



RESEARCH LITERACY SKILLS AND COMPETENCIES OF FACULTY MEMBERS: A STUDY AT TUMKUR UNIVERSITY, KARNATAKA

Hemavathi B N¹ and Dr. Ramesha²

¹Research Student , Dept. Library and Information Science, Bangalore University, JB Campus, Bengaluru . & Assistant Professor ,Dept. Library and Information Science , Tumkur University, Tumakuru .

²Professor,Dept. Library and Information Science , Bangalore University, JB Campus, Bengaluru .

ABSTRACT

The study has been made attempt to study the set of skills required for research activities among the postgraduate teachers of the Tumkur University. The study has covered the basic skills required for research such as ability to search, locate and evaluation of information and its sources, preferred search approaches and search techniques, awareness on citation, referencing, plagiarism and competency in the use of reference management software, anti plagiarism software, style manual etc. the study evidenced that, the teachers of Tumkur University are good in their research literacy skills and competency. The study has received the data about the respondents who are novice about the citation, referencing,



plagiarism hence author suggested to libraries to take a step towards in creating awareness about the same.

KEYWORDS: research literacy, research skills, information literacy, higher education, teachers.

1. INTRODUCTION :

Developing lifelong learners is central to the mission of higher education institutions (ALA, 2000). Research literacy is a novel concept which received the great importance because of information pollution. Research literacy is set of abilities essentially required in higher education

environment for the legal and ethical use of information and for the optimum utilization of information sources which are available in abundance in the establishment of new ideas with the perfect analysis and the to provide the great evidence to the progress in the subject field. Grinnell college library defined as research literacy is a set of interdisciplinary, transferable competencies that help individuals determine and diminish knowledge gaps. To be research literate is to know methods of inquiry, to possess effective research skills, to

navigate all formats of publication fluently, to recognize one's personal limitations and how to overcome them, to know where to start, to discern when to consult a librarian or other expert for assistance, and to communicate ideas effectively. It includes the ability to articulate a research information need, to construct complex search statements, to assess the relevance and authority of found documents, and to be capable of synthesizing existing content in order to explore the parameters of her or his research question. Research literacy is the sum of the attributes required of lifelong learners.

1.1. Definition

Powell, Lauren R (2016) defined research literacy as "the capacity to obtain, process and understand basic information needed to

make informed decisions about research participation.” Beaudry, E S and Miller, L (2016) Research literacy is the ability to locate, understand, discuss and evaluate different types of research; to communicate accurately about them; and to use findings for academic and professional purposes. Research literacy is not just one literacy, it is a combination of literacies that, taken together, empower teachers to access, understand and apply ‘what the research says’ to both their academic and professional work.

2.LITERATURE REVIEW

Several studies were identified and considered the research literacy as one of the dimension of information literacy. Shapiro and Hughes (2003) identified the research literacy as one of dimension of information literacy. According to information literacy includes library literacy, computer literacy, research literacy and critical thinking skills (Amalahu er al. (2009) and to these skills media literacy and internet literacy were considered as concepts of information literacy by Martin and Rader (2003). Jakubec, S.L. and Astle, B.J. (2013) were made an attempt to demonstrate the importance information literacy in the field of nursing among the undergraduate nursing students of Canada through the ‘Research in Practice Challenge Activity.’ This activity necessitates the students to do literature searching, identify problems in practice and critically assess evidence. The study highlighted the relevance of research literacy for their practice and the authors were suggested the teaching and learning of research literacy. Wakimoto D K (2009) introduced information literacy course with content of library skills, database searching, the research process, types of information formats, evaluation, web 2.0, communication, information ethics issues and applications of information literacy outside of the classroom by using the pre and post tests at California State University. This evidence based study revealed that many students were entered the course without any concept of information literacy and majority of the students were satisfied with the course. The author opines that, in order to fully assess information literacy instruction and student learning, librarians should consider incorporating ways of assessing student learning beyond testing content knowledge and levels of competency. Intan Azura Mokhtar Shaheen Majid Schubert Foo, (2007) opines that research literacy would comprise the ability to search, locate, decipher, evaluate, critique and use research finding for application in theory and practice. In South Africa, the importance of information skills has stressed in all levels of education and it has been considered as one of the critical learning outcomes. For this reason the University of Pretoria has introduced a compulsory first year course in computer and information literacy and the University of South Africa (Unisa) offering an information research literacy course for the postgraduate students of Environmental education and Chemistry’ Ina Fourie Theo Bothma, (2006).

