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Information Searching Techniques among the Faculty Members: A study of Degree Colleges Affiliated to Mangalore University

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ABSTRACT

Information plays a vital role in the society. Information is available from various sources through libraries, organization, service providers, internet, media and community resources. Now a day's users have to face with abundant information choices in their studies, workplaces and in lives. Information is available from all resources and remote corners of the world it becomes unfiltered and an individual possess a problem to choose the authentication and reliable and authentic information. To get right information, in right time, in right place for the right person is the challenging task of any users. Information search is an act of try to find the needed information by looking carefully, thoroughly in to the print as well as non print resources. Hence, in the present an attempt has been made, to study the information searching skills and strategies among the faculty members of the degree colleges. Further study is to identify different information search techniques used by the degree faculty for accessing and utilization of information resources.

1. Introduction

In twenty first century world has been an era of Information and its utilization. The social benefit of Information is better living. The need of Information plays an extremely important role in the complex society. It is considered as life blood of human body and also 6th basic need of human being. It is also termed as currency of 21st century. We required information for every day today activity at every stage and every step. Due to the advancement in Information and communication technology, information is increasing, creating, storing, processing and communicating through electronic media. All the facets of information resulted into increasing, complex and verity of information. The information is produced in various forms and formats like text, image, video, digital etc.

Over the past few decades, important technological developments have created as global environment and bring people for the world closer and closer. The significant developments in the field of information and communication technologies (ICT) have created revolutionary changes in all fields of knowledge. The internet and world wide web (WWW) are incredibly popular in almost all organizations due to the technological developments , a vast amount of information is available over internet. This is resulted into information explosion. This necessitates the new set of searching skills for accessing and utilization of information sources (Badween, 2001). Despite the availability of the sophisticated tolls for information searching literature reviews shows that many of the researcher lacks the good searching techniques, which resulted into poor quality of reviews, lack of range of sources, lack of depth and insufficient analysis of the information located, poor citations remain ongoing problem among the many students and researchers. In order to make it better use of sources of information available on the print as well as electronic sources.

2. Statement of the Problem

The statement of the problem is **"Information Searching techniques among the Faculty Members: A study of degree colleges affiliated to Mangalore University".**

3. Need for the Study

Searching skills is refers to finding information is a mix of method and technical skill followed for searching and locating required information. The study was undertaken for the purpose of investing ability of identifies, locate, evaluate and effectively use of the information by the faculty members. The ability to use information effectively and wisely is crucial to faculty members' success in higher education, it is increasingly important to incorporate information literacy skills among them for better performance of their academic and research achievements. The faculty members basically involved in teaching, learning and research. So, they may need constantly update their existing knowledge in their domain. Further, Information plays a vital role in all spheres of life in this technological era. Information is available in different formats and forms in various sources. To get the right information at the right time from the abundance of unclassified data/information, the faculty members must be information literate. In this context, role of the faculty members is very important, if the faculty members want to be competent and serious in their studies, he/ she should have competence and skills in information searching skills,. Hence, in the present study an attempt has been made to assess the information searching skills and competencies among the faculty members of degree colleges. Hence the proposed study has been undertaken.

4. Scope and Limitations

The present study was explorative in nature, mainly based on the primary data collected from the sample respondents and the following limitation has identified. The scope of the present study is limited to the Information searching skills and competencies among the faculty members under study in accessing and utilization of information sources. In the present study ACRL Standards is used for assessment of information literacy, further study is restricted to only degree colleges affiliated to Mangalore University.

5. Objectives of the Study

The Objective of the study are

1. To know the purpose of library visit by faculty members of degree colleges under study.
2. To find out the type of channels used for getting information.
3. To identify different information search techniques used by the faculty members of degree colleges for accessing information resources.
4. To know the knowledge of Boolean operators among the faculty members.
5. To suggest the means of improvement in searching techniques skills among the faculty members of degree colleges.

6. Methodology

The main aim of the study is to assess the information searching skills and competence among the faculty members of Degree Colleges, the present study is based on the Survey Method of Research wherein structured questionnaire has been used as data collection tools. The scope of the present study is limited to assessment of Information Literacy skills and competencies of degree college faculty members. Based on the objectives of the study, structured questionnaire was designed with help of ACRL standards of information literacy competency for higher education. Stratified and random sampling method was followed in the selection of study population. The primary data so collected from the sample population through structured questionnaire was analyzed with the help of statistical tools like Frequency, Percentage, t-test, ANOVAs and Regression Model to make projections and to draw meaningful conclusions.

