INFORMATION LITERACY AMONG USERS OF SELECT IIT AND IIM LIBRARIES: A COMPARATIVE STUDY

THESIS

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BY

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CERTIFICATE

*This is to certify that the thesis entitled "**Information Literacy Among Users of Select IIT and IIM Libraries: a comparative study**" submitted by **Mr. Rajeev Kumar Mishra** in partial fulfilment of the requirements for the **Submission of Thesis** in **Library and Information Science** is an authentic record of the candidate's own independent and original research work carried out by his under my supervision and guidance. The matter embodied in this project has not been submitted in part or full to any other university or institute for the award of any degree.*

(Prof. MTM Khan)
Dean

DECLARATION

*I hereby declare that the research done on the topic "**Information Literacy Among Users of Select IIT and IIM Libraries: a comparative study**" submitted for the award of degree of **Doctor of Philosophy** in Library and Information Science, is my original work and reflects advancement in this area. I have specified the sources of information by means of references, whenever necessary.*

To the best of my knowledge, this thesis has not been submitted previously for the award of any degree or other similar title or recognition in any university or institution.

Place: ***(Rajeev Kumar Mishra)***

Date:

Dedicated To My Parents

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(Rajeev Kumar Mishra)

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PREFACE

We live in an information intensive world. Every human being seeks and uses information to meet all the fundamental requirements of life. Information literacy is essential for individuals to achieve their personal, social and educational goals. It is a key factor in producing effective lifelong learners and creating knowledge-based societies. The development of such skills takes place throughout a citizen's life especially during the educational years when librarians and experts in information management play major roles in facilitating information literacy. However, information literacy needs to be considered in education.

This thesis is an attempt for introduce the science, technology and management-related information available to students, research scholars and faculty members in a more reliable form. The study shows that an information literacy programme is inevitable and necessary for students, research scholars and faculty members to make them more information literate. Information literacy instructions and training programmes need to be organized on a regular basis owing to the rapid growth of electronic and web-based information resources.

Management and technology library professionals should do efforts to develop complete training programme or information literacy course not only for PG students and research scholars but for faculty members and UG students also, so that the existing gap between the capabilities and skills of the students and faculty can be improved. The library and information science professionals and teachers can do a lot to achieve this goal. The thesis is structured in the following chapters:

Chapter 1 presents an overview and nature of research study undertaken and also provides a comprehensive explanation of information literacy. The chapter begins with information literacy, its evolution, different concepts, definition, objectives, scope and significance, and need and limitations of the study.

In Chapter 2 efforts have been made to provide an overview of the research done on the various facets of information literacy. This chapter presents an overall review of studies conducted both abroad and in India in a chronological order.

Chapter 3 discusses the exploration of the methodological framework of the study.

Chapter 4 includes the process and outcome of an exploratory survey done in select IIT and IIM libraries. This chapter represents the analysis and interpretation of data collected through various tools. The researcher interacted with almost all the librarians and users of the libraries and assisted them in filling the questionnaires. A personal visit to the libraries helped the researcher to gather more information and see the actual services provided by them.

The collected data has been organized and tabulated by simple statistical methods. The purpose of analysis is to shape data to intelligible forms, that the relation of research problems can be studied and tested.

Chapter 5 discusses the major findings, which have been drawn on the basis of data collected from the four institutes under the study. Tenability of the hypotheses is checked with the help of independent t-test as a statistical tool and suggestions are provided to improve the information literacy skills in research scholars and PG students in the IIT and IIM libraries. At the end some recommendation and possible areas for further research also have been mentioned in this chapter.

(Rajeev Kumar Mishra)

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LIST OF ABBREVIATIONS

S. No.	Abbreviations	Full Name
1.	AASL	American Association of School Librarians
2.	ACRL	American College of Research Libraries
3.	ACRL	Association of College and Research Libraries
4.	ALA	American Library Association
5.	ANZIIL	Australian and New Zealand Institute for Information Literacy
6.	CD-ROM	Compact Disk-Read Only Memory
7.	CILIP	Chartered Institute of Library and Information Professionals
8.	CLA	Canadian Library Association
9.	EnIL	European Network for Information Literacy
10.	IFLA	International Federation of Library Association and Institutions
11.	IIMI	Indian Institute of Management Indore
12.	IIML	Indian Institute of Management Lucknow
13.	IITD	Indian Institute of Technology Delhi
14.	IITR	Indian Institute of Technology Roorkee
15.	IL	Information Literacy
16.	ILIG	Information Literacy Interest Group
17.	ILP	Information Literacy Programme
18.	IT	Information Technology
19.	OPAC	Online Public Access Catalogue
20.	PG	Post Graduate
21.	RS	Research Scholar
22.	SCONUL	Society of College & New University Libraries
23.	UNESCO	United Nations Educational, Scientific & Cultural Organisation
24.	WWW	World Wide Web

CHAPTER-1
INTRODUCTION

The aim of this chapter is to present an overview and nature of research study undertaken for the users. The objective of the chapter is to provide a comprehensive explanation of information literacy. The chapter begins with information literacy, its evolution, various concepts, definitions, objectives, scope, significance, need and limitations of the study.

Introduction

Evolution of Information Literacy

Information Literacy

Dimensions of Information Literacy

Different Concepts of Information Literacy

Need and Importance of Information Literacy

Information Literacy Models

Information Literacy Standards

Global Scenario of Information Literacy

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Information Literacy in Higher Learning Institutions

Information Literacy Programmes for LIS Professionals

Role of Library Associations in India

1.0 INTRODUCTION

We live in an information intensive world. Information has come to occupy a predominant position in the decision-making process. It is the need of the hour for all, to decipher the environment and make our way through the world. Economic,

political, technological, military and social power of information is easily noticeable. It is an important resource for overall development and is the most valuable possession any society has. Knowledge is culture, passed on from generation to generation (Khairah, 2005).

It is easier for individual to access information at any place, time and about anything. The reason being the recent developments in information communication technologies and globalization of information. (Karisiddappa,2014)

The information social structure is witness to a vast and ever increasing variety of information, embodied in myriad formats and a distinct advancement of technology. To lead a successful life, it is a prerequisite for students to be information competent. Thus, it is a prerogative of educational institutions to help students develop this competency and become well-informed citizens of a society established on platforms of information and technology.

Over the past few years, information literacy skills form an integral part of a graduate's attributes. A gradual shift in focus from content to critical thinking and lifelong learning has been noticed. It is a move from teacher-centred teaching to student-centred learning. In this shift, importance of information literacy is increasingly recognized within academic and non-academic communities.

1.1 EVOLUTION OF INFORMATION LITERACY

Zurkowski first used the term 'Information Literacy' in 1974. Ever since its coinage, the idea has been evolving and has expanded beyond the field of Library Science. This growth has been noticed not only in United States but even in other countries throughout the world. The advent of "information explosion" has become a source of concern for the Librarians. The idea of Information Literacy is to enable people to be successful users of information. This is the answer to the continuous expansion of information and its evolution. In other words, Information explosion which was the point of worry for the librarians could be solved with information literacy. 'Those from fields outside Library Science have also acknowledged the effects of the exponential growth of information' (Eisenberg, 2004). It is important to first know the origin and exact meaning of the term 'Information Literacy' before understanding about the concept. The word Information descended from a Latin word

'*Informare',* a verb. It later evolved into use as noun 'Information', meaning concept or idea. 'Literate' comes from the Latin term '*Literatus*' which means learned or lettered.

1.2 INFORMATION LITERACY

Information Literate are individuals those who are empowered to classify and categorize information. They have the understanding to evaluate, locate and use the adequate information which guides them toward the correct source of reliable information. It is to know details and source of information itself. Information literacy is important for individuals to reach their desired goal in any field. It is pivotal factor in creating individuals who are effective learners and knowledge based societies.

The development of such skills takes place throughout a citizen's life especially during the educational years whence librarians and experts in information management play major roles in facilitating information literacy.

Information literacy needs to be considered not only in relation to education but also in the broader context of work, civil society, health and well-being (Garner, 2003). Information Literacy means to aid a person realizing the need for information. Individuals who are Information Literate strategize their priorities like health, environment, education and work and gain appropriation information. Therefore, it helps them to make critical decisions about their lives. Just like taking informed choice and responsibility regarding health and education. Apart from this, there are many ways to understand this complex yet necessary term. Various experts have their own views and research about the same.

It is also important for students to be made information literate. The need to be Information Literate is essential as each generation is increasingly involved with technology. As the technology immensely contributes to information overload, the necessary is lost in abundance. Students must be made aware of various print and electronic resources which include networked databases, the World Wide Web and traditional print resources. They should be able to protect themselves against false information by evaluating the sources. They must also be able to make proper decision on selection of appropriate information according to their needs. Each institution must develop elective use of learning resources. This to be done through a

concrete plan which helps students inculcates information literacy. It is essential to have an active and continuing programme of library orientation. To add, the programme must have instruction in accessing information developed collaboratively, supported actively by faculty, librarians, academicians and other providers. (Konnur, 2011)

Developing a common information literacy education programme for the library has many advantages. A formalized user education programme ensures better quality in procedures regarding collaboration with the faculty. It informs all higher education partners about the kind of information literacy, teaching and supervision the library supports. A formal programme further shows the faculty how the library has interpreted and integrated the general visions and pedagogical goals of the institution in its user education.

Within the library, a potential danger when developing a formalized common user education programme is that library staff might consider it too rigid in its framework. They might feel that the programme has been imposed on them by the library management, and that it is difficult to interpret, modify, or adapt to their ever changing teaching reality. It is thus of paramount importance that the library management involves their teaching library staff in (1) the process of laying the pedagogical foundations of the library user education, and (2) the process of designing a common information literacy programme. Involving library staff in the education planning process will be beneficial for the institution and their professionals (Torras and Setre, 2009).

1.3 DIMENSIONS OF INFORMATION LITERACY

Information Literacy cannot be explained completely in words given its comprehensive nature and ever evolving process of educating. It can be summarized through its wide range of fields which are mentioned below.

Media Literacy: In order to communicate effectively, the images must be created and proposed with the collective understanding in a variety of media. This skill in an individual is known as Media Literacy.

Network Literacy: As the name suggests, it is the ability to network (manage, connect and assess) after evaluating information from various sources and obtain in a correct way.

Web Literacy: It comes under the bracket of information literacy which requires the skill to reach, create or pass information through the World Wide Web (WWW).

Digital Literacy: The aptitude required to use(assess, collect, organize, evaluate) digital resources and service to maximize collection of coherent information.

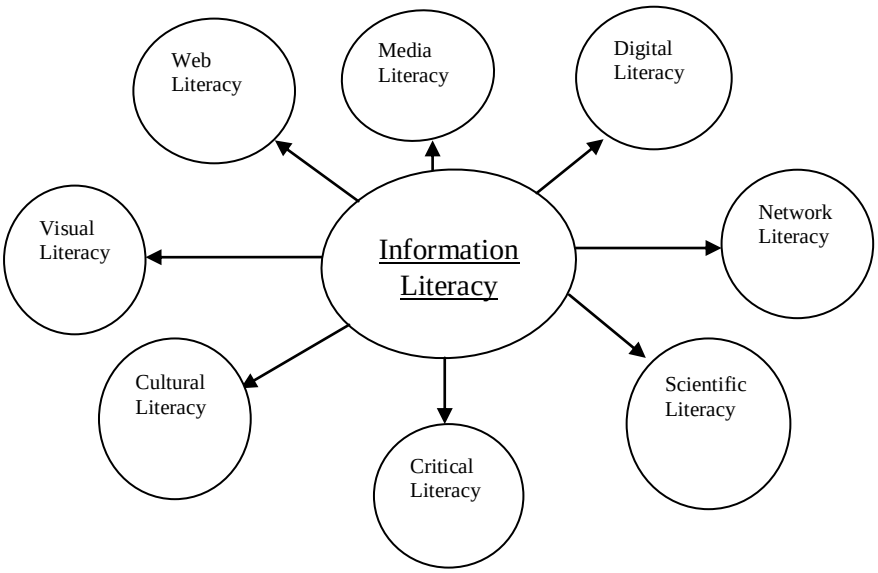
Scientific Literacy: Scientific literacy is the knowledge of concepts and processes that are required for personal decision making, involvement in civic or cultural affairs and economic productivity.

Virtual Literacy: Virtual literacy is the ability to understand and use images. This includes thinking, learning, and expressing oneself in terms of images. Photographs, cartoons, line drawings, diagrams, concepts, maps, and other visual representations are all important in visual literacy.

Visual Literacy: Visual literacy is the ability to understand and use images.

Critical Literacy: It is the ability to critically evaluate the cost of information technology in its complete and true demeanor. It would include it intellectual, social strengths and benefits.

Figure 1: Schematic View of Dimensions of Information Literacy (Mishra, R.N., 2010)



The other dimensions related to information literacy are, (i) Library Orientations (ii) Bibliographic Instruction (iii) User Education, and (iv) Training on Information Skills. While, the library orientation concentrates on using a library and its sections including location of resources, bibliographic instruction emphasizes the location of documents in the library. The user education is related with the mechanics involved for using particular resources. Training on information skills is related with the phenomena associated with the use of technology to retrieve information in the library. (Mishra, R. N., 2010).

1.4 DIFFERENT CONCEPTS OF INFORMATION LITERACY

Variety of concepts of information literacy have been brought up and changed over time. These information skills are focused on programmes such as Information Fluency, User Education, Library Instruction, Bibliographic Instruction, Information Competencies, Information Skills, User Training and User Orientation.

Library Orientation: This term refers to efficiently using the library and this branching sections including the location of the resources.

Bibliographic Instruction: This presses on the location of the documents within the library. The user is trained on searching and retrieving information.

User Education: This involves the understanding to use the resources strategically for information.

Training on Information Skills: Using technology to extract information in the library requires training on Information skills.

Information Competencies: The compact aim of information literacy is known as Information Competencies.

Information Skills: The skills required to get the information is known as Information Skills.

1.5 NEED AND IMPORTANCE OF INFORMATION LITERACY

Information technology has brought about radical changes in the field related to information namely Information acquisition, Information organization, Information

management and dissemination of information. With the introduction of different tools to access information, it has been easier to adapt to the changing situation.

On the other hand, the users are unable to access through ever evolving technology. The infinite probability of different version information and ever expanding quantity of the same poses a major threat to the society. The identification of rapid change in technology in addition to proliferation of information sources has commenced the shift of specifications from library to information literacy.

The individuals who wish to access correct information are faced with multitudes of information due to which constraints them in making major choices. The design of digital environment does not subdue complexities rather encourages it. As the complexities increase, the individual is faced with unverified information which further confuses them. In the end, this does not bring solution but question about authenticity, validity and reliability.

Moreover, this information is presented through different medias such as graphical, acoustic, visual, textual etc. These present new challenges in understanding and filtering the information for a user. (Mishra, R. N., 2010).

Nowadays, libraries contain both traditional and ICT based services. All the services and resources bought by the libraries aid in acquiring, organizing, circulating and disseminating huge information sources.

Also, the ICT as a resource as become a ground that provides the ability to create and provide information. Additionally, the users too, find it useful for their research and development activities. Newage technology wherein information is able in form of e-journals, e-books, CD-ROMs etc are yet to be brought to the notice of users. Through a brief orientation, the users will be able to utilize the information.

Also, they need to be aware of the role of e-portals, information gateways and need special skills to be developed for using such facilities with maximum benefit (Bhatt, R. K., 2011).

Lastly, the users are to be aware of the role of e-portals, information gateways. Specific skill are to be nurtured in the user to use such facilities to their maximum.

It is a part of our ethics as information literacy educators that we teach ourselves and to the community what the inter-relation of global learning and information literacy are made off. It is also to be brought to notice what we as educators contribute to this.

Ideas about global learning have been exchanged a few times on our campuses. On a meta level, it can be considered that we have not engaged to our full capabilities in these campus wide conversations. This also includes conversations regarding one's role as educator within the global learning context.

It time to realize that we must become active part of this conversation. We must consider what we contribute to this and use our leadership as the information literacy experts on campus. This calls for us to be a part of an age where one of the fundamental attributes of the world is digital globalized information society. Today, in this day and age, inability to access information or use information for any reason is a substantive disadvantage.

Today, as manual library catalogues have become computerized, it has become difficult to locate the required information. The retrieval of information in a computerized system takes less time compared to the manual system, but the decision-making has become a more complex process. A working knowledge of computers is a must to operate databases. The users also need to evaluate the database best suited to their information needs. The users need to be aware of the different search engines to search for information available on the Internet. They also require knowledge of different search strategies. Searching for any information on the internet retrieves many documents which require an evaluation of the retrieved information on the part of the users for relevance. Thus, a user needs to evaluate the usefulness, accuracy and relevance of the retrieved information, be it in electronic from or print form. Such skills are required for a person to be information literate.

Information literacy as a skill is very important in the current times as it helps in maximum utilization of vast information resources. It makes the user competent enough to extract relevant and exact information according to their need.(Jnanendra and Joshi, 2006)

1.6 INFORMATION LITERACY MODELS

Different models have been developed and propagated by authors, theorists and academicians.

Information Search Process (Kuhlthau, C. C., 1993)

The Information Search process model based on a constructive approach was developed by Kuhlthau. The model has seven stages which includes initiation, selection prefocus exploration, formulation, collection, presentation and assessment. This model demonstrates users' approach to the research process and how users' confidence increases.

In 1999, the SCONUL Advisory committee on Information Literacy came up with model consisting of seven level of competence called the Seven Pillars of Information Literacy. It comprised of:

a. Skill to recognize need for information

b. To know different ways the need is to be addressed

c. To make strategies for identifying information

d. Skill to access different sources and comparing the information

e. To appropriate and communicate information

f. Being able to bridge gap by existing information

g. Providing to create new knowledge

The Big Skills (Eisenberg and Berkowitz, 1990)

This is a process model developed to solve an information problem. This has six stages of information problem solving process. It is a general attribute that students apply in their information problem solving process which are identifying the task, planning to seek information, location of information, accessing it and lastly, use of information synthesis and evaluation.

Research Process Model (Stripling and Pitts, 1998)

The model is used by students as a guide through the stages of creating a research paper. It has ten steps starting from choosing a research topic and ending with the presentation of the final topic.

Pathways to Knowledge (Pappas and Tepe, 2002)

The information enquiry model by Pappas and Tepe includes pathways to knowledge and is meant to encourage students to continuously explore and reassess as they go about with their information process. The model has six steps, namely appreciation and enjoyment, pre-search, search, interpretation, communication and evaluation.

1.7 INFORMATION LITERACY STANDARDS

There are some well-known information literacy standards:

a. Information Literacy Standards for Student Learning published by the ASSL.

b. IL Standards published by IFLA.

c. ISTE's National Educational Technology Standards (NETS).

d. Information Literacy Standard for Science and Technology by ALA/ACRL/STS Task Force on Information Literacy for Science and Technology.

e. Information Literacy Standard for Student Learning by American Association of School Librarians and Association for Educational Communications and Technology in 1998.

f. Information Literacy Competency Standards for Higher Education by Association of College and Research Libraries (ACRL) in 2000. (Bhatt, 2011).

The popular and wide accepted ACRL standards includes probable outcomes under each performance indicator. It was developed keeping in mind the need to provide guidance in the development, assessment methods, instrument and strategies for

measuring student's learning outcomes. This provided a basic framework for examining information literate user.

Standard One

The amount of information needed is determined by an information literate student.

Performance Indicators

a. An information literate student states the need for information efficiently.

b. An information literate student is familiar with different varieties of potential sources for information.

c. An information literate student takes into account pros and cons of acquiring the needed information.

d. An information literate student checks again the nature and extent of the required information.

Standard Two

The information literate student accesses the required information effectively and efficiently.

Performance Indicators

a. The information literate student selects the most appropriate investigative methods of information retrieval systems for accessing the needed information.

b. The information literate student constructs and implements effectively designed search strategies.

c. The information literate student retrieves information online or in person using various methods.

d. The information literate student refines the search strategy if necessary.

e. The information literate student extracts, records, and manages the information and its sources.

Standard Three

An information literate student contrasts information and its sources. They ,then, incorporate the selected information into their knowledge base.

Performance Indicators

a. An information literate student identifies and extracts crisp points from information gathered.

b. An information literate student regulates primary criteria to contrast both the information and its sources.

c. An information literate student devices ,from the existing information, constructs of new concepts.

d. An information literate student contrast the new information with knowledge that already exist. It is to be aware of the new layers added, deduced, contrasted or understand the uniqueness of information.

e. An information literate student understands the influence of the new information on an individual's value system. Further, they try to bridge the gap between the two.

f. An information literate student affirms his/her understanding of the information through a conversation with other information literate individual, subject-area experts and/or practitioners.

g. An information literate student, lastly, decides whether the existing information satisfies the need or must the query be revised.

Standard Four

An information literate individual, by themselves or in a group, has the knowledge to utilize the gathered information to satisfy the specific need.

Performance Indicators

a. To plan and create a particular product or performance, an information literate student has to apply the new and prior information which he/she possesses.

b. The development process has to be then revised by the information literate student for the product or the performance.

c. The information literate student is required to communicate the product or performance in an effective manner to others.

Standard Five

To ensure the ethical and legal use of information, it is very important for the information literate student to understand the various economic, legal and socio-economic issues that surround the access use of information.

Performance Indicators

a. Many of the ethical, legal and socio-economic issues surrounding information and information technology need to be understood by the information literate student.

b. The laws, regulations, institutional policies, and etiquettes related to the access and use of information resources are all requires to be followed by an information literate student.

c. It is essential for an information literate student to acknowledge and understand the use of information sources in communicating the product or performance (Bhatt, 2011).

The Council of Australian University Librarians (CAUL) Information Literacy Standards (CAUL, 2001)

The University of South Australia for the Council of Australian University Librarians (CAUL) initiated and conducted a National workshop from 22nd to 23rd September, 2000 wherein IL standards for higher education were produced by The Council of

Australian University Librarians (CUAL) in 2001. These standards were more intuitive than the ACRL standards and they presumed different level of thinking skills based on the relational model of information literacy developed by Christine Bruce.

a. Recognizing the need for information and determining the nature and extent of the information needed is an important trait of an information literate person.

b. The information required should be accessed effectively and efficiently by the information literate.

c. Another important skill of information literate includes evaluating information and its sources critically and incorporating only selected information into their knowledge base and value system.

d. Classification, manipulation and redrafting of the information collected should also be known by the information literate person.

e. Another common skill set includes reframing or creating new knowledge by integrating prior knowledge and new understandings both as an individual or as a member of a group.

f. Understanding cultural, economical, legal and social issues surrounding the use of information and then accessing and using information ethically, legally and respectfully should be done by an information literate.

g. Lastly, needless to say that an information literate person must recognize that information literacy is required for lifelong learning and participative citizenship.

Information Literacy Standards for Teacher Education

The data education norms for educators were affirmed by the ACRL Board of Directors on May 11, 2011. The primary motivation behind the Information Literacy Standards for Teacher Education are to:

a. Guide instructor training staff and train administrators in creating data proficiency direction for potential educator instruction understudies.

b. Empower the assessment and evaluation of such direction and educational program through benchmarking results.

c. The models additionally mean to lead instructor training understudies to consider how they may incorporate data proficiency into their future educational modules, guideline, and evaluation exercises once they progress toward becoming individuals from the instructing calling.

d. The information literate teacher education characterizes and explains the requirement for data and chooses techniques and apparatuses to find that data.

e. The information literate teacher education finds and chooses data in view of its fittingness to the particular data require and the formative needs of the students.

f. The information literate teacher education student arranges and investigations the data with regards to particular data needs and the formative propriety for the gathering of people.

g. The information literate teacher education student orchestrates, procedures, and presents the data in a way that is suitable for the reason for which data is required.

h. The information literate teacher education student assesses discrete snippets of data and also the whole data looking for process.

i. The information literate teacher education student knows how to morally utilize and disperse data.

However, the gauges are utilized as a manual for evaluation, it has been discovered that utilization of these principles on the school grounds has not been outright. Or maybe pieces have been utilized as a system for exchange and parts have been embraced to mirror the need of electorates.

Cain (2002) has been reproachful of the gauges as an evaluation instrument. She asserted that evaluation instruments accept that there is recognizable confirmation or proof of what is being measured. Without a solid comprehension of what is implied by data and with manners of thinking and so forth being hard to quantify precisely, applying norms may well outcome in the estimation of existing information as opposed to advancement of learning. (Cain, 2002)

The significance of these data proficiency measures for advanced education lies in the way that it gives structures to showing data education and in addition evaluating the data proficiency level of people (Senlson and Stillwell, 2001).

1.8 INFORMATION LITERACY: GLOBAL SCENARIO

There are many organizations and associations around the world which have taken the initiative to promote information literacy. The following are a portion of the worldwide stages from where the ideas of data proficiency have picked up energy.

CILIP: The Chartered Institute of Library and Information Professionals (CILIP) has a sub bunch called the Data Education Gathering. The Data Proficiency Gathering plans to give a discussion to dialog which supports wrangle about and permits the trading of learning in all parts of data education by arranging meetings and distributing the Data Education Diary. (http://www.cilip.org.uk)

ALA : The American Library Association (ALA) is known to support the ACRL, American Association of College & Research Libraries and the AASL, the American Association of School Librarians in the creation of information literacy material. (http://www.informationliteracy.org.uk/il-orgnisations-uk/il-organisations-international/).

CLA: The Canadian Library Association additionally has an Information Literacy Interest Group. The motivation behind the ILIG is to advance data proficiency guideline as a necessary library benefit, give a gathering to dialog of exercises, projects and difficulties in data proficiency, add to the instruction and preparing of curators in the conveyance, advancement and assessment of data education programs and to fill in as a channel of correspondence on data education. (http://www.cla.ca)

EnIL: The European System for Data Education means to energize talk on Data Proficiency at an European level, with a specific end goal to advance the foundation of a Culture of Data in Europe. They have likewise made the European Observatory on IL Approaches and Exploration. http://www.informationliteracy.org.uk/il-organisations-uk/il-organisations-international/).

IFLA: The International Federation of Library Associations and Institutions (IFLA) have built up a Data Education Area. The basic role of the Data Proficiency Segment is to cultivate global collaboration in the advancement of data abilities training in a wide range of libraries and data foundations. They have likewise made InfoLit Worldwide, a database to record data proficiency materials from various parts of the world, in the interest of UNESCO. (http://www.ifla.org/information-literacy).

UNESCO: UNESCO has delivered a simple to-peruse distribution on what data education implies. It is intended for occupied open approach creators, business officials, common society executives and honing experts and could along these lines be utilized as a part of backing work. It is called "Understanding Information Literacy: A Primer" and is accessible for downloading in English or French from their site. (http://www.informationliteracy.org.uk/il-organisations-uk/il-organisations-international/).

HEAICS: The Higher Education Academy Information and Computing Sciences (HEAICS), UK subject focus is quick to help the two scholastics and experts in creating understudies IT and data proficiency abilities. The HEAICS runs a few workshops every year on information literacy.

The Abnormal state Colloquium on Data Proficiency and Long lasting Learning held at Bibliotheca Alexandrina on November 6-9, 2005 built up the Alexandria Decree on Data Education and Deep rooted Learning. It proclaims that "Data Education and Long lasting Learning are the reference points of the data society, enlightening the courses to improvement, thriving and flexibility. (http://www.informationliteracy)

SCONUL: The Society of College, National and University Libraries (SCONUL) has a Working Group on Information Literacy, who play a lead part in the advancement of hypothesis and practice in connection to data proficiency (IL) and its part during

the time spent learning in further and advanced education inside the UK (Mishra and Mishra, 2010).

1.9 INFORMATION LITERACY: INDIAN SCENARIO

Information literacy is a key component of, and supporter of deep rooted learning. Since instruction organizations differ generally in mission and understudy body, Data Education Projects are to be outlined and custom-made to address particular issues of the clients as opposed to an endorsed set of criteria.

Powerful usage of Information Literacy is conceivable with effective ILP. Different projects are being utilized as a part of the US, UK and other European nations. Data proficiency programs are as of now in presence in smaller structures in different libraries and data focuses in India, in the types of client training, bibliographic guideline, library research, et cetera.

1.10 INFORMATION LITERACY IN HIGHER LEARNING INSTITUTIONS

In India, information literacy is conferred for the most part at organizations of higher learning. This incorporates user training, library direction and bibliographic guideline programs which are not sufficiently satisfactory to meet the present data prerequisites of understudies. In colleges for investigate degree programs, a course on examine approach is incorporated where library explore procedures are likewise included.

Training frameworks and establishments must consider important the difficulties of the data age. The focal subject of higher education institutions (HEIs) in many parts of the world is to create deep rooted students with the scholarly capacities of thinking and basic considering. Any preparation in abilities gave towards this heading not just prompts the utilization of the library frameworks successfully yet in addition increases the value of them.

Based on the literature reviewed and keeping in view the present scenario of higher learning institutions and financial crisis in higher education institutions in India, it is felt that importance should be given to information literacy in higher education institutions. Introducing the electronic information literacy programme in the

academic setting is an institutional issue for the university, as well as the library. The University Grants Commission (UGC) has made genuine efforts to improve the higher education system by introducing e-Shodh Sindhu Consortium. INFLIBNET which is the co-coordinating agency for e-Shodh Sindhu Consortium is conducting various training programmes, user awareness programmes, workshops and seminars for research scholars, faculty members and library staff from many universities across the country, on how to access these abundant resources offered by the UGC.

College Libraries in India are likewise offering a few information literacy programs.

Sayaji Rao Gaekwad Central Library of Banaras Hindu University has started the information literacy programme, as scheduled every year on the occasion of new sessions, to make students, research scholars and teachers aware of the e-resources available through the Central Library since September 9, 2014. In the first phase of this programme, more than 500 students and research scholars of the Institute of Agricultural Sciences have been trained with the help of computer and multimedia instructions. The Central Library provides more than 1 lakh e-books, approximately 13 thousand e-journals and about 10 databases on various subjects by notable publishers like Sage, Springer, Nature, Web of Knowledge etc for advocacy and research. The Information Literacy Programme is scheduled every year by the Central Library in different subjects to enhance the usefulness of available knowledge.

The Delhi University Library System (DULS) has huge print collections. DULS also subscribes to a valuable number of databases. Besides, DULS researches regularly on open access initiatives to reap the full benefit of Public Domain Electronic Resources. In, addition with a view to educate users and enhance their electronic abilities and make them competent for retrieving precise and relevant through Internet, DULS has offered a regular Information Literacy Programme since 2006. In continuation, DULS has recently organized a two-day training, the Trainers: Workshop on Information Literacy and Competency for University and College Library Professionals

The point is to prepare library and data experts for forward transmission of the aptitudes to end clients.

Jawaharlal Nehru University, Central Library, is an information center for the JNU look into group. The library gives far reaching access to books, diaries, postulations, papers, reports and news sections to the clients. As a piece of Information Literacy Program, the Central Library has sorted out various addresses for staff, scientists and understudies as a team with different scholastic foundations, distributers and database makers in JNU.

Jamia Milia Islamia University Library has been arranging a data education program for freshers and prepared them for computerized assets, i.e. e-diaries and other in-house digitized e-assets. The library likewise offers help to outwardly impeded understudies through assistive innovation.

Jamia Hamdard University Library offers library introduction programs for understudies and research researchers and acquaints them with online diaries and databases subscribed by the library through the UGC Infonet Digital Library Consortia.

The Guru Govind Singh Indraprastha University Library has a separate University Information Resource Centre (UIRC). The centre has a number of e-journals, e-books and databases for users for their teaching, study and research activities. UIRC also organizes orientation programmes for the new users in the library.

The Indian Institute of Technology, Delhi Central Library consistently sorts out introduction and data proficiency programs for undergrad, postgraduate understudies and research researchers to get to the library e-assets and administrations.