In India, workshops from professional associations and refresher course from the UGC Academic staff colleges were conducted on research methodology to create awareness and to provide practical exposure in the use and apply information effectively, efficiently, legally and ethically. Thus, after reviewing the literature, it’s noted that there were no comprehensive studies on assessment of research literacy skills and competencies among the teachers of Tumkur University. Hence the present study has been made an attempt to study research literacy skills and competencies among the teachers of the Tumkur University, Tumakuru, Karnataka.

3.OBJECTIVES

The study has been made an attempt to:

- + know the research activities of teachers and its rationale
- + assess the research literacy skills and competencies among teachers

To determine perception of teachers about their ability to:

- + Search, locate and evaluate the information and its sources
- + Use different search techniques and preferred search approaches to search information in networked environment

3.1. Scope and Methodology

The study has been carried out by the survey strategy among the teachers of postgraduate departments of Tumkur University, located in the Tumkur University campus, Tumakuru. In Tumkur University campus 15 postgraduate departments are situated. Faculty of Science, social science, Humanities and commerce and

management were considered for the study. 70 structured questionnaires were randomly distributed and received 40 duly filled questionnaires were received. The rate of response is 57%.

4. DATA ANALYSIS AND INTERPRETATION

4.1. Demographic details of the respondents

Table 1: Demographic details of the respondents

Demographic Information		Responses	percentage
Gender	Male	20	50
	Female	20	50
Designation	Professor	04	10
	Associate Professor	19	47.5
	Assistant Professor	11	27.5
	Guest Faculty	02	05
Age group	20-30	07	17.5
	30-40	24	60
	40-50	09	22.5
Social Background	Urban	34	85
	Rural	06	15

The above table shows the demographic details of the respondents. As per the table 1, totally 40 responses were received in that male and females were equally (each 50%) took part in this study. 19 (47.5%) responses were received from the associate professors, 11 (27.5%) responses received from assistant professors, 4 (10%) responses received from professors and 2 (5%) of responses received from the guest faculty of Tumkur University. The study evidenced that, 34 (85%) of the respondents from urban background and only 6 (15%) respondents are from rural background. 24 (60%) respondents are belongs to the age group of 30-40, 9 (22.5%) respondents are belongs to the age group of 40-50 and remaining 7 (17.5%) respondents are belongs to the age group of 20-30. It shows that, the Tumkur University has young teachers with urban background.

4.2. Research activities of Teachers of Tumkur University and its Rationale

Table 2: Research activities of Respondents

Research activities of teachers of Tumkur University and its Rationale		Responses	percentage
Research activities	Pursuing Ph.D	10	25.0
	Research project	27	67.5
	Guiding for Ph.D	15	37.5
	Articles in Journals	30	75.0
	Publications in Conference Proceedings	25	62.5
	Writing of books	7	17.5
Rationale	Desire to get a research degree along with its consequential benefits	14	35
	Desired to face the challenges in solving the unsolved problem	21	52.5
	Desired to get Intellectual job of doing some creative work	19	47.5
	Desired to be service to society	20	50
	Desired to get the respectability	9	22.5

The above table shows that, among 40 teachers 10 (25%) of them are pursuing Ph.D, 27 (67.5%) teachers are working on research projects, 15 (37.5%) teachers are guiding for Ph.D, 30 (75%) teachers are engaged in writing articles in journals, 25 (62.5%) teachers are writing papers for conference proceedings and 7 (17.5%) teachers engaged in writing books. The study has been made an attempt to know the rationale of research activities of teachers of Tumkur University. The resulted that, 21 (52.5%) teachers are engaged in research activities with desired to face the challenges in solving the unsolved problem, 20 (50%) teachers desired to be service to society, 19 (47.5%) teachers are desired to get intellectual job of doing some creative work, 14 (35%) teachers are desired to get the research degree along with its consequential benefits and 9 (22.5%) teachers are desired to get the respectability. It shows that, majority of the teachers are engaged in one or the other research activities. The majority of the teachers are working on research projects and engaged in writing of articles in journals and in conference proceedings. The majority of the teachers engaged in research activities with desire to face the challenges in solving the unsolved problem, to serve the society and to get intellectual job of doing some creative work.