7. Study Population

The study population comprises of the faculty members of degree colleges which are affiliated to Mangalore University. 300 faculty members were selected for the study. A study population was chosen based on the stratified and random sampling methods.

8. Data Analysis and Interpretation.

Table-1 Gender wise distribution of the respondents

Gender	Frequency	%
Male	158	52.7
Female	142	47.3
Total	300	100.00

The above table shows Gender Versus Type of College Wise Distribution of the Respondents under study, majority of the respondents (158-52.7%) under study belongs to male faculty members, while remaining 47.3% of the faculty members are female counterpart.

Table-2 Age Wise Distribution of the Respondents

Age	Frequency	%
less than 30 years	98	32.4
30-40 years	140	46.4
40-50 years	48	16.0
Above 50 years	14	4.7
Total	300	100.00

The above table indicates the age group versus type of college wise distribution of study population, significant proportion of the study population belong to (46.7%) 30-40 years of age, while, 32.7% of the facuty members were less than 30 years of age. Only 4.7% of the faculty members were more than 50 years of age.

Table-3 Domicile wise distribution of faculty members

Place	Frequency	%
Rural	226	75.3
Urban	74	24.7
Total	300	100.00

The above table indicates domicile versus type of college wise distribution of the sample study, large majority of the respondents belongs to rural area (75.3%) and the remaining are from the urban area (24.7%).

Table-4 Teaching Experience of the faculty members

Teaching Experience	Frequency	%
1-3 years	88	29.3
3-5 years	82	27.3
5-10 years	74	24.7
10 and above	56	18.7
Total	300	100.00

The above table shows the distribution of teaching experience among the type of colleges under study, teaching staff is distributed from 1-3 years of experience to ten and above ten years of teaching experience, more than 29% of the faculty members had 1-3 years of teaching experience and then followed by 3-5 years of teaching experience. While more than 18% of the faculty members have 5-10 years of teaching experience and only 18.7% have more than 10 years of teaching experience.

Table-5 Purpose of visit to Library by the faculty members under study

Sl no	Purpose	N	%
1	To Borrow/Return Books	280	93.3%
2	To Read Text Books	210	70.0%
3	To read Journal Articles	198	66.0%
4	Consulting Reference Material	124	41.3%
5	To read News Papers	250	83.3%
6	For Recreational Reading	52	17.3%
7	To Prepare Class notes	170	56.7%
8	To Use the Internet	46	15.3%
9	For research purpose	92	30.7%

10	Any other	8	2.7%

It is evident from the table-5 that Greater majority of the faculty members (93.3%) visit the Library for the purpose of to Borrow/Return Books and followed by those 70% visit for to Read Text Books in the library. More than 66% of the Faculty members visit the Library to read journal articles. On the other hand 83.3% of the faculty members visit mainly for the purpose of to read news papers. Nearly 56% of the faculty members visit for prepare class notes, while, 41.3% of the faculty members visit for Consulting Reference Materials. Hardly 15.3% of the faculty members visit for browning internet, It is summarized from the above discussion that faculty members visit library mainly for the purpose of To Borrow/Return Books, To Read Text Books from library and also reading news papers.

Table-6 Factors/Instances or which you need Information

Sl no	Factors/Instances or which you need Information	N=300	%
1	To prepare for teaching	262	87.3%
2	To write journal article for journal	128	42.7%
3	To write Paper for seminar, Conference etc.	206	68.7%
4	To update Knowledge	262	87.3%
5	To Become Life Long Learner	76	25.3%
6	Self Learner	84	28.0%

Here are several factors which make the users are in need for information. Table-6 depicts the factors for which the faculty members need information. Out of 300 faculty members, 262 study samples are in need of information to prepare for teaching and to update their knowledge which amounts to 87.3% to the total sample . About 206 faculty members are in need of information to Write Journal Articles for seminar and coferences (42.7%). Another 128 study group is in need of information to write Paper for journals etc (42.7%). At the same time moderate proportion of the faculty members are in need of information to Become Life Long Learner (25.3%) and Self learner (28.0%).