Delhi Technological University Library has a rich accumulations of more than 123000 books and a few outside and Indian diaries to encourage the progressing research exercises and to extend the territories of future research exercises. The library has arranged a manual to open new clients to the library exercises. This manual is given amid the enrolment to individuals from the library. The manual is additionally accessible in the advanced library for reference. The library arranges data education programs under the title "investigate the library" for the clients. (Mishra and Upadhayay, 2015).

1.11 IL PROGRAMMES FOR LIS PROFESSIONALS

The academic staff schools set up in the colleges compose general introduction/refresher courses for instructors and custodians to assimilate the abilities for finding and getting to data in the evolving condition.

A large number of the Administration Division' Library and Data Focuses arrange introduction programs for their staff to obtain data get to aptitudes.

The national documentation focuses like the National Institute of Science Communication and Information Resources (NISCAIR) and National Social Science Documentation Center (NASSDOC) assume a huge part in orientating library and data science experts of the nation to secure the abilities of access to data.

At the school level associations like THE National Counsil of Education Research and Training (NCERT) and State Council of Education Research and Training (SCERT) lead normal introduction programs/refresher courses for school custodians.

1.12 ROLE OF LIBRARY ASSOCIATIONS IN INDIA

Library Affiliations exist in a large portion of the states and union domains of India separated from those at the national level. State level library affiliations are extremely dynamic in the improvement of open libraries in their particular states.

Some library relationship at national level are presently proactive in spreading the data education competency for curators and library clients. In December 2005, the Indian Library Affiliation (ILA) sorted out the 51st All India Gathering which was held at Kurukshetra College, Kurukshetra, with the emphasis on libraries, data education and long lasting realizing, where numerous libraries felt the significance of data proficiency in deep rooted learning and improving the utilization of data in libraries. At this meeting ILA additionally suggested arrangement of a National Data Education Mission and the National Data Proficiency Team to execute data education competency improvement programs all through the nation immediately.

In October 2005, a Global Data Proficiency workshop was held at the Punjabi College, Patiala, to advance data education in South and South East Asia, with the

help of UNESCO and different accomplices. In September 2003 at Prague, the Universal Union for Data Education was framed where India's Organizing Union for Deliberate Activities (www.navaindia.org), a system of NGOs, turned into a part. (Ghosh and Das, 2006, p.10)

1.13 THE TERMS OF DEFINITIONS

Information: Definitions of information depend on the way in which the term "data" is defined. The major points of difference are whether the information can be produced by automated process and how this information, which is also digitally recorded can be transmitted.

Literacy: Literacy is "the quality or state of being literate." (Marriam-Websters Collegite Dictionary)

Among: In association or connection with.

User: A person who uses or operates something.

IIT: Indian Institutes of Technology (IITs) are groups of higher educational institutes in India. They primarily offer bachelor, postgraduate and doctoral degrees in engineering and technology.

IIM: The Indian Institutes of Management (IIMs) are groups of 20 public, autonomous institutes of management education and research in India. They primarily offer postgraduate, doctoral and executive education programmes.

Library: A library is a collection of sources of information and similar resources, made accessible to a defined community for reference and borrowing.

1.14 OBJECTIVES OF THE STUDY

The main aim of the study is to estimate the level of information literacy in research scholar as well as postgraduate students using libraries in IIT and IIM. The objectives for this research are:

1. To examine the purpose of visits to the library by users.
2. To identify the competency level of information literacy among the users.
3. To identify areas of strengths and weaknesses in information literacy skills among the users.
4. To find out the status of information literacy programmes offered by the libraries.
5. To assess the ability and effectiveness of the users in acquiring the information.
6. To determine the use of various search techniques and strategies.
7. To examine the level of satisfaction among users with the information literacy programmes offered by the libraries.

1.15 HYPOTHESES OF THE STUDY

The following hypotheses have been formulated to study and verify the data and facts that will be collected during the survey:

1. The users have considerable awareness about different sources of information.
2. The users have considerable awareness about search strategies and techniques for accessing the required information.
3. Researchers and postgraduate students are able to use appropriate methods as evaluation criteria while selecting the required information for their study purposes.
4. Most of the users have the ability to retrieve the required information from the sources.
5. Research scholars and postgraduate students need more training assistance and guidance on how to use and access electronic and print information resources.
6. The users are reasonably satisfied with the information literacy programmes offered by the libraries.

1.16 SCOPE OF THE STUDY

The aim of this study is to understand and test the information literacy skills of graduates as well as research scholars of most sought after institutes namely IITs and IIM's libraries. The study will take into account data from four institutions mentioned below.

1. Indian Institute of Technology, Delhi
2. Indian Institute of Technology, Roorkee
3. Indian Institute of Management, Lucknow
4. Indian Institute of Management, Indore

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CHAPTER-2
REVIEW OF LITERATURE

In this chapter, efforts have been made to provide an overview of the researches done on the various facets of information literacy. Review of related literature is very essential in a new research topic, because each research study has its own specific purpose. The purpose of research is to discover answers to questions through the application of scientific procedure. The main objective of research is to find the truth which is hidden and not discovered yet. In any worthwhile study in a field of research, the researcher must have an adequate knowledge of the work that has already been done in the area of his research. This chapter presents an overall review of studies conducted both abroad and in India in a chronological order related to the research problem. Some of the studies that deserve mention are:

Boger, T. S. (2016) conducted a study on "An Assessment of Library Instruction: Its Influence on Search Behaviour of First and Third Year Students'. The study shows that considerable amount of students in their freshmen year used Google search engine to begin with and often the only one that they required. In this research, Google search engine was accessed by half of the students in due course of their literature search. Much as so, same students except one used academic database to gather information.

Inskip, C. (2015) conducted a research on Information literacy in LIS education. It was concluded that principles of information literacy (theoretical and practical) are found in the overall course structure of Master's programme in Library and Information Studies (LIS). This research evaluates the readings of a qualitative thematic content analysis of a library student's exam answer text. It provides the student's viewpoint on the matter if there was a need to designate an independent module specifically for the dispersion of these principles even though the key concepts of IL are a part of the current core programme.

Nierenberg, E. and Fjeldbu, Q. C. (2015) conducted a study on "How Much Do Undergraduate Students in Norway Know About Information Literacy" and found that source evaluation shows that many students think critically about where information comes from, but that they also have gaps in their knowledge (knowledge

articles) and various misconceptions about the critical evaluation of sources, an important part of being information literate.

Students' self-assessments of their abilities in the three areas like critically evaluating sources of information; avoiding plagiarism; and citing sources. It is shown as many students suggested that they are relatively skilled at evaluating sources, but quite poor at citing them.

Boger, T.S et al. (2015) conducted a research on how the first year undergraduate students search behaviour was affected by library information classes. It was deduced from the study that the classes had an affirmative effect. With this in mind, educators and librarians must further gather more examples of such results in order to prove that this. An important factor about this is that the librarian must create an alliance along with the educator for inputs on teaching including practical exercise and support.

It is essential to take into consideration the requirements and understanding of students in the beginning. One does not fully know or expect when attending the IL training, it is important that the library orients them about this in advance. It is here that an healthy alliance with teachers who work on relevant topic areas on similar courses is required.

Pinto, Maria and Sales, Dora (2015) led an examination on revealing Information education's disciplinary contrasts through understudies' mentalities and found that it utilizes a self-evaluation survey (IL-HUMASS) with a wide example of college understudies. The poll has a size of states of mind that expect to gauge 'faith in significance' and 'abilities self-evaluation' with respect to different data skills. We utilize a gathering of 26 data sub-skills accumulated in four classes (seeking, assessment, preparing and correspondence spread). The outcomes indicate significant contrasts in these classifications when measurably contrasting 17 college degrees related with five branches of learning. It is demonstrated that demeanors apparently shift between branches, backward connection to the interdisciplinary contrasts we have found. A change in regards to understudies' educational states of mind will help lessen the interdisciplinary contrasts.

Foster, M. (2015) carried out in this study, the possible implications derived from a study of the experience of IL in the nursing profession**.** The findings from the study

appeared to show that IL for nurses is always an experience of contextual knowledge creation, of the development of the knowledge and knowledge-based decision-making abilities that nurses need in the specific contexts of their practice. What would be the value of explicit recognition of the contextual knowledge-focused nature of the IL experience? By modifying the SCONUL definition of IL with this recognition in mind, it might give it a meaning it could be said to lack for some. Non-information professionals often fail to grasp what IL is, beyond a generalized description of activities, missing its role in learning and personal and professional development. This has surely limited its acceptance and appreciation.

Boss, K., Angell, K. and Tewell, E. (2015) conducted this study and presents opportunities for further research on assessment of PBL orientations and instruction. Further direct assessments of student learning outcomes in library orientations are needed. Among the couple of appraisals of library introductions that have been done, most don't go past measures of student fulfillment. While such aberrant measures are profitable, they ought to be supplemented by coordinate appraisals of learning appreciation with a specific end goal to adequately assess the viability of issue based learning guideline.

Derakhshan, Maryam (2015) revealed the teaching experiences of LIS educators in Iran to identify the contribution of their teaching to the development of IL competencies in LIS students. Taking an exploratory approach, the study used semi-structured interviews to gather the data. Using the ACRL standards as a framework, the fieldwork questions were designed around the five areas of IL competencies viz determining information needs, locating information, evaluating information, using information ethically, and using information for a specific purpose. The data was collected from 15 educators in 6 LIS departments in Iranian Universities.

IL activities at 6 Colleges appear as lecture, workshops, and essential IL abilities modules. Hardly any IL exercises are subject disciplined related. They were made a request to think about the IL abilities with regards to their instructing encounters to recognize the commitment of their educating to the improvement of every IL competency.

McNicol, Sarah (2015) did in this investigation, various models that exist to help the improvement of data education abilities. Most were intended to help twentieth century advances and teaching methods.

It is widely accepted that information literacy models need to adapt and develop in response to changes in both technology and pedagogy, but the nature of this development is, as yet, uncertain. iTEC (Innovative Technologies for Engaging Classrooms) is a major EU-funded project attempting to bring about transformation in learning and teaching through the strategic application of learning technology. In this study, findings from the evaluation of iTEC are used to consider how effectively information literacy models which are currently available can support emerging technologically-engaged pedagogies.

Zhao, Jennifer Congyan and Mawhinney, Tara (2015) revealed that this study identifies challenges that native Chinese-speaking undergraduate engineering students face in researching and writing an academic paper compared with their native English-speaking peers. With the growing enrolment of Chinese students in North America, the question of how best to enhance these students' learning experiences through library instruction and services is increasingly important. In this study, researchers recruited 17 participants (eight native Chinese-speaking and nine native English-speaking students) from a communication in an engineering course at McGill University, and conducted a preliminary interview, an online survey, and an in-depth interview to gather data about each student's research experience. The current article presents the qualitative findings from only the in-depth interviews. Findings show that native Chinese-speaking have unique information-related challenges in the areas of searching, evaluating information, reading, writing, and citing.

Maybee, Clarence (2015) revealed that creating inventive libraries require a certifiable comprehension of employees' desired curricular objectives. This investigation intended to build up a far reaching and more profound comprehension of Purdue's Nutrition Science and Political Science Faculties' desires for student learning identified with data and information data skill levels. Course syllabi were analyzed utilizing grounded hypothesis strategies that enabled us to distinguish how personnel were tending to data and information data skill levels in their course, however it likewise empowered us to comprehend the interconnections of these proficiency to

other departmental aims for student adapting, for example, building up an expert personality or figuring out how to lead unique research.

Burgoyne, Mary Beth and Cornell, Kim Chuppa (2015) carried out in this study our experience developing an embedded librarian's model which evolved into a fully integrated learning community, pairing online composition with an online information literacy credit-bearing course. Our assessment of student success measures indicate that the positive trends we found under the embedded librarian's programme have continued to improve under the formal learning community model. We discuss the results of our qualitative and quantitative measures of the programmme impact on student success and share our recommendations for future developments. .

Kim, Sung Un and Shumaker, David (2015) conducted a study on student, librarian and instructor perceptions of information literacy instructions and skills in a first year experience case study and found that as more academic librarians have adopted the practice of teaching information literacy in first year experience programmes, there has been a growing number of studies assessing this practice. However, few studies have compared the views and assessments of students, librarians, and instructors.

Through overview techniques, this contextual analysis was led to comprehend students, librarians, and teachers' view of Information Literacy guideline and student's data education aptitudes in two distinct sorts of courses at the Catholic College of America.

Rafique (2014) conducted a study entitled information literacy skills of faculty members: a study of the University of Lahore, Pakistan and found that a number of faculty members were capable in determining the existence of needed information and to organize, analyse, evaluate and fully understand the retrieved information. About 64.3% of the faculty members needed information in print format and 34.5% of them required information in online format. Most of the faculty members were able to use search engines and different websites for locating the required information while the same number of the faculty members used databases and advance search option to retrieve the required information. A predetermined number of the resources could distinguish and characterize data. Also to assess the unwavering quality of data got from various sources.

Nagaraju, K. and Roja, M. (2014) reveals in this study that most of the respondents visit the college library frequently and prefer documents such as textbooks, ,. The study also identified the students' lack of knowledge in using Boolean operators for searching, and legal and ethical use of information. Most of the students observed that they have benefited while participating or attending information literacy awareness programmes. The findings of the study show that the most of the students used Internet for academic purposes for collecting information for their course work. The librarians need to continue to make progress in collaborating with faculty and other organizations on campus to incorporate more reflective learning and discover more effective techniques of elevating IL competencies.

Anafo, Peter and Filson, Christopher (2014) stated that many students today are over-reliant on search engines such as Google to find information when researching topics. They often overlook quality academic resources available from libraries. This situation creates a new challenge for reference librarians, who must now play a more important teaching role: directing students to high-quality print and electronic sources and educating them on the need to evaluate Web resources. Reference librarian need to move their focus from giving specialized technical help on utilizing library assets to user education, along these lines helping students in creating Information literacy aptitudes to recognize when data is required. In addition to find, assess and utilize the required data adequately.

Hsieh, Ma Lei and Dawson, Patricia H. (2014) revealed that the two-correct answer tests revealed further that less than 30% of participants could identify the best search tools to find journal articles on a given topic. Answers to question 4 revealed that even though 78% of the participants could tell that journal articles include extensive references in the pretest, only 49% knew that popular magazines were not peer-reviewed. This indicates that about half the participants could not tell the differences between journals and magazines.

Mullins, Kimberly (2014) revealed the IDEA model supports the theoretical and conceptual frameworks that the integration of empirical-based learning theory and instructional design best practices result in effective information literacy integration. This construct expects that information literacy abilities are connected with regards to a scholastic teach and it enhances a student's scholarly performance.

Since the application of the model in its entirety is time- consuming, the return on environment is greatest when the model is applied to courses that: have significant research requirements; are frequently implemented; include motivated faculty; have reasonable development timeframes, and; may be applied to other closely related courses.

Mnkeni-Saurombe, Nampombe (2014) conducted a study and found that librarians in open distance learning institutions are actively encouraged to develop and implement information literacy programmes for students and academics. This has become a necessity in an open distance learning environment because students and academics function in an information environment that is rapidly developing and becoming increasingly complex. Information literacy is described as a skill that is central to learning. Furthermore, rapid development in technology and the proliferation of information has also led to transformation of teaching methods at open distance learning institutions. As we embrace methods such as e-learning or blended learning, information literacy training still remains an important factor in producing successful programmes. This study provides an overview of information literacy training carried out by a group of personal librarians at the University of South Africa Library.

Exner, Nina (2014) revealed that working with faculty, doctoral students, postdocs, research staff, and other campus groups that are producing original research is increasingly critical to academic libraries. Although librarians can read some great theory and research on the information needs and habits of scientists, social scientists, humanities' researchers, and other such groups, there has been relatively little written on how to adapt established information literacy practices to these original researchers. Understanding original researchers' needs is critical, and every librarian seeking to move into original research support should examine the existing literature on their researchers' information needs. However, it is very important to tie that knowledge into classroom practice.

Oakleaf, Megan (2014) revealed that in the framework, each of the six frames includes a threshold concept as well as "knowledge practice/abilities" and "disposition" associated with that threshold concept. The task force clearly states that neither the knowledge practice/abilities nor the disposition are intended to be used as

learning outcomes. The omission of learning outcomes in the framework may be due to three factors. First, the Task Force made a conscious decision to move away from the format of the previous standards documents which included over a hundred statements formatted as learning outcomes. Second, the Task Force hoped to make outcomes the purview of librarians working in a local, campus context rather than provide them at a national, professional-wide level. Third, Meyer and Land, originators of the threshold concept, have provided limited guidance on ways to transform threshold concepts into outcomes.

Dold, Claudia J. (2014) revealed that the librarian is in a position to expand the patron's awareness beyond the initial query. In the behavioural health field, awareness may include the implications of a targeted outcome in terms of the social consequences, the economic cost to society, and the impact on the health care delivery system and the penal system. Like the essential care provider in a group based well-being mediation, a librarian is arranged at the convergence of the subject-particular points of view and the benefactor. The curator can bring the scope of data into center with a specific end goal to examine a research question and advance the researcher's comprehension of the unpredictability and interconnections of the contributing information sources.

McKinney, Pamela (2014) led an examination on Information Literacy and inquiry based learning. It was an assessment of a five-year program of educational programs advancement. It was found that inquiry based learning depicts a scope of student focused teaching methods progressively utilized in advanced education where students learn through taking part in open-ended research and request. It is recognized that this kind of instructive approach requires advanced information literacy capacities in students, and that there is a need to help the improvement of information literacy in inquiry based learning educational module.

This study reports on the evaluation of a selection of curriculum development projects undertaken at each UK University that implemented inquiry-based learning and information literacy development. The findings have demonstrated that there is a need to consider IL development in the context of design for IBL, and that inquiry pedagogies can be used to teach IL. The role of librarians and IL experts in the curriculum development process has also been considered.

Omar, Abbas Mohamed (2014) conducted a study on Information literacy in Zanzibar Universities. Current circumstance, way forward and the study was led in three colleges of Zanzibar, where college library staff, senior members and executives of schools/faculties, heads of offices and college understudies were associated with the investigation.

A total of 200 respondents participated in the study and the results were analysed quantitatively. The findings show that a certain degree of information literacy awareness exists among library and academic staff, though promotion and provision of its skill are still in the infancy stages. Inadequate numbers of qualified information literacy specialists, lack of background in teaching information literacy and lack of cooperation between librarians and faculty members were identified as the sources of the problems. .

Jinadu, Iliasu and Kaur, Kiran (2014) carried in this study that Library and Information Science research is not limited to an academic context, but should encompass all activities of life. Workplace practices should also occupy a prominent position in LIS research. The theoretical lens to capture information literacy in developing countries has to be context sensitive to accommodate the state of information poverty, non-documented oral information, and minimal database resources that require robust technology infrastructure for access. More aggressive researches in information literacy in the workplace in developing countries may show how much lifelong skills are exhibited on-site through socio-cultural interactions, person-in-practice perspective or organizational learning to improve performance.

Thapa, Neelam (2014) carried out in this study that in India, the importance of lifelong learning has been recognized and Departments of Lifelong Learning have been set up at many universities. But the Indian community as a whole has still not recognized the need for lifelong learning and so awareness for the same needs to be created at a very early stage, i.e. in schools and colleges.

UGC experienced long lasting learning after the starting of the National Adult Instruction Program by the Administration of India in 1978. UGC has set up Divisions of life long Learning in numerous colleges and is additionally reassuring the idea by setting up Open Colleges and distance learning learning programs. Information

literacy is likewise being advanced through college libraries, also Branches of Library and Data Science. Data proficiency must be perceived as an aptitude that can improve the nature of instruction and furthermore encourage life long learning.

Anderson, L and Bull, S. (2014) revealed that the library outreach programme developed at the University of Birmingham over the last five years has been very successful and received considerable positive feedback. It continues to evolve and current consideration is being given to more general academic skills such as time management and note taking, primarily due to feedback from the annual training event. The programme fills a clear need in IL provision which, as the literature review and benchmarking of other university websites shows, does not appear to be met comprehensively elsewhere. The programme covers a range of IL, and the creation of a supporting teacher pack and training event means that these skills can now be disseminated to school staff, who in turn can pass them on to their students, not only in the local vicinity of the university but also further afield.

Foo, Schubert (2013) did an investigation under the title Information literacy skills of Humanities, Expressions, and Sociology Tertiary Understudies in Singapore.

The findings of the study revealed that the majority of students (531 or 99.4%) own a personal computer, and nearly all of them (except one student) have Internet access at their residences. Only 90 (16.9%) of the students had taken the course related to IL. It was not surprising to find that students tended to visit and use resources in the university library more frequently compared to the other libraries. For each kind of library, the frequency of using resources was slightly less than visiting. It is possible that some students study in the library without consulting its information resources. The task definition is the best performing area, whereas information evaluation is the poorest performing area, with the mean score at 50.31%. The respondents scored over 90/100 for questions about narrowing search results, Boolean operators and stop-words. However, students seemed to lack understanding of how to use the index of a book, how to differentiate fact, view, and opinion; and how to select authoritative information sources and information evaluation tools.

Tewell, Eamon C. (2013) concludes that this study adds evidence to the claim that a disconnect exists between faculty beliefs about the importance of IL and their

teaching practices. Faculty consistently express concern regarding student IL abilities and support collaborative IL instruction. Yet the rate of IL integration within their classes remains low. The results corroborate that faculty perceptions and attitudes towards IL remain relatively consistent when compared with other studies. The author recommends that librarians be flexible regarding IL instruction models and encourage further investigation of faculty development models to achieve wider IL integration.

Bradley, Cara (2013) did a study on the investigation of authorship patterns of the information literacy related journal articles uncovered that subject personnel or potentially graduate students composed by far most of these works.

The study shows that librarians (writing either alone or with other librarians) wrote only 4 of the 156 information literacy-related articles. Collaborations between librarians and subject faculty/graduate students were somewhat more productive, resulting in 13 articles. One unexpected finding was the number of publications written by educational developers and other teaching centre employees (either alone or in conjunction with subject faculty/graduate students). This category was not included in the initial analysis but was added when it became apparent that the staff contributed information literacy-related articles in numbers comparable to librarians.

Evangelista-Marquez and Tarango, Javier (2013) revealed that the school must approach political, economic and cultural equality, to become a school system that builds a new type of human being living within a fair, supportive and inclusive society. By self-demanding in his educational task, the teacher offers the best to his students because it is the work he develops inside the classroom that best describes him.

The role of the school system is to contribute to the harmonious incorporation of every student in the community he lives in. The purpose is to involve him in the core values for the development of the society, and provide him with the necessary tools to be prepared for the active and formative participation in his reality. This aspect should not be taken lightly since it is the foundation for the growth and harmony that every society striving to become different and democratic should have.

Head, Alison J. (2013) reveals that almost all the students have reported using a risk-averse and consistent strategy and relied on the same few “tried and true” resource,

such as course readings, Google, library databases, and Wikipedia, to control the vast amount of information. For course-related research sources, a large majority of students PIL surveyed in our 2010 study reported turning to course readings (96%), search engines (92%), scholarly research databases (e.g. JSTOR or ABI Inform) (88%), and instructors (83%). Assessing information was usually a community oriented process. Almost a large portion of the students (49%) every now and again approached teachers for help with surveying the quality of sources for course work. Far less asked librarians(11%) for help.

Saunders, L. (2012) reveals that the lion's share of faculty who reacted to the survey imagined that information literacy capabilities were essential for their students to ace. The larger part additionally evaluated their students as just to some degree solid in distinguishing academic materials, recognizing dependable/definitive data, finding important data, referring to sources legitimately, combining data and looking for databases. Numerous professors concurred that it is the duty of both teachers and librarians. Those members who were educated about information literacy models were additionally among the ones who included information education guideline in their courses and thought it was imperative for their understudies to learn.

Sieberhagen, Anee and Cloete, Linda (2012) carried out a study on the evaluation of a digital information literacy programme (DILP) to determine the programme's effectiveness in enhancing students' digital information literacy skills. The DILP was originally designed and developed for the South African students, as members of Generation Y, but was adapted after identifying the characteristics of Generation Z. This information was incorporated in the existing DILP, therefore making the DILP applicable to and useful for both Generation Y and Z. New learning technologies were identified and incorporated in the DILP to enhance students' learning experience. An analysis of reported research indicated that there is a lack in the evaluation of programmes to determine their effectiveness in enhancing the digital information literacy skills of students by using an outcomes assessment instrument.

Tirado, Alejandro Uribe (2012), in this study considers the cycle of knowledge generation proposed by Nonaka and Takeuchi. He sets out on how the distinctive markers and expected outcomes inside the information literacy (IL) ,utilized as a part of advanced education, add to this cycle. In the wake of dissecting every standard and

its interrelation with the four alternatives to produce learning of Nonaka's cycle, it was distinguished that these guidelines are more adapted to the era of express learning, and in this manner, it is important to chip away at different exercises and new proposed measures of IL that advances the era of implied information and data forms required. Data abilities are especially essential now that the worldview of Web 2.0 has changed and is evolving,

Willson, Rebekah (2012) built up in this study that the Web survey show that students feel more arranged after the ILI session than before. They rate the assistance from the librarian as the most valuable piece of the session. On the contrary to the expectation, students rate the platform they get amid the free time to work considerably more exceptionally than they rate the time they are given to work autonomously. Without additional data about student's observations and expectations, it is unrealistic to decide if the evaluations were because of seen helpfulness or earlier expectations. Students may expect individualized help amid ILI sessions. In general, these outcomes demonstrate that students do arrange to finish their examination task. The information show that free time to look is valuable so far as it enables platform to occur, as one-on-one help is seen as more useful.

Seiler, Vilve (2012) carried out in this study that e-learning is widely acknowledged as a possible methodology to teach information literacy. However, studies reveal that information literacy courses as separate credit-bearing courses taught entirely in the form of e-learning, and using methods of active learning, are rare. This study analyses the performance of a model for an e-learning course in information literacy in which learners with various backgrounds can participate, and where assignments can be completed according to personal information needs. Although the course does not provide face-to-face contact, learner-centred personal guidance is applied, as every student has an instructor-a subject librarian familiar with information sources in her field.

Madhusudan, M. (2012) revealed that the majority of university librarians strongly agree and delivering IL programmes for their users at the beginning of the academic year. Most of the libraries conduct user studies while designing and developing their information literacy programmes. As far as content of IL is concerned, it was noted that besides regular information search skills, libraries did not give much emphasis to

skills like using CD/ROM databases, understanding citations, plagiarism, etc. These skills are essential for students and research scholars in their academic and research work and become an important element in lifelong learning.

Lata, Suman and Sharma, Sanjeev (2012) did a study that demonstrated the quantity of clients who effectively addressed the inquiries identifying with wellsprings of data. It uncovered that 68 (77.27%) clients knew that the lexicon is the best source to locate the importance of a word. Fifty-five (62.50%) clients knew that a catalog is the exact source to find the addresses and phone numbers. Forty-nine (55.68%) clients felt that a reference book was the best hotspot for finding fundamental foundation data on a theme. Additionally, this demonstrates the inquiry systems utilized by the clients for seeking and recovering data from a database. Straightforward catchphrase look procedure was utilized by the vast majority of the respondents, i.e. 52 (59.09%), while 28 (31.82%) clients utilize the field seek method (title and URL, and so forth). Boolean administrators were utilized by just 8 (9.09%) clients.

Naidoo, Segarani and Raju, Jaya (2012) directed an examination on an master's report. They attempted to research the effect of the digital divide on information literacy (IL) training of Extended Curriculum Programme (ECP) students at the Durban College of Innovation (DUT). They found that what this investigation tended to was the effect of having both digitally advantaged and digitally impeded students in a same information literacy classroom, anticipating that they should achieve the results without disappointing students from either gathering. The goal of the examination was to research the effect of the digital divide on IL preparing of ECP students at the DUT and suggest rules for instructing/ learning of IL that would oblige both digitally advantaged and digitally impeded students.

Goldstein, Stephen (2012) in his investigation talks about the advancement of IL in the UK's advanced education research sector that has generally been the preserve of scholarly libraries. In any case, other expert gatherings have an undeniable enthusiasm for this range and there is a solid case for providing a system which empowers diverse gatherings with a stake in Information Literacy to cooperate so as to achieve practical objectives. In the UK, a coalition of accomplices has been set to give cooperative energy. The study sets out the method of reasoning for this approach,

talking about the kind of exercises that the group has cultivated since its origin in late 2009 and thinks about whether it may fill in for instance for different parts of Europe or for transnational collaborations

Fosmire, Michael (2012) completed a study and found that both students results and incorporation of information aptitudes should be enhanced as connected to engineering design. Expressly separating the engineering design process into stages and distinguishing the data gathering stages pertinent amid each stage will support further gainful discussions and coordinated efforts between designing staff and curators. Librarians will see better how designs take care of issues. Specialists will better comprehend the part information gathering, integration and application can play in enhancing student's execution. Information collection exercises have a place all through the engineering design process.

Madhusoodanan, C. and Baradol, A. K. (2011) conducted a case study on information literacy competency among the postgraduate students. The study shows that 87.87% of the postgraduate students are aware of the use of the computer. This is because of the provision of early computer education even at school level in Kerala. It is observed that 50.7% of students prefer journals for getting recent information. More science students 51.51% prefer Internet for getting current information than humanities and social science 21.05% students. Overall 35.21% of postgraduate students preferred Internet for current information. There is a need for an increased journal use among students.

The study also shows that more than 61% of students pointed out that their information literacy ability is good. While 5.6% of students rate their ability as excellent, only 1% of students rated their information literacy ability as poor.

A large portion of the students overestimated their information literacy expertise capacity. Every one of the students communicated the requirement for preparing to find, get to, assess and utilize data. So information literacy skills training is essential in universities to build up a information proficient scholarly group.

Syamalamba (2011) observed that the need to teach information literacy to users with the goal of assisting clients to identify and select relevant information using appropriate search strategies and being able to evaluate, organize and synthesize that

information into a meaningful presentation. Library professionals should take the initiative in conducting various information literacy programmes in the college environment and update their skills by attending seminars and workshops conducted by various organizations. All the modules help the library users to locate the information and become information literate.

Sasikala, C. and Dhanraju, V. (2011) carried out a study and mainly focused on IL skills of science students in identifying, locating, searching, accessing, retrieving and using information from both print and electronic sources of information. Most of the students, i.e. 94% are found to use books frequently followed by reference books 44% and newspapers nearly 43%, internet was used by 34%, periodicals by 32% and e-journals nearly 28% of the students. The responses from users reveal their capabilities in searching a library catalogue to find out all the required documents on a given subject. The findings show that the majority of them are found not to have adequate search capabilities to find what they require from the catalogue. These findings are of great value to the library management in designing library orientation and user education programmes. For locating information, most of the students approach the library catalogue 64%. However about 18 per cent of them also refer to bibliographies and OPAC.

Shenton, Andrew K. (2011) exposed that once in awhile distinguished likenesses between the information seeking process and exercises related with the perusing of fiction, keeping in mind the end goal to display a case for school librarians and embracing standards both advance reader improvement and help to cultivate information literacy. Topics identifying with so much issues as under behaviour, the nature of data itself and library practices are tended to. Different pragmatic recommendations that may add to both youngsters' data education and their improvement as readers are offered for mediators.

Huvila, Isto (2011) discovered that despite the fact that the ideas of information education commonly grasps a thought of a total investment in a data group, its definition has tended to underline the periods of looking for, seeking and assessment as opposed to creating information. Inadequacies of data creation can, be that as it may, clarify huge numbers of the troubles of discovering data. The creator builds up the idea of information literacy with specific focus on incorporating creation and

association of information as focal parts of being information literate and talk about the ramifications of creating information creation procedures to be enhanced by and by.

