

Vol. 8. No. 1. 2021

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Contents available at:

www.crdeepjournal.org

International Journal of Social Sciences Arts & Humanities (ISSN: 2321-4147)(CIF: 3.625)

**Full Length Research Paper****Information Literacy of Research Scholars: A Case Study of Ph.D Students****Mahesh Chandra Belwal¹ and Rakesh Pant²**¹Assistant Librarian, Chandrawati Tewari Girls P.G. College, Kashipur, Uttarakhand, India.²Research Scholar (Kumaun University - KU); Cataloguer (Uttarakhand Open university- UOU)**ARTICLE INFORMATION****Corresponding Author:**

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Article history:

Received: 24-12-2020

Accepted: 30-12-2020

Published: 07-01-2021

Key words:Information, Information
Literacy, Research Scholar,
Ph.D. Students**ABSTRACT**

Information is the bedrock of national development. The availability of accurate & timely information plays a significant role in the development. Information, to conduct of work & life, also play significant role in decision making & problem solving (Kawatra, 2000). In present times information is considered as important sources & parameters of the economic, social, industrial, educational and political development of a country. In present information edge, the quality of life as well as prospects for social change and economic development depends increasingly upon information and its utilization. The aim of this study is to describe information literacy of research scholars

Introduction

21st century is the century of information where we are surrounded with a number of information. In the era of information edge, it becomes essential to understand the concept of 'information literacy'. The concept of information literacy is not a new concept in the field of information technology. It is widely used concept in the field of education & research. In a layman, the concept of information literacy can be defined as the ability of an individual where the person knows the reliability & validity of information. The term 'information literacy' can also be defined as the ability of a person where the one can bring authentic information from a large information pool.

Library and information professionals aim to ensure all persons throughout the world to avail the same opportunity and participate in the information society without any hindrance to physical, mental, regional, social or cultural barriers. Information literacy recognizes that the library professionals, educators and users need to work at their ability to be information literate over a lifetime. It encompasses the sustained ability to acquire and use information as appropriate to any situation within and beyond the library both locally and globally.

It involves an array of competencies appropriate for individuals and groups to survive and function successfully. It covers all forms in which information is communicated and carried - visual, textual and sound and all forms by which human beings process

information including Braille, sign language and oral traditions. Library professionals and special educators should not only be adequately information literate but also must develop teaching abilities beyond that of basic user education or user instruction programmes in order to include new kinds of outreach activities. Library information professional will be able to know that a need has arisen to create a special collection. The uncertain quality and expanding quantity of information also pose large challenges for society. Sheer abundance of information and technology will not in itself create more informed citizens without a complimentary understanding and capacity to use information effectively. An information literate person is seen to have the ability to recognize when he needs information, and to identify, locate, evaluate, organize and make effective use of that information to resolve issues and problems. Basically, information literacy provides the foundation for lifelong learning which is increasingly viewed as a fundamental human right.

Association of College and Research Libraries (ACRL 2004) defines information literacy as a set of abilities of a person, to recognize information when it is required, to locate, evaluate and use effectively the needed information. The association also defines information literacy as a process to know when and why you need information, where to find it and how to evaluate, use and communicate it in an ethical manner. The concept of information literacy becomes more relevant in the era of information technology where the information pool is largest

than earlier. Today in the era of information technology, one can access information anytime anywhere & in large quantity. Information literacy helps the user to become competent in the identification, location, evaluation and effective and ethical use of information in a variety of formats must also develop the skills beyond the basic skills of reading and writing in other literacy, which include visual literacy, media literacy, computer literacy, digital literacy, network literacy and communication skills. Information literacy is an inclusive term covering all techniques through which other literacy can be achieved.

UNESCO refers to the importance of information literacy in terms of capacity building i.e. everybody should have the opportunity to acquire the skills in order to understand, participate actively in, and benefit fully from the emerging knowledge societies. The 2003 Information Literacy Meeting of Experts¹⁷ in Prague identified information literacy as a powerful community tool that facilitates access to information and has real impact on its health, wealth and well-being.

