35.71% in agriculture, and 17.86% on letters. It has been revealed that entertainment section and health section is preferred by the 42.86% of the respondents. A very small percentage of the respondents (12.86%) prefer the advertisement section of newspaper.

**Table No. 5.6: Newspaper and readership.**

Newspaper	No of Students	Percentage
AnandabazarPatrika	196	70.00
BartamanPatrika	96	34.28
Sangbad pratidin	114	40.71
Aajkaal	78	27.85
EiSamay	134	47.85
The Telegraph	178	63.57
The Hindu	110	39.28
Times of India	146	52.14
Sanmarg	156	55.71
Jansatta	116	41.42
Dainikjagran	96	34.28
PravatKhabar	68	24.28
Akhbar-e-Mashriq	70	25.00
Aabshar	62	22.14
Azad Hind	56	20.00
Rashtriya Sahara	74	26.42

Table No.5.6 shows the various newspapers and their readership the majority number 196 nos. (i.e.70.00%) of the students read AnandabazarPatrika, while the second largest number 178 nos.(i.e.63.57%) of students prefer the Telegraph. Moreover , the Sanmarg is being preferred by 156 nos. (i.e.55.71%) and 146 nos. (i.e.52.14%) students read the Times of India.

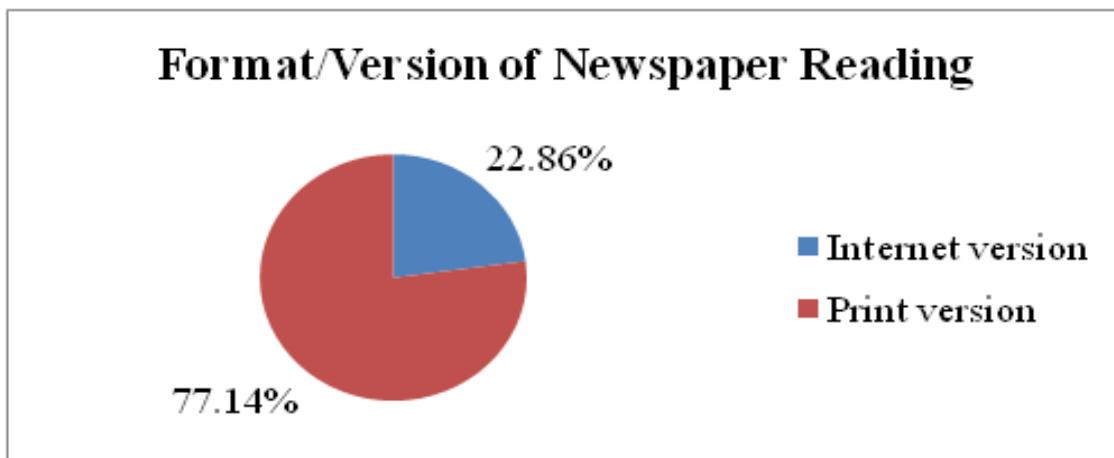
**Fig. - 4: Format/version of newspaper reading**

Chart No.5.4 shows the format and version of the newspaper that are being preferred by the students. It has been found that majority of them (77.14%) prefer to read print version of newspaper and a very small portion (22.86%) prefer to read on internet.

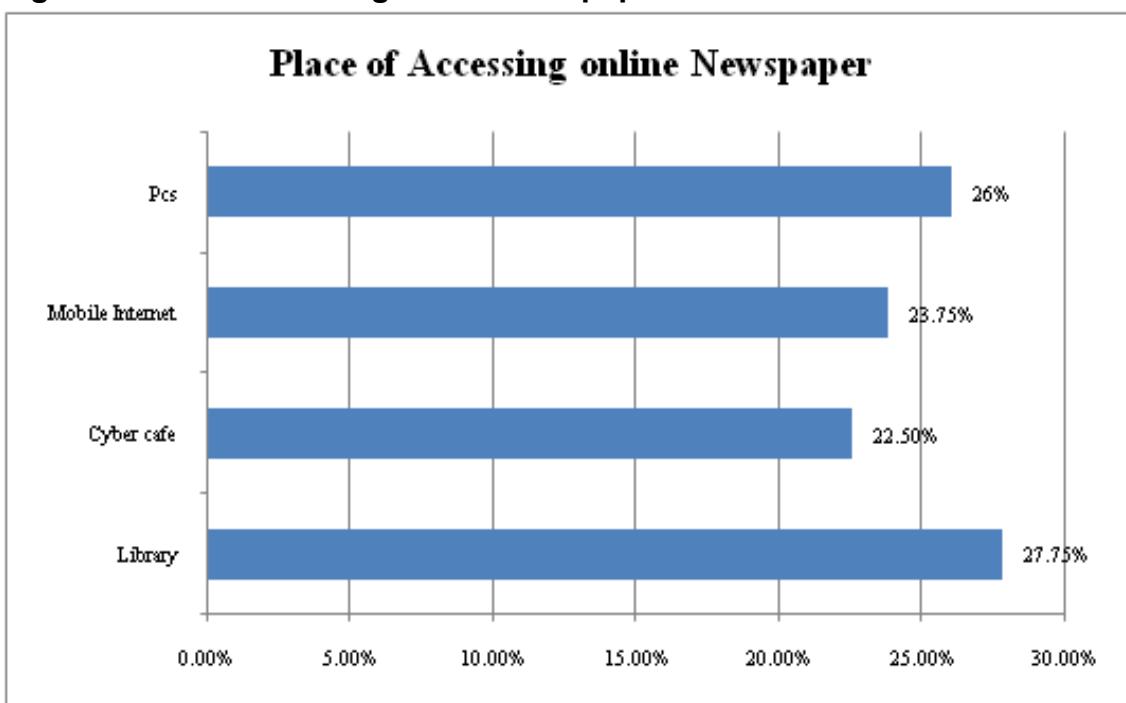
Fig. 5: Place of accessing online newspaper.



Fig.- 5 reveals that the distribution of figures in place of accessing the newspaper is quite evenly poised as 27.75% of students prefer their university library using computers, 26% tries to access to online newspaper by PCs, 23.75% uses Internet and 22.50% uses Cybercafe.

Table No.5.7: Barriers of newspaper reading

Barriers faced by Readers	No of students	Percentage
Space Crunch in newspaper section of library	146	52.14
Availability of Newspaper in time	118	42.14
Shortage of Limite	74	26.43
High Cost of newspaper	102	36.43
Gossipng and Watching TV	64	22.86
Small copies of newspaper	158	56.43
Low speed of Internet	84	30.00
High Internet subscription rate	116	41.42
Poor knowledge in ICTs	60	21.43
Interruption due to electricity Problem	110	39.29

Table 5.7 reveals the different reasons of difficulties that are being faced by the students in reading newspapers. The major problems they face are inadequate copies of newspapers in the library (56.43%), limited space in the newspaper section in the library (52.14%), delayed arrival of newspaper in the library (42.14%), frequent interruption of power supply (39.29%), low speed of Internet (30.00%),

6. Findings and suggestions :

1. The half of students 130 nos. (i.e.46.42%) prefer to read Bengali language newspapers.



2. The majority of students 138 nos. (i.e.49.28%) time spent on reading news papers are less than one hours daily.
3. The main purpose of reading newspaper to obtain information about sports news followed by educational information.
4. The majority of students 51.43% prefer to read newspaper at home, followed by University Library (30.17%) and University hostel (17.86%).
5. 82.14% of the Students prefer to read sports news followed by education (80.00%) and international news (77.14%).
6. The majority number 196 nos. (i.e.70.00%) of the students read AnandabazarPatrika followed by 178 nos. (i.e.63.57%) of students prefer the Telegraph, 156 nos. (i.e.55.71%) prefer the Sanmarg and 146 nos. (i.e.52.14%) students read the Times of India.
7. Print copy is still used as the best medium of newspaper for the respondents.
8. The major problems they face are inadequate copies of newspapers in the library followed by limited space in the newspaper section in the library, delayed arrival of newspaper in the library .