Stella, Korobili (2011) analyzes the level of information literacy aptitudes in secondary education teachers and the degree of information literacy guideline in the Western area of Thessaloniki. A registration study was directed, which brought about 500 organized polls that were prepared and investigated measurably utilizing multivariate strategies. The discoveries showed that the vast majority of the educators did not utilize any electronic sources, particularly e-sources, and they were presumably poor at helping kids achieve an adequate level of information literacy. It was additionally discovered that educators with masters or a Ph.D. with less working background will probably be visit clients of sources and particularly e-sources. Accordingly, it is proposed that educators ought to go to information literacy preparing workshops.

Nielsen, Bo Gerner and Borlund, Pia (2011) revealed reports on an investigation of 12 Danish senior secondary school student's impression of open libraries' part in learning, user information, information literacy, and librarian's data abilities. The examination is embraced by utilization of writing audit and meetings with a purposive select example of open library visitors in Denmark. The investigation exhibits that open libraries are viewed as an essential place for learning. The secondary school students see public librarian as extremely skilled and great at helping them to build up their information needs, distinguish sources, and bolster the students in the information search processes. The senior secondary school students indicate rather great basic abilities, yet poor information need creating aptitudes.

Fain, Margaret (2011) revealed that the library skills assessment pretest allows library faculty to see where students are at a specific time in the semester. If it is possible to receive and review the results for specific classes before the instruction session, librarians could tailor the session to address those areas where student information literacy skills are the weakest, by tracking these specific areas on the post-test, librarians would be able to see where their interventions where most effective in terms of student performance on the post-test. Multi-year data also let librarians see what they need to let go of in terms of resources or services that are no

longer viable for their current students. Future versions of the library skills assessment will not cover circulation policies for periodicals or policies that are not yet settled.

Pinto, Maria (2011) revealed that Information literacy (IL) continues to be a prime research area in line with the promotion of information literate students and increasingly a priority among librarians and teachers at all levels from primary school to higher education. The amount and diversity of data offered almost unlimited possibilities of analysis. The goal of this initial stage of the research was restricted to an exploratory and descriptive analysis of the variables and categories under the umbrella of the three previously defined dimensions of motivation, self- efficacy and learning habits.

Within the bounds of Spanish higher education, we have presented a pioneering study in approaching IL from a user's perspective, one that has not been explored sufficiently to date. Its potential importance derives from the incipient nature of this new research path. The IL-HUMASS survey is a singular and complex diagnostic tool that approaches the IL issue from the triple internal dimension of motivation, self-efficacy, and preferred learning source. There is no evidence of any other IL studies that jointly examines these three dimensions of IL learning.

Lai, Horng-Ji (2011) examines the present condition of information literacy (IL) training and distinguishes the methodologies or techniques utilized by Canadian open libraries in enhancing IL abilities for their staff and supporters. Additionally this study looks to recognize issues related with the improvement of IL preparing. The study discoveries uncover that Canada's open libraries esteemed their parts as IL training providers and gave careful consideration to staff advancement by offering different training approaches so as to give proficient IL direction to people in general. Another issue investigated in this examination is that Canadian open libraries assemble associations with different associations to broaden their IL instructing obligations. It likewise proposes that organizations empower open libraries to share their assets and administrations in ways that advantage their supporters in the bigger world.

Click, Amanda and Petit, John (2010) completed in this study free on the web and Web tools that can be adjusted by librarians for use with library direction, information literacy training, with an attention via web-based networking media and Web 2.0

advancements, including long range interpersonal communication sites Facebook and Twitter, sites, RSS, wikis, and video sharing. Numerous students as of now utilize these advances and are promptly drawn in with the library when the advances are fused into library sites and classes. There are challenges in utilizing these advances, particularly in nations with harsh governments.

Mishra, R. N and Mishra, C. (2010) studied that coordination of information literacy in the scholastic educational programs, part of the librarian is most critical in the showing learning condition by including proper criteria for result estimations with respect to information education. New innovation has represented a test and additionally opportunity among the information literates to pick up, get to the electronic information consequently to end up information literate. Another open door for the custodian lays on showing their skill in wise data accumulation, administration and scattering to the correct clients. Curators require to share their aptitude, articulation, expertise, learning, working style and procedures among the clients group to grant ideal information administrations to engage the user's in the electronic era.

Thansukodi, S. (2010) found in this investigation that information literacy (IL) is the arrangement of abilities and learning that enables us to discover, assess, and utilize the data we require. In addition to sift through the information we needn't bother with. Information literacy (IL) abilities are the fundamental devices that assist us effectively to explore the present and future scene of information. Data and innovation influences each individual in each conceivable work setting, instruction and entertainment. Here information literacy can assume an indispensable part in teaching the users of libraries on different information and narrative assets, where to begin seeking of information, what where and how to get to them, how to evaluate and look at recovered data, how to convey their data or discoveries to the general masses and specialists, et cetera.

Jiyane, Glenrose Velile and Onyancha, Omwoyo Bosire (2010) revealed that the provision of IL programmes and training sessions by academic libraries and LIS departments in South Africa, both for qualification and non-qualification purposes, indicates that there are concerted efforts towards the realization of an information literate society in the country. The projects pass by various titles/names, for example, library introduction, client instruction, and PC proficiency (on account of libraries)

while LIS offices allude to the IL programs as creating data abilities for long lasting learning, data education, library science and data proficiency, library science and data education training. An examination of the content uncovers that there are a greater number of similarities in the IL programs than there are contrasts.

Islam, Mohammed Anwarul and Tsuji, Keita (2010) directed a study on evaluating information literacy competency of information science and library administration graduate students of Dhaka University, Bangladesh. In addition, it was also to decide their qualities and shortcomings. When all is said in done, it was discovered that students had constrained abilities in the region of information literacy, as it is not talked about widely in their academic course and educational modules. This study investigates the consolidation of a information literacy program in the course educational programs, including all the more written work, exchange and other significant issues that will make the students more information literate. In the event that the ISLM administration can effectively execute the program in the department, it will introduce another era of advancement.

Welsh, Teresa S. furthermore, Wright, Melissa S. (2010) presses on the point that in the information age data information literacy is a basic segment in the instruction of children who must be prepared to assess information ably. This assessment incorporates getting to and utilizing information in both electronic and print forms. School libraries and credentialed school librarian assume a central part in advancing information literacy and perusing for information. By teaming up with teachers and drawing in students, librarians associate with important information that matters in the twenty-first century world. This association can prompt open doors for accomplishment for all regardless to financial or education levels in the group.

Meegen, Ana Van and Limpens, Imke (2010) in their study at the Vrije Universiteit Amsterdam have developed a Web-based tutorial with interactive elements and a game on information literacy. To measure the effect of both learning methods, quasi-experimental design research was used. Students who played the game got higher scores than students who followed the Web-based tutorial. This conclusion does not mean that games in general are better than Web-based tutorial; rather the features of both learning methods need to be investigated more thoroughly to get a complete

understanding of what makes one method more powerful than the other. The Web-based tutorial makes students follow a course on information literacy on the Internet.

Sharma, Sanjeev (2010) conducted a study on Information Literacy in Indian Agricultural Universities: A Study of Punjab Agricultural University. The study found that 76% of the respondents required information for the production of research papers, 43% for the arrangement of assignments while 28% and 24% for general awareness and instructing separately. A larger part of the respondents i.e. 85% knew about the source of information to be counseled to recover the required information. Around 53% of the respondents could basically assess the source of data for its credibility before utilizing it. Most of the respondents could access, utilize and arrange the information effectively.

Patterson, A. (2009) carried out in their study that the use of multiple keywords to focus on search resulted in high confidence levels overall, with 15% reporting lack of confidence, and only 3.3% indicating no familiarity. Confidence rates in saving/exporting and emailing references was 48% overall, with a further 26% of students being fairly confident. Browsing subject-based lists of e-journals also yielded high levels of confidence. The overall rates of confidence for searching the internet were high. High level of confidence in the use of search engines were also expressed, although the use of advanced search options displayed slightly less confidence, with 12% of the research student body lacking confidence in the use of, or familiarity with this facility. The evaluation skills of questions yielded high correct scores, and plagiarism was well understood.

Macauley, Peter and Green, Rosemary (2009) states that LIS and library specialists may make noteworthy commitments, along these lines adjusting their impressive information and educational abilities with other disciplinary epistemologies and instructional methods. Librarians have profoundly conceptualized examinations, and built up the build of information literacy education; they keep on creating smart, timely, and adjustable techniques to oblige any number of learning styles and student profiles. The calling of librarianship and LIS instruction are currently situated to create information literacy further. Accordingly as LIS teachers, researchers, and professionals, we have the chance to expand on constructs crafted by

the individuals who call us to consider interchange perspectives of information literacy.

Torras, Maria-Carme (2009) in his book observes that academic libraries face a number of challenges in trying to develop their role as a formal learning arena in higher education. There may be a considerable gap between the academic library's wish to become a teaching institution on a par with the faculty and the academic library's ability to define its educational role at a general policy making or strategy level. Another challenge is many information professionals are not qualified as educators. User education at many academic libraries is still moving away from the bibliographic instruction paradigm and its focus on library resources. Academic libraries are still heading towards a model of education that focuses on students' needs, and that aims at empowering the students by improving their information literacy, both for legitimate membership in the academic community. This book has discussed the position and the function of the academic library in the totality of the university. We have argued that the academic library needs to adapt a didactic approach to its user education, which among other actions calls for a solid pedagogical foundation on which to build its formal information literacy programme.

Walsh, Andrew (2009) examines a study that creates enthusiasm for making approaches to evaluate information literacy that has been developing for quite a long while. Numerous custodians have built up their own particular standards to evaluate parts of data information literacy and have composed articles to share their encounters. This study surveys the writing and offers readers a kind of the strategy being utilized for evaluation: those which are well known inside the field and furthermore illustrative cases from a portion of the contextual analyses that were found. Especially the one where they demonstrate the dependability and legitimacy of the techniques have been considered in this. It doesn't expect to be a thorough rundown of contextual analyses or techniques, however a delegate sample to go about as a bouncing off point for librarians considering bringing assessment of information literacy into their own particular organizations.

Shenton, Andrew K. (2009) The focus in this study is that information literacy is now well established in library and information science. But it is much less familiar to practitioners in other disciplines, even those which information literacy impinges. It

has yet to again any significant coverage in education, for example, despite the fact that teaching the basic principles associated with the concept can help learners when undertaking various forms of scholarly work. This study considers the often overlooked links between information literacy, scientific inquiry and the generic research process, and concludes by advocating that education in schools would benefit from concentrating on the axioms that underpin all these areas. Nonetheless, the author recognizes problems inherent in such a stance.

Gordon, Carol A. (2009) directed a study and the point of this study was to make a system for a developing hypothesis of proof based information literacy guideline. Keeping in mind the end goal to ground this system in existing hypothesis, a comprehensive viewpoint sees request as a learning procedure that combines information seeking and knowledge building. An interdisciplinary approach is taken to relate user-driven information behavior theory and constructivist learning theory that backs this synthesis. The substantive theories that rises, fills in as a springboard for developing theory. A second goal of this investigation is to characterize proof based information literacy guideline by surveying the appropriateness of performance based appraisal and action research about as instruments of proof based practice.

Crawford, John and Irving, Christine (2009) discovered that although progressively perceived as an aptitudes issue, the utilization of information in the working environment is a constrained studies zone inside library and information inquire about. A generous 'pedagogic' literature of learning in the work environment exists, in any case, and this was basically investigated to produce a collection of issues which could thus be utilized to illuminate a study venture. These issues were utilized to create inquiry about inquiries for an interview based project which, it was trusted, would produce both activity focuses and additionally research questions. With the assistance of partners, a scope of interviewees was distinguished, predominantly in general society division. Information utilization in the work environment, as the academic writing anticipated, ended up being a type of social connection with individuals, both inside and outside the association, being for the most part the prime wellspring of information.

Abdullah, Abrizah (2008) analyzes the affordances that a collaborative digital library(CDL) can offer as a powerful influence for supporting information literacy

rehearses in the digital information environment. It proposes that the advanced library can add to student's strengthening in information literacy skills while looking, utilizing and cooperatively constructing the computerized education assets. To outline this, the creators have explored different avenues regarding the execution of an incorporated information literacy show in view of Eisenberg and Berkowitz's Big 6 Model. It portrays the CDL includes in relationship with the information literacy dimensions in this model.

Wema, E. and Hepworth, M. (2007) revealed in this study that most resources have to be accessed online these days and the respondents could not make effective use of it. Answers from respondents indicated that they were able to highlight a range of activities carried out throughout the process of defining the problem, locating and accessing information, synthesizing and evaluating information, communicating and using information. Reflective exercise helped to indicate the different skills that students had acquired from the course and how they applied the skills during the course. Furthermore, findings from presentations revealed that students demonstrated how the knowledge relating to subjects surrounding their topics.

Crawford, John and Irving, Christine (2007) audits a study project which, inter alia, is developing a information literacy system connecting secondary and tertiary training while emerging out of research led in both the secondary and tertiary areas. The project is immovably arranged in a Scottish setting yet draws on UK and without a doubt a worldwide experience. It started in October 2004 and still proceeds. It profits by the support and experience of project partners in both secondary and advanced education. Since its starting the undertaking has ventured into different territories: the part of information literacy in the work environment and work-based learning, and into promotion for information literacy.

Markauskaite, Lina (2006) directed a study on the strong association amongst implemented and achieved dimensions of ICT literacy. Each new phase of the advancement of ICT at a school is diversely connected with different viewpoints of ICT education. For example, in the rising stage, the upgrade of ICT education concentrates on independent information and instrument focused learning of ICT abilities. In this manner, educating and adapting predominantly concern specialized ICT learning and aptitudes. In the applying stage, tool focused learning of ICT

abilities is coordinated with different subjects. Subsequently, teaching and learning rehearses incorporate ICT specialized capacities into essential skill levels and center school subjects.

Ferguson, Jessame E. (2006) conducted a study on a gauge information literacy appraisal of biology students and found that most students in biology could effectively distinguish the parts of a bibliographic reference taken from a journal file. Nonetheless, fifteen students (11%) inaccurately picked the piece of the reference posting page number when requested the volume of the journal, and two students mistook the date for page numbers in spite of the way that the date recorded was "May 91". Ten students (7%) picked the journal title when requested the "title of the article."

Biology students at UMBC are by and large not acquainted with the idea of copyright, with 33% announcing that they could legitimately utilize pictures from the web and 21% detailing they could, without consent, lawfully utilize the content of the Homeland Security Act on their site. Conversely, 35% announced they couldn't lawfully utilize that content, and 33% detailed they didn't have a clue. It is misty whether those reacting certifiably comprehended the idea of "public domain," since it was not particularly characterized or said in the review. Around 71% of the respondents revealed that they were exceptionally open to "developing successful search strategies", and 79% detailed that were extremely happy with “accessing sources of information, including computer based technologies." A related inquiry was made to evaluate on how as often as possible students utilized search techniques. Despite the fact that the UMBC review included cases portraying all the inquiry systems in this overview question, 66% of those reacting detailed that they occasionally or never utilize truncation, 66% revealed that they rarely or never utilize help of librarians, and almost 74% announced that they rarely or never utilize "Library of Congress Subject Headings, ERIC descriptors, or some other controlled vocabulary." Significant rates of "rare or never utilize" reactions to other looking procedures included Boolean administrator OR-half and Boolean administrator NOT-66%.

Eskola, Eeva-Liisa (2005) this study reports on part of a research project on relationships between learning methods and students’ information behaviour in

Finland. It has been suggested that student-centred learning methods, such as problem-based learning, influence students' information needs, seeking and use. The concentration of this study is on the idea of information literacy as a piece of the students' information conduct.

The findings indicate that students' information literacy is developed on one hand through active use of information and sources in connection with real information needs, on the other hand through an educational context which offers opportunities to get different viewpoints on issues.

Joshi, Manoj K. and Sharma, Sanjeev (2005) this study focuses on students who have low awareness of their information needs as none of them could get even a simple majority response. They depend mainly on the library and their teachers for information. The Physics students make maximum use of these sources while Tour and Hotel Management students make extensive use of internet. The first year Masters' degree students mainly use textbooks and to a lesser degree general books. The Library and Information Science students use a wider variety of documents. Increasingly Library and Information Science and Tour and Hotel Management students make adequate use of dictionaries. The students need help in both aspects of library use, searching the document and using it. They also need help in using the internet. The need is further highlighted by the low success rate in self-use of both library and internet.

Sardesai, Kshipra (2005) in this article has a vision on the ways of how technology and information officers/library professionals can support the development of youth and adult literacy, and a non-formal education in a global perspective. There is a broad view of how to use material from huge array of sources and areas to support a growing picture of relationships and interconnection between literacy and technology. It also adds that policy makers should implement and give options for the new skills in use, necessity and also expand the roles for new technologies/ library professionals in literacy development. The ICT is now too cheap to ignore. Literacy, technology and library professionals are becoming more and more inter-dependent.

Rao, A. S. what's more, Nagar, B. R (2005) did in this paper information literacy in scholarly curriculum modules which was a fervent need, since it takes the

students/users past the part of passive audience, note taker and enables them to take some heading and activity in the class while making them life long learner. Information literacy likewise incorporates assortment of methods that incorporate little group discourses, role playing, hands-on-projects, teacher driven questioning, creating bits of knowledge, basic considering, critical thinking judgments and capacity to make expectations. Keeping in mind the end goal to bring the idea of information literacy to all in all, one must not overlook the provincial rural community of India.

Deshpande, Neela and Shelae, Vandana (2005) defined in this article information literacy program is and intellectual framework for comprehension, finding assessing and utilizing information, which is fundamental in the contemporary condition of quick innovative change and multiplication of information sources. Information Literacy requires reading aptitude and additionally information innovation ability as essential establishment. The achievement of it relies on joint effort of librarian, head of office, employees. Information Literacy course ought to be consolidated into the educational modules as it is normal to all disciplines, to all learning situations and to all levels of education.

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CHAPTER - 3
RESEARCH METHODOLOGY

3.1. INTRODUCTION

Research is characterized as the discovery of new learning and the utilization of existing information in another, also innovative path in order to create new ideas, techniques and understandings. This could incorporate synthesis and examination of past research to the degree that it prompts new and innovative results.

Research has a significant role to play in this era as it helps in the generation of knowledge. Research is "the more formal, systematic, intensive process of carrying on the scientific method of analysis. It involves a more systematic structure of investigation, usually resulting in a formal record of procedures and a report of results or conclusions" (Best, 1959).

This chapter focuses on the conceptual research design and methodology used in the present study. The methodology used in the present study has been discussed in detail under the following headings:

1. Hypothesis
2. Research Design
3. Research Methodology
4. Research Sample
5. Pilot Survey
6. Data Collection Procedure
7. Data Analysis Method

3.2 HYPOTHESIS

A hypothesis is a clarification for a condition which can be tested somehow which preferably either demonstrates or refutes the speculation. For the span of testing, the hypothesis is taken to be valid, and the objective of the researcher is to

thoroughly test the terms of the speculation. The idea of hypothesis is a vital piece of the scientific technique, and it remains constant in different disciplines too.

When somebody details a hypothesis, he or she does as such with the aim of testing it, and the result of potential tests ought to be obscure before the theory is made. While figuring a hypothesis, the beliefs of the scientific method are frequently remembered, in this manner enabling the theory to be testable in a way which could be repeated by other individuals. It is likewise kept clear and basic, and the hypothesis depends on known information and thinking. A speculation does not need to be correct or wrong, but rather the individual figuring the hypothesis has to be set up to test the hypothesis as far as possible. At the point when researchers publish reports which bolster a hypothesis, they frequently detail the means taken to invalidate the theory and additionally the means which affirmed it, to put forth the defense significantly more grounded.

The following hypotheses have been formulated in this study for the verification of data and facts that will be collected during the survey:

1. The users have considerable awareness about different sources of information.

2. The users have considerable awareness about search strategies and techniques for accessing the required information.

3. Researchers and postgraduate students are able to use appropriate methods as evaluation criteria while selecting the required information for their study purposes.

4. Most of the users are capable of retrieving the required information from the sources.

5. Research scholars and postgraduate students need more training assistance and guidance on how to use and access electronic and print information resources.

6. The users are satisfied with the information literacy programmes offered by the libraries.

3.3 RESEARCH DESIGN

A research design is a logical and systematic plan prepared for directing a research study, the methodology and techniques to be adopted for achieving the objectives. It constitutes the framework for the accumulation, estimation and investigation of information. A research design is the program that aides the investigator during the process of gathering, dissecting and translating perceptions. It "“provides a systematic plan of procedure for the researcher to follow."

Application of research methodology is very essential to study and investigate any problem to the point with accuracy based on facts, figures and the state-of-the-art. Methodology has its own implications and significance in scientific investigation, because objectively any research investigation cannot be obtained unless it is carried out in an orderly and planned manner. Scientific investigation involves careful and suitable design, use of standardized tools and tests identifying a sufficient sample by using the sampling technique. There are several methods of collection of data for measuring the performance and quality of libraries. These methods can broadly be grouped into two, namely quantitative and qualitative methods. The qualitative method comprises focus groups, observation, and case study methods. But the latest trend is using both the methods for qualitative study of libraries and information centres. There are many tools available for collecting data such as (i) Observation method (ii) Interview method (iii) Questionnaire method (iv) Schedules (v) Interview by telephone. Each and every tool has its own importance. In the present study, the investigator adopted the questionnaire, observation and interview methods for the collection of data.

3.3.1 Questionnaire Method

The questionnaire is a tool to collect a data from the diverse and widely scattered group. It is called the heart of the survey operation. The most important part in a questionnaire is designing the questionnaire. It is very important to design a questionnaire appropriately to get the desired results. There are two types of questionnaires:

1. Open questionnaire: In this type of questionnaire no answer is given against the question. The respondent provides the answer in his/her own words.

2. Closed questionnaire: In this type of questionnaire, the answer is given against the question. The respondent has to select one of the options written against the question. The questionnaire is given to the respondent concerned and asks for the opinion or factual information. The questions are designed in such a way that the relation of one question to another can be readily apparent to the respondent. The question sequence must be clear and the users have to answer the question at their own level.

In the present investigation, the questionnaire was received for the gathering of information. Two questionnaires were designed, one for the librarian to gather information about the services, resources and information literacy programmes and another for the users of four libraries, i.e. IIT, Delhi, IIT, Roorkee, IIM, Lucknow and IIM, Indore. The users' questionnaires were personally dispersed and gathered from them. The data identified with the library was acclimatized from the librarian through questionnaires. The website and annual reports were likewise counseled.

3.3.2 Interview Method

The interview method is a direct tool of collecting data and has greater flexibility. This method is unique because the collection of data is through direct verbal interaction with the individuals and through telephonic interviews.

The interview method was also used in the present study. Personal conversations with the librarian and the library staff were made at the time of visiting the library. Sometimes, personal talks with the users were also initiated. After collecting the filled-up questionnaires, some telephonic conversations were also made to clarify some of the doubts and questions.

3.3.3 Observation Method

The observation technique involves human or mechanical observation of what people actually do or what events take place during a buying or consumption situation.

The investigator visited the libraries at different working hours spread over a number of days to observe the functioning of the library; resources and services provided in the library, library orientation or information literacy programmes provided by the IIT and IIM libraries and instructions or training provided by the library professionals to the users to access the library resources and services.

3.4. TOOLS USED FOR THE STUDY

In order to undertake this study and conduct a qualitative and quantitative analysis, a combination of the questionnaire technique along with the interview and observation methods were adopted for data collection.

3.5 STRUCTURE OF THE QUESTIONNAIRES

The questionnaire is the most popular method of collecting data for an evolution and assessment**.** The most important part in a questionnaire is its designing and formulation. It is very important to design a questionnaire appropriately to get the desired results. While designing a questionnaire, it is good to use standardized methodologies, as it allows us to benefit from the experience of others and to compare the results of similar libraries.

Two sets of questionnaire were designed for the use of data collection. One for the librarian to collect data about the library collection, library staff, working hours, category of users, budget, information resources, services, and frequency of ILP, areas of ILP, method and techniques used in the information literacy programme of four respective libraries. It includes about 32 multiple choice, open ended and closed ended questions referring to different aspects of libraries and information literacy. Another questionnaire was designed for the users (research scholars and postgraduate students) dealing with users perception towards the information literacy aspects, information literacy programmes, search techniques and strategies, assessment tools

for information literacy competency and users' satisfaction level. It includes about 33 multiple choice, open-ended and close-ended questions referring to various aspects of libraries and information literacy.

3.6. RESEARCH SAMPLE AND POPULATION DESIGN

It is not possible to collect large quantities of data of each and every library users in four libraries under study. Therefore, within each institute the proportionate stratified random sampling method was used for selecting samples. The population was divided into two groups/strata, i.e. postgraduate students and research scholars. The sample size of library users has been limited to approximately 10% of the total populations.

TABLE 1: INSTITUTE WISE DISTRIBUTION OF QUESTIONNAIRES

Categories	Number of Respondents							
	IITD		IITR		IIML		IIMI	
	RS N=200	PGS N=200	RS N=200	PGS N=200	RS N=70	PGS N=200	RS N=70	PGS N=200
Total strength	1597	2985	1352	3168	80	920	106	1117
Questionnaires distributed	300	300	300	300	80	300	106	300
Responses received	224	251	263	276	76	244	94	265
Total response rate	(74.66%)	(83.66%)	(87.66%)	(92%)	(95%)	(81.33%)	(88.67%)	(88.33%)
Questionnaires analysed (selected)	200 (89.28%)	200 (79.68%)	200 (76.04%)	200 (72.46%)	70 (92.10%)	200 (81.96%)	70 (74.46%)	200 (75.47%)

Table 1 depicts the number of respondents according to institutes. The total strength of research scholars, i.e. 1597 and postgraduate students 2985 in IITD followed by 1352 research scholars and 3168 postgraduate students in IITR, 80 research scholars and 920 postgraduate students in IIML whereas, IIMI has a total strength of research scholars, i.e. 106 and 1117 postgraduate students. A sample of 300 questionnaires distributed among the research scholars and 300 questionnaires were distributed

among the postgraduate students of IITD. This followed 300 questionnaires distributed among research scholars and postgraduate students of IITR, 80 questionnaires distributed among research scholars and 300 questionnaires provided to postgraduate students of IIML. Another 106 questionnaires were distributed among research scholars and 300 questionnaires were distributed among postgraduate students of IIMI. Responses received from research scholars, i.e. 224 (74.66%) and from postgraduate students 251 (83.66%) of IITD followed by IITR were received responses from research scholars, i.e. 263 (87.66%) and 276 (92%) from postgraduate students, 76 (95%) received from research scholars and 244 (81.33%) received from postgraduate students of IIML, 94 (88.67%) received from research scholars and 265 (88.33%) from postgraduate students of IIMI. Finally, on investigation 200 (89.28%) questionnaires were found valid from research scholars and 200 (79.68%) questionnaires from postgraduate students of IITD followed by 200 (76.04%) questionnaires from research scholars and 200 (72.46%) from postgraduate students of IITR, 70 (92.10%) research scholars and 200 (81.96%) postgraduate students of IIML and 70 (74.46%) questionnaires from research scholars and 200 (75.4%) questionnaires from postgraduate students of IIMI were found valid for final analysis of data.

3.6.1 Total No. of Sample Size and Distributions

In all, 1986 questionnaires were administered to the users of selected libraries, of which 1693, i.e. (85.24%) responses were received back from the users. The investigator selected 1340, i.e. (79.14%) responses from the users. Likewise 4 questionnaires were distributed to the librarians/ in-charge Librarians of four libraries, i.e. 100% and all four questionnaires were received back and selected for the analysis of data.

3.7. PILOT SURVEY

A pilot study is a small-scale rehearsal for a larger main study. Pilot surveys fulfil a range of important functions and can provide important insights for researchers. A pilot study was conducted to verify the reliability of the method chosen. The results from the pilot study was integrated into the current section.

A pilot survey was carried out among 100 respondents of the four libraries under study before going into the actual data collection. On the basis of the response of these questionnaires, personal observation and discussions with respondents, some minor corrections were made in the questionnaire for main study.

3.8. DATA COLLECTION

Data serves as the basis or the raw material for analysis. Without the analysis of factual data, no specific inferences can be drawn. The relevance, adequacy, reliability of data determines the quality of findings of the study. Hence, the data is very important for any study.

For collection of data, the investigator personally visited four libraries and approached the librarian, seeking permission to distribute the questionnaire to the users. Questionnaires were personally provided to the users of four respective libraries. Duly filled questionnaires were collected back on the same day or later and were checked for completeness and accorded unique identification numbers and filed for data entry and processing.

The researcher personally consulted the library staff and users, followed by an informal talk regarding information literacy and different aspects of their libraries. Whenever necessary the investigator also conducted an informal interview with the librarians and other library staff to clarify some doubts; in addition, the observation method was also adopted to observe the overall system related to information literacy and different aspects of libraries.

3.9. DATA ANALYSIS AND INTERPRETATION

After processing the data, the investigator needs to analyse it to draw inferences or conclusions. Analysis plan provides insights into the most optimal manner in which the voluminous data collected could be summarized and analysed, to arrive at the answers to the research questions and to address the research objectives (Ramachandran, 1993).

The quantitative and qualitative data collected through the questionnaire, observation method and informal interviews was keyed in excel file and organized and tabulated by using statistical methods, tables and percentage. Statistical analysis of the data was made with the help of the Statistical Package for Social Science (SPSS).

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CHAPTER-4

DATA ANALYSIS AND INTERPRETATION

4.1 The problem for the present study is "**Information Literacy Among Users of Select IIT and IIM Libraries: A Comparative Study.**" This chapter deals with analysis and interpretation of data, which have been collected through questionnaires. The researcher visited all the selected IIT and IIM libraries for the study personally and circulated the designed questionnaires to the librarians and the users. The researcher interacted with almost all the librarians and users of the libraries and assisted them in filling the questionnaires. A personal visit to the libraries helped the researcher to gather more information and see the actual services provided by them.

The collected data has been organized and tabulated by simple statistical methods. The purpose of analysis is to shape data to intelligible forms, that the relation of research problems can be studied and tested.

The two questionnaires were designed (details of the questionnaires are given in the appendices I and II) to collect the necessary data regarding the present study. One questionnaire was designed for librarians, which consist of two parts, i.e. Part A and Part B. Part A consists of a brief profile of libraries, i.e. library collections, library staff, library services, software used, library budget, electronic journals, etc. Part B deals with Information Literacy, i.e. library provided IL, ILP for whom, areas of ILP, IL instruction, IL barriers, Information Literacy Standard, IL assessment tools, etc. It includes 32 open ended and closed ended questions referring to different aspects of libraries and information literacy.

Second, a set of questionnaires was designed for the users (research scholars and postgraduate students) to assess their information literacy skills. The questionnaires included different types of questions such as multiple choices, open ended and closed ended questions referring to different aspects of information literacy.

PART-A

In all, 1986 questionnaires were administered to the users of selected libraries, of which 1693, i.e. (85.24%) responses were received back from the users. The investigator selected 1340, i.e. (79.14%) responses from the users. Likewise 4 questionnaires were distributed to the librarians/In-charge Librarians of four libraries, i.e. 100% and all the four questionnaires were received back and selected for the analysis of data.

The analyzed data is presented in tabular form along with graphs wherever required.