Literature Review:

Angello (2010) conducted a study on awareness and use of electronic information sources. One of the main objectives of the study was to assess the information literacy skills of livestock live stock researchers in Tanzania. The study was conducted in three livestock research institutes in Tanzania with an overall sample size of fifty respondents consisting of livestock researchers and information professionals. Detailed questionnaires, interviews and observations were the methods used for data collection. Data was analyzed by using Statistical Package for Social Sciences (SPSS) and content analysis. The finding of the study was the lack of information literacy skills among most of the researchers and this was found to be limiting their access and use of e-resources.

Beck (2010) made an attempt to study on the use of synchronous virtual reference (VR) tools and their potential for fostering information literacy. The use of Chat software, Co-browse and Second Life were surveyed and follow-up interviews were undertaken. The three tools investigated all merits as ways of promoting information literacy within VR services at the enquiry desk, with chat being the most popular because of its stable and user friendly nature, and the ease with which it could be integrated with other products such as blogs, web pages and co-browse tools.

Choudhury & Sethi (2009) made an analytical study on the computer literacy of library professionals in the University libraries of Orissa. The main aim of the study was to identify the level of skill and self efficacy presented by the library professionals of University libraries of Orissa. It was comprehensive study on information literacy of University library professionals. Special reference was made to rapidly changing scenario of divergent information resources and its assorted formats and media, which were immensely affected by the ever growing information and communication technology in the 21st century.

Amudhavalli (2008) explained information literacy and higher education competency standards. It observed that information

was common to all disciplines, to all environments, and to all levels of education. Developing lifelong learners was central to the mission of higher education institutions ensuring that individuals had the intellectual abilities of reasoning and critical thinking and helping them construct a frame work for learning how to learn. Incorporating information literacy across curricula, in all programmes and services, and throughout the administrative life of the University, required the collaborative efforts of librarians and administrators.

Eisenberg (2008) highlighted information literacy as the skill and knowledge that allow us to find, evaluate and use the information. Information skills are the necessary tools that help us successfully navigate the present and future landscape of information. The author observed that information technology affected every person in every possible setting, work, education and recreation. This paper offered an overview of information literacy focusing on the three contexts for successful information literacy and teaching (1) the information process itself (2) technology in context and (3) implementation through real needs and real situations. The article covered conceptual understandings of IL, the range of IL standards and models, technology within the IL frame work and practical strategies for effective IL skills learning and instruction in a range of situations.

Jagtar Singh (2008) emphasized the sense making approach to the concept and practice of information literacy (IL). After discussing the meaning and purpose of IL, passing references were made to the IL standards, models and guidelines. The information search process was emphasized in this paper. Nature and types of knowledge and learning were also discussed. The paper suggested that IL programmes must be based upon the complexity and diversity of information communities, and cultural hegemony and intellectual imperialism should not be allowed to prevail.

Karisiddhappa & Rajgoli (2008) carried out a study on information literacy programmes and practices of selected institutions at Bangalore. The study observed that libraries had long been involved in training their users in library use, its services and resources. In the digital age, fencing around 'library resources' was an intimidating task, and the instructional needs of users were changed dramatically as new methods for countries such as India was still in its preliminary stages, as these countries had only recently become fully immersed in the information culture.

Emmett., & Emde (2007) described the assessment of information literacy skills using the ACRL standards as guidelines. The purpose of this study was to obtain preliminary evidence over a three year period on the efficiency of a curriculum designed to promote information literacy skills in graduate students in a course on Chemistry bibliography. Specifically the researchers examined the application and results of an assessment tool and its usefulness in evolving instructional strategy for improving strategy for improving literacy outcomes. ACRL's information literacy competency standards for higher education provided the basis for the construction of the assessment tool. The instrument was given to Chemistry graduate

students enrolled in the course at the beginning and at the end of the semester. The assessment results from all the three years indicated marked improvements in the average student score from the beginning to the end of the academic year. The assessment showed the evidence of improvement in skill development at the end of the course.