On the basis of data analysis and feedback from the students, some important suggestions may be prescribed that may help in promoting the newspaper reading habits among the students of Post-graduate courses in the West Bengal State University.

1. It has been suggested to increase subscription of the newspaper used in the library. The students should be motivated.
2. Efforts should be made to publish educational articles in the newspaper on regular basis. It will help to disseminate knowledge among the students.
3. More awareness campaign should be organised among the students. It will help them to get interest in reading newspaper that automatically updates them with current happenings around the world.
4. The excessive price of internet subscription must be lowered significantly.
5. There is a number of news portals available in the online efforts should be made to the students to searched new portals for getting instant news.

7. Conclusions :

News Paper reading has social, academic and economical significance in



the modern world. The major objective of the present study was to investigate the nature of reading interest and habits among the students of Post Graduate Students courses in the West Bengal State University.

Reading of News Paper is an effective means of communication and an important aspect of language and arts. It is a significant ability in the educative process of the pupil as well as of the adults. Newspaper reading is an intellectual activity which contributes immensely in the development of balanced personality, in solving personal problems and in the attainment of mental materials and evolving an independence of thought.

Newspaper reading occupies a very important place in the wholesome development of a student. It helps the students to understand society and his role as a citizen and as an individual with his own personal needs and problems. It involves the whole personality, promising countless personal and social values. It is essential for fuller personal development and achievement of life.

Newspaper reading is indispensable factors among students, interwoven with work, recreation and other activities of young pupils.(Bankole&Babalola, 2011). It also indispensable means of communication in an advanced educational society.

Reading Newspaper includes the whole personality and countless values among the pupils. In this age of democracy reading of News Paper has merge social values also.

From this study we can conclude that basic reason behind the reading of Newspaper is to combat the unemployment or on the other hand, to provide relaxation from a busy life.

References :

- Akanda, A.E., &Haque, M.A. (2013). Newspaper reading habits of university graduate students in Bangladesh : a case study. IJRANSS, 1 (3), 1-8.
- Bankole, O. M., &Babalola, S. O. (2011). Use of newspaper by students of olabisi onabanjo university, ango-iwoye, ogun state, Nigeria. Library Philosophy and Practice. Retrieved from <https://digitalcommons.unl.edu/libphilprac/462/>
- Beard, R.L. (1956). Reading habits and interest.The High School Journal, 39 (4), 207-212.



- Berwald, R. (1940). Learning to use the newspaper. *The Elementary English Review*, 27 (7), 257-261.
- Cruzer, F. (1930). Newspaper reading habits. *The Elementary English Review*, 7 (2), 35-36
- Dunlap, C. C. (1951). Readability of newspaper items and basic reading material. *The Elementary School Journal*, 51 (9), 499-501.
- Fendrick, P. (1941). Newspaper reading interest of high school and college students. *The Journal of Educational Research*. 34 (7), 522-530.
- Kaushik, S. K., & Khanchi, J. S. (2007). Reading habits of rural under-graduate students. *Library Herald*, 45 (1), 61-69.
- Krishnamurty, C., & Awari, V. H. (2015). Newspaper reading habits among post-graduate students of Karnataka university, Dharwad. *DESIDOC Journal of Library & Information Technology*, 35 (1), 25-29.
- Kumar, D., Singh, R., & Siddiqui, J.A. (2011). Newspaper reading habits of university students: A case study of chaudharycharan university. *Library Philosophy and Practice*. Retrieved from <https://digitalcommons.unl.edu/libphilprac/470/>
- Majumder, D., & Hasan, M. M. (2013). Newspaper reading habits of private university students: a case study on world university of Bangladesh. *IOSR Journal of Business and Management*, 12 (1), 87-91.
- Mandal, P. S. (2010). Problems and prospects of reading habits of early teenagers. *Library Herald*, 48 (4), 385-389.
- Nath, B. K., & Razeena. (2012). Reading habits in school going girls in city area. *Library Herald*, 50 (4), 306-312.
- Thanuskodi, S. (2011). Reading habits among library and information science students of annamalai university: A survey. *International Journal of Educational Science*, 3 (2), 79-83



Treatment of literature by individual authors in DDC and CC : an analytical study

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Abstract :

Classification acts as a tool in locating the resources of library . with the development of technology the role of classification is indispensable. Many classificanist used different principles in arranging the scheme but the basic facet is same that remains hidden behind .It discuss the basic criteria of construction of class number of Individual literature by individual author in two different schemes i.e. enumerated and faceted and to show difference of class number in the two schemes with different examples .It traces the qualities of notation ,canons used in notation Plane which are followed in construction of class number and some of recommended suggestions that are needed for further development of the scheme.

Key words :

Author facet, Language inequality, favored language , Work facet, alphabetical mnemonics, Brevity.

1. Introduction :

Literature is the art of exposition of any knowledge concrete or conceptual by essential body of writings having metrical or non metrical language ie poetry , fiction , drama, essays etc. our study is based on these form class by showing resemblance and dissimilarity between the two family schemes ie enumerative and faceted. Two schools of families have manifested the literature class in more or less similar manner which are guided by the rules of absolute syntax. Dewey obtained Harris classification of knowledge and placed literature class before fine Arts. Ranganathan place the literature in the right hand side of triangle under



the humanities

2. Literature review

A review of the related literature is a motivate factor of writing an article this comparative study is not also an exception. From the study some related concepts reinvented.

First of all the purview of literature class. The purview of literature class has been clearly defined in Dewey Decimal Classification. here literature class is restricted to a) “works of the imagination, b)literary criticism and history and c)literary history and biography”.(Dewey,2011,) but it excluded the folk literature. The purview of literature in DDC as “the class includes literature produced by the literate and civilized man”. (Ohdedar1994)

The Colon classification being a faceted one has mentioned the “Form facet” , “Language facet” etc in systematic way , the concepts like "Language inequality ,form inequality" (Ranganathan,1960). etc as exemplified by Ranganathan are also very interesting Another unique feature as discussed in Colon classification is the “work facet”(Ranganathan 1960) though it is very difficult to determine the use of chronological designation are to be used This literatures along with the practical experiences of CC and DDC worked as an appetizer to make a detailed comparative study of literature class in the two classification schemes CC and DDC.

3. objectives of study are :

- * To construct class numbers for varieties types of literary documents(single author) as per the rules of DDC and CC
- * To analysis class numbers as per the canons of classification of notational plane
- * To highlight the special feature used in CC over that of DDC for classifying the literature documents.

4. Scope of study :

This study is based on schools of classification thoughts i.e. almost enumerative scheme(DDC23) ,almost freely faceted scheme,(CC6th) and freely faceted scheme(7th ed) The first edition of DDC was published in the year 1876



where literary forms were not exhaustive as of recent edition 2011. CC was first published in 1933 and recent edition in 1987.

5. Methodologies :

- * **Collection of Titles** -To make the examples real most of the book titles as selected for classification are collected from the collection of Netaji Subhas Open University Library.
- * **Categorization of documents** - Documents is classified into two fold of manifestations: Individual literature by individual author and Biographical literature .Individual author is divide into various sub facet i.e. Single author single composition, Single author collection, criticism etc. More than one literature by individual author is not taken into the study
- * **Construction of class numbers** - After categorizing the documents, class numbers are constructed as per three classification schemes.
- * **Comparison** : - Constructed class number are compared by canons of classification as propounded by S R Ranganathan.