TABLE 4.1.1: WORKING HOURS OF LIBRARIES

Description	IITD	IITR	IIML	IIMI
Number of working days (approximately/ year)	360 days (excluding five national holidays)	353 days	All days (except gazetted holidays)	362 days
Opening hours (working days)	9 am to 9 pm	8:30 am to 10 pm	9 am to 9:30 pm	9 am to 10 pm
Opening hours (Saturdays, Sundays and holidays)	10 am to 6:30 pm	9:45 am to 6:30 pm	12 am to 8:30 pm	2 pm to 10 pm

(IITD= IIT Delhi, IIT=IIT Roorkee, IIML= IIM Lucknow, IIMI=IIM Indore)

Table 4.1.1 shows that IITD working days are 360 days, followed by IITR working days are 353, IIML is open all days (except gazetted holidays) and IIMI is open 362 days. It can be found that IIMs open more no of days in compare of IITs. IIMI is one of them to open 362 days out of the selected four libraries.

TABLE 4.1.2: STAFF PROFILE

In order to ascertain the position of human resources in the libraries, details of professional and non-professional staff working in four study libraries are collected.

Designation	IITD	IITR	IIML	IIMI
Librarian/In-charge Librarian	1 (Prof. In-charge, Library)	1	1 (In-charge Librarian)	1
Deputy Librarian	2	-	2	-
Assistant Librarian	4	3	4	1
Information Scientist/Officers	-	-	-	-
Professional Assistants	3	10	2	5
Semi-Professional Assistants	-	3	-	-
Library Assistants	1	4	1	-
Technical Assistants	-	-	-	-
Library Clerks	-	1	-	-
Curators			-	-
Library Attendants	4	2	1	5
Others	3	-	2	4
Total	**18**	**24**	**13**	**16**

The Table 4.1.2 depicts the staff profile of libraries in tabular form. IITR and IIMI have a full time Librarian, whereas IITD and IIML have an In-charge Librarian. Further categorized the strength of total staff in these four libraries, IITR has maximum no of staff (24), whereas (18) in IITD, (16) in IIMI, and 13 staff in IIML.

TABLE 4.1.3: LIBRARY COLLECTION

Library	IITD	IITR	IIML	IIMI
Total Collection	13.2 lakhs (print form) 1.6 lakhs (electronic form)	4.5 lakhs (print form) 65,000 (electronic form)	45,470 (print form) 166,856 (electronic form)	37,878 (print form 2.7 Lakhs (electronic form)

Table 4.1.3 shows that the total collection IITD has the highest, i.e.13.2 lakhs in print form and 1.6 lakhs in electronic form, followed by IITR has 4.5 lakhs in print form and 65,000 in electronic form. Similarly, IIMI has 37,878 in print form and 2.7 lakhs in electronic form and IIML has 45,470 in print form and 166,856 in electronic form.

It shows that IITD have more collection in compare to IITR, IIML and IIMI.

TABLE 4.1.4: LIBRARY USERS' PROFILE

Registered Library Users	IITD	IITR	IIML	IIMI
Research Scholar	1597	1352	80	106
Postgraduate students	2985	3168	920	1117
Total	**4582**	**4520**	**1000**	**1223**

Table 4.1.4 depicts the user statistics of selected libraries. IITD has the highest number of registered users that is 4582, in which 1597 users are research scholars and 2985 are postgraduate students. IITR has 4520 registered users in which 1352 research scholars and 3168 postgraduate students similarly, IIMI has 1223 registered users in which 106 research scholars and 1117 postgraduate students and IIML has 1000 registered users in which 80 research scholars and 920 postgraduate students registered.

Its shows that in IITs more users are registered in compare to IIMs.

TABLE 4.1.5: LIBRARY BUDGET

Name of the Library	IITD	IITR	IIML	IIMI
Annual Budget	14.25 crores	15.4 crores	3.75 crores	3.4 crores

Table 4.1.5 clearly indicates the current annual budget (2015-16) of selected libraries. IITD has the highest annual budget i.e. (15.4 crore), where as IITR, i.e. (14.25 crores), IIML, i.e. (3.75 crores), and IIMI has the lowest budget annual budget, i.e. (3.4 crores).

Its shows that in IITs more budget is sanctioned in compare to IIMs.

TABLE 4.1.6: LIBRARY HOUSEKEEPING/AUTOMATION SOFTWARE

Library Automation Software	IITD	IITR	IIML	IIMI
SOUL				
KOHA				
LIBSYS	√	√	√	
E-Granthalaya				
New GENLIB				
VIRTUA				√
Other				

Table 4.1.6 shows the library automation software used by the selected libraries. These three libraries, i.e. IITD, IITR, and IIML use automation software LIBSYS only out different Library Automation Software where IIMI using automation software VIRTUA only.

TABLE 4.1.7: DIGITAL LIBRARY SOFTWARE

Digital Library Software	IITD	IITR	IIML	IIMI
GSDL				
D-Space	√	√		
E-Print				
None			√	√

Table 4.1.7 presents the Digital library software used by the selected libraries. IITD and IITR use D-Space but IIML and IIMI do not use any digital library software.

TABLE 4.1.8: NUMBER OF PC/WORKSTATIONS

Name of the Library	No. of PC/Workstations
IITD	45
IITR	25
IIML	13
IIMI	15

Table 4.1.8 shows that the highest no of PC/workstations (45) used by the IITD, followed by IITR, IIMI and IIML 25, 15 and 13 respectively.

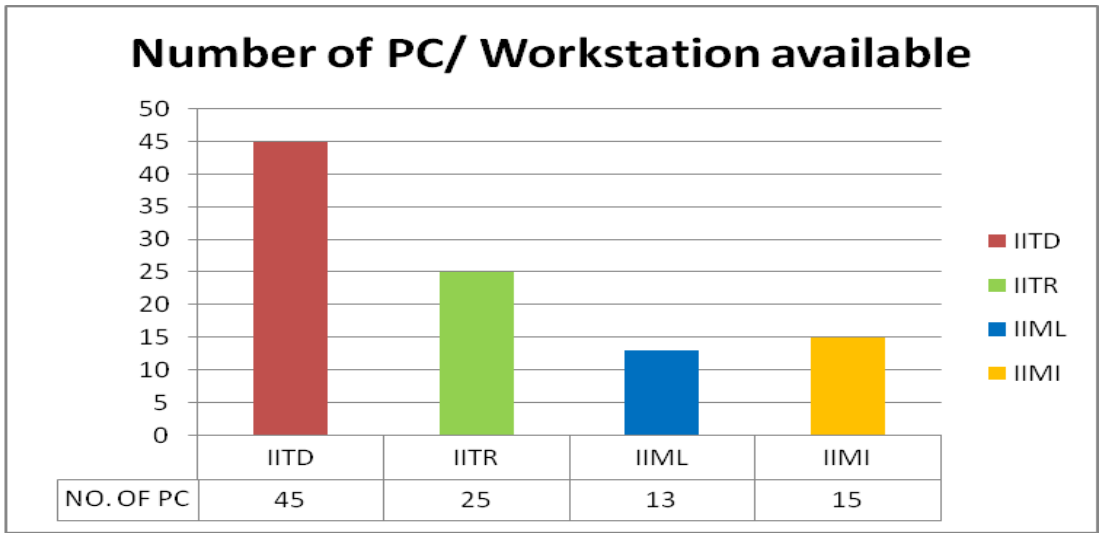


TABLE 4.1.9: LIBRARY SERVICES

Library Services	IITD	IITR	IIML	IIMI
User Education	√	√	√	√
CAS	√	√	√	√
SDI	√	√	√	√
Indexing Services	√	√	√	
Abstracting Services		√	√	
Reprographic Services	√	√	√	√
Translation Services				
Referral Services	√	√	√	√
Literature Search Services	√	√	√	√
Any Other				

Table 4.1.9 depicts the services provided by the selected libraries. Most of the services are provided by these libraries. Translation service is not provided by selected libraries. The IITD and IIMI do not provide abstracting service to their users.

TABLE 4.1.10: LIBRARY NETWORK

Library Network	IITD	IITR	IIML	IIMI
DELNET	√	√	√	√
INFLIBNET	√			√
BONET				
ADINET				
CALIBNET				
SIRNET				

Table 4.1.10 shows these selected libraries associated with Library Networks. These selected libraries are members of DELNET whereas only IITD and IIMI are members of INFLIBNET.

TABLE 4.1.11: PARTICIPATING IN ANY CONSORTIA FOR ELECTRONIC JOURNALS

Consortia	IITD	IITR	IIML	IIMI
J-gate/JCCC				
EBSCO	√			
JSTOR				
E-Sodh Sindhu	√	√	√	√
FORSA				
CSIR Library Consortia				

Table 4.1.11 depicts the selected libraries are connected with electronic journals consortia. Indeed, it is encouraging to know that all the libraries are connected with E-Sodh Sindhu consortia, whereas only IITD is also associated with EBSCO e-journals consortia.

PART-B (INFORMATION LITERACY)

TABLE 4.2.1: LIBRARIES PROVIDE INFORMATION LITERACY

Information Literacy	IITD	IITR	IIML	IIMI
Yes	√	√	√	√
No				
If yes, since when?	Since establishment of the Library	Since 2007	Since 1984	Since 2001

It is clear from Table 4.2.1 that these four selected libraries provide Information Literacy (IL). It reveals that IITD is the oldest to start IL since 1961, establishment of the library followed by IIML began since 1984, whereas IIMI started since 2001 and IITR started IL since 2007.

TABLE 4.2.2: INFORMATION LITERACY PROGRAMMES

ILP for Whom	IITD	IITR	IIML	IIMI
Research Scholars	√	√	√	√
Postgraduate Students	√	√	√	√
Undergraduate Students	√	√		
Faculty	√		√	
Administrative Staff	√		√	

Information Literacy Programmes (ILP) are already provided in various libraries and information centres in India, ILP in the form of such as user education, library orientation, bibliographic instruction, and library instruction, etc. All these selected libraries have conducted ILP for their users. Table 4.2.2 reveals that the IITD has offered ILP for research scholars, postgraduate students, faculty, and administrative staff, followed by IIML has offered ILP for research scholars, postgraduate students, faculty and administrative staff, IITR has provided ILP for research scholars, postgraduate students, and undergraduate students, whereas IIMI has offered ILP for research scholars, and postgraduate students only.

TABLE 4.2.3: HOW TO CONDUCT ILP, AS PER

ILP As per	IITD	IITR	IIML	IIMI
Department- wise				
Faculty-wise				
Class-wise				
Subject-wise				
Common for all categories of users	√	√	√	√
Other				

Table 4.2.3 depicts that all four libraries, i.e. IITD, IITR, IIML, and IIMI have conducted information literacy programmes as common for all categories of users.

TABLE 4.2.4: AS A LIBRARIAN WHAT IS THE PRIOR AGENDA WHILE ORGANIZING ILP?

Purpose of ILP	IITD	IITR	IIML	IIMI
To attract students towards the library	√	√	√	
To optimize the usage of library resources	√	√	√	
To prepare students for group discussion				
Ability to retrieve data for their assignments, efficiently		√	√	√
Other				

Table 4.2.4 presents the librarian's prior agenda while organizing Information Literacy Programmes (ILP) in these selected libraries. IITD is the prior agenda while organizing ILP to attract students towards the library and optimize the usage of library resources followed by IITR and IIML has prior agenda while organizing ILP to attract students towards the library, optimize the usage of library resources, and ability to retrieve data for their assignment efficiently. IIMI has one prior agenda while organizing ILP to develop the ability to retrieve data for their assignments efficiently.

TABLE 4.2.5: CHANGED OR MODIFIED COURSES TO INCREASE AWARENESS AND KNOWLEDGE OF INFORMATION LITERACY STANDARD

ILP Courses	IITD	IITR	IIML	IIMI
Yes	√		√	
No		√		√
If yes…how	Added lecture/discussion Added new assignment		Added lecture/discussion	

For maximum utilization of such vast and huge information resources the information literacy skills is the need of the hour. Table 4.2.5 shows the changed or modified ILP course to increase awareness and knowledge information literacy standards. It was

found that IITD and IIML have changed the ILP course and added lecture/discussion and new assignments to increase awareness and knowledge of information literacy standards. Similarly, IITR and IIMR have not changed the ILP course to increase awareness and knowledge of information literacy standards.

TABLE 4.2.6: BARRIERS TO INCORPORATE INFORMATION LITERACY STANDARD INTO COURSES

Barriers	IITD	IITR	IIML	IIMI
Not enough time in the course to add extra content	√			
Don't know how these standards relate to the content of my course				
Don't have enough expertise to discussion the information literacy standards				
Lack of student interest	√		√	√
Students vary in technology expertise				
Not part of the curriculum			√	√
None		√		

Table 4.2.6 shows that barriers incorporate information literacy standards into the courses. The table found that IITD has not enough time in the course to add extra content and lack of student interest to incorporate Information Literacy Standards. Similarly, IIML and IIMI libraries found some barriers, i.e. lack of student interest and ILP was not part of the curriculum. IITR has not found any barrier when trying to incorporate information literacy standards into the course.

TABLE 4.2.7: INTERNATIONAL INFORMATION LITERACY STANDARD USE IN ILP

International Information Literacy Standards	IITD	IITR	IIML	IIMI
AASL		√		
ACRL				
ISET				
Other (please specify)				
None	√		√	√

Table 4.2.7 reveals that IITR used the American Association of School Libraries (AASL) International Standard in Information Literacy Programmes (ILP), whereas IITD, IIML, and IIMI libraries were not used any International Standards in ILP.

TABLE 4.2.8: ASSESSMENT TOOLS TO DETERMINE INFORMATION LITERACY COMPETENCY

Assessment Tools	IITD	IITR	IIML	IIMI
Yes			√	
No	√	√		√
If yes, (please specify) Other			√	

Table 4.2.8 shows that IIML has an assessment tool to determine student information literacy competency. Similarly, IITD, IITR, and IIMI have not any assessment tools to determine student information competency.

TABLE 4.2.9: INFORMATION LITERACY INSTRUCTIONS DURING THE LAST ONE YEAR

IL Instructions	IITD	IITR	IIML	IIMI
Library orientation	√	√	√	√
Guided library tour	√	√	√	√
Introductory information skills (i.e. catalogue instruction, introduction to the library website)	√	√	√	√
Advanced information skills (i.e. database training, advanced internet searching)	√	√	√	√
Research-level skills (i.e. conducting literature search, reference style, scholarly publishing, etc.)	√	√	√	√

Information Literacy Instruction was provided in selected libraries during the last one year. Table 4.2.9 clearly indicates that IITD, IITR, IIML, and IIMI libraries provided information literacy instruction, i.e. library orientation, guided library tour, introductory information skills (i.e. catalogue instruction, introduction to the library website), advanced information skills (i.e. database training, advanced internet searching), research-level skills (i.e. conducting literature search, reference style, scholarly publishing, etc.) to the users.

TABLE 4.2.10: TOPICS COVERED IN IL INSTRUCTION PROGRAMMES

Topic of IL Instructions	IITD	IITR	IIML	IIMI
Introduction to library resources, services, and policies	√	√		√
OPAC/Library catalogue instructions	√	√	√	√
Library website introduction	√	√	√	√
Identification of their own information needs	√	√		
Online searching techniques	√	√	√	√
Use of databases	√	√	√	
Use of search engines	√	√		
Evaluation of information	√	√		
Plagiarism awareness/ethical use of information	√	√	√	√
Copyright	√	√	√	
Citation of information (reference style)	√	√	√	√
Use of citation management software (EndNote, RefWorks, etc)	√	√		
Scholarly publishing	√	√	√	
Other topics				

All four selected libraries have covered different topics in information literacy instruction. It is can be seen from Table 4.2.10 that IITD and IITR libraries covered all related topics in information literacy instructions. Similarly, IIML and IIMI libraries covered topics in information literacy instruction slightly less.

TABLE 4.2.11: PROVIDE IL INSTRUCTIONS

IL Instruction provide	IITD	IITR	IIML	IIMI
Whenever asked to do so	√	√	√	√
To new session/first-time users	√	√	√	√
IL is a required course for students	√			
At specific time after the installation or acquisition of a new system or information sources	√	√	√	
Other				

Table 4.2.11shows that IITD, IITR and IIML libraries were provided information literacy instruction whenever asked to do so, new session/first-time users, and at a specific time after the installation or acquisition of a new system or information sources and also required for the students, whereas IIMI provided IL instructions whenever asked and for the first time users only.

TABLE 4.2.12 IL INSTRUCTION METHODS

Methods	IITD	IITR	IIML	IIMI
Face-to-face	√	√	√	√
Workshop/seminars	√	√	-	√
Online/web-based tutorials	√	-	-	√
Combination of online and face to face	-	√	-	√
Printed training manuals	-	√	-	√
Individual instruction at the reference desk	√	√	√	√
Other	-	-	-	-

Table 4.2.12 indicates that IL instruction methods were used by the selected libraries. It is clear from Table 4.2.12 that IIMI used all IL instruction methods, i.e. face-to-face, workshop/seminars, online/web-based tutorials, combination of online and face-to-face, printed training manuals, individual instruction at the reference desk for the users. Similarly, IITD used IL instruction methods, i.e. face-to-face, workshop/seminars, online/web-based tutorials, individual instruction at the reference desk and IITR provided IL instruction, i.e. face-to-face, workshop/seminars, online/web-based tutorials, combination of online and face-to-face, printed training manuals, individual instruction at the reference desk, whereas IIML used only two IL instruction methods, i.e. face-to-face and individual instruction at the reference desk for their users. It indicates that the majority of libraries, i.e. IIMI, IITR, and IITD felt that providing better information literacy instruction methods to the users would increase the proper utilization of library resources and services.

TABLE 4.2.13: ASSESS EFFECTIVENESS OF IL INSTRUCTION SESSION

Methods	IITD	IITR	IIML	IIMI
Yes		√	√	
No	√			√
If yes, then which of the methods used for assessing effectiveness of IL instruction session		a. Quizzes b. Multiple choice questions c. Written feedback d. Oral feedback	a. Quizzes b. Written feedback c. Oral feedback	

Table 4.2.13 shows how to assess the effectiveness of IL instruction session in the four selected libraries. It is observed that IITR and IIML libraries have used a number of methods to assess the effectiveness of IL instruction sessions among the users. Similarly, IITD and IIMI have not used any methods to assess the effectiveness of IL instruction session among the users.

TABLE 4.2.14: ILP CONSULTATION WITH TEACHERS

ILP	IITD	IITR	IIML	IIMI
Yes	√			
No		√	√	√

Table 4.2.14 shows the ILP have developed in consultation with teachers in these four selected libraries. It clearly indicates that IITD has developed ILP in consultation with teachers, whereas IITR, IIML, and IIMI have not developed ILP in consultation with the teachers.

TABLE 4.2.15: RESPONSIBLE FOR CONDUCTING ILP

Responsible for conducting ILP	IITD	IITR	IIML	IIMI
Librarian	√	√	√	√
Faculty				
Both librarian and faculty in collaboration				
Other				

Table 4.2.15 depicts that, who responsible for conducting information literacy programmes in the selected libraries. It is clearly indicates from Table 4.2.15 that the librarian is mainly responsible for conducting information literacy programmes in all four selected libraries.

PART-C

In all, 1986 questionnaires sheets were administered to the users of selected libraries, of which 1693, i.e. (85.24%) responses were received back from the users. The investigator randomly selected 1340, i.e. (79.14%) responses from the users for analysis of data.

4.3.1: INSTITUTE-WISE DISTRIBUTION OF QUESTIONNAIRES

Categories	Number of Respondents							
	IITD		IITR		IIML		IIMI	
	RS N=200	PGS N=200	RS N=200	PGS N=200	RS N=70	PGS N=200	RS N=70	PGS N=200
Total strength	1597	2985	1352	3168	80	920	106	1117
Questionnaires distributed	300	300	300	300	80	300	106	300
Response received	224	251	263	276	76	244	94	265
Total response rate	(74.66%)	(83.66%)	(87.66%)	(92%)	(95%)	(81.33%)	(88.67%)	(88.33%)
Questionnaires analyzed (selected)	200 (89.28%)	200 (79.68%)	200 (76.04%)	200 (72.46%)	70 (92.10%)	200 (81.96%)	70 (74.46%)	200 (75.47%)

Table 4.3.1 depicts the number of respondents according to institutes. Total strength of research scholars, i.e. 1597 and postgraduate students 2985 in IITD followed by 1352 research scholars and 3168 postgraduate students in IITR, 80 research scholars and 920 postgraduate students in IIML whereas, IIMI has total strength of research , i.e. 106 and 1117 postgraduate students. A sample of 300 questionnaires were distributed among the research scholars and 300 questionnaires were distributed among the postgraduate students of IITD, followed by 300 questionnaires were distributed among research scholars and postgraduate students of IITR, 80 questionnaires were distributed among research scholars and 300 questionnaires were distributed among postgraduate students of IIML and 106 questionnaires were distributed among research scholars and 300 questionnaires were distributed among postgraduate students of IIMI. Responses received from research scholars i.e. 224 (74.66%) and from postgraduate students 251 (83.66%) of IITD followed by IITR received responses from research scholars, i.e. 263 (87.66%) and 276 (92%) from postgraduate students, 76 (95%) received from research scholars and 244 (81.33%) received from postgraduate students of IIML, 94 (88.67%) received from research scholars and 265 (88.33%) from postgraduate students of IIMI. Finally, the investigator 200 (89.28%) questionnaires were found valid from research scholars and 200 (79.68%) questionnaires from postgraduate students of IITD followed by 200 (76.04%) questionnaires from research scholars and 200 (72.46%) from postgraduate students of IITR, 70 (92.10%) research scholars and 200 (81.96%) postgraduate students of IIML and 70 (74.46%) questionnaires from research scholars and 200 (75.4%) questionnaires from postgraduate students of IIMI were found valid for final analysis of data.

TABLE 4.3.2 FREQUENCY OF VISITS TO THE LIBRARY

Frequency	IITD		IITR		IIML		IIMI	
	RS N=200	PGS N=200	RS N=200	PGS N=200	RS N=70	PGS N=200	RS N=70	PGS N=200
Daily	97 (48.5%)	52 (26%)	87 (43.5%)	45 (22.7%)	37 (52.85%)	47 (23.5%)	39 (55.71%)	45 (22.5%)
Weekly	55 (27.5%)	91 (45.5%)	50 (25%)	108 (54%)	17 (24.28%)	113 (56.5%)	15 (21.44%)	98 (49%)
Monthly	33 (16.5%)	37 (18.5%)	43 (21.5%)	30 (15%)	9 (12.87)	25 (12.5%)	13 (18.57%)	39 (19.5%)
Occasionally	15 (7.5%)	20 (10%)	20 (10%)	17 (8.5%)	7 (10%)	15 (12.5%)	3 (4.28%)	18 (9%)
Mean	50	50	50	50	17.5	50	17.5	50
SD	35.35	30.30	27.80	40.32	13.70	44.08	15.26	34.03

(Figures within parenthesis represent percentage)

Table number 4.3.2 reveals the frequency of visits to the library by respondent Research Scholars (RS) and PG students (PGS). It can be seen from the data that majority of researchers in IIMI (55.71%) visit to the Library daily, similarly in IIML (52.85%), IITD (48.5%) and IITR (43.5%). It can also be seen from table that majority of PGS in IITD (26%) visit to the library daily, similarly in IIML (23.5%), IITR (22.7%) and IIMI (22.5%).

Moreover, majority of PGS (56.5%) in IIML visit to the library weekly and PGS (54%) in IITR, (49%) in IIMI, (45.5%) in IITD. Whereas, researcher (27.5%) in IITD, (25%) in IITR, (24.28%) in IIML, (21.4%) in IIMI stated that they made visit weekly to the library.

It is also visible from the table that monthly visit to the library by RS of IITR (21.5%) is more than RS of IITD (16.5%), IIML (12.87%) and IIMI (18.57%).

From table it is reflected that monthly visit to the library by PGS of IIMI (19.5%) is more in comparison of PGS of IIML (18.57%), PGS of IITD (18.5%) and PGS of IITR (15%).

Whereas, only a very small percentage of researcher (7.5%) in IITD, (10%) in IITR, (10%) in IIML, (4.28%) in IIMI and PGS (10%) in IITD, (8.5%) in IITR, (12.5%) in IIML, (9%) in IIMI stated that they visit to the library occasionally.

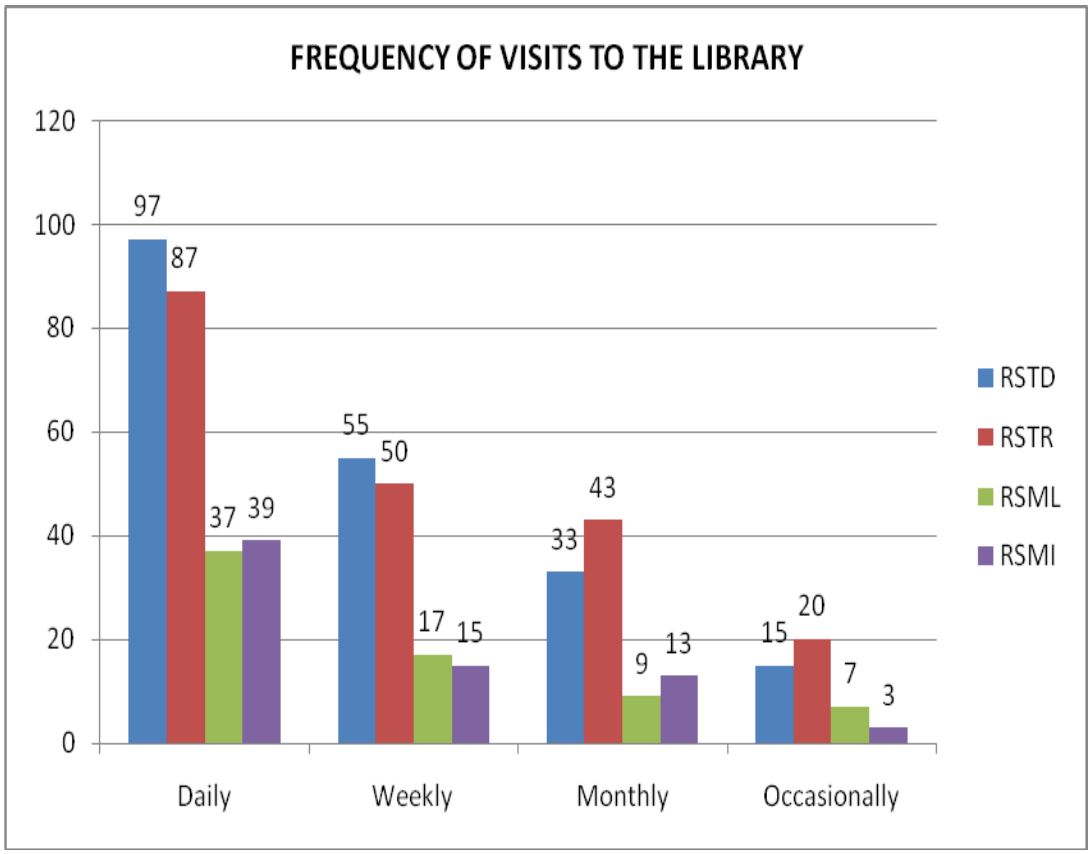
Statistical Inference

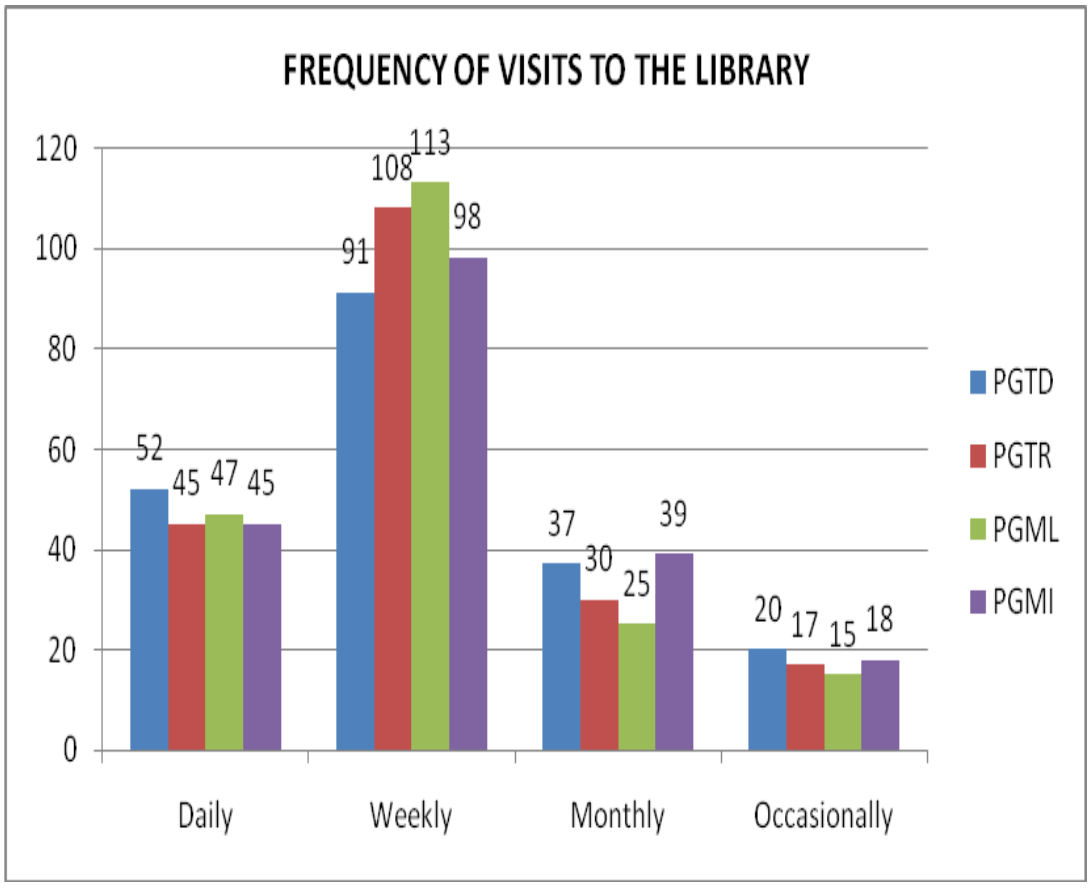
It is observed from table number 4.3.2 that maximum number of researchers declared, their frequency of visiting the library is daily i.e. 97, 87, 37, 39 from IITD, IITR, IIML and IIMI which was found to be fairly above their corresponding mean value of 50(SD=35.35), 50(SD= 27.80),17.5(SD= 13.70), 17.5(SD= 15.26) respectively. And maximum number of PG Students declared, their frequency of visiting the library is weekly i.e. 91, 108, 113, 98 from IITD, IITR, IIML and IIMI which was found to be fairly above their corresponding mean value of 50(SD= 30.30),50(SD= 40.32), 50(SD= 44.08), 50(SD= 34.03) respectively.

Furthermore, least numbers of respondents visit the library monthly and occasionally which shows lowest point from the mean scores.

Table number 4.3.2 shows that frequency of majority of Research Scholars to visit the library daily, while a contrast was observed in case of PG students that frequency of majority are visiting the library weekly.