4.3. Teacher's preferred way to select a topic for research

Selection of topic for research or problem identification is the starting point for any research activity. Hence the study has been made an attempt to know the preferred way to select the topic for research by the teachers of Tumkur University, Tumakuru. 23 (57.5%) teachers and these teachers are preferred ways to select a topic for research by studying previous studies, by observing trends in the subject, by reading updated in key subject and by professional discussion.

4.4. Teacher's skills in locating of Information

Table 3: Teacher's skills in locating of needed information

Criteria	Preferred Information Sources	Responses	percentage
To locate various research efforts on needed topic	Using indexing and abstracting services	11	27.5
	Searching in Online information database	27	67.5
	Browsing of E-Resources	30	75
	Searching Journals	27	67.5
	References of References	9	22.5
Part of a research article preferred to know the relevance of interested topic	Abstract	29	72.5
	Introduction	12	30
	Methodology	12	30
	Findings/Results	15	37.5
	references	10	25

The above table shows that, 75% of the respondents prefer browsing of E-resources, 27 (67.5%) respondents are searching journals and searching in online information database. 11 (27.5%) respondents prefer using of indexing and abstracting services to locate the needed information for research and 9 (22.5%) respondents preferred references of references to locate the various research efforts on needed or on research topic. Though the indexing and abstracting is the key to locate the various research efforts published in scholarly journals and which is lead a researcher to locate the primary information sources only 27.5% of respondents were preferred it. 29 (72.5%) respondents' preferred abstract of the article, 15 (37.5%) preferred Findings/results, 12 (30%) of the respondents preferred Introduction part and methodology and 25% of the

respondents were preferred part of an article is references to know the relevance of their interested topic. The majority of the respondents were preferred abstract as a part of an article to know the relevance of their interested topic and the respondents were expressed the multiple approaches to other parts of articles such as introduction, methodology, findings/results and references which may not save the time of the users. It shows that, the respondent's average level awareness in using different information sources and services.

4.5. The Search Approaches and Search techniques preferred by the respondents to search a document or information in a Library catalogue/OPAC/Web OPAC/WWW

Table 4: Respondent's preferred search techniques and search approaches to search information in networked environment

Respondent's preferred search approaches and search techniques to search information in networked environment		Responses	percentage
Search approaches preferred by the teachers	Author approach	20	50
	Title approach	15	37.5
	Keyword approach	12	30
	Subject approach	15	37.5
	Publishers approach	5	12.5
	Standard Number approach (ISBN/ISSN)	2	5
Search techniques used to search information in networked environment	Phrase search	26	65
	Wild card search/Truncation	9	22.5
	Boolean search technique	9	22.5
	Advanced search technique	21	52.5

50% of the respondents preferred author approach, 37.5% of the respondents prefer title approach and subject approach, 30% of respondents preferred keyword approach, 12.5% prefers publishers approach and 5% of the respondents were preferred standard Number Approach (ISBN) to search a document or information in a library catalogue/OPAC/WebOPAC/WWW. The Majority of respondents were preferred author approach; least preferred approach is standard number approach to search a document or information in a library catalogue/OPAC/WebOPAC /WWW. 65% of the respondents were used phrase search, 52.5% of respondents were used advance search technique, and 22.5% of respondents were used wild card search and Boolean search strategies to retrieve information in online. The majority of the respondents were used phrase search strategy to retrieve information online.

4.6. Respondent's preferred criteria to evaluate the quality of print and electronic information sources

Evaluation of located information is an essential characteristic of a researcher. The present study has been made an attempt to know the evaluation criteria preferred by the respondents to evaluation the quality of print as well as electronic information sources. Data presented in the following table.