6. Literature and it's components :

Literature class is a manifestation of various literary forms . The literary forms are to be arranged in a correct sequential order known by the name rule of absolute syntax ie. Language, form ,period are general manifestation for any species of classification The aspect of literature is divided into two fold: Literary aspect (poetry, drama ,fiction)and non literary aspect(essays , letters epigraph) we have highlighted the literary aspect into our study

* Construction of class numbers in CC; DDC: different cases

Individual author (I.A) by Individual Literature (I.L) : single composition, collection & Criticism

1. CASE: SINGLE GENERIC FORM : A single composition of any form



1.1 Title : The “ Conqueror of Death” a poem written by Rabindranath Tagore

Name of classification scheme(C.S)	Class number(C.N)
Dewey Decimal classification 23ed. (D.D.C).	891.4415
Colon classification 6 th ed. (C.C)	O157,1M61,CD
CC 7 th ed.	O,157,1,M61,C+D

Table 1:Comparison of class numbers of “Conqueror of death”

1.2 DDC 23 ed. :Main class (M.C)+ Language[L]+Form[F]+Period [P]

. The above formula is based on following discussion : Language is taken from the DDC table and is added with main class to form the base number. ”form number” is taken from (TB 3A,vol1) and period no is taken from the schedule of language family to which the base no belongs We have to remember period number is to be taken according to year in which author has flourished as given in instruction in DDC Thus we get: 891.44(Schedule)+1(TB3A)+5(Period number taken from schedule of base no) ie. 891.4415.where the rule of absolute syntax is maintained.

1.3 CC6th ed.: Facet formula : “O[P],[P2][P3],[P4]” (Ranganathan,1960) Here

P = Personality , where left hand side of [P] denotes the round and right hand side denotes the level .Here [P] has been manifested by different levels of same round.

In almost freely faceted scheme we get four facet i.e”. language facet , form fact , author facet and work fact”. (Ranganathan,1960) **The language facet [P]** : It has been directly given in the language isolate of chapter 5 .In order to maintain the brevity of class number we may use favored language device in place of language facet i.e. the most favored language (F.L) may be represent as “O-“ hyphen as per instruction . **The form facet [P2]** : that been directly enumerated in the schedule of chapter O. **Author facet [P3]**: Here the Date of Birth of author is taken as stated in



the rules of chapter O, rule no O32 ,by maintain the canon of Ascertain ability. **Work facet [P4]** : It can be used either in two ways one by using the work number in which the work of author was published and other by using Alphabetical device (A.D) of taking first one , two , three letters. It is to be noted that in this scheme work facet by use of AD has not being stated but the rules has been given in “Annals of Library science”, rule no 6(05852) in Alphabetical device and Multinomials we may represent the above rules in form of table :

FACET	TERM	ISOLATE NUMBER
MC	Literature	O
P	Bengali	157
P2	Poetry	1
P3	Rabindranath Tagore	M61
P4	Conquer of death	CD

Table 2 :Analysis of class number in CC(6th ed)

Thus the rule of absolute syntax is maintained .as of DDC

1.3.1. CC7th ed.: “ O[P],[P2],[P3],[P4]” (Ranganathan,1987)

The facet formula remains the same but the change in notation is observed by using “coma” of each facet . Another change in the work facet where the use of A.D has been directly stated in page no 249. The use of plus sign in work facet indicates the use of Binomial name ie the name of two words which is an exceptional rule in this edition. The other forms ie drama ,fictions etc follows the same rules. F.L is given in pg (b102,pg246) ,[P4] binominal name ie C+D is used to denote conquer of death

.Difference observed in rules DDC 23 ed. CC 6th & 7th ed.

Form facet	DDC 23 rd ed.	CC6th ed.	CC 7 th ed.
Author facet	The period at which the Author flourished	D.O.B of author	D.O.B of author
Work facet	No provision	A.D (use of two letters)	A.D. (use of two letters by using + sign)

Table 3:Comarative study of facet structure in three schemes

2 CASE : SINGLE GENERIC SUBFORM : A single form belonging to various sub forms ie. Lyric , ballad etc



2.1 Title: Lyric poetry of R.N. Tagore (Crescent moon)

C.S	C.N.
. D.D.C.23 ed.	891.4415
C.C 6 th ed.	0157,1M61CM
C.C 7 th ed.	O,157,1,M61C+M.

Table 4 Comparative class numbers of “Crescent moon”

2.2 DDC23ed. In this classification scheme there is no provision to bring sub form facet of poetry for individual author. so class number remains the same as enumerated in case 1

2.3CC 6th ed. As stated above there is no provision for bringing sub form of poetry so class number remains the same and follows table no 2

2.3.1 CC7th Ed. It follows the same principle. Some sub form facet has been directly enumerated but it is to be followed in more than one author as stated in the rules (b281 page no 247) As no difference observed so comparison chart among the scheme has not been given.

3. CASE: MULTIPLE GENERIC FORM : Multifocal composition by an I.A ,i.e when an author not chiefly identified by any particular form

3.1 Title ; Rabindra Rachanabali /Rabindranath Tagore.- Kolkata : Vishwa Bharati, 1396(B)

C.S.	C.N.
. D.D.C.23 ed.	891.4415
C.C 6 th ed.	O157,1M61x
C.C 7 th ed.	O,157,1,M61”x

Table 5 Comparative class number of “Rabindra rachanabali”

3.2 About the book: This book is a collection (C.L) of various literary form ie poetry , drama , short stories , prose etc which a comprehensive work.



3.3 DDC 23ed. ; It follows the above rules. of case no1 As R.N Tagore is a famous poet so form facet poetry is used in place of miscellaneous facet It is done according to rules stated in DDC in table 3A manual on use of DDC. If the author is not chiefly identified by one form but famous for other forms then we may use 08 given in table 3A.

3.4 CC 6th. It follows table no 2. As it is a multiple generic form of work so most common identified form is taken as shown in rules(O9, Page no 1.102.) It is also a collected work so "x" has been added after author facet taken from Anteriorising common isolate (ACI),

3.4.1 CCS 7th ed. It follows the same instruction as shown above, Only change in notation has taken place.

Form facet	DDC 23 rd ed.	CC6th ed.	CC 7 th ed..
Collection	NA	x	"x

NA= Not applicable

Table 6-Notation of “Collection”

4. CASE : COLLECTED GENERIC FORM : A collections of any single generic forms . ie. Collections of poetry ,drama fictions etc.

4.1 Title: Mankumari Bose shrestha kabita /edited by BaridbarnGhosh . ---ISBN 81-86134-45-X

C.S.	C.N.
. D.D.C.23 ed.	891.4414
C.C 6 th ed.	O157,1M63x
C.C 7 th ed.	O,157,1,M63"x

Table 7 Comparative class number of “Srestha kabita”by Mankumari Bose.

4.2 About the book : It is collection of poem, poet born in the year 1863. Became famous in the year 1884.

4.3 DDC23 ed In this classification scheme there is no provision to bring the col-



lected works. Other facet remains the same as in case no 1

4.4 CC6th ed. It follows the same principle of case no 3.4

4.4.1 CC7th ed. It follows the same rule of cc6th ed only change in notation has taken place

Note : As the observation is same of above case so table has not being given

5 .CASE : COLLECTED GENERIC FORM WITH CRITICISM: When any author criticize an original author's work

5.1 Rabindranath/ Prasanta Chandra Mahalanobis; edited by Uma Dasgupta

C.S.	C.N.
. D.D.C.23 ed.	891.4415
C.C 6 th ed.	O157,1M61:g
C.C 7 th ed.	O,157,1,M61:g

Table 8:Comparative class number of “Rabindranath”

5.2 About the book : This book is critical writing of Rabindranath Tagore written by Prasanta Chandra Mahalanobis Here the poet has express his emotion and feeling to P.C Mahalanobis during the old age

5.3 DDC23 ed : It follow the same rule of case no 1 ,there is no provision to bring the criticism facet

5.4 CC6th ed: Here only criticism facet has been added ,other facet seems to remain unchanged as of previous cases mentioned

5.4.1 CC7th ed. It follows the same rule mentioned above.

Form facet	DDC 23 rd ed.	CC6th ed.	CC 7 th ed..
Criticism	NA	g	:g

Table 9: Comparative notations for form facet

6. CASE : COLLECTED GENERIC FORM WITH THEME : when a form has been composed in respect of any subject



6.1 Title: The oxford India illustrated children's Tagore /edited by Sukanta Chaudhuri.ISBN 978-0-19-568417-9

C.S.	C.N.
. D.D.C.23 ed.	891.4415
C.C 6 th ed.	O157,1M61x0b Y11
C.C 7 th ed..	O,157,1,M61”x &b Y11

Table 10: Comparative class number of “Oxford India illustrated children's Tagore”

6.2 About the book: This document is a collection of various forms i.e. Verses, short stories, plays etc written for children and has been translated.