Table-7 Information retrieval tool

Sl no	Information retrieval tool	N=300	Percentage
1	Library Catalogue	261	87.00
2	OPAC/ Web OPAC	185	61.67
3	Union catalogue	56	18.67
4	In house databases	47	15.67
5	Online databases	54	18.00
6	Bibliography	86	28.67

The Table-7 indicates the types of catalogue tools used by the faculty members. Out of 300 faculty members, 261(87%) faculty members are using library catalogue to search documents in the library, then 185(61.67%) faculty members are using WEB OPAC/ OPAC to find document in the library, about 56(18.67%) faculty members are using union catalogue to find document in the library and the remaining. Another 47(15.67%) and 57 (18%) of faculty members are using In-house databases and on-line databases to search documents in the library respectively. However, 86(28.67%) faculty members uses bibliography for searching books in the library .

Table -8 Search Technique & Strategies used in searching required information

Sl. No	Search Technique & Strategies	Frequency	percentage
1	Simple key word	203	67.67
2	Boolean operator (AND or NOT)	93	31.00
3	Truncation	28	9.33
4	Field search (title, URL etc.)	39	13.00
5	Using a thesaurus to get preferred vocabulary for particular database	11	3.67

The above Table-8 depicts the type of search option used in searching box, out of 300 faculty members, 203 (67.67%) faculty members use simple key word, Then followed by 93 (31.0%) faculty members uses Boolean operators for searching required information. About 39 (13%) faculty members use Field search (title, URL etc.). while, 9.33% of the faculty members use truncation techniques. Only 3.67% use a thesaurus to get preferred vocabulary for particular database. It can be concluded that majority of the faculty members have very well versed with simple key word for searching need information.

Table-9 Skill to find a book in library Shelves

Sl no	Skill to find a book in library Shelves	Frequency	%
1	ISBN number	96	32.00
2	Call number	272	90.67
3	Title to find alphabetically	36	12.00
4	To brows the shelves until you find what you are looking for	78	26.00
5	Don't know	12	4.00

One of the objectives of the study was to know the skills used to find the books in the library, a question was asked to the faculty members, their responses as given in the above table. It is observed from the table-9 that greater majority of the faculty members uses call number for locating the books in the library, then followed 96 (32%) faculty members uses ISNB number to locate books in their library which amounts to 32% to the total sample. While, 78 (26%) faculty members' brows the shelves until you find what you are looking for. Hardly 36 faculty members have search by title to find alphabetically. From the above analysis it can be revealed that, since the books are usually arranged according to call number, hence majority of the faculty members follows this method for searching books in the library.

Table-11 How to do You Search Journal Article

Sl no	How to do you search journal article	Frequency N=300	%
1	Find by title of the journal	196	65.33
2	Search the Internet	136	45.33
3	Key word in the search box	162	54.00
4	Find Article by subject	43	14.33

5	I don't know	9	3.00

The above table-11 shows the searching techniques used to find out the required journal by the faculty members. Out of 300 respondents, 196 (65.33%) faculty members find the required journal by title of the journal, and then followed by 136 faculty members prefer internet for searching the joural. About 162 faculty members use the method of key word in the search box. Hardly very few faculty members use subject for searching required journal. Majority of the faculty members prefer title of the journal or typing the keyword in the search box to get the required journal in their disciplines

Table-12 Skills are used to search journal article

Sl. No	Sources	Frequency	percentage
1	Indexing journal	163	54.33
2	Abstracting journal	105	35.00
3	Database	95	31.67
4	Online Public Accessing catalogue	196	65.33
5	Html/Newspaper	23	7.67
6	Any other	15	5.00

Respondents under study were asked indicate the percentage of skills used to search the journal articles, as many as more than 54% of the faculty members use the OPAC for searching the journals and then followed by Indexing journal which amounts 54% of the total sample. Nearly 35% of the faculty members uses the abstracting journals and almost 31.67% of them uses database. Only 7% of the faculty members uses HTML/News papers. It can be concluded from the above analysis that majority of the faculty members uses OPAC and indexing journals for searching journals articles.