Correlation Table also shows that frequency of visits to the library of IITs RS (.987), IITs PGS (.987) is more than frequency of visits to the library IIMs RS (.974), IIMs PGS (.985)


FREQUENCY OF VISITS TO THE LIBRARY
120
100
80
60
40
20
0
97
87
37
39
55
50
17
15
33
43
9
13
15
20
7
3
Daily
Weekly
Monthly
Occasionally
RSTD
RSTR
RSML
RSMI


FREQUENCY OF VISITS TO THE LIBRARY
120
100
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91
108
113
98
37
30
25
39
20
17
15
18
Daily
Weekly
Monthly
Occasionally
PGTD
PGTR
PGML
PGMI

TABLE 4.3.3: PURPOSE OF INFORMATION NEEDED

Purpose	IITD		IITR		IIML		IIMI	
	RS N=200	PGS N=200	RS N=200	PGS N=200	RS N=70	PGS N=200	RS N=70	PGS N=200
Research work	143 (71.5%)	51 (25.5%)	138 (69%)	54 (27%)	49 (70%)	41 (20.5%)	48 (68.57%)	37 (18.5%)
To publish research papers	88 (44%)	42 (21%)	79 (39.5%)	32 (16%)	24 (34.28%)	26 (13%)	38 (54.28%)	21 (10.5%)
Assignment	53 (26.5%)	98 (49%)	38 (19%)	81 (40.5%)	18 (25.71%)	98 (49%)	14 (20%)	57 (28.5%)
Study purposes	61 (30.5%)	145 (72.5%)	64 (32%)	92 (46%)	21 (30%)	112 (56%)	19 (27.14%)	63 (31.5%)
Attending seminar/ workshop	69 (34.5%)	41 (20.5%)	62 (31%)	25 (12.5%)	38 (54.28%)	12 (6%)	25 (35.71 %)	69 (34.5%)
Recreational knowledge	38 (19%)	64 (32%)	21 (10.5%)	33 (16.5%)	26 (37.14%)	39 (19.5%)	11 (15.71%)	28 (14%)
General knowledge	21 (10.5%)	31 (15.5%)	15 (7.5%)	21 (10.5%)	15 (21.42%)	28 (14%)	17 (24.28%)	26 (13%)
Mean	67.57	67.43	59.57	48.29	27.29	50.86	24.57	43.00
SD	39.60	40.63	41.82	28.28	12.08	38.40	13.62	19.60

(Figures within parenthesis represent percentage) (Multiple responses were permitted)

Table number 4.3.3 clearly shows that the major purpose of information needed by the RS in different institutions admitted using information needed for research work, (71.5%), (69%), (70%) and (68.57%) in IITD, IITR,IIML and IIMI respectively,. Table data also shows low percentage of information needed by PG students, (27%) in

IITR, (25.5%) in IITD, (29.5%) in IIML and (18.5%) in IIMI, admitted using information needed for research work.

Furthermore, it founds that a higher percentage of researchers in IIMI (54.28%) accepted that the major purpose of information needed to publish research papers than IITD (44%), IITR (39.4%) and IIML (34.28%) information needed to publish research papers.

Researchers and PG students work always involves keeping abreast of the recent developments in their respective fields and it can be clearly depicted from the table 4.3.3 that, a percentage of the researchers from the select institutes under the study acknowledged using purpose of information needed by the RS to be research work for Assignment i.e. (26.50%) in IITD, (19%) in IITR, (25.71%) in IIML and (20%) in IIMI.

Furthermore, it founds that a higher percentage of PG students of IITD (72.5%) accepted that the major purpose of information needed to study purpose, PGS of IITR (46%), IIML (56%) and IIMI (31.5%).

It can be seen from the data that (54.28%) RS in IIML, accepted that the major purpose of information needed to attend seminar/workshop is higher, (34.5%) in IITD, (31%) in IITR and (35.71%) in IIMI. The data further reveals that the use of the major purpose of information needed to attending seminar/workshop by PG students of IIMI (34.5%) was more on priority as compared to PG students (20.5%) in IITD, (12.5%) in IITR and (6%) in IIML admitted purpose of information needed to attending seminar/workshop.

Whereas, in case of Recreational knowledge (37.14%) RS in IIML was higher than (19%) in IITD, (10.5%) in IITR and 15.71%) in IIMI accepted purpose of information needed for the purpose of Recreational knowledge.

It can be seen from the data that (32%) PG students of IITD use of the major purpose of information needed of Recreational knowledge is higher than PGS, (16.5%) in IITR, (19.5%) in IIML and (14%) in IIMI accepted purpose of information needed for the purpose of Recreational knowledge.

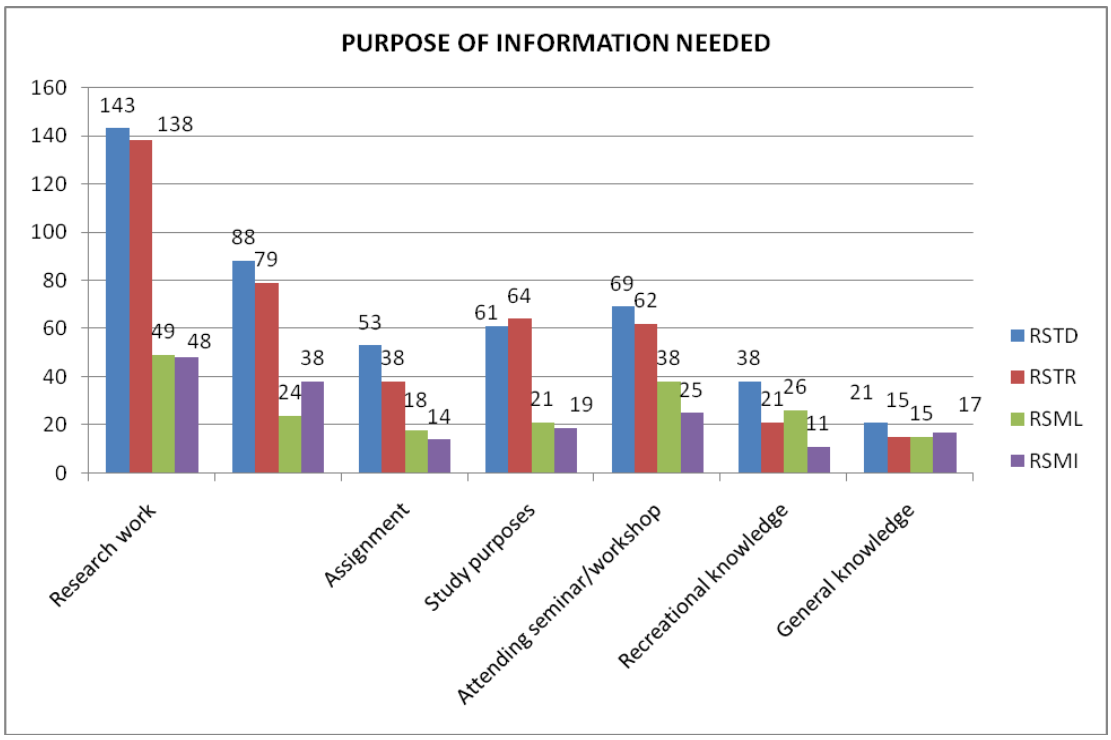
It can be seen from data that (24.28%) RS in IIMI use of the major purpose of information needed of General knowledge is higher in compare to (10.5%) RS in IITD, (7.5%) RS in (IITR), and (21.42) RS in IIML accepted purpose of information needed for the purpose of General Knowledge.

Whereas, only a very small percentage of PG students (15.5%) in IITD, (10.5%) in IITR, (14%) in IIML and (13%) in IIMI stated that purpose of information needed for General Knowledge.

Statistical Inference

The majority of RS purpose of information needed for Research work moreover (71.5%) in IITD, in IITR (69%), IITML (70%) and IIMI (68.57%). Similarly in case of PG students purpose of information needed for Study Purpose moreover (72.5%) in IITD, (46%) in IITR, (56%) in IIML and (31.5%) in IIMI.

Correlation Table also shows that PURPOSE OF INFORMATION NEEDED of IITs RS (.988), IITs PGS (.924) is more than purpose of information needed IIMs RS (.722), IIMs PGS (.453). IIMs PG correlation is less than 50% which shows PG students are not much interested for information needed.



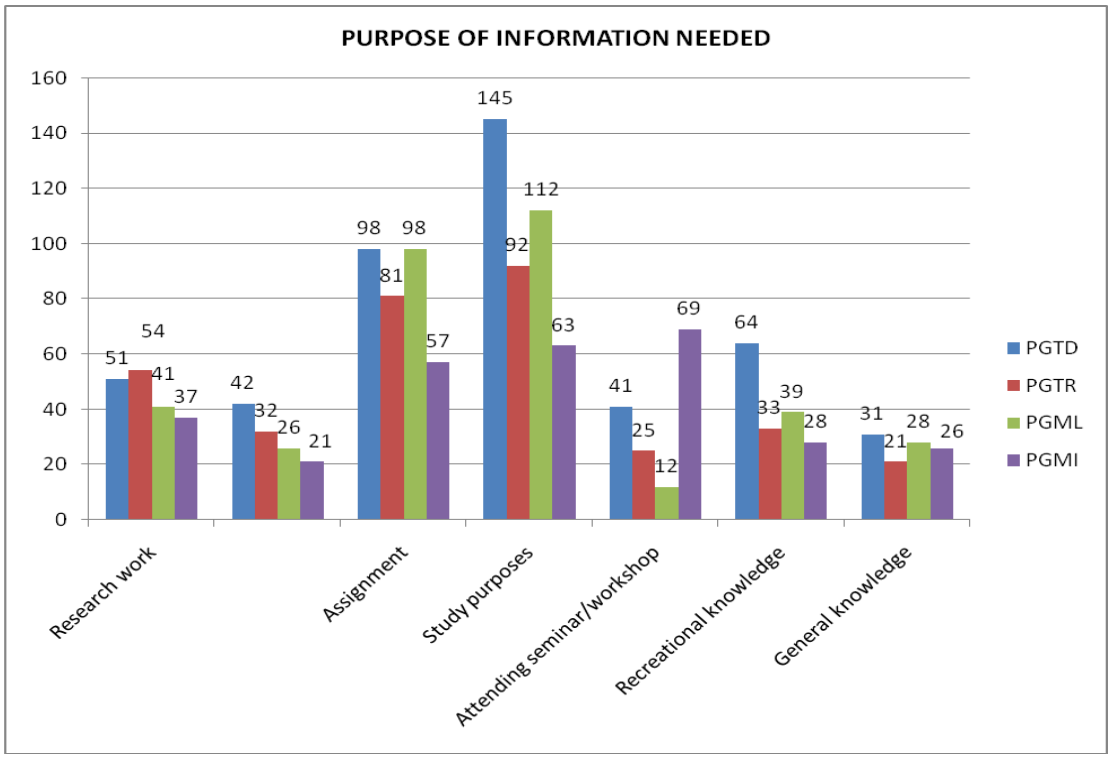


TABLE 4.3.4: FREQUENTLY USED INFORMATION SOURCES

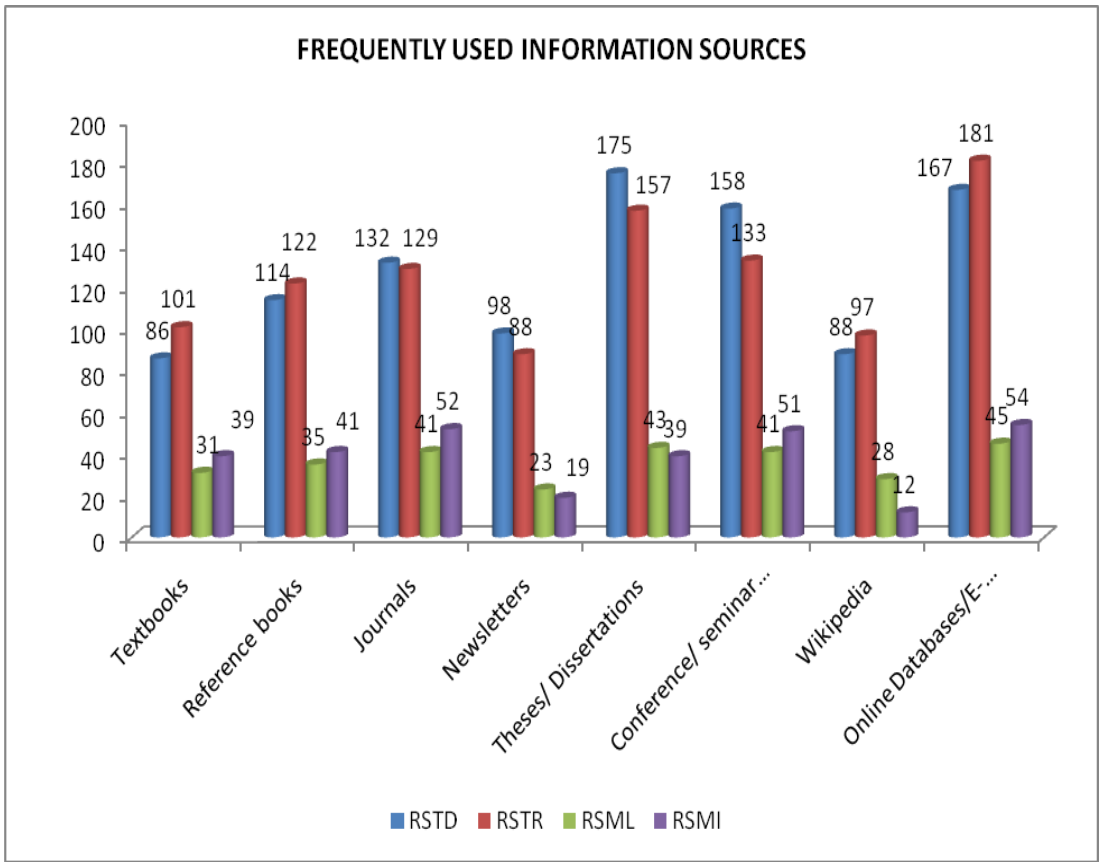
Information Sources	IITD		IITR		IIML		IIMI	
	RS N=200	PGS N=200	RS N=200	PGS N=200	RS N=70	PGS N=200	RS N=70	PGS N=200
Textbooks	86 (43%)	181 (90.5%)	101 (50.5%)	165 (82.5%)	31 (44.28 %)	172 (86%)	39 (55.71%)	177 (88.5%)
Reference books	114 (57%)	123 (61.5%)	122 (61%)	118 (59%)	35 (50%)	154 (77%)	41 (58.57%)	132 (66%)
Journals	132 (66%)	85 (42.5%)	129 (64.5%)	81 (40.5%)	41 (58.57 %)	109 (54.5%)	52 (74.28%)	98 (49%)
Newsletters	98 (49%)	74 (37%)	88 (44%)	56 (28%)	23 (32.85 %)	86 (43%)	19 (27.14%)	45 (22.5%)
Theses/ Dissertations	175 (87.5%)	73 (36.5%)	157 (78.5%)	78 (39%)	43 (61.42 %)	87 (43.5%)	39 (55.71%)	71 (35.5%)
Conference/ seminar proceedings	158 (79%)	87 (43.5%)	133 (66.5%)	83 (41.5%)	41 (58.57 %)	91 (45.5%)	51 (72.85%)	88 (44%)
Wikipedia	88 (44%)	88 (44%)	97 (48.5%)	71 (35.5%)	28 (40%)	52 (26%)	12 (17.14%)	55 (27.5%)
Online Databases/E-journals/E-books, etc	167 (83.5%)	172 (86%)	181 (90.5%)	157 (78.5%)	45 (64.28 %)	162 (81%)	54 (77.14%)	189 (94.5%)
Mean	127.25	110.38	126.00	101.13	35.88	114.13	38.38	106.88
SD	36.06	43.68	31.55	40.88	7.92	43.39	15.44	54.16

(Multiple answers permitted)

Table 4.3.4 shows the awareness of research scholars and postgraduate students with different sources of information which were frequently used by them. The data reveals that text books were frequently used by research scholars of IIMI, i.e. 39 (55.71%), 101 (50.5%) of IITR, 31 (44.28%) IIML, and 86 (43%) of IITD while the majority of the postgraduate students of IITD, i.e. 181 (90.5%), 177 (88.5%) of IIMI, 172 (86%) of IIML and 165 (82.5%) of IITR used textbooks for their course work. Research scholars of IITD, i.e. 158 (79%) more than IIMI 51(72.85%), IITR 133 (66.5%), and IIML 41 (58.57%) observed that conference and seminar papers were the best sources to collect the information while the majority of the postgraduate students of IIML, i.e. 91 (45.5%) than IIMI 88 (44%), IITD 87 (43.5%), and IITR 83 (41.5%) used the conference and seminar proceedings. The study indicates that the majority of the research scholars of IITR, i.e. 181 (90.5%) more than IITD 167 (83.5%), IIMI 54 (77.14%) and IIML 45 (64.28%) observed that online databases, e-journals and e-books were the best sources while the majority of the postgraduate students of IIMI, i.e. 189 (94.5%) more than IITD 172 (86%), IIML 162 (81%) and IITR 157 (78.5%) used online databases for their study. Thus, the most used information source was online databases (94.5%), while the least used source was newsletters (17.14%).

Statistical Inference

The majority of RS frequently used information sources for theses/Dissertation moreover (87.5%) in IITD, in IITR (73.5%), IIML (61.42%) and IIMI (55.71%). The majority of PG students frequently used information sources for Textbooks (90.5%) in IITD, (82.5%) in IITR, (86%) in IIML and (88.5%) in IIMI.


FREQUENTLY USED INFORMATION SOURCES
200
180
160
140
120
100
80
60
40
20
0
86 101 31 39
114 122 35 41
132 129 41 52
98 88 23 19
175 157 43 39
158 133 41 51
88 97 28 12
167 181 45 54
Textbooks
Reference books
Journals
Newsletters
Theses/ Dissertations
Conference/ seminar...
Wikipedia
Online Databases/E-...
RSTD RSTR RSML RSMI

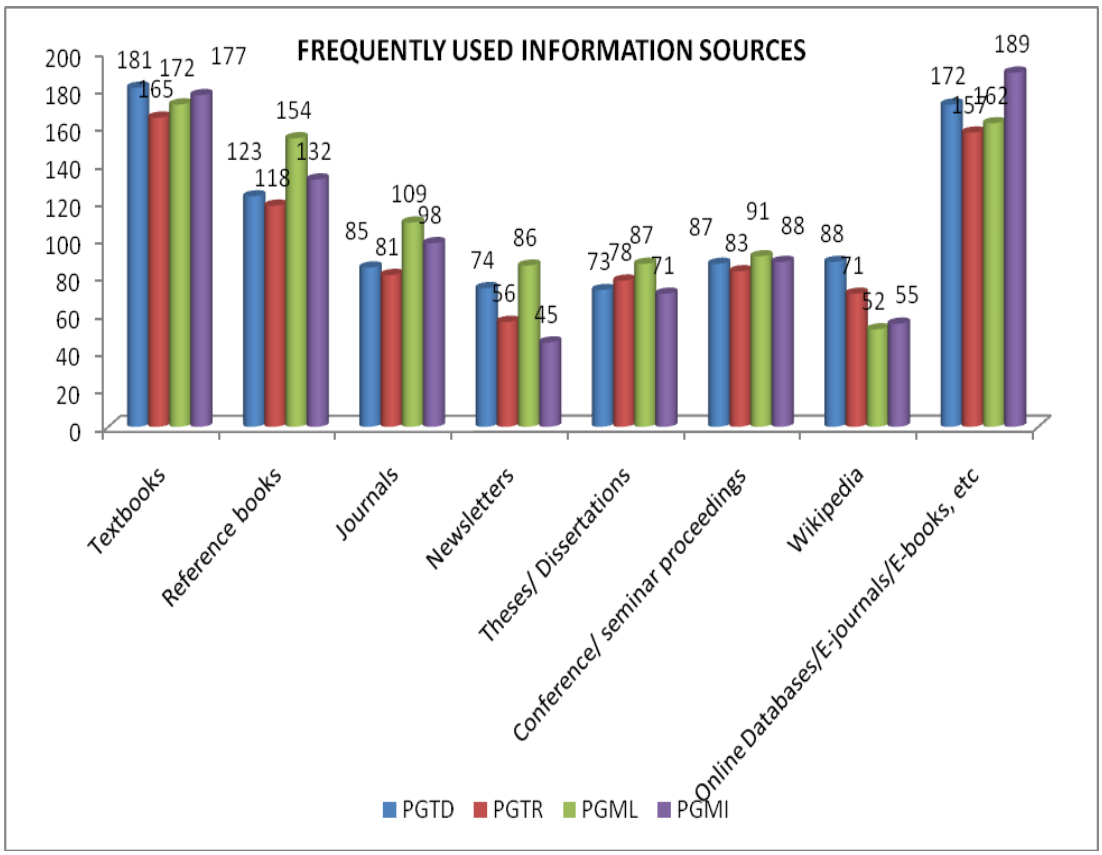

FREQUENTLY USED INFORMATION SOURCES
200
180
160
140
120
100
80
60
40
20
0
181 165 172 177
123 118 154 132
85 81 109 98
74 56 86 45
73 78 87 71
87 83 91 88
88 71 52 55
172 157 162 189
Textbooks
Reference books
Journals
Newsletters
Theses/ Dissertations
Conference/ seminar proceedings
Wikipedia
Online Databases/E-journals/E-books, etc
PGTD PGTR PGML PGMI

TABLE 4.3.5: FAMILIARITY WITH INFORMATION LITERACY

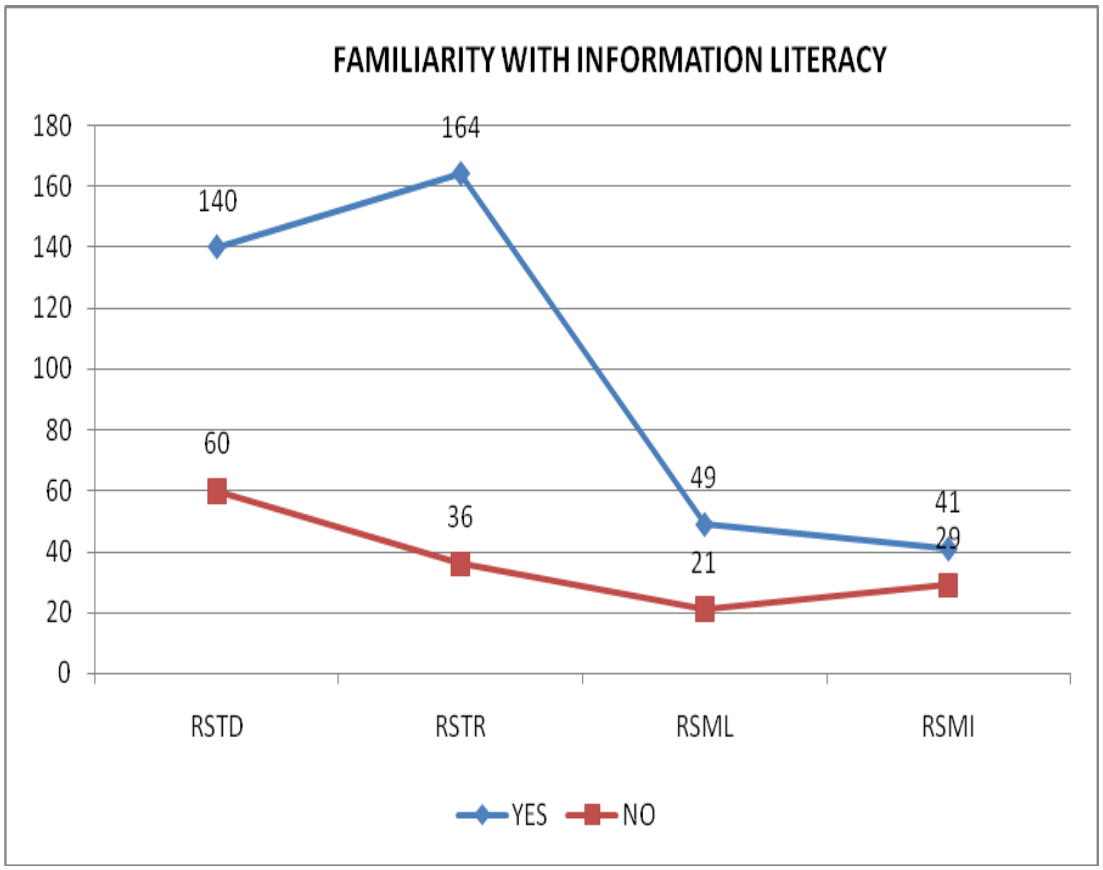
Response	IITD		IITR		IIML		IIMI	
	RS N=200	PGS N=200	RS N=200	PGS N=200	RS N=70	PGS N=200	RS N=70	PGS N=200
Yes	140 (70%)	154 (77%)	164 (82%)	119 (59.5%)	49 (70%)	137 (68.5%)	41 (58.57%)	129 (64.5%)
No	60 (30%)	46 (23%)	36 (18%)	81 (40.5%)	21 (30%)	63 (31.5%)	29 (41.43%)	71 (35.5%)
Mean	100.00	100.00	100.00	100.00	35.00	100.00	35.00	100.00
SD	56.57	76.37	90.51	26.87	19.80	52.33	8.49	41.01

(IF YOU TAKE ONLY YES, THEN SD WILL NOT BE CALCULATED)

Before accessing the information literacy skills of the research scholars and postgraduate students of the selected libraries, it is necessary to know from users whether they are familiar with information literacy. It is clear from Table 5.3.3 that research scholars 140 (70%) and postgraduate students 154 (77%) of IITD were familiar with information literacy, while 60 (30%) of the research scholars and 46 (23%) postgraduate students were not familiar with information literacy. In IITR, 164 (82%) research scholars and 119 (59.5%) postgraduate students were familiar with information literacy, while 36 (18%) of the research scholars and 81 (40.5%) postgraduate students were not. 49 (70%) of research scholars and 137 (68.5%) of postgraduate students of IIML were familiar with information literacy, while 21 (30%) of research scholars and 63 (31.5%) postgraduate students were not.

Statistical Inference

Majority of IITR RS respond “familiarity with information literacy” is maximum (82%), IITD RS and IIML RS (69%), IIMI (58.57%). In contrast, IITD PG students familiarity with information literacy moreover (77%), (59.5%) in IITR, (68.5%) in IIML and (64.5%) in IIMI.


FAMILIARITY WITH INFORMATION LITERACY
180
160
140
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100
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40
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140
164
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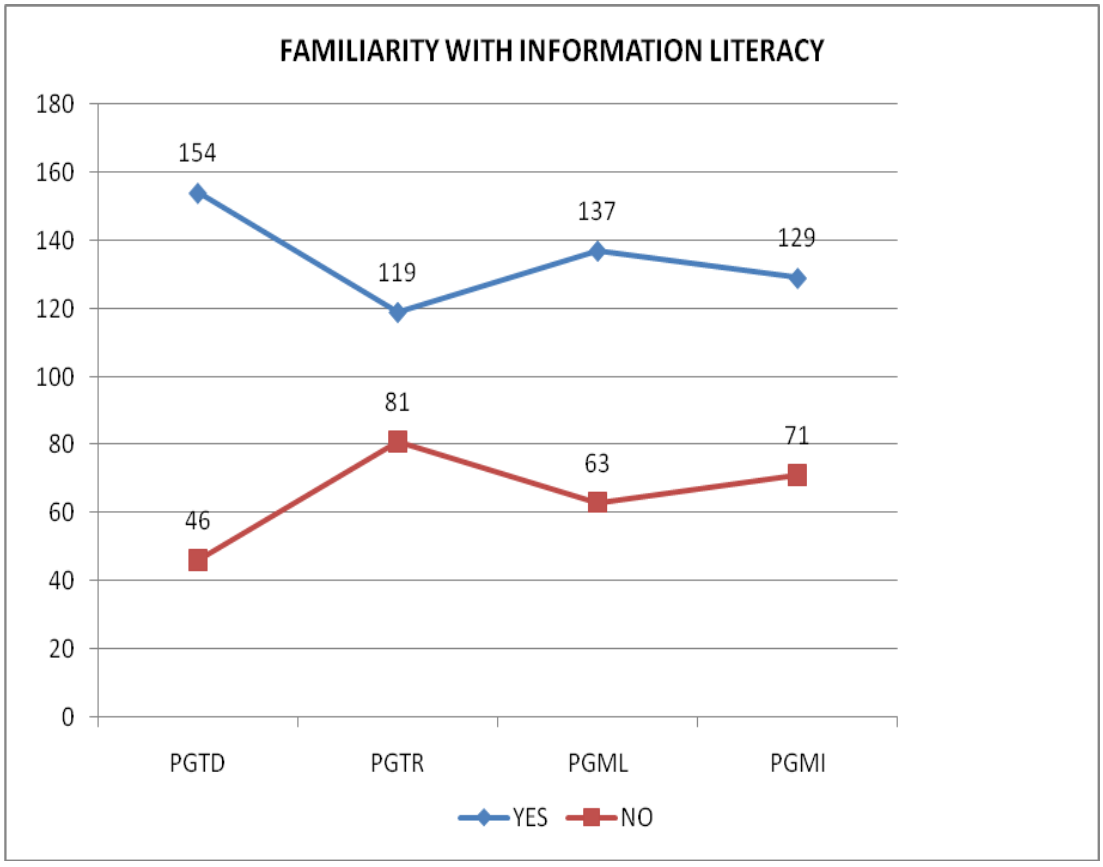
41
60
36
21
29
RSTD
RSTR
RSML
RSMI
YES
NO


FAMILIARITY WITH INFORMATION LITERACY
180
160
140
120
100
80
60
40
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0
154
119
137
129
81
46
63
71
PGTD
PGTR
PGML
PGMI
YES
NO

TABLE 4.3.6 ABILITY TO ACCESS INFORMATION IN DIFFERENT FORMATS

Medium	IITD						IITR						IIML						IIMI					
	RS N=200			PGS N=200			RS N=200			PGS N=200			RS N=70			PGS N=200			RS N=70			PGS N=200		
	H	A	L	H	A	L	H	A	L	H	A	L	H	A	L	H	A	L	H	A	L	H	A	L
Print	123 (61.5 %)	60 (30 %)	17 (8.5%)	122 (61 %)	61 (30.5 %)	17 (8.5%)	92 (46 %)	76 (38%)	32 (16%)	97 (48.5 %)	66 (33%)	37 (18. 5%)	42 (60%)	21 (30%)	7 (10%)	113 (56.5 %)	55 (27.5 %)	32 (16 %)	41 (58.5 7%)	23 (32.8 5%)	6 (8.57%)	107 (53.5 %)	69 (34.5 %)	24 (12%)
Electronic	89 (44.5 %)	74 (37 %)	37 (18.5 %)	84 (42 %)	87 (43.5 %)	29 (14.5 %)	90 (45 %)	79 (39.5 %)	31 (15.5 %)	92 (46%)	76 (38%)	32 (16 %)	40 (57.1 4%)	24 (34.2 8%)	6 (8.57 %)	102 (51%)	68 (34%)	30 (15 %)	40 (57.1 4%)	21 (30%)	9 (12.85 %)	104 (52%)	71 (35.5 %)	25 (12.5 %)
Mean	106. 00	67. 00	27.00	103. 00	74.0 0	23.00	91. 00	77.5 0	31.50	94.5 0	71.00	34. 50	41.00	22.50	6.50	107. 50	61.5 0	31.0 0	40.50	22.00	7.50	105. 50	70.0 0	24.5 0
SD	24.0 4	9.9 0	14.14	26.8 7	18.3 8	8.49	1.4 1	2.12	0.71	3.54	7.07	3.5 4	1.41	2.12	0.71	7.78	9.19	1.41	0.71	1.41	2.12	2.12	1.41	0.71

H=High, A=Average, L=Low

Table 4.3.6 depicts that the majority of the research scholars of IITD 61.5%, 60% of IIML, 58.57% of IIMI and 46% of IITR rated their skills highly for accessing information in print format. The majority of the postgraduate students of IITD 61% , 56.5% of IIML, 53.5% of IIMI and 48.5% of IITR rated their skills highly for accessing information in print format.