6.3 DDC 23ed It follows the rules of case no 3.2 & no provision to bring theme facet. As it is a translated work so original language is given preference as stated in the rules (Vol1 ,pg 34)

6.4 CC 6TH ed Follows case no 3.4 , Subject children has been added by following inter subject bias phrase relation as stated in rules (62b pg 1.56)

6.4.1 CC 7th ed Follows above rules only change in notation has occurred by using & (Ampersand sign) for phrase relation

Form facet	DDC 23 rd ed.	CC6th ed.	CC 7 th ed..
Theme facet	N.A	A	A
Notation	N.A	0	&

A= applicable NA=Not applicable

Table 11 :Comparative notation for phase relation

7 . CASE : Biographical literature : It is divided into two categories I.A. biography and collected biography . I.A biography is biography of single author ie. R.N Tagore , William shakespeare and Collected biography is biography of more than one author ie. R.N Tagore and Shakesphere. Collectively .We will discuss I.A biography only



7.1 Title: Rabindranath Tagore: a biography / Ernest Rhys

C.S.	C.N.
. D.D.C.23 ed.	891.4415
C.C 6 th ed.	O157,1M61w
C.C 7 th ed. .	O,157,1M61''w

Table 12:Comparative class numbers of Rabindranath Tagore : a biography

7.2 DDC 23ed Same rule for case no 1 .There is no provision to bring from facet biography of an individual author. As R.N Tagore is popularize with poetry so form facet poetry is used .

7.3 CC 6th ed Same as case no 1, Here biography has been added from ACI table (pg 2.5)by following instruction (09w1pg 1.103) .

7.3.1 CC 7th ed . Same rule, ACI table is given in pg 105and rule given in z8w2 pg 250.

Form facet	DDC 23 rd ed.	CC6th ed.	CC 7 th ed..
Biography	N.A.	w	w

Table 13:Comparative notation of facet “biography”

8 .CASE: INDEX : SPECIAL COMON ISOLATE DEVICE : Applicable to a particular subject

8.1 Title : Collections of poetry of R.N Tagore : an Index of first line poem / edited by Prabhat Kumar Mukhopadhyay

C.S.	C.N.
. D.D.C.23 ed.	891.4415
C.C 6 th ed.	O157,1M61xe
C.C 7 th ed. .	O157,1M61''x''e

an index of first line poem

8.2 DDC 23ed It follows the above cases there is no provision to bring the index

Table 14:Comparative collection of “Collections of poetry of R N Tagore :



facet number

8.3 CC 6th ed : It follows case no(3.4,4.4.).Index number “e” has been added (pg1.102, O9) .Two ACI can be added as per instruction given in 2032.

8.4 CC 7th ed same as above instruction in (p.g250,z8e)Only change in notation has taken place

Form facet	DDC 23 rd ed.	CC6th ed.	CC 7 th ed..
Index of first line poem	N.A.	e	“ e

Table 15 Comparative notations for the facet “index”

7 Findings and critical analysis :

7.1Qualities of notation : It is the symbolism which makes class number distinct and separable from each other .According to E.C Richardson “Notation is a short-hand sign”. It is an art by which uniqueness of class number is measured. Notation should have the following Qualities: “Brevity, simplicity, mnemonic” (Dhayani,1988)and expressiveness

7.1.1 Brevity: It means class number should be brief ,and short .Longer the base shorter the class number is and vice versa. Viz . In DDC Bengali language is represented as- 9144(T6 VOL1) but in CC 157(from language schedule) so we may say the class number of CC appears to be shorter than DDC , But some exceptional rule has occurred i.e in DDC English language facet is represented as 21 (T6) but in CC it is 111 where violation of the rule has occurred in spite of being longer in base

7.1.1.1 Simplicity : The word simplicity denote the class number should be simple i.e it should convey only letters , numbers and should not consist of any type of symbols (0,* ? ,&) between the class number It is seen in DDC class number appears to be simple as found in cases (1.2, 2.2, 3.3, 4.3...) where as in CC class number appears to be complex because of use of various symbols. In literature class alphabet digit O is quite confusing because it is identical with 0(zero) which makes class number. or notation complex and confusing

7.1.1.2 Expressiveness: It means each digit of class number should be represented uniquely .ie it should be coextensive. “Brevity & co-extensive cannot be achieved at the same time” (Chatterjee,&Choudhury,1989)Coextensive class number Cannot achieve brevity i.e.(1.3,1.3.1,2.3,2.3.1,3.4,3.4.1,4.4,4.4.1..) on the other



hand class number which are not co extensiveness may attend brevity i.e (2.2,3.3,4.3,5.3,6.3...) In many cases it is seen DDC has attend brevity by sacrificing digit by not fulfilling quality of expressiveness ie. English poetry its class number is 821 if not sacrificed its class number will be 821.1 but CC has represent it scientifically without sacrificing any digit by fulfilling expressiveness .i.e : 0111,1

7.1.1.3 Mnemonic : Mnemonics originates from Greek word meaning “to remember”s A good notational system should always convey mnemonic value For eg in CC , DDC poetry is always represented by 1 , drama by 2 , fiction by 3 etc these type of seminal mnemonics helps the classifier and user to become convergent with the number.

So we may say the all the qualities of notation cannot be achieved simultaneously and cannot be fulfilled by all types of classification scheme.

7.2 Canons used in Notational plane: C.S is guided by various canons. In the notational pane different types of canons serves as a guiding principle but we will discuss three canons whose parameters are never to be forgotten i.e “Canon of Homonym ,canon of synonym. and Canon of Mnemonics (Alphabetical) ”(Ranganathan ,1967)

Canon of homonym: It states that a class number should represent a single subject, no two different subject should be represent by a single class number i.e it should be unique in its properties .If we analyses the case of two C.S it will depicts a clear picture

7.2.1 Canon of Homonym (DDC) : In DDC homonyms has occurred between the class number i.e.case no(1.2) is similar to (2.2, 3.2, 4.3, 5.3, 6.2, 7.2 ,8.2)where same class number representing different unique subject field. For e.g 891.4415 represents single generic form, collected form, multiple generic form, criticism, theme, biography.etc.

7.2.2 Canon of Homonym in (CC) : Homonyms has occurred between single generic form with sub form (1.3, 1.3.1 with 2.3, 2.3.1), It is to be noted single author sub-form should not be used because the connotations “of a particular sub-form may change from time to time” (Ranganathan 1987), so whether to fall under category of homonym is matter of judgment but we have taken into our study to show the homonym. There is also a violation of .multiple generic forms with single collected forms vide case no(3.4, 3.4.1 is similar to 4.4,4.4.1.) we have presented a table of above description The table shows a clear picture about the violation of canon of



homonym with the facet formula given below

Violation of canon of Homonym (IA BY I.L)

Total case	Violation of case in DDC	Violation of case in cc 6 th	Violation of case in cc 7 th	% in ddc (violation)	% in cc6th(violation)	% in CC7TH(violation)
7	7	2	2	100	28.57	28.57

Table 16:Cases of violations of canon of homonyms.

CS=Violation of canon of homonym used in C.S/total case *100

Here out of 7 cases (IA by IL) DDC has violated all the 7 cases by the canon of homonym but CC has violated 2 cases out of 7 cases as discussed above So the achievement rank of DDC is 0% & CC is 71.43%

Canon of synonyms: It states that subject representing the class number should be unique .A single subject should not be represented by two different class number.