Table-13 Searching techniques followed in catalogues and OPAC for desired information

Sl.No	Searching Techniques	Frequency	percentage
1	By title	165	55.00
2	By publisher	65	21.67
3	By subject	101	33.67
4	By author	268	89.33
	I don't know	5	1.67

One of the main objectives of the study was to know the awareness about the Searching techniques followed in catalogues and OPAC for obtaining the desired information among the faculty members under study, it is observed from the table-13 that most of the faculty members (89.33%) have know the author search techniques in getting required information from catalogue or OPAC followed by title of the document which amounts 55% to the total sample study. While 33.67% of the faculty members also search the information by subject wise. On the other hand 21.67% of the faculty members search by publisher wise. It is surprisingly note that 1.67% of the faculty members do not know any the search techniques in searching needed information. It can be inferred from the above table that large majority of the faculty members have knowledge of author and title search techniques in searching required information in catalogue or OPAC.

Table -14 Search Technique & Strategies used in searching required information

Sl. No	Search Technique & Strategies	Frequency	percentage
1	Simple key word	203	67.67
2	Boolean operator (AND or NOT)	93	31.00
3	Truncation	28	9.33
4	Field search (title, URL etc.)	39	13.00
5	Using a thesaurus to get preferred vocabulary for particular database	11	3.67

The above Table-14 a depicts the type of search option used in searching box, out of 300 faculty members, 203 (67.67%) faculty members use simple key word, Then followed by 93 (31.0%) faculty members uses Boolean operators for searching required information. About 39 (13%) faculty members use Field search (title, URL etc.). while, 9.33% of the faculty members use truncation techniques. Only 3.67% use a thesaurus to get preferred vocabulary for particular database. It can be concluded that majority of the faculty members have very well versed with simple key word for searching need information.

Table-15 Search strategy used to search information in Search Engine

Sl. No	Search strategy used to search information in Search Engine	Frequency	percentage
1	Type the Required statement is search box	220	73.33
2	Type the keywords in Search box	188	62.67
3	Type the keywords Using Boolean operators	140	46.67
4	Use Wildcard/Tranctions	53	17.67
5	Don't know	39	13.00
	Others	3	1.00

The above Table-15 shows the search strategy used by faculty members to search information in search engine. Out of 300 respondents, 188 (62.67%) faculty members use keywords to search information in search engine. The higher number of respondents i.e. 220 (73.33%) faculty members type the required statement as it is in search box. About 140 (46.67%) faculty members type the required information keywords using Boolean operators to search in search engine. 53(17.67%) faculty members use wildcard and truncations to search the required information in search engine. The above table shows that multitude faculty members use keywords of required information to search in search engine.

Table-16 Using Search engine such as Google/Bing, to search for documents on "Higher education in Indian Villages", one can use the key words.

Sl. No.	Key words used in Search Engines	Frequency N=300	Percentage (%)
1	Higher, education, in Indian, Villages	67	22.34

2	Higher education, in Indian Villages	160	53.33
3	Indian Villages	13	4.33
4	Higher education	60	20.00
		300	100

Table -16 shows the knowledge about the use of correct key words in search engines by faculty members of Degree College. Out of 300 respondents, 67 faculty members use correct key words for a given topic to search in the search engine representing 22.34% of the total sample and the remaining 267(78.66%) faculty members lack the skill of using correct key words for a given topic in search engines.

Table-17 Type of Search option used in web OPAC

Sl.No	Type of Search option used in web OPAC	Frequency	percentage
1	Basic search	270	90.00
2	Guided Search	225	75.00
3	Expert search	61	20.33

The above Table-17 a depicts the type of search option used in web OPAC distribution of respondents out of 300 faculty members who have the knowledge of Web OPAC. 270 (90.00%) faculty members are using basic search in web OPAC, Then followed by 225 (75.00%) faculty members have the knowledge of guided search. About 61 (20.33%) faculty members use expert search in OPAC. It can be concluded that majority of the faculty members have very well versed with Basic search and guided search to search needed information.