Johnson, Jent., & Reynolds (2007) explained about library instruction and information literacy. The main purpose of the paper was to prove a selected bibliography of recent resources on library instruction and information literacy. It introduced and annotated periodical articles, monographs and exhibition catalogue examining information literacy. The paper provided information about each source, discussed the characteristics of current scholarship and described sources that contain unique scholarly contribution and quality reproductions.

Foster (2006) discussed the rationale and key learning processes for students of librarianship and information studies at the Department of information studies, University of Wales, Aberystwyth. The purpose of the paper was to raise awareness of the ways in which professional training can incorporate research, and ultimately inform professional practice and describe how recent research could be used to shape the curriculum. The author identified key principles for curriculum development and discussed processes. The description and discussion offered outline key questions for the development of courses aimed at future information professionals.

Li (2006) described the course of information literacy given by the Chong Quing University Library to cultivate University student's information awareness. The findings showed that up to date information skills, comprehensive document skills and innovative thinking are encouraged and adopts a range of innovative teaching and learning methodologies. Using modern teaching methods and materials combines' these with scientific and technical consultation and undergraduate & graduate teaching plan. It is found out that utilization rates of documents and resources in the library have improved and many other social benefits have been achieved.

Adeyoyin (2005) ascertained the levels of ICT literacy among library staff in a range of Nigerian libraries. The survey was conducted among professionals, para professionals and other members of the staff of Nigerian University libraries. The questionnaire basis of the investigation gave room for subjective distortions in assessment of levels of literacy; the investigation only considered two categories of skills. The survey concluded that Nigerian University library professionals and para professionals should acquire an enhanced level of ICT literacy. Both staff training and an adequate ICT infrastructure were recommended.

Hadengue (2005) described a Swiss Virtual Campus project in which an Internet-based computer-assisted learning (CAL) package for students in economics and in dentistry was developed. Case study accounts of a CAL package implementation against a rigorous and well-thought-through pedagogic framework were studied. The paper showed that it was possible to use a CAL package effectively to promote

information literacy both on campus and to a distance learning community of students as an accredited form of learning activity, thus showing how e-learning was suitable for the promotion of information literacy both to full-time students and to those engaged in lifelong learning in the context of professional practice.

Nyamboga (2004) presented the result of a study of training opportunities for library and information professionals in India and how a selection of Indian University libraries were providing information skills and information literacy programmes for the professionals. The need for training students, researchers and staff to make appropriate use of resources made available in libraries was recognized. Library and information professionals also need and continuing professional development courses, as new ways of providing information resources had been developed.

Pawinun & Kemparaju (2004) made a study on the information literacy programmes in the context of digital libraries. The rapid change of traditional libraries into digital environment influenced the provision of information services. Library and information professionals developed and redesigned the user education programmes to suite the new environment. Various issues involved had been analysed in order to clarify the concept of information literacy. It was not enough to be merely information literate but it was also required to have the skill of handling tools for information. However the competency of information technology need not help user access to information successful without the knowledge of information. In this situation the users should understand both the information itself and the technology for accessing information.

Andretta & Cutting (2003) analyzed the issues raised by the development of an information literacy module for first-year undergraduate students at the University of North London. The study focused on how the module aimed to develop generic, transferable information literacy skills and to foster transition to a more independent learning mode. Information literacy was an essential attribute of the independent learner, consisting of ICT skills as well as more complex information handling competencies. The module was customized to address the needs of a variety of disciplines through the implementation of a plug-and-play structure and a range of delivery strategies to support students with diverse information literacy skills at the point of entry.