7.2.3 Biography: In DDC canon of synonyms has been violated because biography of a single subject is represented by-092(table1DDC vo11) ,and for multiple subject 920 and for literature for IA it follows (Table 3A DDC vol1) vide case no(7.2) & for multiple author form facet+09 is used,(Table 3B vo1ddc) In CC6th canon of synonym has violated i.e **w &y7** both represent biography ."w" is used for authors by birth and "y7" is used for historical person In CC 7th ed canon of synonym has been maintained by representing "w" only

Violation of canon of synonym

Total case	Violation of case in DDC	Violation of case in cc 6 th	Violation of case in cc 7 th	% in ddc (violation)	% in cc6th(violation)	% in cc7th(violation)
1	1	1	0	100%	100%	0%

Table 17; Cases of Violation of canon of synonym

CS=Violation of canon of synonym used in C.S/total case *100



7.2.4 Alphabetical Mnemonics (A.M) : A.M means where first one, two or three digit of alphabets are taken in order to individualize the class number when same species of class number exit. Vide case no (1.3,1.3.1,2.3,2.3.1) Its extension is shown by use of A.D.AM is also known as Verbal mnemonics and acts as parameter of notation, .but in DDC it has not used as result homonym has occurred between the class number.

7.3 Special features of literature class in CC

Ranganathan has applied some unique concepts at the literature class. some of them are discussed below-

7.3.1 Alphabetical Device (A.D) It is used to sharpen the isolate term in the notational plane to differentiate the class number. It is used by taking first two or letters of alphabetical terms ,see case no (1.3,1.31) R.NO in cc6th(05865),CC7th(CX) The use of this device in DDC is optional In cc the use of A.D may also be termed as Alphabetical mnemonics which are shown in mentioned cases.

7.3.2 Author inequality (A.I.E) : Author of work = author of book. If any original piece of composition has been written by one author but has been translated or criticized by someone else known as A.I.E. here original author will be responsible for work content i.e Original author D.O.B will be taken into account. see case no(7.3,7.3.1,6.4.6.4.1,5.4,5.4.1) see R.NO in cc 6th(O31) , CC7th(b301)

7.3.3 F.L: See case no (1.3,1.3.1) Rule no (O164) , CC7th(b102)

7.2.4 Language inequality : When language of book = language of work ie the source language is translated into target language vide case no (6 ,6.3 ,6.4...). Rule no in DDC((Vol1 ,pg 34). CC6th (O1,Pg1.98) . cc7th(pg246,b10)

7.3.5 Subject Device (S.D) : Literary exposition of any theme is expressed in form of subject .Vide case no(6.4,6.4.1) In DDC this is use by using Table 3C for more than one author. Rules of SD in CC6th(o9x1 ,pg1.103) 7THed.(z8x2 pg250)

7.3.6 Postulates of facet sequence: “of a consecutive facet if all the isolate number in earlier facet are known to consist of same number of digits the connecting symbol between the two facet is omitted” (.Ranganathan, 1960) i.e In cc 6th no coma is inserted between P2(second level personality) and P3(third level personal-



ity) because in P2 the number of digit is always one and P3 the number of digit is always three. We have to remember this postulate is not followed in CC 7th ed where coma are inserted in every level of personality

8. Recommendations :

- * In DDC for individual author for individual literature there should be provision to represent the collected , criticized and work associated with any subject should be represented in order to avoid the homonym
- * Provision should be there in DDC to represent more than one theme by which the literary work is represented
- * Use of Alphabetical mnemonics should be made compulsory in DDC for single generic form ,sub form of Individual author for individual literature
- *When an individual author flourished it is taken into computation by use of period table in DDC but it should not happen instead of D,O,B provision should be there which is more scientific because previous is very difficult to identify and ascertain

9. Conclusion: :

The study depicts a clear picture of different types of rules and principles of construction of class number in two different scheme of classification. by following the rules of absolute syntax The qualities of notation indicates that although CC class number appears to be complex but is free from homonym .in oppose of DDC Another important strategy in CC, class number has used expressiveness to indicate each characteristics for which brevity has been sacrificed as Ranganathan was in favor of too minute classification. So we may say in case of individual author by individual literature CC has played an indispensable role than of DDC. DDC is the pioneer of all library classification schemes but CC is the pioneer of constructing the coextensive class number by applying several devices.

References:

Chatterjee, A,& Choudhury, G. G. (1989). cc7: an edition of its development in three planes.



- Annals of Library and Information Studies, 36(1-2), 1717.
- Dewey, M. (2011). Dewey decimal classification. (23rd ed., Vol. 4). Dublin: OCLC.
- Dhayani, P. (c1998). Notational system. In Library classification : Theory and principles (pp. 74 -80). New Delhi: Wishwa prakashan.
- Ohdedar, A.K.(1994).Book classification(pp145).. Bengal Library association.
- Ranganathan, S. R. (1960). Colon classification (6th ed.). Bangalore: Sarada Ranganathan endowment
- Ranganathan, S. (1987). Literature. In Colon classification (7th ed., pp. 246-250). Bangalore: Sarada Ranganathan endowments.
- Ranganathan, S. (1967). Canons for work in notational plane. In Prolegomena to library classification (3rd ed., pp. 259-293). Bangalore: Sarada Ranganathan endowments.
- Ranganathan, S.R (1960). Facet analysis: Fundamental categories. In Elements of library classification (2nd rev ed. ed., p. 80). Bombay: Asia publishing house.



An Evaluative Study of the Reading Habits of the UG Students regarding the Documents related to the Career Guidance in the Prafulla Chandra College Library

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Abstract :

The present paper highlights the reading habits of undergraduate students, their choice of information search, and the impact of career guidance information sources reading to develop career and level of satisfaction in terms of library use. This study aims to give a general picture of the reading habits of career guidance documents by undergraduate students in Prafulla Chandra College, Kolkata. The method adopted in the study is a survey-based questionnaire consists of ten questions where four are data about gender, time spent for reading, the purpose of reading, and choice of career guidance documents, while six others are specific close-ended questions about the reading of career guidance documents. The analysis of feedback shows that undergraduate students mostly read the career guidance documents to gain knowledge for competitive examination and personal satisfaction. The study also shows the use of social media because of a busy schedule which affects the reading habits.

Keywords :

Career Guidance, Reading habit, Undergraduate students, Awareness, Career Development, College Library.

1. Introduction :

In the 21st century, we are living in an unemployment-driven society and career guidance books, journals, magazines are the most common and popular providers of current information. The present study reveals that the career guidance source is not only a source of information but also the best social media of current information and knowledge. To keep ourselves up to date with the ever-advancing world and to get



ready for competitive examinations, reading career guidance sources of information is the best way. Whatever their forms, the basic function of career guidance information sources is to provide current information to the learned society about diversified discipline ranging from local to international importance. Reading is interrelated with the total educational process and hence, educational success requires successful reading. Reading career guidance source of information is to develop all-time reading behavior, updating current news, acquiring knowledge and awareness of social activities. Reading habit of career guidance source including newspaper reading daily is recognized as a most essential life skill. It not only increases our general knowledge and intelligence but also helps to improve our lifestyle, makes us ready to appear for competitive examinations, develop cognitive thinking and moral character.

2. Objectives of the study :

The following objectives have been framed for the present study:

- i. To know the trend and purpose of career guidance books, journals, magazine reading in the college library.
- ii. To find out the level of awareness of Prafulla Chandra College students about career guidance documents reading in their college library.
- iii. To identify the choice and benefits of current career guidance sources by the undergraduate students in their college library.
- iv. To assess the average time spent for reading career guidance books, journals, and magazines by the undergraduate students in their college library.
- v. To examine the role of career guidance documents including employment news in students' curriculum activities and career development work.
- vi. To know the impact of career guidance documents reading in the competitive examination of the college student community.
- vii. To investigate the student's satisfaction in comparison to other sources of information.
- viii. To build up a perception about the future of career guidance.



3. Methodology of the study :

The present study is purely based on primary data collected from the undergraduate users of Prafulla Chandra College library, Kolkata, West Bengal. The study is exclusively conducted under the supervision of the Librarian, Library Assistant, and library staff of Prafulla Chandra College library users belonging to diversified disciplines. A well-structured questionnaire was framed keeping in view the objectives of the study and used for data collection. A total of 60 questionnaires were administered out of which 50 filled-in questionnaires were obtained from the students. After obtaining completed questionnaires, the collected data were analyzed through simple percentages and graphs to reach the aim of the study.