For accessing information in electronic format, most of the research scholars of IIML and IIMI 57.14%, 45% of IITR and 44.5% of IITD rated their skills highly whereas most of the research scholars of IITR 39.5%, 37% of IITD, 34.28% of IIML and 30% of IIMI rated their skills as average. On the other hand, a high percentage of the postgraduate students of IIMI 57.14%, 51% of IIML 46% of IITR and 42% of IITD rated their skills highly for accessing accurate information in electronic format. It is clear from the table that for accessing information in print format, the majority of the research scholars and postgraduate students rated their skills highly. For accessing information in electronic format, a high percentage of research scholars rated their skills highly, whereas most of the postgraduate students rated their skills as average except for IITR.

Statistical Inference

RS and PG students of IITD, IITR, IIML and IIMI prefer Print medium to access information.

TABLE 4.3.7: COMPUTER LITERACY SKILLS

Skills	IITD						IITR						IIML						IIMI					
	RS N=200			PGS N=200			RS N=200			PGS N=200			RS N=70			PGS N=200			RS N=70			PGS N=200		
	H	A	L	H	A	L	H	A	L	H	A	L	H	A	L	H	A	L	H	A	L	H	A	L
Print Document file	112 (56%)	75 (37.5%)	13 (6.5%)	104 (52%)	81 (40.5%)	15 (7.5%)	109 (54.5%)	71 (35.5%)	20 (10%)	102 (51%)	89 (44.5%)	9 (4.5%)	41 (58.57%)	24 (34.28%)	5 (7.15%)	114 (57%)	75 (37.5%)	11 (5.5%)	41 (58.57%)	22 (31.42%)	7 (10%)	108 (54%)	80 (40%)	12 (6%)
Open and save file	103 (51,5%)	86 (43%)	11 (5.5%)	98 (49%)	87 (43.5%)	15 (7.5%)	125 (62.5%)	71 (35.5%)	4 (2%)	129 (64.5%)	69 (34.5%)	2 (1%)	43 (61.42%)	21 (30%)	6 (8.58%)	128 (64%)	68 (34%)	4 (2%)	41 (58.57%)	23 (32.85%)	8 (4%)	121 (60.5%)	70 (35%)	9 (4.5%)
Make a spreadsheet	112 (56%)	79 (39.5%)	9 (4.5%)	88 (44%)	97 (48.5%)	15 (7.5%)	109 (54.5%)	78 (39%)	13 (6.5%)	87 (43.5%)	99 (49.5%)	14 (7%)	41 (58.58%)	21 (30%)	8 (11.42%)	79 (39.5%)	107 (53.5%)	14 (7%)	43 (61.42%)	17 (24.28%)	10 (14.30%)	81 (40.5%)	110 (55%)	9 (4.5%)
Copy/ transfer file	98 (49%)	82 (41%)	20 (10%)	111 (55.5%)	78 (39%)	11 (5.5%)	118 (59%)	71 (35.5%)	11 (5.5%)	104 (52%)	84 (42%)	12 (6%)	38 (54.28%)	19 (27.14%)	13 (18.58%)	115 (57.5%)	69 (34.5%)	16 (8%)	42 (60%)	23 (32.85%)	5 (7.15%)	134 (67%)	61 (30.5%)	5 (2.5%)
Draw picture	87(43.5%)	98 (49%)	15 (7.5%)	86 (43%)	109 (54.5%)	5 (2.5%)	98 (49%)	87 (43.5%)	15 (7.5%)	88 (44%)	91 (45.5%)	21 (10.5%)	35 (50%)	22 (31.42%)	13 (18.58%)	98 (49%)	78 (39%)	24 (12%)	41 (58.57%)	27 (38.57%)	2 (2.86%)	96 (48%)	102 (51%)	2 (1%)
Make power point presentation (PPT)	104 (52%)	88 (44%)	8 (4%)	87 (43.5%)	78 (39%)	35 (17.5%)	99 (49.5%)	83 (41.5%)	18 (9%)	114 (57%)	80 (40%)	6 (3%)	37 (52.85%	22 (31.42%)	11 (15.71%)	112 (56%)	79 (39.5%)	9 (4.5%)	26 (37.15%)	39 (55.71%)	5 (7.14%)	88 (44%)	101 (50.5%)	11(5,5%)
Mean	102.67	84.67	12.67	95.67	88.33	16.00	109.67	76.83	13.50	104.00	85.33	10.67	39.17	21.50	9.33	107.67	79.33	13.00	39.00	25.17	6.17	104.67	87.33	8.00
SD	9.42	8.04	4.41	10.37	12.42	10.10	10.54	7.00	5.68	15.96	10.29	6.62	2.99	1.64	3.50	16.98	14.29	6.81	6.42	7.49	2.79	20.26	19.82	3.79

H=High, A=Average, L=Low

Table 4.3.7 shows the level of computer literacy skills of the research scholars and postgraduate students of selected libraries. Most of the research scholars of IIML and IIMI (58.57%), IITD (56%), and IITR (54.5%) rated their skills highly in print document files, while majority of the postgraduate students of IIML (57%), IIMI (54%), IITD (52%) and IITR (51%) rated their skills highly. On the other hand, most of the research scholars of IITR (62.5%), IIML (61.42%), IIMI (58.57%) and IITD (51.5%) rated their skills highly in opening and save files in the computer. For making spreadsheets, the majority of the research scholars of IIMI (61.42%), IIML (58.58%), IITR (54.5%) and IITD (56%) rated their skills highly whereas postgraduate students of IIML (58.58%), IIMI (55%), IITR (49.5%), and IITD (48.5%) rated their skills as average in making spreadsheets in the computer. The majority of the research scholars of IIMI (60%), IITR (59%), IIML (54.28%), and IITD (49%) rated their skills highly in copying and transferring files in the computer, while postgraduate students of IIMI (67%), IIML (57.5%), IITD (55.5%) and IITR (52%) rated their skills highly. The maximum number of research scholars of IIMI (58.57%), IIML (50%), IITR (49%), and IITD (43.5%) rated their skills highly in drawing pictures whereas postgraduate students of IIML (49%), IIMI (48%), IITR (44%) and IITD (43%) rated highly in drawing pictures. In making power point presentations, the majority of the research scholars of IIML (52.85%), IITD (52%), IITR (49.5%) rated their skills highly except IIMI (55.71%) rated skills as average in making PPT while postgraduate students of IITR (57%), IIML (56.5%), and IITD (43.5%) rated their skills highly except IIMI (50.5%) who rated their skills as average.

It can be concluded that based on the above data the number of research scholars of IIML and IIMI (58.57%) rated their skills highly in printing document files, IITR (62.5%) in opening and saving files, IIMI (61.42%) in making spreadsheets, IIMI (60%) in copying and transferring files, IIMI (58.57%) in drawing pictures rated their skills highly except for power point presentations rated their skills as average, whereas postgraduate students of IIMI (54%), IITR (64.5%), IIMI (67%), IIML (49%) rated their skills highly in printing document files, opening and saving files, copying and transferring files and picture drawing. The majority of postgraduate students of IIML (58.58%) and IIMI (55%), IITR (49.5%) and IITD (48.5%) rated

their skill average in spreadsheet making and IIMI (50.5%) rated their skills as average in Power Point presentations.

Statistical Inference

Majority of RS and PG students of IITD, IITR, IIML and IIMI rated their skills highly in make a spreadsheet.

TABLE 4.3.8: FAMILIARITY WITH SOCIAL MEDIA PLATFORM

Social Media Platforms	IITD		IITR		IIML		IIMI	
	RS N=200	PGS N=200	RS N=200	PGS N=200	RS N=70	PGS N=200	RS N=70	PGS N=200
Facebook	134 (67%)	141 (70.5%)	113 (56.5%)	139 (69.5%)	43 (61.42%)	87 (43.5%)	49 (70%)	97 (48.5%)
Twitter	97 (48.5%)	76 (38%)	82 (41%)	55 (27.5%)	32 (45.71%)	75 (37.5%)	41 (58.6%)	72 (36%)
What Apps	145 (72.5%)	123 (61.5%)	135 (67.5%)	161 (80.5%)	52 (74.28%)	132 (66%)	55 (78.6%)	121 (60.5%)
Orkut	87 (43.5%)	57 (28.5%)	69 (34.5%)	48 (24%)	21 (30%)	78 (39%)	7 (10%)	15 (7.5%)
Blogs	145 (72.5%)	102 (51%)	99 (49.5%)	96 (48%)	45 (64.28%)	98 (49%)	36 (51.4%)	124 (62%)
Worldflot	57 (28.5%)	21 (10.5%)	13 (6.5%)	0	1 (1.42%)	15 (7.5%)	0	3 (1.5%)
Any other	0	2 (1%)	0	2 (1%)	0	0	0	0
Mean	95.00	74.57	73.00	71.57	27.71	69.29	26.86	61.71
SD	53.32	51.57	50.24	63.16	21.08	46.42	23.81	55.05

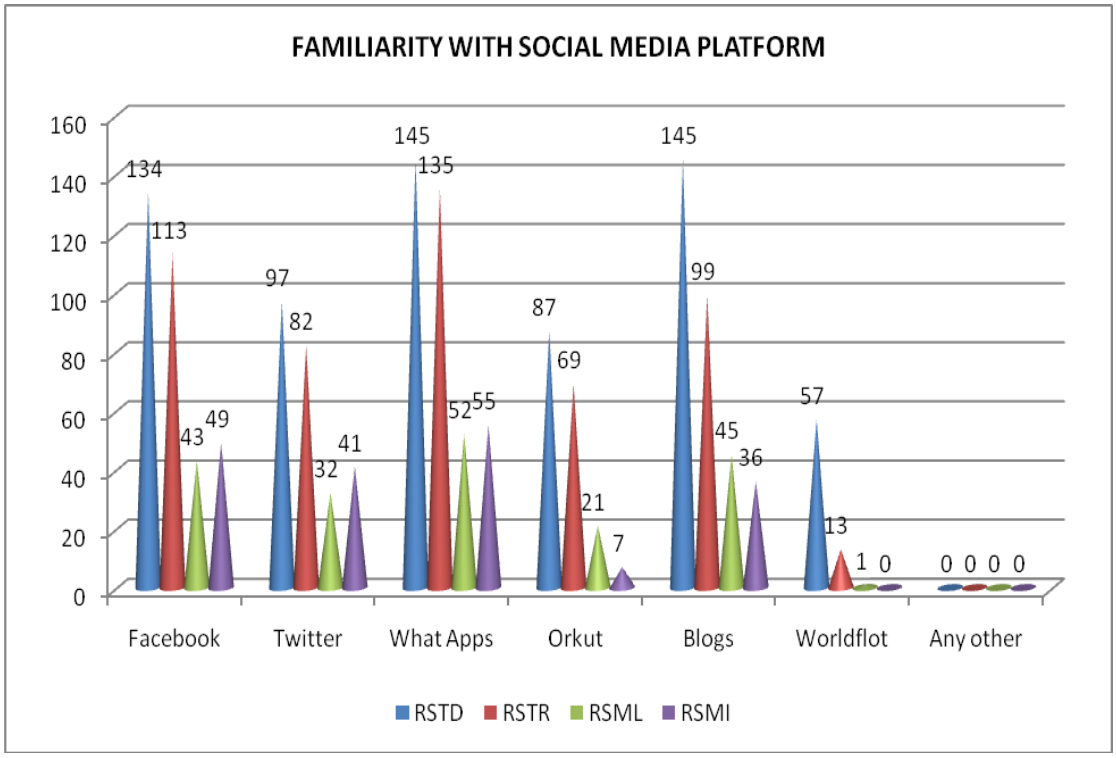
(Multiple Answers permitted)

Social media is fast becoming a regular part of libraries. Its presents many opportunities for libraries, and is reasonably well embedded in library communications. Social media is moving towards a central role in how libraries are communicating with their end users. Table 4.3.8 depicts that among research scholars

of IIMI i.e. 49 (70%), 134 (67%) of IITD, 43, 61.42% of IIML and 113 (56.5%) of IITR used Facebook as their social media platform, whereas postgraduate students of IITD, i.e. 141 (70.5%), 139 (69.5%) of IITR, 97 (48.5%) of IIMI and 87 (43.5%) of IIMI. Most of the research scholars of IITD i.e. 97 (48.5%), 82 (41%) of IITR, 41 (58.57%) of IIMI and 75 (37.5%) of IIML used Twitter as their social media platform, while postgraduate students of IITR, i.e. 76 (38%), 75 (37.5%) of IIML, 72 (36%) of IIMI and 55 (27.5%) of IITR. Majority of the research scholars of IIMI i.e. 55 (78.57%), 52 (74.28%) of IIML, 145 (72.5%) of IITD, 135 (67.5%) of IITR used WhatsApp as a social media platform for their services, whereas postgraduate students of IITR, i.e. 161(80.5%), 132 (66%) of IIML, 123 (61.5%) of IITD, and 121 (60.5%) of IIMI used WhatsApp for their services. The majority of the research scholars of IITD, i.e. 145 (72.5%), 45 (64.28%) of IIML, 36 (51.24%) of IIMI, and 99 (49.5%) of IITR used Blogs as a social media platform, while postgraduate students of IIMI, i.e. 124 (62%), 102 (51%) of IITD, 98 (49%) of IIML and 96 (48%) of IITR used Blogs as a social media platform. All these responses indicate that postgraduate students were more familiar with Facebook, and WhatsApp than the research scholars. Thus, they were able to make use of these social media platforms for their services.

Statistical Inference

Research scholars of institutions prefer What Apps as a social media platforms. IIMI RS response uses more (78.6%), IIML RS (74.28%), IITD RS (72.5%) and IITTR (58.57%). Trend of IIMs PG students uses of What Apps as a social media platforms is slightly more, IITR PG students (80.5%), (66%) in IIML, (61.5%) IITD and (60.5%) IIMI.


FAMILIARITY WITH SOCIAL MEDIA PLATFORM
160
140
120
100
80
60
40
20
0
134
113
43
49
97
82
32
41
145
135
52
55
87
69
21
7
145
99
45
36
57
13
1
0
0 0 0 0
Facebook
Twitter
What Apps
Orkut
Blogs
Worldflot
Any other
RSTD
RSTR
RSML
RSMI

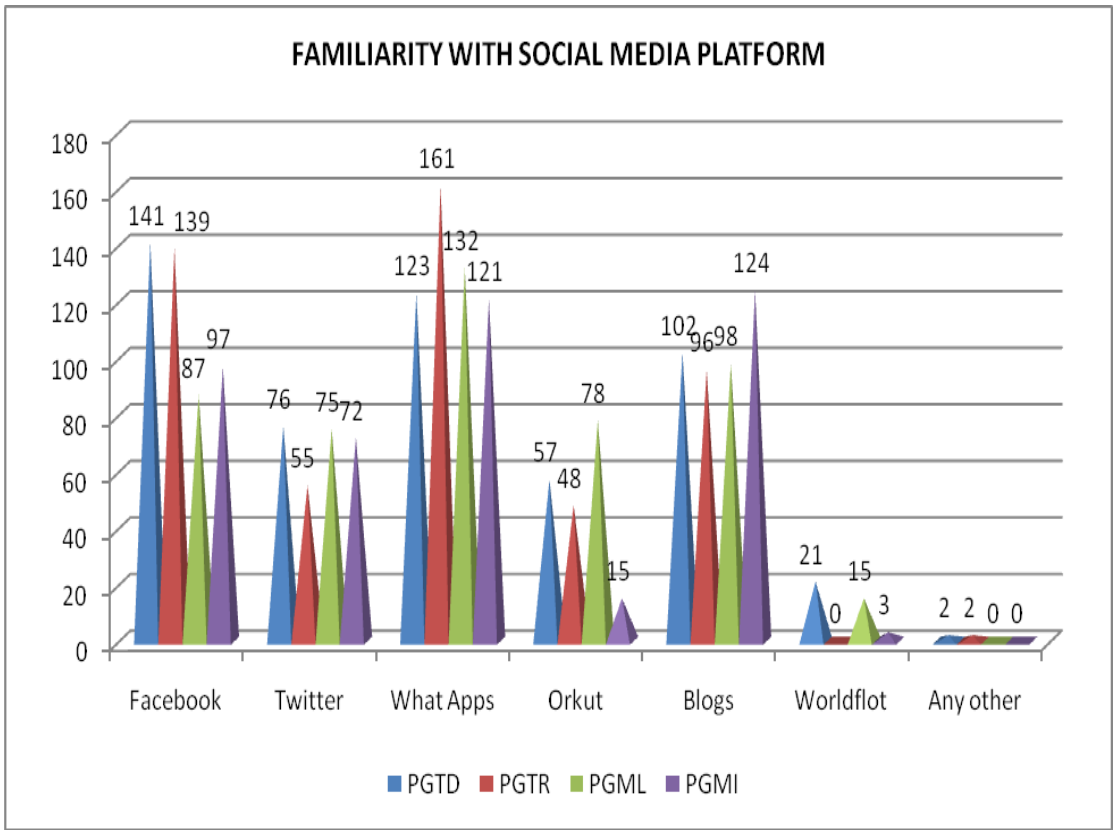

FAMILIARITY WITH SOCIAL MEDIA PLATFORM
180
160
140
120
100
80
60
40
20
0
141
139
87
97
76
55
75
72
161
123
132
121
57
48
78
15
102
96
98
124
21
0
15
3
2 2 0 0
Facebook
Twitter
What Apps
Orkut
Blogs
Worldflot
Any other
PGTD
PGTR
PGML
PGMI

TABLE 4.3.9: FAMILIARITY WITH INTERNET BROWSER

Internet Browser	IITD		IITR		IIML		IIMI	
	RS N=200	PGS N=200	RS N=200	PGS N=200	RS N=70	PGS N=200	RS N=70	PGS N=200
Google Chrome	102 (51%)	97 (48.5%)	81 (40.5%)	113 (56.5%)	53 (75.71%)	132 (66%)	44 (62.85%)	94 (47%)
Mozilla Firefox	86 (43%)	107 (53.5%)	58 (29%)	92 (46%)	32 (45.71%)	54 (27%)	39 (55.71%)	81 (40.5%)
Internet Explorer	78 (39%)	87 (43.5%)	54 (27%)	82 (41%)	26 (37.14%)	83 (41.5%)	41 (58.57%)	72 (36%)
Opera	45 (22.5%)	8 (4%)	7 (3.5%)	18 (9%)	5 (7.14%)	31 (15.5%)	6 (8.57%)	6 (3.5%)
Any other	-	-	-	-	-	-	-	-
Mean	62.20	59.80	40.00	61.00	23.20	60.00	26.00	50.60
SD	40.51	51.50	34.96	49.18	21.46	50.47	21.18	44.20

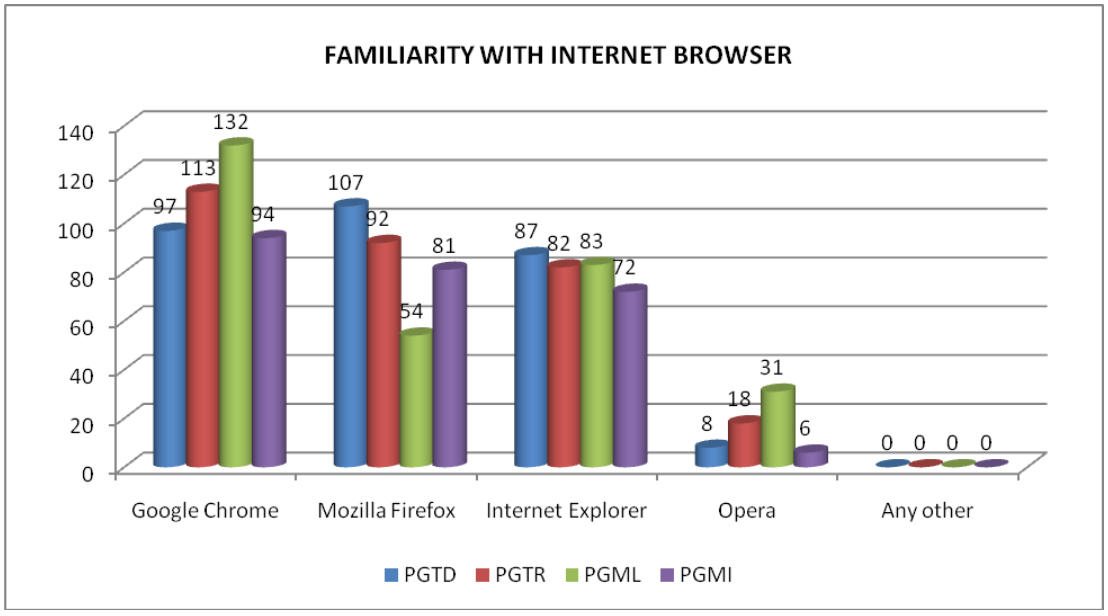
(Multiple Answers permitted)

Table 4.3.9 indicates that the majority of the research scholars of IIML, i.e. 53 (75.71%) more than IIMI 44 (62.85%), IITD 102 (51%), and IITR 81 (40.5%) used Google Chrome, while postgraduate students of IIML, i.e. 132 (66%), IITR 113 (56.5%), IITD 97 (48.5%), and IIMI 94 (47%) used Google Chrome as Internet Browser. The maximum number of research scholars of IIMI, i.e. 39 (55.71%) more than IIML 32 (45.71%), IITD 86 (43%) and IITR 58 (29%) used Mozilla Firefox, while postgraduate student of IITD 107 (53.5%) more than IITR 92 (46%), IIMI 81 (40.5%) and IIML 54 (27%) used Mozilla Firefox as a browser. Most of the research scholars of IIMI, i.e. 41 (58.57%) more than IITD 78 (39%), IIML 26 (37.14%), and IITR 54 (27%) used Internet Explorer as a browser, while postgraduate students of IITD, i.e. 87 (43.5%) more than IIML 83 (41.5%), IITR 82 (41%) and IIMI 72 (36%) used Internet Explorer.

It can be concluded from this table that Google Chrome was more used as browser 38 (54.28%), while the least used browser was Opera 5 (2.5%).

Statistical Inference

Table number 4.3.9 shows that the maximum responses of RS and PG Students of institutions received for the option FAMILIARITY WITH INTERNET BROWSER is "Google Chrome". RS responses are as IIML (75.71%), IITD (51%), IIMI (62.85%), IITR (40.5%) and responses of PG students are (66%), (56.5%), (48.5%), (47%) of IIML, IITR, IITD and IIMI respectively. Furthermore, a similarity seen in the least percentage of responses received for Opera.



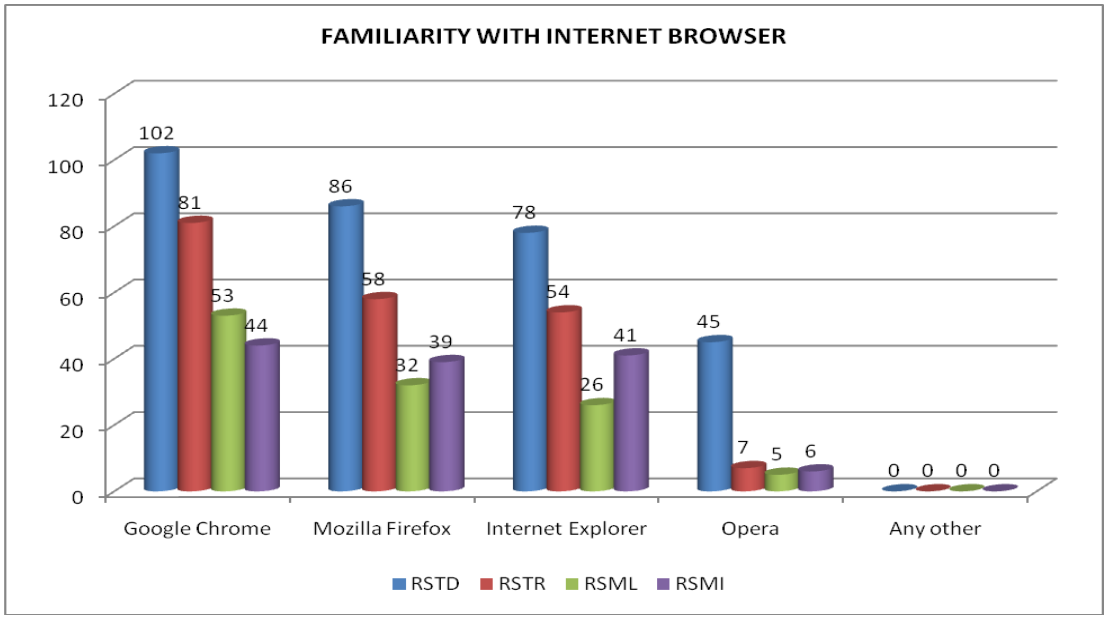


TABLE 4.3.10: FAMILIARITY WITH SEARCH ENGINES

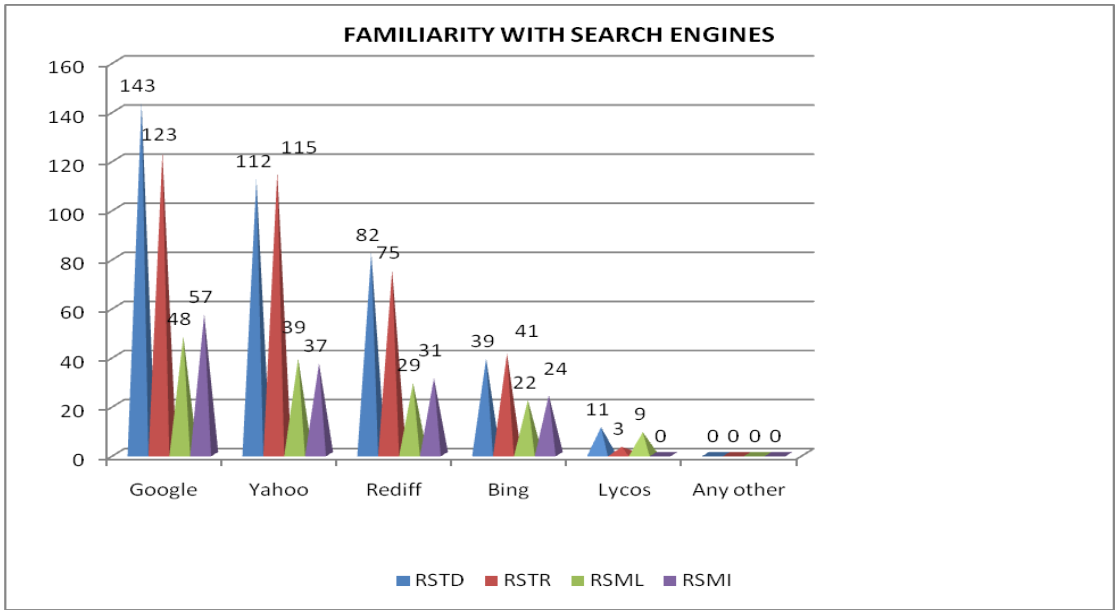
Search Engines	IITD		IITR		IIML		IIMI	
	RS N=200	PGS N=200	RS N=200	PGS N=200	RS N=70	PGS N=200	RS N=70	PGS N=200
Google	143 (71.5%)	133 (66.5%)	123 (61.5%)	156 (78%)	48 (68.57%)	159 (79.5%)	57 (81.42%)	144 (72%)
Yahoo	112 (56%)	97 (48.5%)	115 (57.5%)	123 (61.5%)	39 (55.71%)	141 (70.5%)	37 (52.85%)	98 (49%)
Rediff	82 (41%)	53 (26.5%)	75 (37.5%)	53 (26.5%)	29 (41.42%)	63 (31.5%)	31 (15.5%)	65 (32.5%)
Bing	39 (19.5%)	24 (12%)	41 (20.5%)	37 (18.5%)	22 (31.42%)	27 (13.5%)	24 (12%)	23 (11.5%)
Lycos	11 (5.5%)	6 (3%)	3 (1.5%)	7 (3.5%)	9 (12.85%)	12 (6%)	-	2 (1%)
Any other	-	-	-	-	-	-	-	
Mean	64.50	52.17	59.50	62.67	24.50	67.00	24.83	55.33
SD	57.27	53.27	53.72	63.45	18.05	67.93	22.16	57.84

(Multiple Answers permitted)

Table 4.3.10 shows that search engines were frequently used by the research scholars and postgraduate students of selected libraries. The majority of the research scholars of IIMI, i.e. 57 (81.42%) more than IITD 143 (71.5%), IIML 48 (68.57%) and IITR 123 (61.5%) used Google search engines, while postgraduate students of IIML 159 (79.5%) more than IITR 156 (78%), IIMI 144 (72%) and IITD 133 (66.5%) used Google. The maximum number of research scholars of IITR i.e. 115 (57.5%) more than IITD 112 (56%), IIML 39 (55.71%) and IIMI 37 (52.85%) used Yahoo search engine, while postgraduate students of IIML 141(70.5%) more than IITR 123 (61.5%), IIMI 98 (49%) and IITD 97 (48.5%) used Yahoo search engine. Bing search engine was used more by the research scholars of IIML 22 (31.42%) than postgraduate students.

Statistical Inference

Table number 4.3.10 shows that the maximum responses of RS and PG Students of institutions received for the option familiarity with search engines is "Google". RS responses are as IIMI (81.42%), IITD (71.5%), IITR (61.5%), IIML (68.57%) and responses of PG students are (79.5%), (78%), (72%), (66.5%) of IIML, IITR, IIMI and IITD respectively. Furthermore, a similarity seen in the least percentage of responses received for Lycos.