Bloom & Deyrup (2003)³⁴ examined how librarians at a private Catholic University utilized a grant enabling them to team up with members of other campus constituencies to create an information literacy program me aimed toward incoming students, in order to initiate a quality educational experience while improving students ability to do research. The participants employed various instructions and assessments designed to address diverse learning styles. A University of optimum size, a ubiquitous computing environment, a desire to improve information literacy across the curriculum and enthusiastic partners were the combination of elements which had made this project a success.

Cunningham & Lanning (2002) considered information literacy as essential for successful expeditions into the ever-expanding knowledge frontier. Faculty and librarians were able to guide each other, and the learners they serve could change past wastelands to fertile soil and reliable wells to sustain inquiry and cultivate deeper understanding in their fields of study. The authors presented definitions of information literacy, described challenges in promoting it, and offered possible solutions for promoting faculty-librarian collaboration on information literacy.

Fjallbrant (2002)⁵⁰ introduced the concept of information literacy and described the impact of information technology on information literacy. The European Union funded EDUCATE project addressed the subject related aspect of information literacy for students scientists and engineers. One outcome of the project was a series of modules covering ways of accessing and searching information that could be used in both formal courses and distance learning courses or for self instruction. Similar other projects were also discussed.

Andretta (2001) claimed that information literacy skills were essential characteristics of the independent learner and examined the development of the information literacy module devised at the University of North London, UK, for first year undergraduate law students. The investigator provided a detailed explanation of how the information literacy syllabus was developed through examination of the literature. The study was based on the results of two separate questionnaires and categorized the results according to level of abilities, gender and mode of study. Identified issues that arose from the data and that required further analysis for future study.

Bowler, Large & Reiskind (2001) conducted a study to follow three groups of Grade-six primary school students as they access, interpret and use information found on the World Wide Web in order to complete a class assignment. Commented upon information-seeking behaviours, information interpretation skills and information utilization by the students. The study concluded by identifying a series of issues that educators might address if the web was to be successfully incorporated into the classroom. The ability of students to integrate the Web successfully in to their learning was dependent upon teacher understanding of learning outcomes and the instructional strategies used in the design of class assignments.

Bruce (2000) conducted a study on information literacy researches to understand the development of a collective consciousness that represented the newly appearing territory of information literacy research. The investigator analyzed the information literacy research territory as it was represented by

the emerging collective consciousness of information literacy researchers. Five dimensions of the collective consciousness were proposed: sectoral location of the research; ways of information literacy; research object; research approaches and paradigms; and disciplinary influences. These dimensions were used to reveal the character of the information literacy research territory. The study revealed how different kinds of research approaches influenced on the object of research, and demonstrated how the five dimensions work together in the development of new studies.

Chang & Shyu (2000) conducted a study to investigate information literacy for pre service teachers in elementary schools. The subjects were 497 students drawn from teacher education schools in Taiwan. The independent variables were pre service teachers' gender, academic degree, majors, schools and prior experience of using computers and the dependent variable was information literacy. Data were analyzed through t-tests and one-way ANOVA. The results indicated that pre service teachers' gender, facilities and resources, hours per week of surfing the Internet and the courses taken for the educational applications of computers all had a significant influence on those pre service teachers regarding information literacy.

Objectives of the Study:

- (i) To study about the ability of research scholars to determine the nature of the information need in their research work.
- (ii) To find out research’s ability to identify sources of information
- (iii) To assess the ability of research scholars to search, locate and retrieve information from various information sources.
- (iv) To assess the ability of the research scholars to evaluate the information

Research Methodology

Present study is empirical in nature whose main objective is to investigate level of information literacy between male & female research students in different disciplines who are pursuing Ph.d from different universities situated in Kumaun region of Uttarakhand. In Kumaun region of Uttarakhand, there are three universities working which includes one state, one deemed & one Open University from there one university were selected randomly to get the required samples. In the present research a sample of 60 research students, a regular Ph.d Students, which later divided into male-female & than on various disciplines (science, social science & humanities) were selected on the basis of randomly sampling on which a questionnaire was administered.