Table 5: Respondent's skills in evaluation of print and electronic information sources

Respondent's preferred criteria for evaluation of print and electronic Information Sources		Responses	percentage
Evaluation criteria preferred to evaluate Print information sources	The timeliness of the information	17	42.5
	The credentials of the author	17	42.5
	The length of the Information source	5	12.5
	The accuracy of the information	33	82.5
Evaluation criteria preferred to evaluate electronic information sources	The date of publication is provided	20	50
	The author/authority	18	45
	Attractiveness/colorful	6	15
	The website which is easily accessible	8	20
	Domain name	14	35
	Flashing of information/more pictures	9	22.5
	Responsibility for the website is clearly indicated	9	22.5

82.5% of the respondents' preferred evaluation criteria is the accuracy of the information, 42.5% of the respondents' preferred evaluation criteria is the timeliness of the information and the credentials of the author and 12.5% of the respondent's evaluation criteria is the length of the information source. 50% of the respondents were preferred the date of publication is provided, 45% of the respondents were preferred the author/authority, 35% of the respondents were preferred the domain name, 22.5% of the respondents were preferred flashing of information/more pictures and responsibility for the site is clearly indicated, 20% of respondents were preferred the website which is easily accessible and 15% of the respondents were preferred the attractiveness/colorfulness of the website as evaluation criteria to evaluate the quality of the electronic information sources. It shows the respondents awareness in the evaluation of print and electronic information sources.

4.7. Ethical use of Information

Ethical use of information is the most important and essential characteristics of a researcher. Hence the study has been made an attempt to study the awareness on the concepts of ethical use of information (such as citation, referencing, using style manual and plagiarism) among the teacher of Tumkur University. Data presented in the following table.

Table 5: Respondent's awareness in the ethical use of information

Criteria	Preferred Information Sources	Responses	percentage
Awareness about Citation	Yes	31	77.5
	No	09	22.5
Awareness about Referencing standard/style manual	Yes	34	85
	No	6	15
Referencing style manuals used by the teachers	APA	27	67.5
	Chicago	5	12.5
	MLA	7	17.5
	IEEE	8	20
Awareness on Plagiarism	Yes	33	82.5
	No	07	17.5
	Extremely Aware	18	45
	very aware	17	42.5
	Moderately	2	5
	Slightly	3	7.5

77.5% of the respondents were aware of citation and 22.5% of respondents were novice about the citation. 85% of the respondents were aware of referencing standard/style manual and 15% of respondents were novice about the same. 67.5% of the respondents were using APA style manual, 20% of the respondents are using IEEE style manual, 17.5% of respondents were using MLA style, and 12.5% of the respondents are using Chicago style manual in the academic work. 82% of the respondents are aware of plagiarism and 18% of the respondent doesn't know about plagiarism. Further the respondents were asked about their awareness level about the plagiarism. 45% of the respondents are extremely aware, 42.5% of the respondents are very aware, 7.5% of respondents are slightly aware and 5% of the respondents are moderately aware of plagiarism. It shows that, the majority of the teachers are aware of using information ethically. APA style manual is preferred by the majority of the respondents and the majority of the respondents are extremely aware of plagiarism.

4.8. Research Literacy among the postgraduate teachers of Tumkur University

The study has been made an attempt to study the research literacy skills and competencies among the teachers of the Tumkur University, Tumakuru. 11 statements were given in the questionnaire and five point rating scale was used to collect the data on the research literacy skills and competencies among the respondents. Data presented in the following table.

Table 6: Research Literacy Skills and Competencies among the Respondents (5=Excellent 4=Good 3=Competent 2=Weak 1=Poor)

S N	Statement	5	4	3	2	1
1.	Developing a research plan appropriate to the topic selected	13(32.5%)	18(45%)	6(15%)	3(7.5%)	-
2.	Access needed information effectively and efficiently	17(42.5%)	15(37.5%)	6(15%)	2(5%)	-
3.	Use of advanced search facilities	11(27.5%)	23(57.5%)	6(15%)	-	-
4.	Apply information to create and communicate knowledge	13(32.5%)	17(42.5%)	10(25%)	-	-