4. Scope and coverage of the study :

The scope of the current study is to examine the present scenario about career guidance reading habits among the undergraduate students of Prafulla Chandra College in their college library and the impact of reading habits in their future career life. The present study mainly concentrates upon the undergraduate student users of the Prafulla Chandra College, Kolkata, West Bengal, and has been conducted on the subject of the career guidance books, journals, magazines reading habit in the library.

5. Review of related literature :

Cardoso, Savickasand Gonçalves (2020) explained the facilitating narrative change in career construction counseling through the Journal of Career Development. Journal of Career Development provided the professional the public and policymakers with the latest in career development theory research and practice while focusing on the impact of theory and research on practice. Among the topics covered were career education, adult career development, career development of special needs populations, and career and leisure. The journal provided up-to-date coverage of contemporary issues and identified trends impacting the future of the world.

Sharma and Saini (2019) showed the level of newspaper reading habits of students. They identified that newspaper is the best source of information which gives us knowledge of every field.



Arthur, Khapova and Richardson (2017) provided a complete guide that will allow workers to take a composite, dynamic view of a life's work in the 21st century. Syahputra (2016) described the reading habit of Indonesian post-graduate students. He found that the reading rate was low and they preferred to read material from the internet for pleasure purposes rather than academic purposes.

Simon (2016) concluded that to ensure that students can make a full contribution to society, institutions of higher learning need to create more opportunities for students and academia to interface with industry to boost students' self-confidence and to re-orient them towards reformulating their educational objectives to mirror the requirements of the industry.

6. Analysis and interpretation of the calculated data

Table 1: Distribution of questionnaire

Student Category	Number of Questionnaire Distributed	Percentage (%)
Male	40	67%
Female	20	33%
Total	60	100%

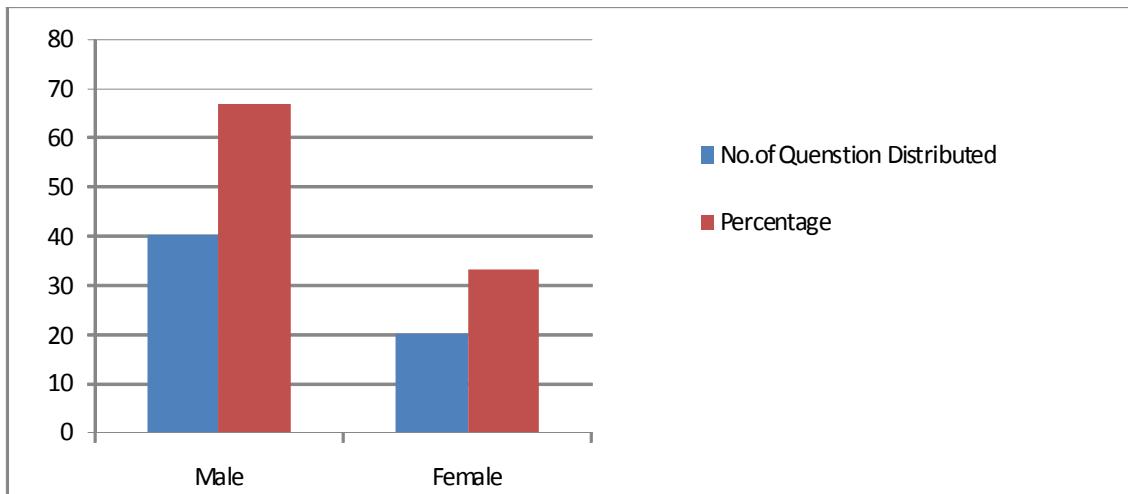


Figure 1: Frequency of distribution of questionnaire



Table 1 and Figure 1 have furnished that a total of 60 (100%) questionnaires were distributed among the undergraduate male and female student users in the Prafulla Chandra College Library. Out of which 40 (67%) students were male and another 20(33%), students were from the female category.

Table 2: Distribution of students'visit to the library

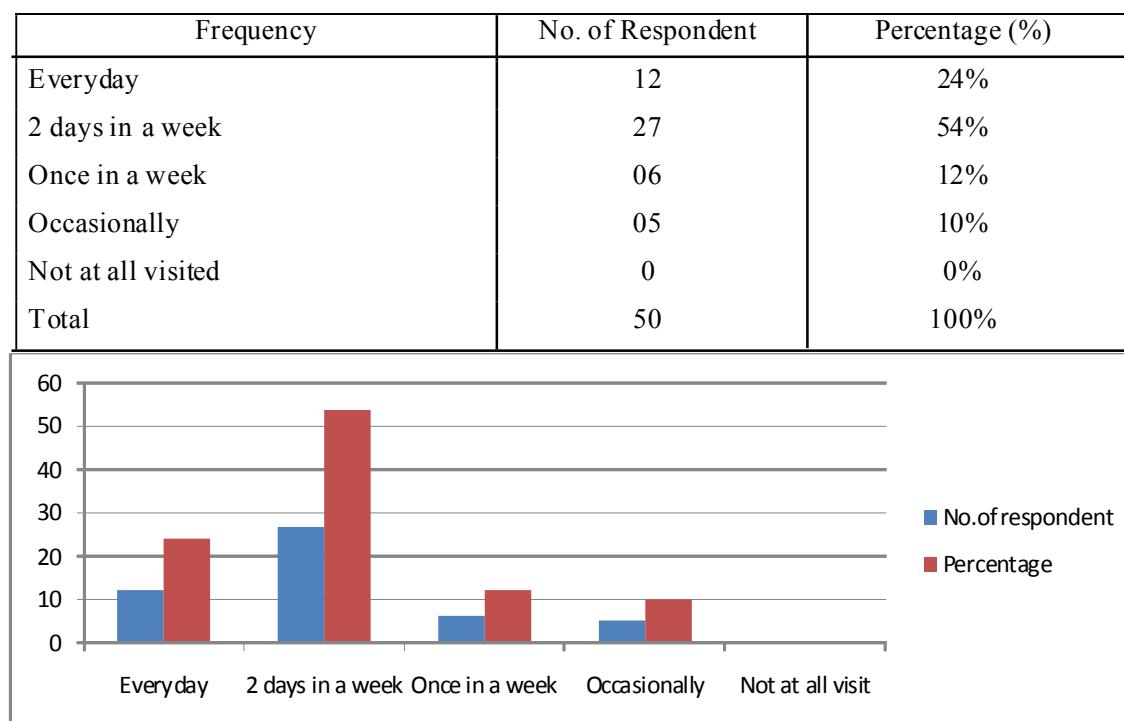


Figure 2: Frequency of library visit by the students.

The frequency of visits to the library by users depends upon the nature of library collections, organization, maintenance, and above all the services and cooperation of the staff in making use of library resources. Table 2 and Figure 2 indicate that most of the students 27(54%) visit the library '2 days in a week' followed by 12(24%) students who visit the library 'Everyday'. 6(12%) students visit 'once in a week' and another 5(10%) students visit the library occasionally.