Results

Table 1: Gender Wise Analysis of Identification of Research Topic

Method	Male (N=30)	Female (N=30)	Total (N=60)
In consultation with the research guide	22 (73.34%)	26 (86.67%)	48 (80%)
By discussing with professional colleagues	12 (40%)	8 (26.67%)	18 (30%)
By discussing with teachers in the subject area	15 (50%)	17 (56.67%)	32 (53.33%)
By searching electronic resources	20 (66.67%)	18 (60%)	38 (63.33%)
By the familiarity with the topic	22 (73.33%)	24 (80%)	46 (76.67%)
By referring previous research work	24 (80%)	26 (86.67)	50 (83.33%)
By referring other information sources	10 (33.33%)	8 (26.67)	18 (30%)

Table 1 presents gender wise analysis of identification of research topic. According to Table 1, previous research work was one of the most important sources getting research problem for the researcher followed by consultation given by the research guide & familiarity with the research topic. The study also revealed that referring from other sources & discussions with

professional colleagues were the least important sources of getting research problems. However a few respondents also marked 'discussions with the concern subject teachers & electronic sources' as one of the main sources of problem identifications.

Table 2: Discipline-wise analysis of identification of research topic

Method	Science (N=20)	Humanities (N=20)	S Science (N=20)	Total (N=60)
In consultation with the research guide	11 (55%)	12(60%)	11(55%)	34 (56.67%)
By discussing with professional	10 (50%)	5 (25%)	3 (15%)	18 (30%)
By discussing with subject teachers	15 (75%)	12 (60%)	13 (65%)	40 (66.67%)
By searching electronic resources	10 (50%)	15 (75%)	15 (75%)	40 (66.67%)
By the familiarity with the topic	12 (60%)	17 (85%)	13 (65%)	42 (70%)
By referring previous research work	13 (65%)	18 (90%)	14 (70%)	45 (75%)
By referring other information sources	8 (40%)	8 (40%)	4 (20%)	20 (33.33%)

Table 2 indicates identification of research problem on discipline wise. According to table 1, reference from previous research work was one of the widely used sources of information through new research problem was formulated while familiarity with current research topic followed by & discussion with concern subjects teachers & electronic information pools were the second

most sources of information which helped the research to formulate research problem in all the discipline. However, discussion with professionals & other information sources were the least important sources to get information to formulate research problems in all discipline.

Table 3: Gender-wise Analysis of General Information Sources Used

Information Sources	Male (N=30)	Female (N=30)	Total (N=60)
Bibliography	15 (50%)	17 (56.67%)	32 (53.33%)
Subject Dictionary	8 (26.67%)	6 (20%)	14 (46.67%)
General Encyclopedia	5 (16.67%)	5 (16.67%)	10 (16.67%)
Subject Encyclopedia	6 (20%)	7 (23.33%)	13 (21.67%)
Maps, Atlases, or others	4 (13.33%)	3 (10%)	7 (11.67%)
Articles from newspaper	7 (11.67%)	6 (20%)	13 (21.67%)
Articles from periodicals	16 (53.33%)	18 (60%)	34 (56.67%)
Articles from research papers	22 (73.33%)	24 (80%)	46 (76.67%)
Electronic articles	25 (83.33%)	29 (96.67%)	54 (90.00%)

Table 3 presents gender-wise analysis of general information sources used. According to table 3, article published electronically was one of the most important sources to get general information about the research followed by article published in research journals & periodicals. On the other hand,

general encyclopedia, subject encyclopedia, maps or other materials & article published in newspaper were some of the least important sources of getting general information sources used in research by the male & female researchers