Table-18 Correct Boolean Operator used to find Synonyms Keywords in Search Box

Sl. No	Correct Boolean operator used to find synonyms word	Frequency	percentage
1	AND	129	43.00
2	OR	113	37.67
3	NOT	32	10.67
4	Don't Know	26	8.67
5	Any Other	0	0.00

Table-18 indicates the knowledge of faculty members to identify the correct Boolean operator to find synonyms word in search box for a given statement. Out 300 respondents, only 113(37.67%) faculty members IDENTIFY the correct Boolean operator for a given statement. and the remaining 187(62.33%) faculty members lack the knowledge of synonymous keywords for a given topic in search engines.

Table -19 Correct Boolean Operator used to Find Combining Keywords in a Search Box

Sl. No	Correct Boolean Operator used to Find Combining Keywords in a Search Box	Frequency	percentage
1	AND	150	50.00
2	OR	95	31.67
3	NOT	30	10.00
4	Don't Know	25	8.33
5	Any Other	0	0.00

Table-19 represents the knowledge of faculty members to identify the correct Boolean operator to find Combining Keywords in a Search Box for a given statement. Out 300 respondents, only 150(50%) faculty members identify the correct Boolean operator for a given statement. and the remaining 150 (50%) faculty members lack the knowledge of Combining Keywords for a given topic to search needed information in the search engines.

Table-20 Correct Boolean Operator Used to find Excluding Keywords in a Search Box

Sl. No	Correct Boolean Operator Used to find Excluding Keywords in a Search Box	Frequency	percentage
1	AND	75	25.00
2	OR	77	25.67
3	NOT	40	13.33
4	Don't Know	106	35.33
5	Any Other	2	0.67

Table-20 represents the knowledge of faculty members to identify the correct Boolean operator to find Excluding Keywords in a Search Box for a given statement. out 300 respondents, only 40(13.33%) faculty members identify the correct Boolean operator for a given statement. and the remaining 160 (86.67%) faculty members lack the knowledge of Excluding Keywords for a given topic to search the needed information in the search engines.

9. Major findings of the study.

1. Out of 750 questionnaire distributed, 300 questionnaires were received back, the rate of response is 40.00%
2. 158(52.7%) are male faculty members and 142(47.3%) are female faculty member.
3. Significant proportion of the study population belong to (46.7%) 30-40 years of age, while, 32.7% of the facuty members were less than 30 years of age. Only 4.7% of the faculty members were more than 50 years of age.
4. Greater majority of the faculty members (93.3%) visit the Library for the purpose of to Borrow/Return Books and followed by those 70% visit for to Read Text Books in the library. More than 66% of the Faculty members visit the Library to read journal articles.
5. 262 study samples are in need of information to prepare for teaching and to update their knowledge which amounts to 87.3% to the total sample . About 206 faculty members are in need of information to Write Journal Articles for seminar and coferences (42.7%).
6. 261(87%) faculty members are using library catalogue to search documents in the library, then 185(61.67%) faculty members are using WEB OPAC/ OPAC to find document in the library.
7. Large majority of the faculty member (189-63%) used college library as channel of information followed by email which constitutes nearly 51% to the total sample. Mean while, higher percentage of the faculty

members also uses on-line databases as channels of information.

8. Greater majority of the faculty members uses call number for locating the books in the library, then followed 96 (32%) faculty members uses ISNB number to locate books in their library which amounts to 32% to the total sample.
9. Out of 300 respondents, 196 (65.33%) faculty members find the required journal by title of the journal, and then followed by 136 faculty members prefer internet for searching the joural.
10. 163 faculty members have indentified correctly journal as the main source for publication of scholarly article.
11. As many as more than 54% of the faculty members use the OPAC for searching the journals and then followed by Indexing journal which amounts 54% of the total sample.
12. Most of the faculty members (89.33%) have know the author search techniques in getting required information from catalogue or OPAC followed by title of the document which amounts 55% to the total sample study.
13. 203 (67.67%) faculty members use simple key word, Then followed by 93 (31.0%) faculty members uses Boolean operators for searching required information.
14. 188 (62.67%) faculty members use keywords to search information in search engine. The higher number of respondents i.e. 220 (73.33%) faculty members type the required statement as it is in search box. About 140 (46.67%) faculty members type the required information keywords using Boolean operators to search in search engine.
15. 67 faculty members use correct key words for a given topic to search in the search engine representing 22.34% of the total sample.
16. 270 (90.00%) faculty members are using basic search in web OPAC, Then followed by 225 (75.00%) faculty members have the knowledge of guided search. About 61 (20.33%) faculty members use expert search in OPAC.
17. Only 113(37.67%) faculty members IDENTIFY the correct Boolean operator for a given statement.
18. 150(50%) faculty members identify the correct Boolean operator for a given statement. and the remaining 150 (50%) faculty members lack the knowledge of Combining Keywords for a given topic to search needed information in the search engines.
19. Only 40(13.33%) faculty members identify the correct Boolean operator for a given statement. and the remaining 160 (86.67%) faculty members lack the knowledge of Excluding Keywords for a given topic to search the needed information in the search engines.