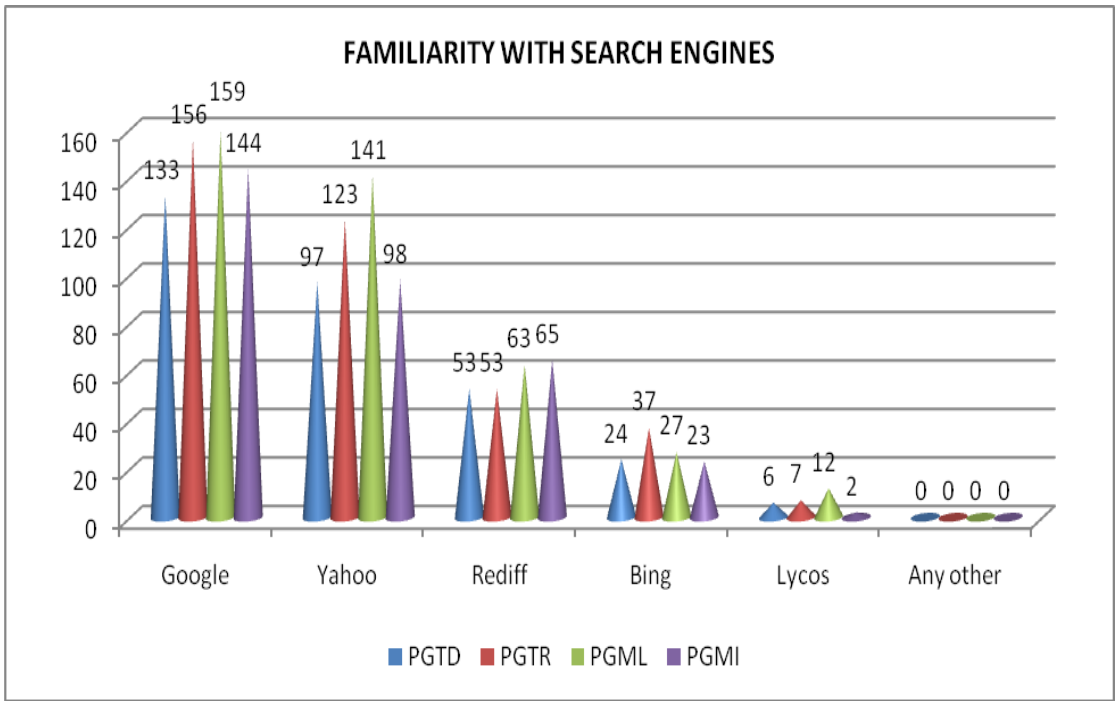


TABLE 4.3.11: TOOLS FOR LOCATING DOCUMENTS ON SHELVES

Options	IITD		IITR		IIML		IIMI	
	RS N=200	PGS N=200	RS N=200	PGS N=200	RS N=70	PGS N=200	RS N=70	PGS N=200
Call Number	38 (19%)	28 (14%)	41 (20.5%)	27 (13.5%)	31 (44.28%)	29 (14.5%)	25 (35.71%)	61 (30.5%)
Title	63 (31.5%)	56 (28%)	47 (23.5%)	49 (24.5%)	12 (17.14%)	44 (22%)	18 (25.73%)	41 (20.5%)
Author	39 (19.5%)	49 (24.5%)	55 (27.5%)	65 (32.5%)	9 (12.85%)	62 (31%)	8 (11.42%)	31 (15.5%)
Subject	60 (30%)	67 (33.5%)	57 (28.5%)	59 (29.5%)	18 (25.73%)	65 (32.5%)	19 (27.14%)	67 (33.5%)
Total	200 (100%)	200 (100%)	200 (100%)	200 (100%)	70 (100%)	200 (100%)	70 (100%)	200 (100%)
Mean	50.00	50.00	50.00	50.00	17.50	50.00	17.50	50.00
SD	13.34	16.43	7.39	16.69	9.75	16.79	7.05	16.85

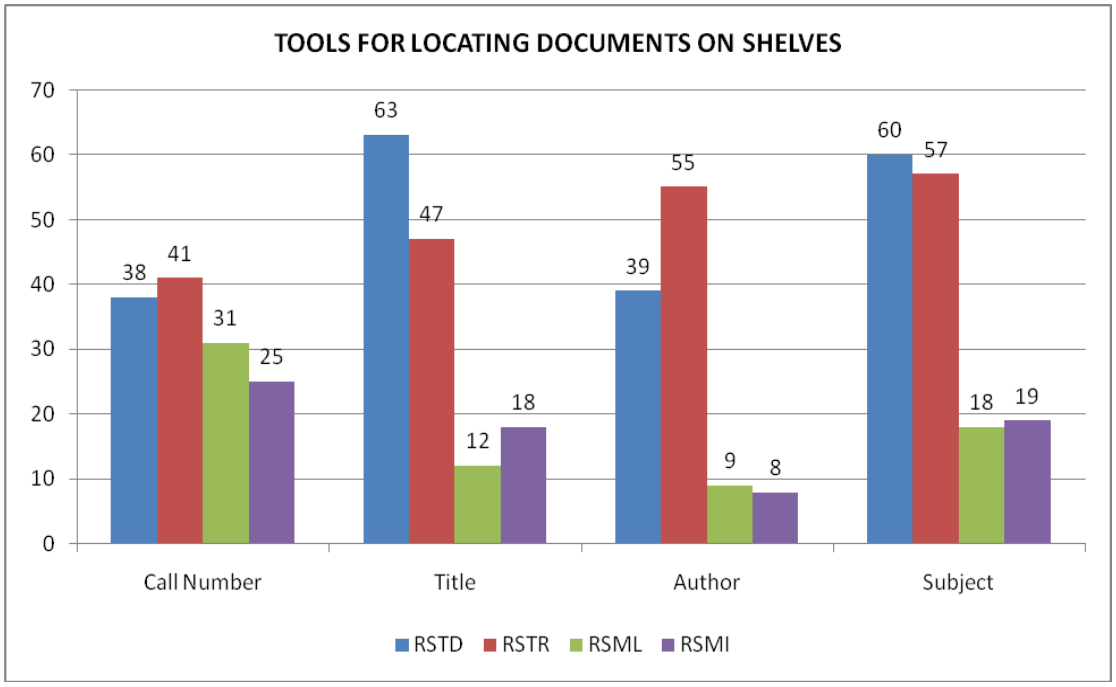
To identify the respondents' awareness with the call number, they were asked what was needed to find a document on the shelves in the library. Table 4.3.11 shows that among research scholars, 31 (44.28%) of IIML, 25 (35.71%) of IIMI, 41 (20.5%) of IITR and 38 (19%) of IITD prefer the correct option 'call number. Among the postgraduate students, 61 (30.5%) of IIMI, 29 (14.5%) of IIML, 28 (14%) of IITD and 27 (13.5%) of IITR prefer the right option.

It is clear from the table that all these responses indicate that research scholars and postgraduate students of IIMI and IIML were more familiar with the call number for locating documents on the shelves than the research scholars and postgraduate students of IITR and IITD. Most of the postgraduate students, 67 (33.5%) of IITD and IIMI, 65 (32.5%) of IIML, 59 (29.5%) of IITR indicated that they searched for books according to the subject of the book while research scholars, 60 (30%) of IITD, 57 (28.5%) IITR, 19 (27.14%) of IIMI and 18 (25.73%) searched for books according to the subject of the books.

Statistical inference

Table 4.3.11 shows that only RS of IITD (31.5%) prefer "Title" for locating documents on shelves, in contrast RS of IITR (28.5%) prefer "Subject" and RS of IIMs prefer "Call number" with (44.28%), (35.71%) IIML, IIMI respectively.

In PGS responses, trend is in contrast. None of institutions PGS prefer "Title". The responses of PGS institutions prefer "Subject" with (33.5%), 29.5%), (32.5%) and (33.5%) of IITD, IITR, IIML and IIMI respectively.



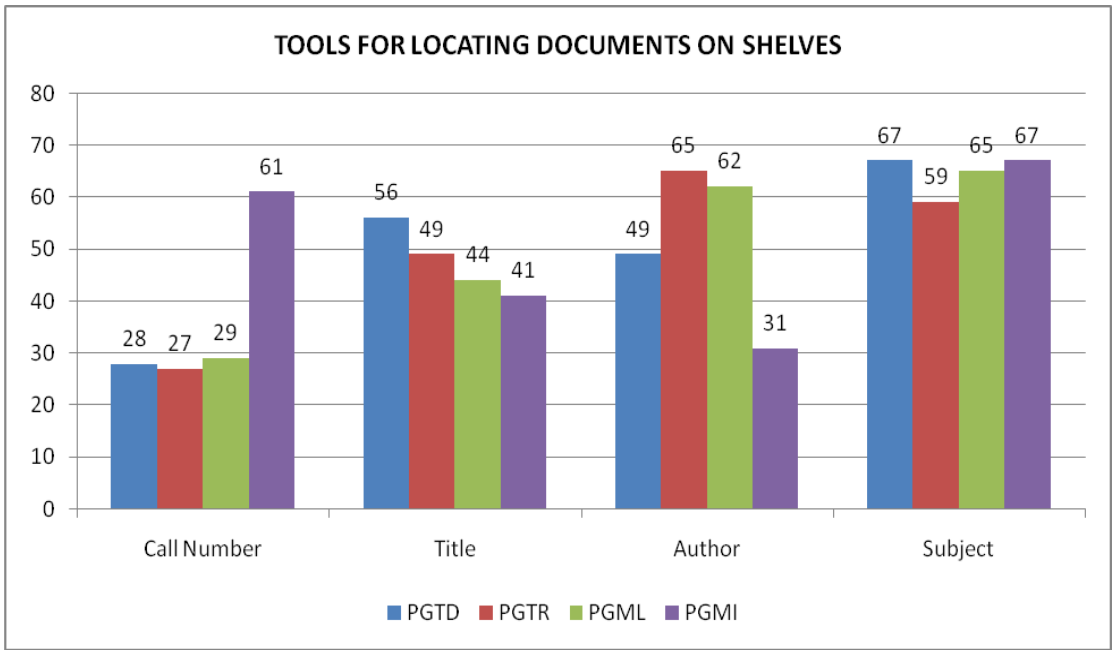


TABLE 4.3.12: AWARENESS OF SEARCH TECHNIQUES AND SRATEGIES

Search Techniques and Strategies	IITD		IITR		IIML		IIMI	
	RS N=200	PGS N=200	RS N=200	PGS N=200	RS N=70	PGS N=200	RS N=70	PGS N=200
Simple Keywords	54 (27%)	77 (38.5%)	45 (22.5%)	69 (34.5%)	33 (47.14%)	74 (37%)	26 (37.14%)	69 (34.5%)
Boolean Operators (AND, OR, NOT)	21 (10.5%)	25 (12.5%)	35 (17.5%)	33 (16.5%)	12 (17.14%)	20 (10%)	8 (11.42%)	29 (14.5%)
Truncation	43 (21.5%)	34 (17%)	31 (15.5%)	36 (18%)	8 (11.44%)	20 (10%)	7 (10%)	17 (8.5%)
Field Search (title, author, subject, etc.)	82 (41%)	64 (32%)	89 (44.5%)	62 (31%)	17 (24.28%)	86 (43%)	29 (41.44%)	85 (42.5%)
Total	200 (100%)	200 (100%)	200 (100%)	200 (100%)	70 (100%)	200 (100%)	70 (100%)	200 (100%)
Mean	50.00	50.00	50.00	50.00	17.50	50.00	17.50	50.00
SD	25.36	24.54	26.66	18.17	10.97	34.99	11.62	32.23

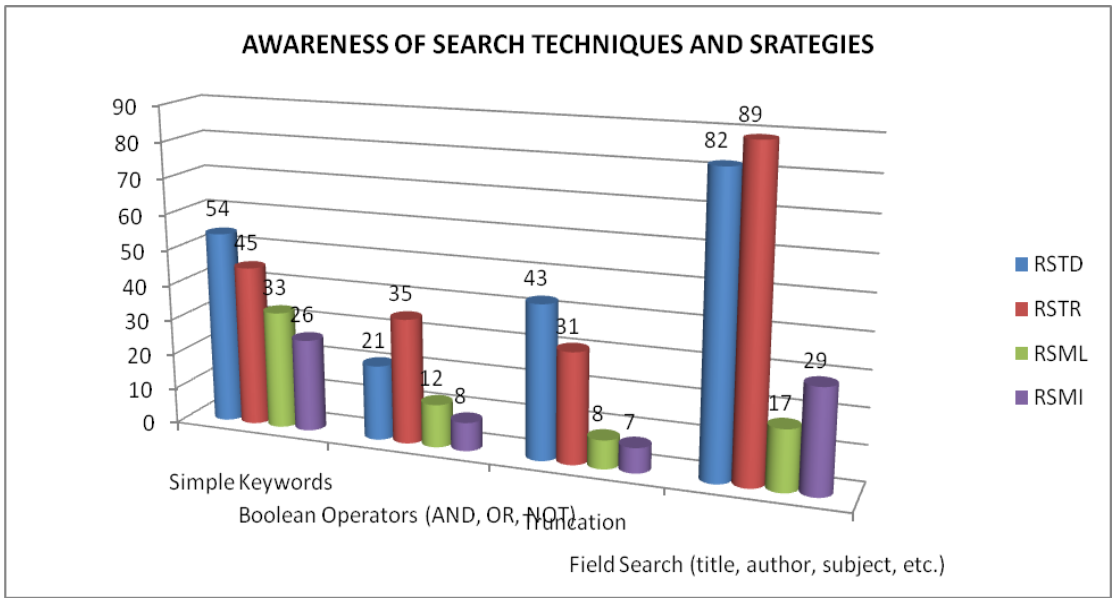
Table 4.3.12 depicts that the majority of research scholars of IIML i.e. 33 (47.14%), 69 (34.5%) of IIMI, 54 (27%) of IITD and 45 (22.5%) of IITR used simple keywords search, while postgraduate students of IITD, i.e. 77 (38.5%), 74 (37%) of IIML, 69 (34.5%) of IIMI and IITD used simple keywords search. The majority of the research scholars of IITR, i.e. 35 (17.5%), 12 (17.14%) of IIML, 8 (11.42%) of IIMI, and 21 (10.5%) of IITD used Boolean operators, while postgraduate students of IITR i.e. 33 (16.5%), 29 (14.5%) of IIMI, 25 (12.5%) of IITD and 20 (10%) of IIML used Boolean operators for searching documents. The number of research scholars of IITR, i.e. 89 (44.5%), 29 (41.44%) of IIMI, 82 (41%) of IITD and 17 (24.28%) of IIML used field search (title, author, subject, etc) while postgraduate students of IIML, i.e. 86 (43%), 85 (42.5%) of IIMI, 64 (32%) of IITD, 61 (31%) of IIT, Roorkee used field search for searching documents. It can be inferred from the data that the field search (title, author, subject, etc.) were used more by the research scholars and postgraduate

students than simple search, and Boolean operators were used less by research scholars and postgraduate students for searching documents.

Statistical Inference

The highest number of RS responses was obtained for Field Search in IITR (44.5%), IIMI (41.44%) , IITD (41%) in contrast RS of IIML (47.14%) responses were obtained for Simple Keywords.

Responses of PGS of all institutes were obtained in reverse of RS responses. PGS responses IITs was obtained for Simple Keywords. IITD (38.5%), IITR (34.5%) in contrast PGS responses of IIMs for Field Search. IIML (43%) and IIMI (42.5%).



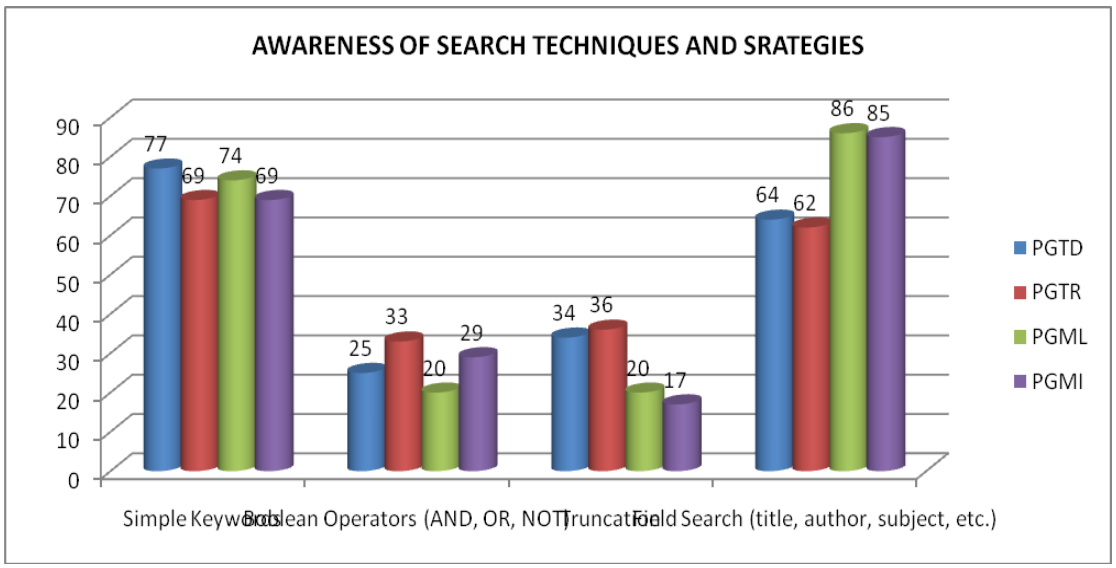


TABLE 4.3.13: INTERNET LITERACY SKILLS

Skills	IITD						IITR						IIML						IIMI					
	RS N=200			PGS N=200			RS N=200			PGS N=200			RS N=70			PGS N=200			RS N=70			PGS N=200		
	H	A	L	H	A	L	H	A	L	H	A	L	H	A	L	H	A	L	H	A	L	H	A	L
Write and send e-mail	113 (56.5 %)	87 (43.5 %)	0 (0%)	103 (51.5 %)	85 (42.5 %)	12 (6%)	92 (46 %)	88 (44 %)	20 (10 %)	111 (55.5 %)	67 (33.5 %)	22 (11 %)	48 (68.5 7%)	22 (31.4 3%)	0 (0%)	98 (49 %)	87 (43.5 %)	15 (7.5 %)	45 (64.2 8%)	19 (27.1 4%)	6 (8.58 %)	116 (58 %)	74 (37 %)	10 (5%)
Attach a file to an e-mail	115 (57.5 %)	76 (38 %)	9 (4.5 %)	97 (48.5 %)	85 (42.5 %)	18 (9%)	107 (53.5 %)	86 (43 %)	7 (3.5 %)	88 (44 %)	71 (35.5 %)	41 (20.5 %)	43 (61.4 2%)	25 (35.7 1%)	2 (2.85 %)	102 (51 %)	82 (41 %)	16 8%)	46 (65.7 4%)	23 (32.8 5%)	1 (1.41 %)	98 (49 %)	71 (35.5 %)	31 (15.5 %)
Web browsing	101 (50.5 %)	83 (41.5 %)	16 (8%)	86 (43 %)	92 (46 %)	22 (11 %)	99 (49.5 %)	81 (40.5 %)	20 (10 %)	81 (40.5 %)	92 (46 %)	27 (13.5 %)	42 (60%)	28 (40%)	0 (0%)	79 (39.5 %)	87 (43.5 %)	34 (17 %)	42 (60%)	21 (30%)	7 (10%)	83 (41.5 %)	103 (51.5 %)	14 (7%)
Copy/ download files	98 (49 %)	89 (44.5 %)	13 (6.5 %)	92 (46 %)	101 (50.5 %)	7 (3.5 %)	112 (56 %)	83 (41.5 %)	5 (2.5 %)	83 (41.5 %)	98 (49 %)	19 (9.5 %)	39 (55.7 2%)	26 (37.1 4%)	5 (7.14 %)	88 (44 %)	101 (50.5 %)	11 (5.5 %)	41 (58.5 7%)	25 (35.7 1%)	4 (5.72 %)	71 (35.5 %)	98 (49 %)	31 (15.5 %)
Download scholarly article	91 (45.5 %)	71 (35.5 %)	38 (19 %)	89 (44.5 %)	92 (46 %)	48 (24 %)	97 (48.5 %)	88 (44 %)	15 (7.5 %)	84 (42 %)	93 (46.5 %)	23 (11.5 %)	36 (51.4 2%)	27 (38.5 7%)	7 (10 %)	83 (41.5 %)	67 (33.5 %)	50 (25 %)	35 (50%)	19 (27.1 4%)	16 (22.8 6%)	71 (35.5 %)	88 (44 %)	41 (20.5 %)
Search in Web OPAC	57 (28.5 %)	89 (44.5 %)	54 (27 %)	48 (24 %)	61 (30.5 %)	91 (45.5 %)	66 (33 %)	81 (40.5 %)	53 (26.5 %)	49 (24.5 %)	56 (28 %)	95 (47.5 %)	31 (44.2 8%)	25 (35.7 2%)	14 (20 %)	49 (24.5 %)	61 (30.5 %)	90 (45 %)	30 (42.8 5%)	17 (24.2 8%)	23 (32.8 5%)	51 (25.5 %)	62 (31 %)	87 (43.5 %)
Mean	95.83	82.50	21.67	85.83	86.00	33.00	95.50	84.50	20.00	82.67	79.50	37.83	39.83	25.50	4.67	83.17	80.83	40.00	39.83	20.67	9.50	81.67	82.67	95.83
SD	21.09	7.48	20.25	19.49	13.59	31.79	16.13	3.27	17.37	19.85	17.10	29.05	5.91	2.07	5.35	18.88	14.62	32.02	6.18	2.94	8.31	22.87	16.22	21.09

H=High, A=Average, L=Low

Table 4.3.13 indicates the level of internet literacy skills of the research scholars and postgraduate students of the selected libraries, i.e. IITD, IITR, IIML and IIMI. Most of the research scholars of IIML 48 (68.57%) rated their skills highly to write and send e-mails than IIMI 45 (64.28%), IITD 113 (56.5%) and IITR 92 (46%), while the majority of the postgraduate students of IIMI 116 (58%) rated their skills more highly than IITR 111 (55.5%), IITD 103 (51.5%), IIML 98 (37%) in writing and sending e-mails. The majority of the research scholars of IITR 88 (44%) rated their skills as average to write and send e-mails than IITD 87 (43.5%), IIML 22 (31.43%), and IIMI 19 (27.14%), whereas postgraduate students of IIML 87 (43.5%) rated their skills average more than IITD 85 (42.5%), IIMI 74 (37%), and IITR 67 (33.5%) in writing and sending email. To attach files to an e-mail, the majority of research scholars of IIMI 46 (65.74%) rated their skills more highly than IIML 43 (61.42%), IITD 45 (57.5%) and IITR 107 (53.5%) while postgraduate students of IIML 102 (51%) more than IIMI 98 (49%), IITD 97 (48.5%) and IITR 71 (35.5%) rated their skills highly in attaching files to an e-mail. Most of the research scholars of IITR 86 (43%) rated their skills as average in attaching files to an email more than IITD 76 (38%), IIML 25 (35.71%) and IIMI 23 (32.85%) while postgraduate students of IITD 85 (42.5%), IIML 82 (41%), and IITR and IIMI 71 (35.5%) rated their skills as average in attaching files to an email. The majority of the research scholars of IIML and IIMI 42 (60%) rated their skills highly in web browsing than IITD 101 (50.5%) and IITR 99 (49.5%) while postgraduate students of IITD 86 (43%) more than IIMI 83 (41.5%), IITR 81 (40.5%) and IIML 79 (39.5%) in web browsing. The number of research scholars of IITD 89 (44.5%) rated their skills as average than IITR 83 (41.5%), IIML 26 (37.14%) and IIMI 25 (35.71%) in copying and downloading files while postgraduate students of IITD and IIML 101 (50.5%) more than IITR and IIMI 98 (49%) rated their skills as average. In downloading scholarly articles, the majority of the research scholars of IIML 36 (51.42%) rated their skills more highly than IIMI 35 (50%), IITR 97 (48.5%) and IITD 91 (45.5%), while postgraduate students of IITD 89 (44.5%), IITR 84 (42%), IIML 83 (41.5%) and IIMI 71 (35.5%) rated their skills highly in downloading scholarly articles.

These findings suggest that the research scholars of IITR 88 (44%) rated their skills as average than IIML 27 (38.57%), IITD 71 (35.5%) and IIMI 19 (27.4%) while

postgraduate students of IITR 93 (46.5%) more than IITD 92 (46%), IIMI 88 (44%) and IIML 67 (33.5%) rated their skills as average in downloading scholarly articles. The number of research scholars of IIML 31 (44.28%) and IIMI 30 (42.85%) rated their skills highly for searching in Web OPAC while that majority of postgraduate student of IITR 95 (47.5%), IITD 91 (45.5%), IIML 90 (45%) and IIMI 87 (43.5%) rated themselves as low. Most of the research scholars of IITD 89 (44.5%) and IITR 81 (40.5%) rated their skills as average for searching in Web OPAC.

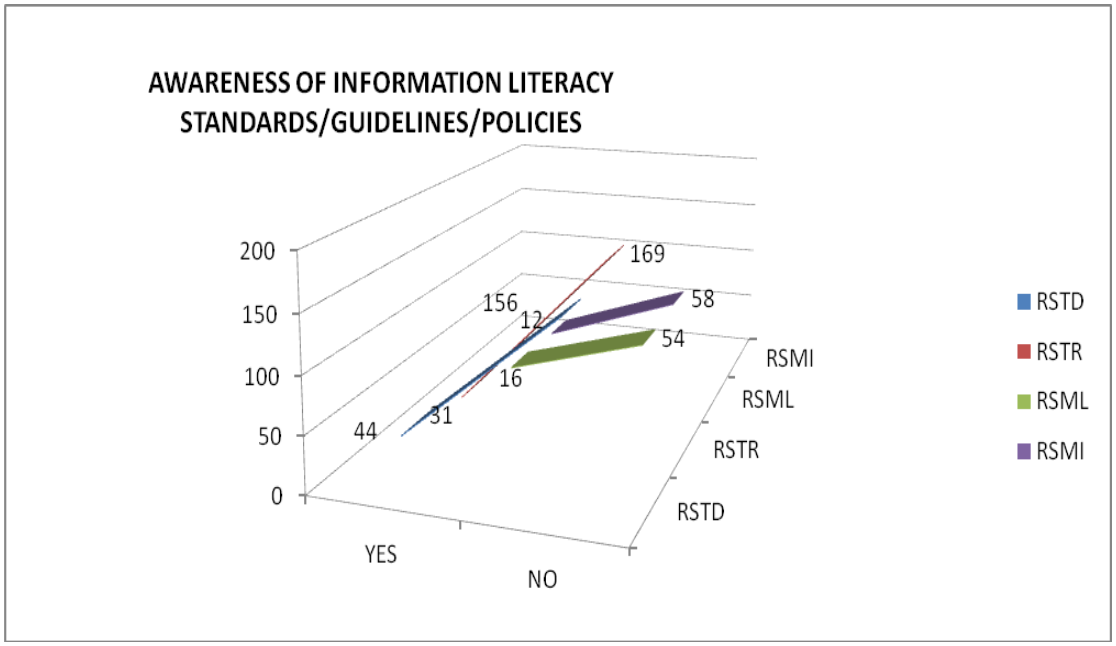
TABLE 4.3.14: AWARENESS OF INFORMATION LITERACY STANDARDS/ GUIDELINES/POLICIES

Response	IITD		IITR		IIML		IIMI	
	RS N=200	PGS N=200	RS N=200	PGS N=200	RS N=70	PGS N=200	RS N=70	PGS N=200
Yes	44 (22%)	29 (14.5%)	31(15.5%)	19 (9.5%)	16 (22.86%)	58 (29%)	12 (17.14%)	41 (20.5%)
No	156 (78%)	171 (85.5%)	169 (84.5%)	181 (90.5%)	54 (77.14%)	142 (71%)	58 (82.86%)	159 (79.5%)
Total	200 (100%)	200 (100%)	200 (100%)	200 (100%)	70 (100%)	200 (100%)	70 (100%)	200 (100%)
Mean	100.00	100.00	100.00	100.00	35.00	100.00	35.00	100.00
SD	79.20	100.41	97.58	114.55	26.87	59.40	32.53	83.44

Table 4.3.14 represents that the research scholars of IIML 16 (22.86%), IITD 44 (22%), IIMI 12 (17.14%) and IITR 31 (15.5%) are aware of information literacy standards/guidelines/policies and postgraduate students of IIML 58 (29%), IIMI 41 (20.5%), IITD 29 (14.5%), and IITR 19 (9.5%) were aware of information literacy standards, guidelines and policies. The number of research scholars of IITR 169 (84.5%), IIMI 58 (82.86%), IITD 156 (78%) and IIML 54 (77.14%) do not have a proper understanding of information literacy standards/guidelines/policies and postgraduate students of IITR 181 (90.5%), IITD 171 (85.5%), IIMI 159 (79.5%), and IIML 142 (71%) are also not aware of information literacy standards, guidelines and policies.

Statistical Inference

It is visible from the table that RS and PGS responses 'YES' was minimum percentage of awareness of information literacy standards/guidelines/policies.



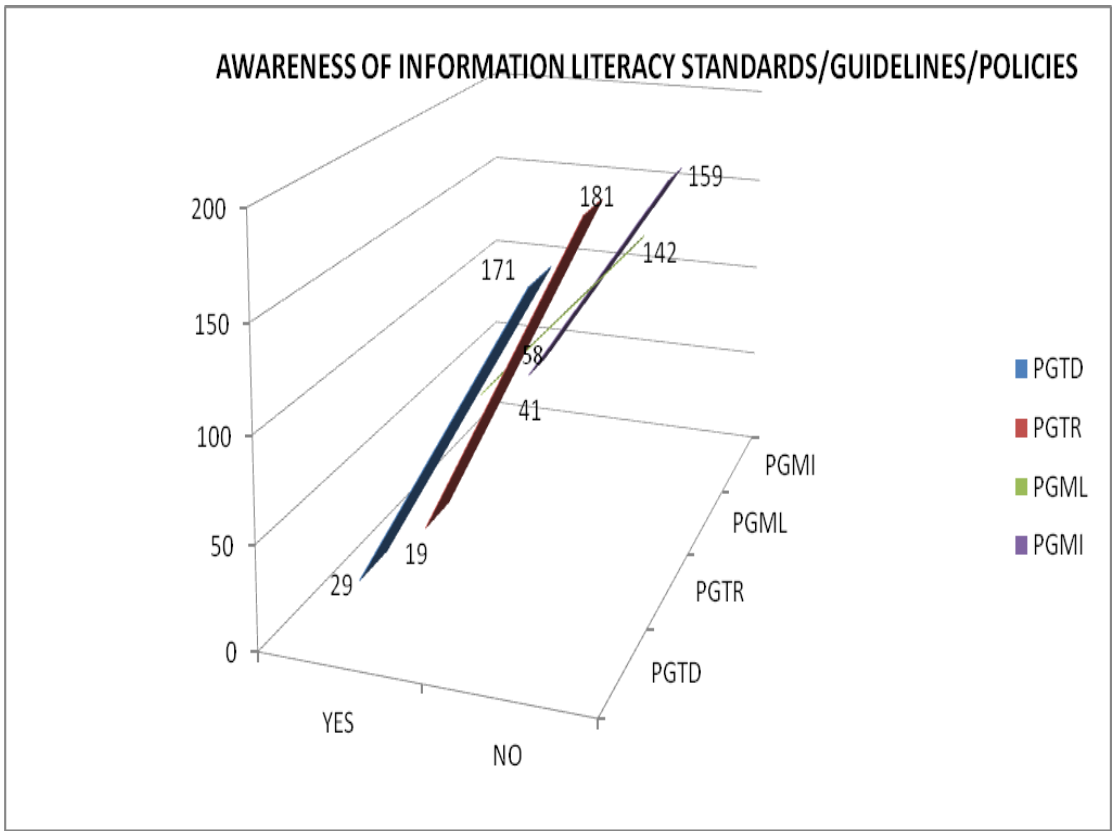


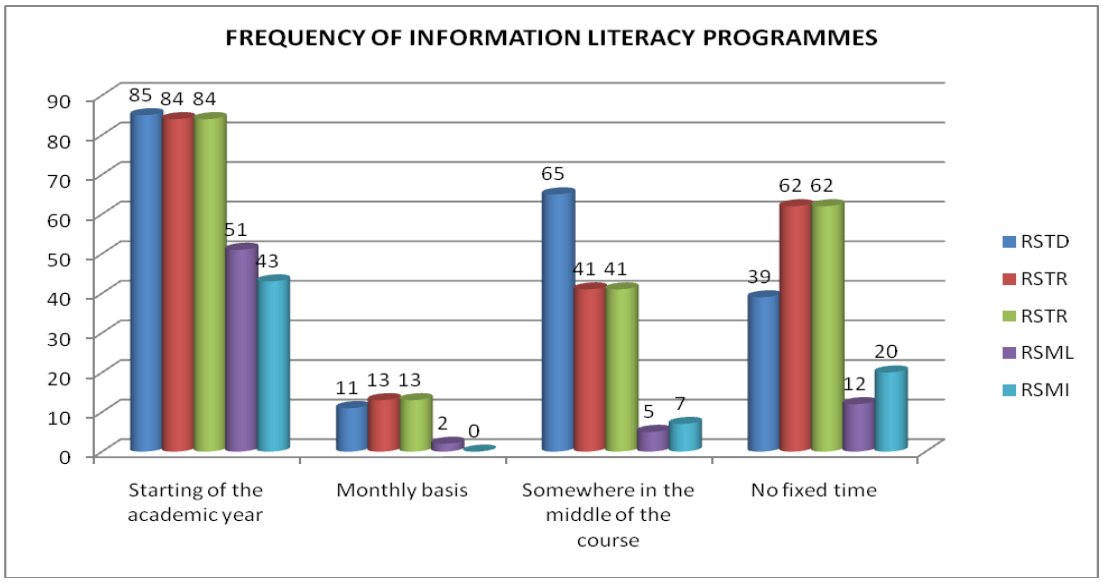
TABLE 4.3.15: FREQUENCY OF INFORMATION LITERACY PROGRAMMES

Frequency	IITD		IITR		IIML		IIMI	
	RS N=200	PGS N=200	RS N=200	PGS N=200	RS N=70	PGS N=200	RS N=70	PGS N=200
Starting of the academic year	85 (42.5%)	67 (33.5%)	84 (42%)	65 (32.5%)	51 (72.85%)	71 (35.5%)	43 (61.42%)	66 (33%)
Monthly basis	11 (5.5%)	8 (4%)	13 (6.5%)	6 (3%)	2 (2.87%)	4 (2%)	-	3 (1.5%)
Somewhere in the middle of the course	65 (32.5%)	52 (26%)	41 (20.5%)	54 (27%)	5 (7.14%)	52 (26%)	7 (10%)	35 (17.5%)
No fixed time	39 (19.5%)	73 (36.5%)	62 (31%)	75 (37.5%)	12 (17.14%)	73 (36.5%)	20 (28.58%)	96 (48%)
Total	200 (100%)	200 (100%)	200 (100%)	200 (100%)	70 (100%)	200 (100%)	70 (100%)	200 (100%)
Mean	50.00	50.00	50.00	50.00	17.50	50.00	17.50	50.00
SD	32.10	29.36	30.28	30.56	22.72	32.09	18.91	40.02

Table 4.3.15 shows the frequency of information literacy programmes which were organized by the selected libraries, i.e. IITD, IITR, IIML and IIMI. The majority of the research scholars of IIML 51 (72.85%), 43 (61.42%) of IIMI, 85 (42.5%) of IITD, 84 (42%) of IITR participated at the starting of the academic year in information literacy programmes, while postgraduate students of IIML, i.e. 71 (35.5%), IITD 67 (33.5%), IIMI 66 (33%), IITR 65 (32.5%) were participated. Somewhere in the middle of the Courses, majority of the research scholars of IITD, i.e. 65 (32.5%), IITR 41 (20.5%), IIMI 7 (10%) and IIML 5 (7.14%) participated in information literacy programmes while postgraduate students of IITR 54 (27%), IITD and IIML 52 (26%) participated in ILP. The number of research scholars of IITR 62 (31%), shown that no fixed time for participating in information literacy programmes than IIMI 20 (28.58%), IITD 39 (19.5%), IIML 12 (17.14%) while postgraduate students of IIMI 96 (48%) more than IITR 75 (37.5%), IITD and IIML 62 (31%) had no fixed time for participating in ILP.