Table 4: Discipline-wise Analysis of General Information Sources Used

Method	Science (N=20)	Humanities (N=20)	S Science (N=20)	Total (N=60)
Bibliography	7 (35%)	8 (40%)	6 (30%)	21 (35%)
Subject Dictionary	5 (25%)	7 (35%)	8 (40%)	20 (33.33%)
General Encyclopedia	4 (20%)	4 (20%)	2 (10%)	10 (16.67%)
Subject Encyclopedia	5 (25%)	4 (20%)	6 (30%)	15 (25%)
Maps, Atlases, or others	3 (15%)	2 (10%)	4 (20%)	9 (15%)
Articles from newspaper	8 (40%)	7 (35%)	7 (35%)	22 (36.67%)
Articles from periodicals	12 (60%)	13 (65%)	14 (70%)	39 (65%)
Articles from research papers	15 (75%)	14 (70%)	15 (75%)	44 (73.33%)
Electronic article	18 (90%)	15 (75%)	12 (60%)	45 (75%)

Table 4 presents discipline-wise analysis of general information sources used by the researcher in various discipline. According to table 4, article published electronically & article published in research paper followed by article from periodicals were one of the most important sources to get general information sources

used by the researchers in different discipline. However, general encyclopedia, subject encyclopedia, maps or other materials & article published in newspaper were some of the least important sources of getting general information sources used in research by the researcher in different discipline.

Table 5: Gender Wise Analysis of Search Method Used

Information Sources	Male (N=30)	Female (N=30)	Total (N=60)
Through Subject bibliographies, Indexes	11(36.67%)	12(40%)	23(38.33%)
Through library catalogue	15(50%)	15(50%)	30(50%)
Search directly without catalogue	8(26.67%)	8(26.67%)	16(26.67%)
Internet	24(80%)	26(86.67%)	50(83.33%)

Table 5 indicates gender wise analysis of search method used by the researcher during the research process. According to table 5, internet is one of the most of widely used search method used by male & female researchers during the research process. After internet, library is second most important search method used by

the researcher during the research process while search directly without catalogue & subject bibliographies, indexes are the one of the least important sources of search methods used by the researchers during the research process.

Table 6: Discipline wise Analysis of Search Method Used

Method	Science (N=20)	Humanities (N=20)	Social Science (N=20)	Total (N=60)
Through Subject bibliographies, Indexes	4(20%)	4(20%)	5(25%)	13(21.67%)
Through library catalogue	12(60%)	13(65%)	13(65%)	38(63.33%)
Search directly without catalogue	5(25%)	5(25%)	5(25%)	15(25%)
Internet	13(65%)	18(90%)	17(85%)	45(75%)

Table 6 indicates discipline wise analysis of search method used by the researchers. According to table 6, internet was the one of the most important search method used by the research of different discipline followed by library catalogue however a few

respondents also highlighted search directly without catalogue & bibliographies, Indexes as one of the least important search method used by the researchers.

Table 7: Gender-wise Analysis of Awareness about the Useful Information Sources

Awareness About Information Sources	Male (N=30)	Female (N=30)	Total (N=60)
Article published in research Journal	15(50%)	16(53.33%)	31(51.67%)
Books	14(46.67%)	12(40%)	26(43.33%)
Conference/Seminar Proceedings	13(43.33%)	12(40%)	25(41.67%)
Article published in special issues	15(50%)	14(46.67%)	29(48.33%)

Table 7, presents an analysis of awareness about the useful information sources on the basis of gender. According to table 7, article published in research journals followed by article published in special issues were counted as useful information

sources mentioned by the researcher both male & female. On the other hand, books & conference proceedings were considered as the least important sources of useful information.

Table 8: Discipline wise Analysis of Awareness about the Useful Information Sources

Method	Science (N=20)	Humanities (N=20)	S Science (N=20)	Total (N=60)
Article published in research Journal	14(70%)	14(70%)	14(70%)	42(70%)
Books	5(25%)	10(50%)	11(55%)	26(43.33%)
Conference/Seminar Proceedings	9(45%)	8(40%)	12(60%)	29(48.33%)
Article published in special issues	14(70%)	16(80%)	15 (75%)	45(75%)

Table 8 indicates Discipline wise Analysis of Awareness about the Useful Information Sources. According to table 8, article published in research journals & published in special issues were

counted as important information sources while books & conference proceedings were counted as an least important information sources.