5.	Use of sources National ,institutional and discipline based consortia	14(35%)	17(42.5%)	7(17.5%)	2(5%)	-
6.	Use current awareness services, table of content and alert services	14(35%)	17(42.5%)	9(22.5%)	-	-
7.	Research publication process	6(15%)	25(62.5%)	9(22.5%)	-	-
8.	Use bibliographic management software (Zotero, Endnote etc.)	8(20%)	15(37.5%)	8(20%)	9(22.5%)	-
9.	Knowledge of fair use of information	12(30%)	24(60%)	2(5%)	2(5%)	-
10.	Knowledge of plagiarism	14(35%)	18(45%)	5(12.5%)	3(7.5%)	-
11.	Understands...economic, legal, and social issues...of information and access, uses information ethically and legally..	14(35%)	18(45%)	7(17.5%)	1(2.5%)	-

45% of the respondents are good in developing a research plan appropriate to the topic selected, 13(32.5%) respondents are excellent, 6(15%) respondents are competent and 2(5%) are weak in developing a research plan. The majority of the respondents are good in developing a research plan appropriate to the topic selected. While accessing the needed information effectively and efficiently 17(42.5%) of the respondents are excellent, 15(37.5%) of the respondents are good, 6(15%) of the respondents are competent and 2(5%) respondents are weak.

Considering the use of advanced search facilities 23(57.5%) of the respondents are good, 11(27.5%) of the respondents are excellent and 6(15%) of the respondents are competent in using advanced search facilities. In applying of information to create and communicate knowledge, 17(42.5%) of the respondents are good, 13(32.5%) of the respondents are excellent and 10(25%) of the respondents are competent for apply to create and communicate knowledge. While in the use of e resources such as National, institutional and discipline based consortia 17(42.5%) of the respondents are good, 14(35%) are excellent, 7(17.5%) of the respondents are competent and 2(5%) of the respondents are weak. Among the respondents Use current awareness services, table of content and alert services 17(42.5%) of the respondents are good, 14(35%) are excellent and 9(22.5%) are competent in the use of current awareness service, table of content service and alerting service. 25(62.5%) of the respondents are good, 6(15%) are excellent, and 9(22.5%) are competent in the research publication process. Considering the Use bibliographic management software (Zotero, Endnote etc.) 15(37.5%) of the respondents are good, 9(22.5%) are weak, 8(20%) are excellent and 8(20%) are competent.

Considering Knowledge of fair use of information, 24(60%) of the respondents are good, 12(30%) are excellent, 2(5%) are competent and 2(5%) of the respondents are weak in knowledge of fair use of information. The above table shows that, 18(45%) of the respondents are good, 14(35%) are excellent, 5(12.5%) are competent and 3(7.5%) of the respondents are weak in knowledge about plagiarism. While Understanding...economic, legal, and social issues...of information and access, uses information ethically and legally.. as per the data in the above table 18(45%) of the respondents are good, 14(35%) are excellent, 7(17.5%) are competent and 1(2.5%) of the respondents are weak. The majority of the respondents are good in their research literacy skills and competencies. But compare to the number of respondents who are excellent in the same is less than the respondents who are good.

5. SUGGESTIONS AND CONCLUSION

- ✦ The majority of the teachers are engaged in writing articles in journals, conference proceedings and in

research projects. The primary information related to their research or interested topic is essential. Libraries can arrange special lectures to create awareness on the personalized free web based services are provided by the commercial as well as open access and information gateways. This will help in knowing current trends in the selected topic.

- ✦ The majority of the respondents were aware of citation, referencing style, plagiarism. The study has received the data about the respondents who are novice about the same. Research is a fundamental activity of University education system. The confidence in the using information legally, ethically leads the quality in the research output. Hence libraries can arrange special lectures to create awareness on the basic concepts of ethical use of information and also they can provide hands on experience to manage references, its sources by using the software such zotero, mendley by conducting workshops.

CONCLUSION

Research literacy is a solution for quality research output. To address the common gaps between research (informational) needs and information and its sources and to excel the research capacity among researcher the research literacy is essential. The libraries need to take a step in this regard and embrace the research literacy as a strengthening tool to promote and put into practice of legal and ethical use of information by its users to face the challenges in the present information pollution environment.

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Hemavathi B N

**Research Student , Dept. Library and Information Science,
Bangalore University, JB Campus, Bengaluru . & Assistant Professor ,
Dept. Library and Information Science ,Tumkur University, Tumakuru .**



Dr. Ramesha

**Professor,Dept. Library and Information Science , Bangalore University,
JB Campus, Bengaluru .**