Table 3: Distribution of average time spent by the students to the library

Average time spent (in-hour/week)	No. of Respondent	Percentage (%)
0 – 1	30	60%
1 – 2	15	30%
2 – 3	4	8%
>3	1	2%
	50	100%

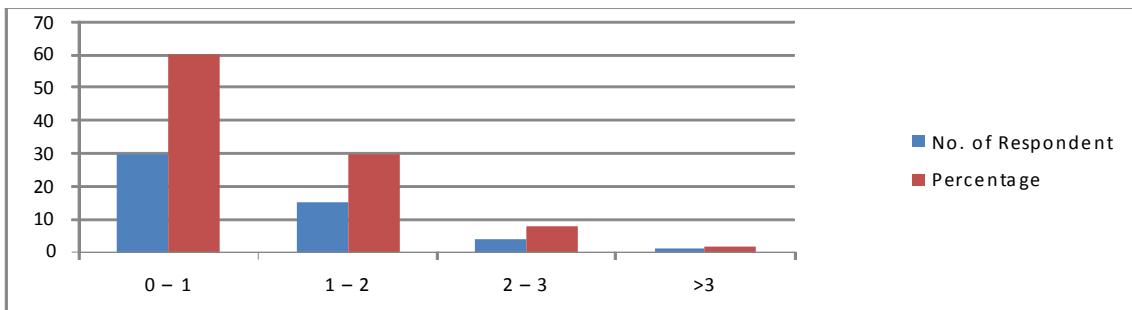


Figure 3: Frequency of average time spent by the students

Table 3 and Figure 3 show that the quantum of time spent by students for reading career guidance in the library per week. It is observed that 60% of students spend less than '1' hour per week for reading career guidance documents while 30% spend '1-2' hours per week, 8% spend '2-3' hours, and only 2% of students spend more than '3' hours per week for reading career guidance in their college library.

Table 4: Distribution of mode of choice of version for reading career guidance information sources

Category/Version	No. of respondent	Percentage (%)
Electronic Version	10	20%
Print Version	40	80%
Total	50	100%

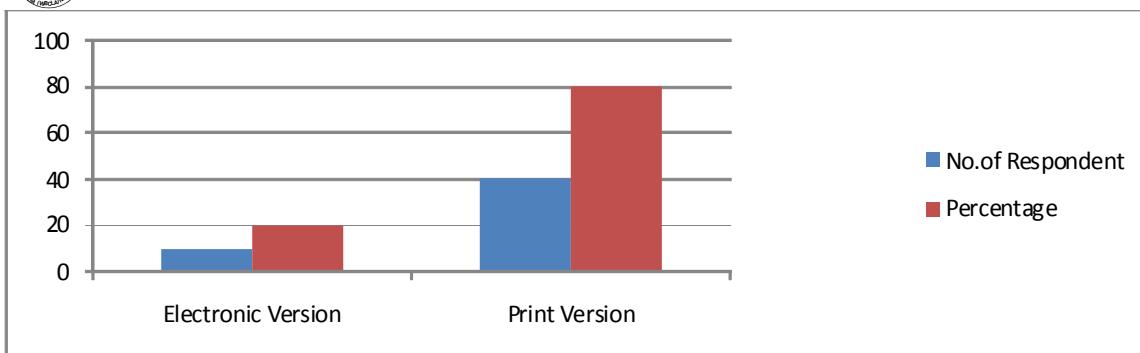


Figure: 4 Frequency of choice of version for reading career guidance information sources

Table : 4 and figure 4 elucidate that the format/version of career guidance documents reading habits preferred by the respondents. The table and graphs describe that most of the students (80%) prefer print version while 10 (20%) students prefer electronic version for reading career guidance sources.

Table 5: Distribution of most favourable choice of subject in the career guidance information sources

Types of Information Resources	No. of respondent	Percentage (%)
Numerical Aptitude	15	30%
Reasoning	10	20%
General Knowledge	10	20%
History	5	10%
English	5	10%
Advertisement	5	10%
Total	50	100%

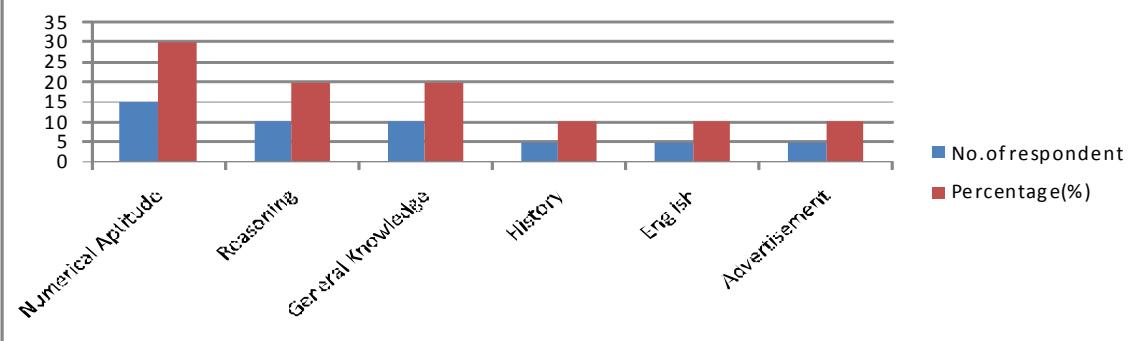




Table 5 and figure 5 show the choice of information in the career guidance information sources preferred by the students. Major (30%) of the respondents preferred Numerical Aptitude related information from railway and banking clerkship recruitment books. 10(20%) students preferred Reasoning related information from various competitive examination books. Another 10(20%) students preferred General Knowledge related information from various current journals and magazines. 5(10%) students preferred History related information from various competitive examination books. Another 5(10%) students preferred English-related information from UPSC books while 5(10%) students preferred Advertisement related information from Employment News.

Table 6 Distribution of purpose of reading career guidance information sources

Purpose	No. of respondent	Percentage (%)
(i) To Gain General Knowledge	15	30%
(ii) For Educational purpose	5	10%
(iii) For spending leisure time	10	20%
(iv) To prepare for Competitive Examination	20	40%
Total	50	100%

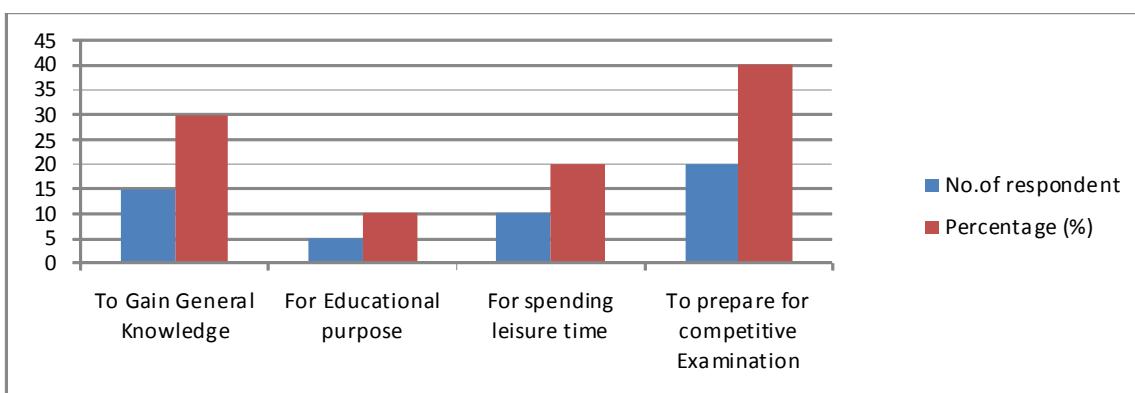


Figure 6: Frequency of purpose of reading career guidance information sources

Students read career guidance information sources for various purposes and especially for preparing for competitive Examinations. Table 6 and Figure 6 depict the



various purposes for which they read career guidance information sources. Among the total 50(10%) respondents, 15(30%) students opined that they read career guidance information sources to gain General Knowledge while 5(10%) students read for educational purposes. Another 10(20%) students read for spending leisure time and 20(40%) students read to prepare for competitive examination.