Table 9: Gender-wise Analysis of Need for the Study of other Languages

Opinion	Male (N=30)	Female (N=30)	Total (N=60)
Yes	16(53.33%)	14(46.67%)	30(50%)
No	14(46.67%)	16(53.33%)	30(50%)

Table 9 presents gender wise analysis of need for the study of other languages. According to table 9, male researcher (53.33%) accepted the need for the study of other language while a few

male researchers (46.67) denied the need for the study of other language for the research. On the other hand 46.67 % female researcher accepted the need for the study while 53.33% female rejected the need for the study of other languages.

Table 10: Discipline wise Analysis of Need for the study of other languages

Opinion	Science (N=20)	Humanities (N=20)	Social Science (N=20)
Yes	12(60%)	11(55%)	10(50%)
No	8(40%)	9 (45%)	10 (10%)

Table 10, presents discipline wise analysis of need for the study of other languages. According to table 10, 60% science, 55% humanities & 50% social science research students accepted the

need for the of other languages while rest denied the need for the study of other languages

Table 11: Gender-wise Analysis of Ability to Write Key Words

Knowledge to express the research topic in key words	Male (N=30)	Female (N=30)	Total (N=60)
Yes	18 (60%)	16 (53.33%)	34 (%)
No	12 (40%)	14 (46.67%)	26 (%)

Table 11 presents gender wise analysis of the ability to write keywords. According to table 11 60% male were able to write keywords while 40% male researchers were not able to write

keywords. On the other hand, 53.33 % female had an ability to write keywords while 46.67% female were not able to write keywords.

Table 12: Discipline wise Analysis of ability to write keywords

Knowledge to express the research topic in key words	Science (N=20)	Humanities (N=20)	Social Science (N=20)
Yes	12 (60%)	13 (65%)	12 (60%)
No	8 (40 %)	7 (35%)	8 (40%)

Table 12, presents discipline wise analysis of ability to write keywords. According to table 12, 60 researcher in the field of science followed by 65 % humanities & 60 % social science

researcher were able to write keywords while 40% in science, 35% in humanities & 40% in social science were not able to write keywords.

Table 13: Gender wise Analysis of use of search Engines

Search Engines	Male (N=30)	Female (N=30)
Google	24 (80%)	27 (90%)
Yahoo	4 (13.33%)	3 (10%)
MSN	2 (6.67%)	0 (%)
Others	0 (%)	0 (%)

Table 13 presents gender wise analysis of use of search engines. According to table 13, 90% male accepted Google as an important tool of search engines while 90% female accepted

Google as an important tool of search engines. Moreover a few male researchers also used Yahoo & MSN to collect information.

Table 14: Discipline wise Analysis of use of search engines

Search Engines	Science (N=20)	Humanities (N=20)	Social Science (N=20)
Google	16 (80%)	16 (80%)	16 (80%)
Yahoo	4 (20%)	4 (20%)	4 (20%)
MSN	0 (%)	0 (%)	0 (%)
Others	0 (%)	0 (%)	0 (%)

Table 14 indicates discipline wise analysis of use of search engines. According to table 14, 80% science, social science & humanities researchers used Google as an important tool of information search while 20% science, humanities & social science researchers used Yahoo as an important tool of information search.

Conclusion & Suggestions

(i)University library in collaboration with department libraries can plan and implement appropriate information literacy programmes for different category of users at regular intervals.

(ii)There should be special training orientation programmes on different types of sources of information available in the department libraries and university libraries.

(iii)Special workshop should be organized for the research scholars for searching, locating, and retrieving information from different types of information resources especially electronic resources such as Internet, Infonet, OPAC, electronic publication through LAN, WAN, WWW, etc., CDROM/Multimedia Networks and other electronic and digital resources of information.

(iv)Organize seminars and workshop on the need and importance of information literacy.

(v)Organize workshop on preparation of articles, research methodology, statistical tools etc at regular intervals

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