10. Conclusion

To understand the importance of effective search techniques. We have to develop guidelines for planning and implementation of search techniques. It is necessary to develop and encouraging users to use effective searching strategies. The study shows that majority of the faculty members under study lacks the searching skills. Effort should be made in the college libraries to train the faculty members in the lines of understanding and use of advanced searching and also Boolean searches are more powerful in the searching process. The faculty members are learn the search routines for all the packages of electronic resources.

References

1. Alakpodia, A. (2010). Assessment of information literacy skills among librarians in Delta State University Albarker. *Information Technology*, 7(1), n.p.
2. Bruce, C. (1997). *The seven faces of information literacy*. Adelaide (AU): Auslib Press.
3. Catalano, A. J. (2010). Visiting ACRL standards to assess the information literacy of graduate students in an education program. *Evidence Based Library and Information Science*, 5(4), 21-38.
4. Dabbour, K. S., & Ballard, J. D. (2011). Information Literacy and US Latino College Students: A Cross Cultural Analysis. *New World Library*, 112(7-8), 347-364.
5. Doyle, C.S. (1994). *Information literacy in an information society: A concept for the information age*, Syracuse, NY: ERIC Clearinghouse on Information and Technology.
6. Eisnberg, M. B., & Lowe, C. A., & Spitzer, K. L. (2004). *Information literacy: Essential skills for the information age* (2nd ed.). London: Libraries Unlimited.
7. Emmett A., & Emde, J. (2007). Assessing information literacy skills using the ACRL standards as a guide. *Reference Service Review*, 35(2), 210-229.
8. Godwin, P., & Parker, J. (Eds). (2008). *Information literacy meets library 2.0*. London: Facet Publishing.
9. Goodin, M. E. (1991). The transferability of library research skills from high school to college. *School Library Media Quarterly*, 19(1), 33-42.
10. Irving, A. (1985). *Study and Information skills across the curriculum*. London: Heinemann Educational Books.
11. Korabilli, S. A., Danilidou, E., & Christodoulou, G. (2011). A paradigm of Information Literacy for Greek High School Teachers. *Journal of Librarianship and Information Science*, 43(2), 78-87.
12. Kumar, P.S.G. (2004). *A student's Manual of Library and Information Science: On the lines of the NET Syllabus of UDC.* Delhi: B.R.Publishing Corporation.
13. Lenox, M.F., & Walker, M. L. (1992). Information literacy: Challenge for the future. *International Journal of Information and Library Research*, 4(1), 1-18.
14. Ramesha, & Shivarama, J. (Eds.). (2011). *Information literacy and higher education in digital environment*. Mysore: Karnataka State Open University.
15. Rehman, Sajjad., & Alfaresi Sumayyah. (2009). Information Literacy skills among female students in Kuwaiti high schools. *Library Review*, 58(8), 607-616.
16. Singh, Annmarie.(2005). *A report of faulty perceptions of students' information literacy competencies in journalism and mass communication programs*: the ACEJMC survey.
17. Stripling, B. K., & Pitts, J. (1988). *Brainstorms and blueprints: Teaching library research as a thinking process*. Littleton, CO: Libraries Unlimited.
18. Williams, H., & Zald, A. (1997). Redefining roles: Librarians as partners information literacy education. *Information*

Research, 13(1). Retrieved from http://informationr.net/ir /3-1/paper24.html.

19. Zurkowski, P.G. (1974). *The information service environment relationships and priorities*. Washington DC: National Commission on Libraries and Information Sciences.