Table 7: Distribution of choice of benefits of reading career guidance information sources

Benefits	No. of respondents	Percentage (%)
(a) Keep abreast with latest development	5	10%
(b) Know Current affairs of the society	15	30%
(c) Helpful to individual educational development	10	20%
(d) Make ready to individual for appearing Competitive Examinations	20	40%
Total	50	100%

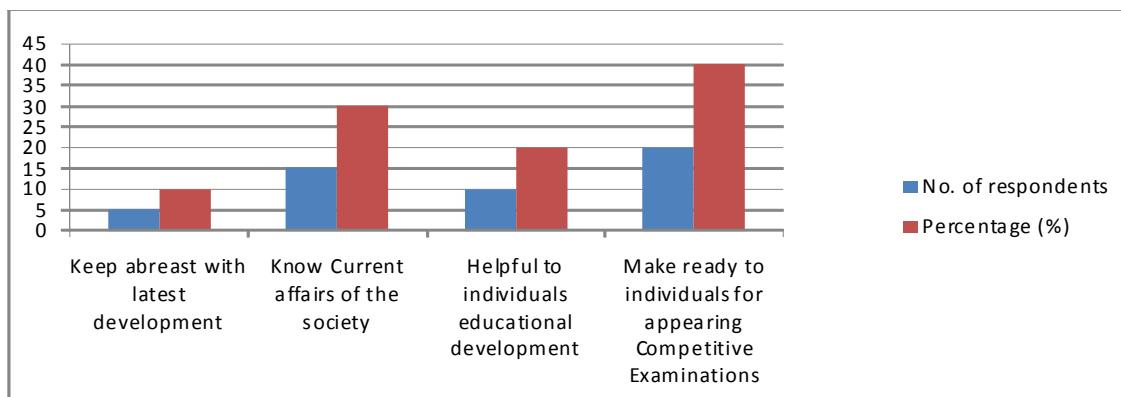


Figure 7: Frequency of choice of benefits of reading career guidance Information Sources

Table 7 and figure 7 furnish the benefits of reading career guidance information sources. Among the 50(100%) respondents, 20(40%) students read career guidance information sources to be benefited to make ready to individuals for appearing in competitive examinations. 15(30%) students read career guid-



ance information sources for knowing the current affairs of the society. 10(20%) students believe that career guidance is helpful to individual educational development and 5(10%) students believe that career guidance information sources have the power to keep abreast with the latest development.

Table 8: Distribution of choice of alternative sources for latest information

Type of Choice	No. of respondents	Percentage (%)
Online News	21	42%
Social Media	25	50%
Online Mock Test	2	4%
Quiz competition	2	4%
Total	50	100%

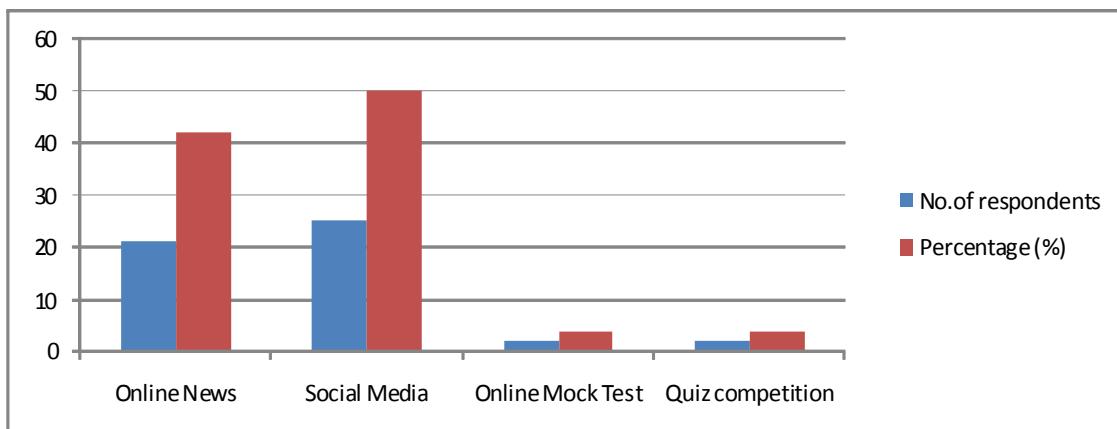


Figure 8: Frequency of choice of alternative sources for current Information

Table 8 and figure 8 show that alternative sources for the latest information apart from physical career guidance information sources. Among the total 50(100%) respondents, 25(50%) students prefer social media for the latest information. 20 (42%) students follow online news. 2(4%) students depend on quiz competition and another 2(4%) students pay interest on online mock tests for gathering the latest information.



Table 9: Distribution of satisfaction with overall function of the library

Satisfaction	No. of respondent	Percentage (%)
Excellent (80-100)%	2	4%
Very Good (50-80)%	18	36%
Good (25-50)%	25	50%
Poor (<25)%	5	10%
Total	50	100%

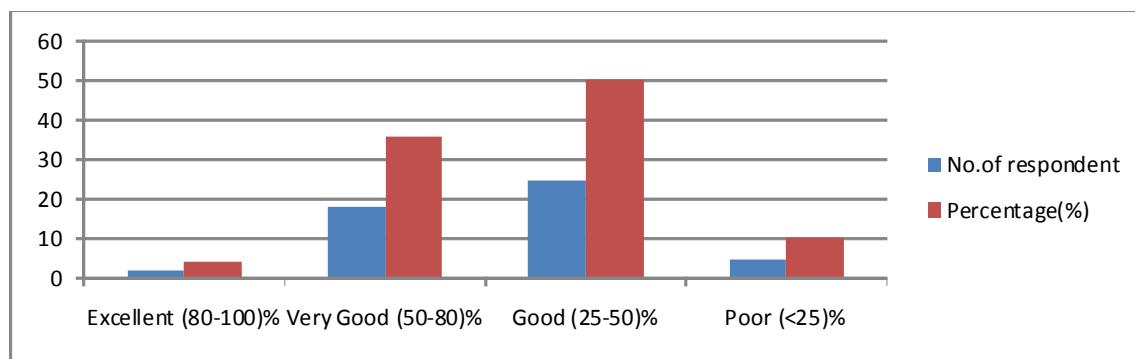
**Figure 9: Frequency of satisfaction with overall function of the library.**

Table 9 and Figure 9 show that out of 50(100%) respondents, 25(50%) respondents have expressed their satisfaction as good. 18(36%) respondents have expressed their satisfaction as very good. 2(4%) respondents have said excellent only and 5(10%) respondents have said poor satisfaction in respect to the overall function of the library.

7. Findings and results :

The major findings of the present study are as stated below:

- i. The major findings of the present study are as stated below:
- ii. The majority of the students 24(54%) used their college library 2 days a week.
- iii. Most of the students 30(60%) spent less than 1 hour in their college library.
- iv. The print version of career guidance is the most favourable choice 40(80%) concerning the form of career guidance information sources.
- v. Most of the students read career guidance for Numerical Aptitude 15(30%), Reasoning 10(20%), and General Knowledge 10(20%) information.



- vi. The majority of the students 20(40%) read career guidance information sources for appearing in the competitive examination.
- vii. The majority of the students benefited to make ready to the individual for appearing competitive examination through reading career guidance information sources.

8. Conclusion :

The present study shows the reading habit of career guidance information sources of the undergraduate students at Prafulla Chandra College library. Career guidance information sources are very common important sources of information for appearing in competitive examinations. Students are the future of the nation and to be a good citizen. They need to be aware of their career development. They should have enough knowledge about current politics, economy, industry, education system, agriculture system, literature, sports, government policies, and so on at national and international level. In this way, they have to prepare themselves to take responsibility for developing an advanced nation in the coming days. Career guidance information sources reading can help greatly as they provide diverged current information at local, national, and international levels by very low cost and easy success mode. The study shows that students have different purposes of reading career guidance information sources. Though the majority of the students expressed their views that usually they read career guidance information sources only to prepare themselves for appearing in competitive examinations, they also want to access current information of the society.

References:

- Cardoso, P., Savickas, M., & Gonçalves, M. (2020). Facilitating narrative change in career construction counseling journal of career development.
- Sharma, C., & Saini, R. (2019). Newspaper reading habit among the students of university college kurukshetra: a case study. Kurukshetra :Kurukshetra University.
- Arthur, M.B, Khapova, S.N., & Richardson, J.(2018). An intelligent career: taking ownership of your work and your life.
- Simon, K.K. (2016). The effect of student learning strategies on performance and career development: the case of university for development studies. Education Journal, 5(6), 174-182.
- Syahputra, P.A. (2016). Postgraduate students' reading habit and strategies in acquiring vocabulary. Surabaya: Post Graduate of English Department, the State University of Surabaya.

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