Statistical Inference

Table 4.3.15 mean score shows that, the highest number of responses above the mean were obtained for "Starting of the academic year" and the lowest number of responses were observed in case of "Monthly basis" closest to the mean score were the number of responses that were obtained from the RS and PGS who said " Some Where in the middle". While, the mean score received for RS and PGS, IITD (RS) (Mean=50.0, SD=32.10), IITD (PGS) (Mean=50.0, SD=29.36), IITR (RS) (Mean=50.0, SD=30.28), IITR (PGS) (Mean=50.0, SD=30.56), IIML (RS) (Mean=17.50, SD=22.72), IIML (PGS) (Mean=50.0, SD= 32.09), IIMI (RS) (Mean=17.50, SD=18.91), IIMI (PGS) (Mean=50.0, SD=40.02)



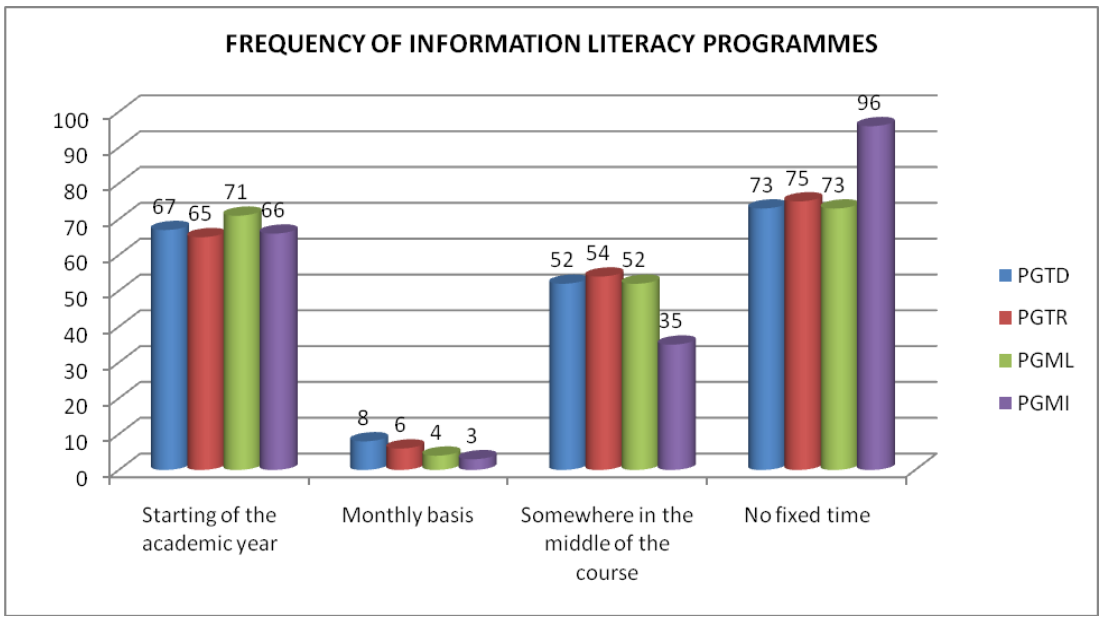


TABLE 4.3.16: RESPONSIBLE FOR CONDUCTING INFORMATION LITERACY PROGRAMME

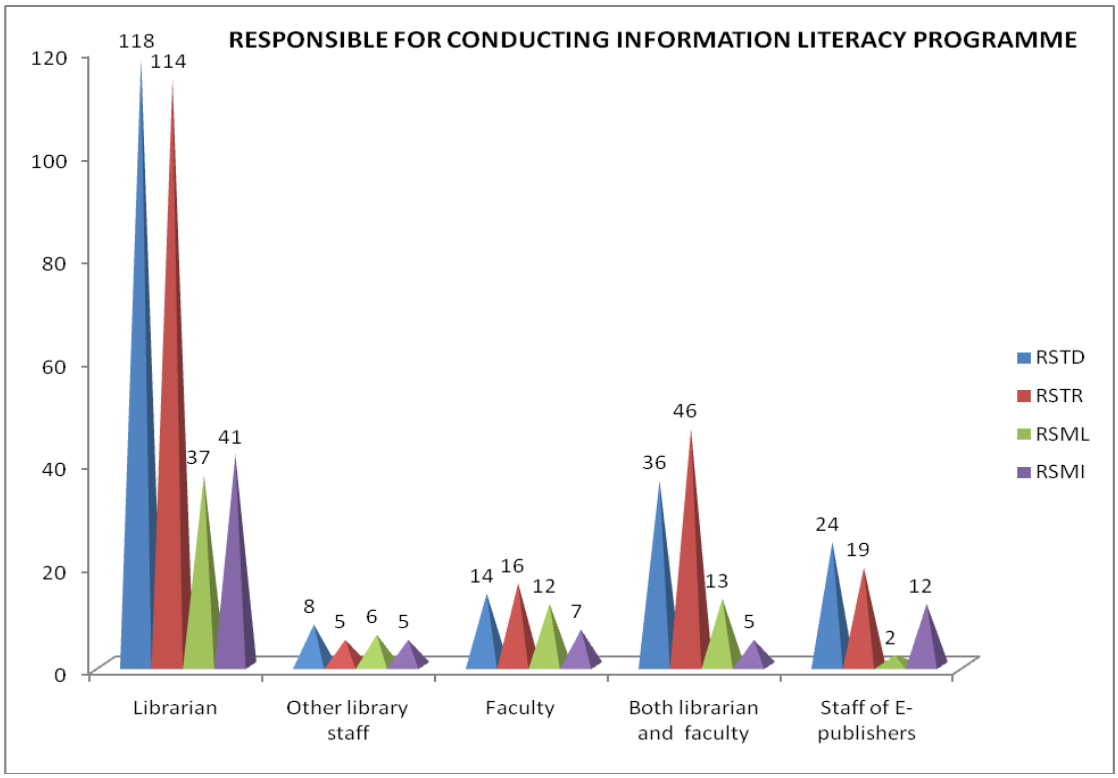
Responsible for conducting of ILP	IITD		IITR		IIML		IIMI	
	RS N=200	PGS N=200	RS N=200	PGS N=200	RS N=70	PGS N=200	RS N=70	PGS N=200
Librarian	118 (59%)	98 (49%)	114 (57%)	116 (58%)	37 (52.85%)	110 (55%)	41 (58.57%)	112 (56%)
Other library staff	8 (4%)	13 (6.5%)	5 (2.5%)	9 (4.5%)	6 (8.57%)	12 (6%)	5 (7.14%)	11 (5.5%)
Faculty	14 (7%)	12 (6%)	16 (8%)	20 (10%)	12 (17.14%)	9 (4.5%)	7 (10%)	13 (6.5%)
Both librarian and faculty	36 (18%)	55 (27.5%)	46 (23%)	43 (21.5%)	13 (18.57%)	54 (27%)	5 (7.14%)	54 (27%)
Staff of E-publishers	24 (12%)	22 (11%)	19 (9.5%)	12 (6%)	2 (2.87%)	15 (7.5%)	12 (17.15%	10 (5%)
Mean	40.00	40.00	40.00	27.00	27.00	27.00	27.00	40.00
SD	44.88	36.83	44.03	44.53	13.62	43.20	15.36	44.30

The table depicts that the librarians were mainly responsible for conducting information literacy programmes. It is found from Table 4.3.16 that the 118 (59%) of research scholars and 98 (49%) of postgraduate students of IITD, whereas the librarian takes responsibility for delivering information literacy programmes. On the other hand, 46 (23%) of research scholars of IITR and 55 (27.5%) of postgraduate students of IITD, where, both librarian and faculty are responsible for conducting information literacy programmes in their library.

Statistical Inference

Table 4.3.16 mean score shows that, the highest number of responses above the mean were obtained Librarian for "responsible for conducting information literacy programme" and the lowest number of responses were observed in case of "other library staff" closet to the mean score were the number of responses that were obtained from the RS and PGS who said " Both librarian and faculty". While, the mean score received for RS and PGS, IITD (RS) (Mean=40.0, SD=44.10), IITD (PGS) (Mean=40.0, SD=36.83),

IITR (RS) (Mean=40.0, SD=44.03), IITR (PGS) (Mean=27.0, SD=44.53), IIML (RS) (Mean=27.50, SD=13.62), IIML (PGS) (Mean=27.0, SD= 43.20), IIMI (RS) (Mean=27.00, SD=15.36), IIMI (PGS) (Mean=40.0, SD=43.30)



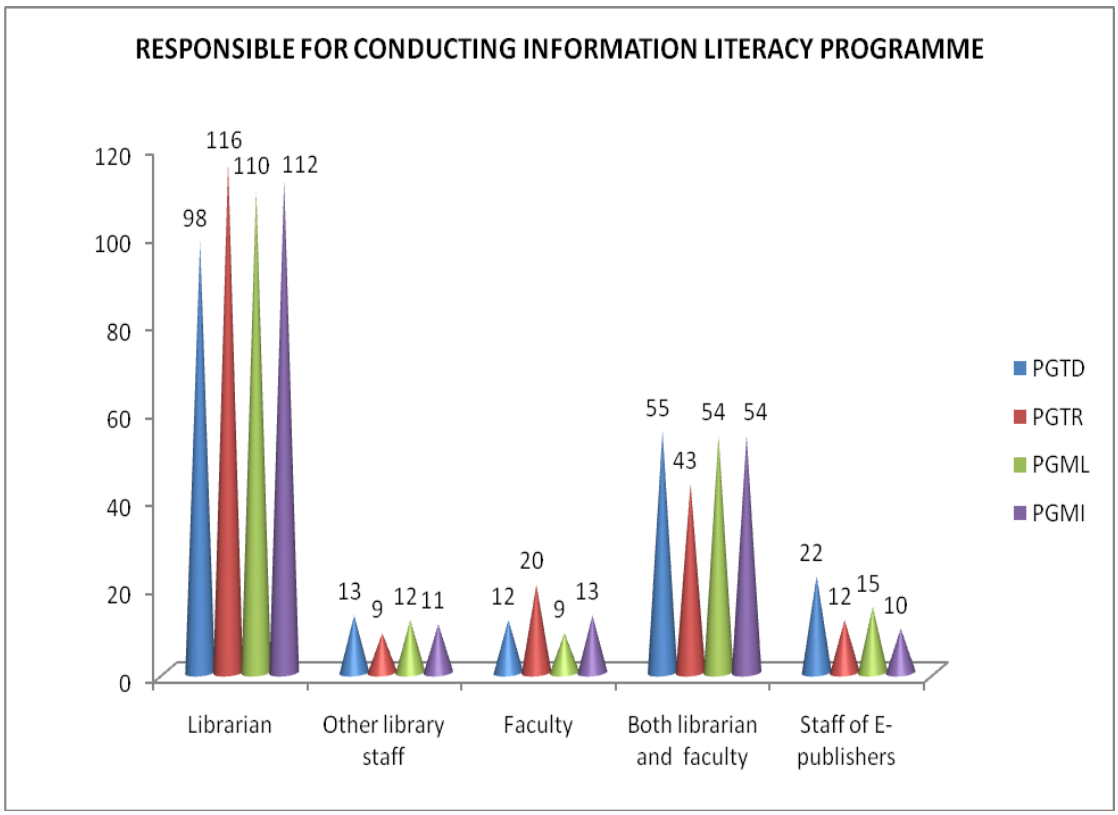


TABLE 4.3.17: INFORMATION LITERACY PROGRAMMES ATTENDED

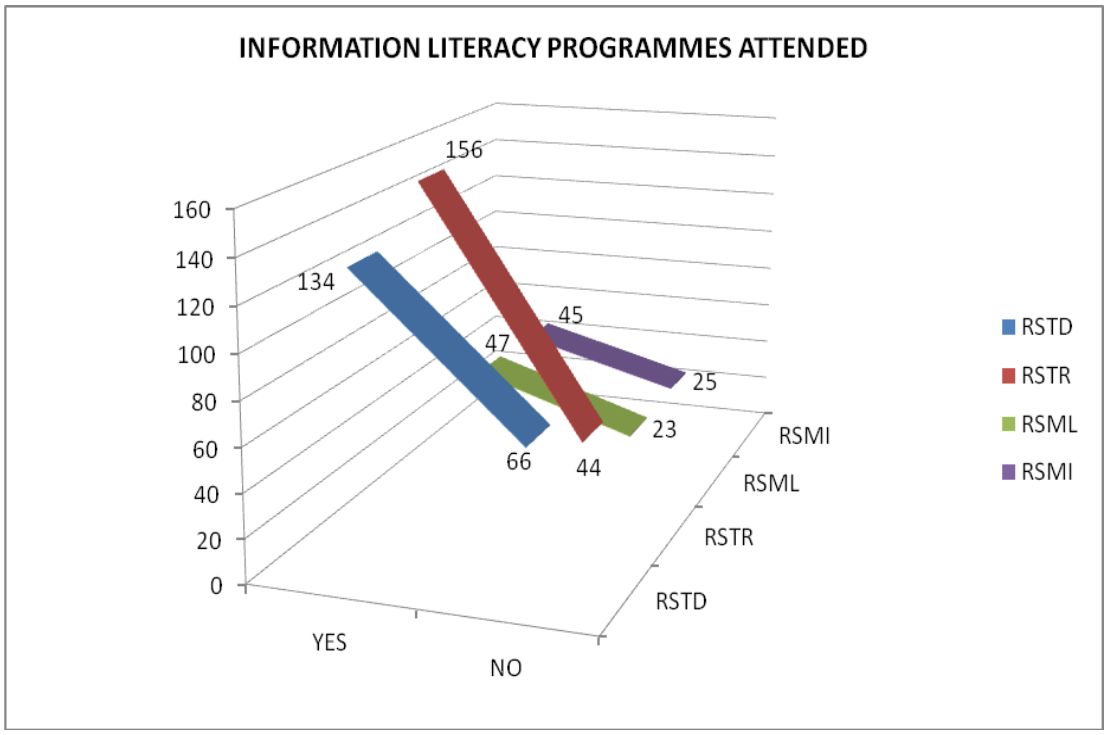
Response	IITD		IITR		IIML		IIMI	
	RS N=200	PGS N=200	RS N=200	PGS N=200	RS N=70	PGS N=200	RS N=70	PGS N=200
Yes	134 (67%)	145 (72.5%)	156 (78%)	137 (68.5%)	47 (67.14%)	147 (73.5%)	45 (64.28%)	134 (67%)
No	66 (33%)	55 (27.5%)	44 (22%)	63 (31.5%)	23 (32.86%)	53 (26.5%)	25 (35.72%)	66 (33%)
Mean	100.00	100.00	100.00	100.00	35.00	100.00	35.00	100.00
SD	48.08	63.64	79.20	52.33	16.97	66.47	14.14	48.08

Table 4.3.17 to know the respondents' status with attending the information literacy programme (ILP), they have been asked to mention whether they have attended the information literacy programme organized by their library or not. Table 4.3.17 shows that the majority of the research scholars of IITR 156 (78%), IIML 47 (67.14%), IITD 134 (67%), and IIMI 45 (64.28%) attended information literacy programmes while postgraduate students of IIML 147 (73.5%), ITD (145 (72.5%), IITR 137 (68.5%) and IIMI 134 (67%) attended information literacy programmes. It is found from the study that research scholars of IIMI 25 (35.72%), IITD 66 (33%), IIML 23 (32.86%) and IITR 44 (22%) did not attend information literacy programmes while postgraduate students of IIMI 66 (33%), IITR 63 (31.5%), IITD 55 (27.5%) and IIML 53 (26.5%) did not attend the information literacy programmes.

Statistical Inference

Table 4.3.17 means score shows that, the highest number of responses above the mean were "information literacy programmes attended". While, the mean score received for RS and PGS, IITD (RS) (Mean=100.0, SD=48.08), IITD (PGS) (Mean=100.0, SD=63.64), IITR (RS) (Mean=100.0, SD=79.20), IITR (PGS) (Mean=100.0, SD=52.33), IIML (RS) (Mean=35.00, SD=16.97), IIML (PGS)

(Mean=100.0, SD= 66.47), IIMI (RS) (Mean=35.00, SD=14.14), IIMI (PGS) (Mean=100.0, SD=48.08)



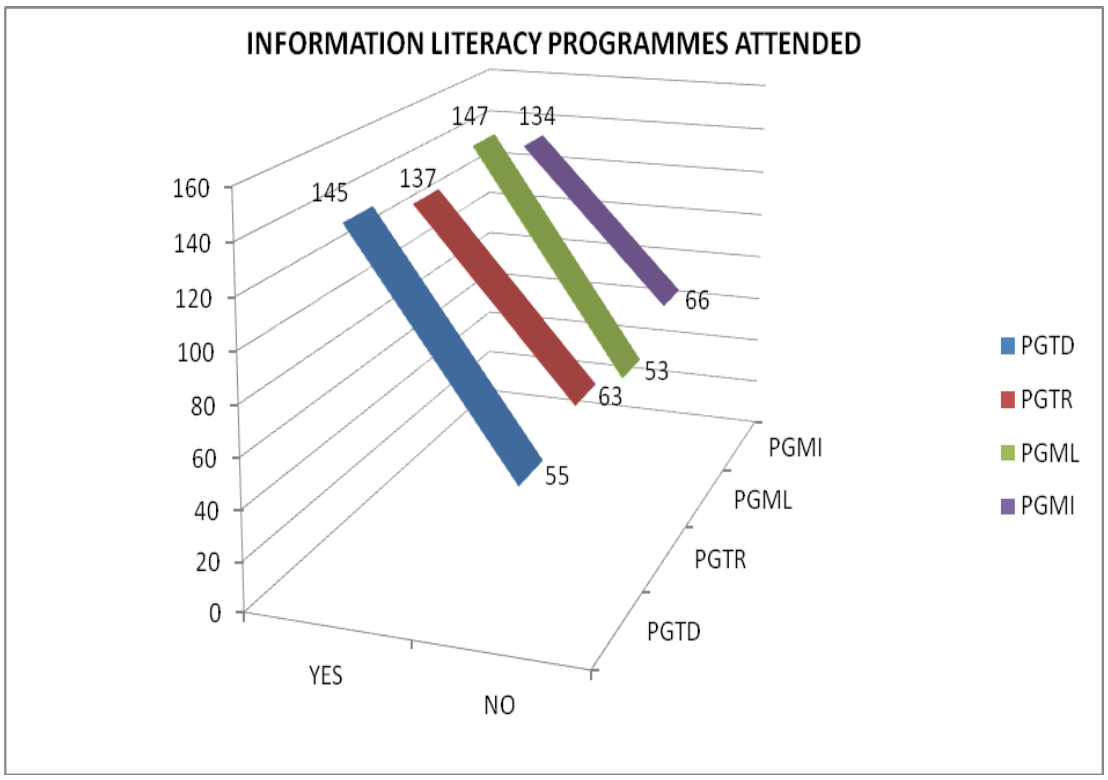


TABLE 4.3.18: CRITERIA USED FOR EVALUATING INFORMATION

Criteria	IITD		IITR		IIML		IIMI	
	RS N=200	PGS N=200	RS N=200	PGS N=200	RS N=70	PGS N=200	RS N=70	PGS N=200
Accuracy	115 (57.5%)	99 (49.5%)	141 (70.5%)	133 (66.5%)	43 (61.42%)	107 (53.5%)	41 (58.57%)	122 (61%)
Relevancy	121 (60.5%)	103 (51.5%)	134 (67%)	112 (56%)	29 (41.42%)	99 (49.5%)	21 (30%)	99 (49.5%)
Currency	98 (49%)	107 (53.5%)	101 (50.5%)	89 (44.5%)	12 (17.14%)	87 (43.5%)	17 (24.28%)	87 (43.5%)
Authority	132 (66%)	122 (61%)	134 (67%)	107 (53.5%)	24 (34.28%)	126 (63%)	23 (32.85%)	125 (62.5%)
Mean	116.50	107.75	127.50	110.25	27.00	104.75	25.50	108.25
SD	14.20	10.05	17.97	18.10	12.83	16.38	10.63	18.32

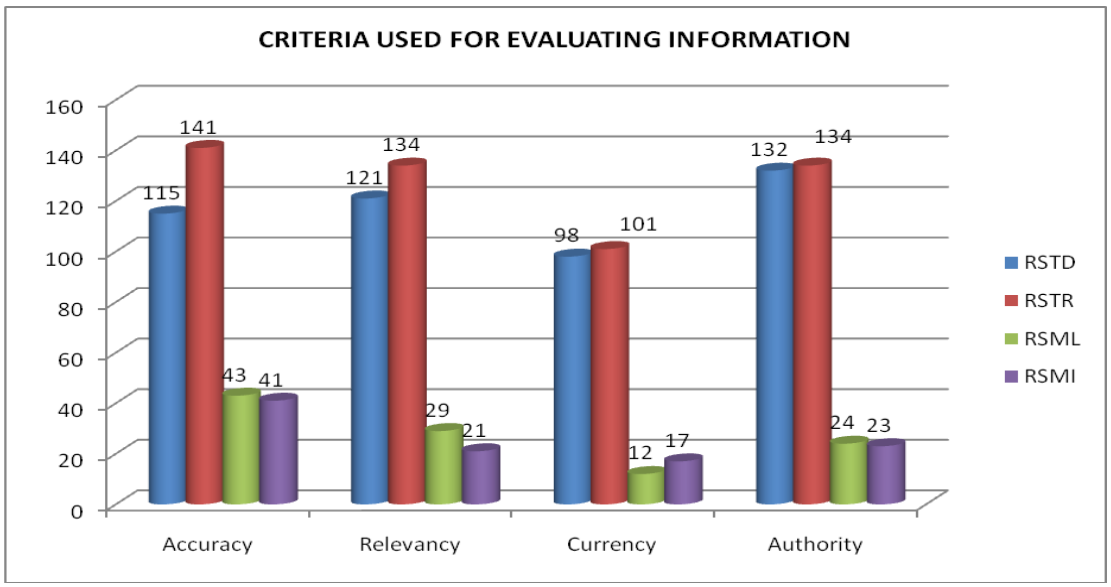
(Multiple answers permitted)

Table 4.3.18 shows the criteria used for evaluating the information in print and electronic formats. Most of the research scholars of IITR 141 (70.5%) more than IIML 43 (61.42%), IIMI 41(58.57%) and IITD 115 (57.5%) indicated that they evaluate information on the basis of accuracy while the majority of the postgraduate students of IITR 133 (66.5%) more than IIMI 122 (61%), IIML 107 (53.5%) and IITD 99 (49.5%) evaluate information on the basis of accuracy. A high percentage of IITR 134 (67%) more than IITD 121 (60.5%), IIML 29 (41.42%) and IIMI 21(30%) indicated that they evaluate information on the basis of relevancy whereas postgraduate students of IITR 112 (56%) more than IITD 103 (51.5%), and IIML and IIMI 99 (49.5%) evaluated information on the basis of relevancy. The majority of the research scholars of IITR 101 (50.5%) more than IITD 98 (49%), IIMI 17 (24%) and 12 (17.14%) indicated that they evaluate information on the basis of currency while postgraduate students of IITD 107 (53.5%) more than IITR 89 (44.5%), IIML and IIMI 87 (43.5%) evaluated information on the basis of currency. The number of research scholars of IITR 134 (67%) more than IITD 132 (66%), IIMI 23 (32.85%) and IIML 24 (34.28%) indicated that they evaluate information on the basis of authority while postgraduate students of IIML 126 (63%) more than IIMI 125

(62.5%), IITD 122 (61%) and IITR 107 (53.5%) evaluated information on the basis of authority.

Statistical Inference

It can be interpreted from the table 4.3.18 that "Authority and Currency" of the web resources was revealed to be the most important criteria in the evaluation of web resources among resources of IITs researchers. However, in IIMs research scholars *checked* the 'Accuracy' *credentials* for evaluating the authority of web resources the accuracy.



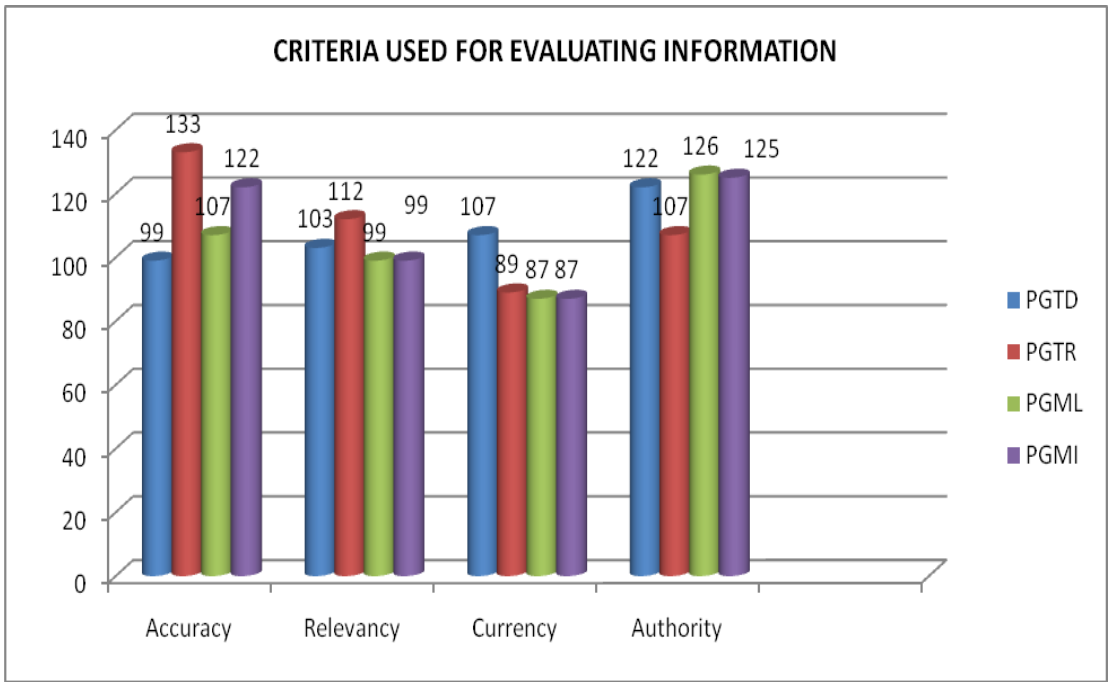


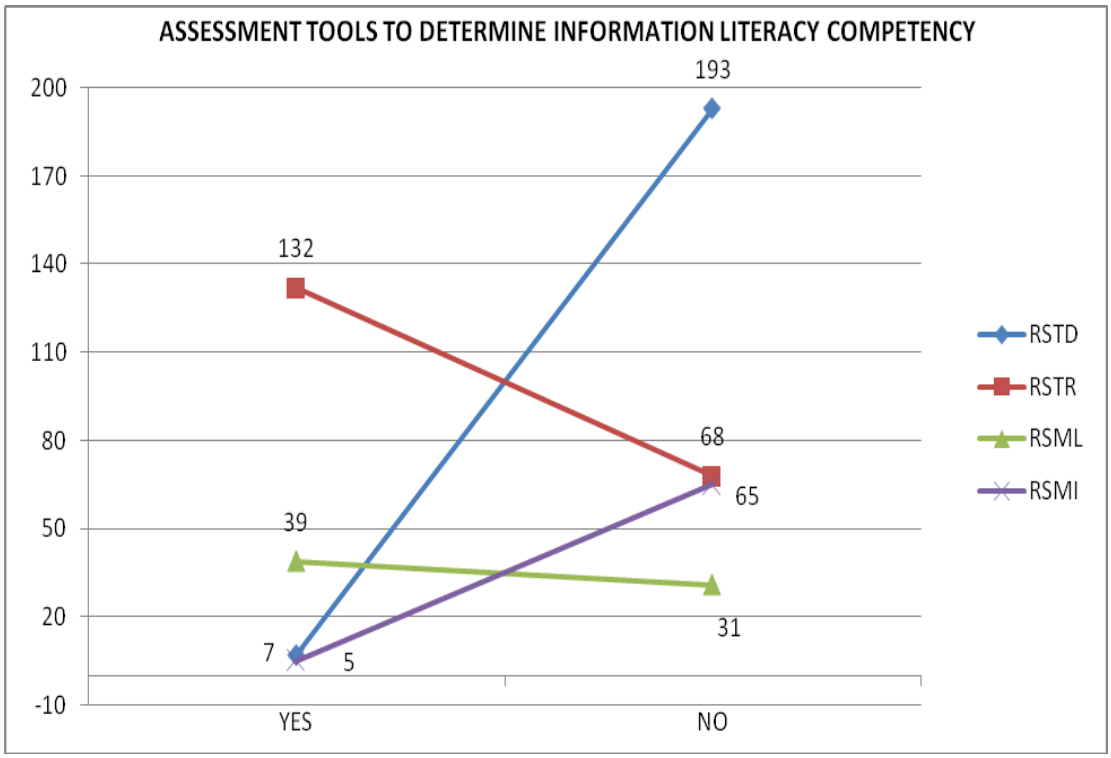
TABLE 4.3.19: ASSESSMENT TOOLS TO DETERMINE INFORMATION LITERACY COMPETENCY

Response	IITD		IITR		IIML		IIMI	
	RS N=200	PGS N=200	RS N=200	PGS N=200	RS N=70	PGS N=200	RS N=70	PGS N=200
Yes	7 (3.5%)	4 (2%)	132 (66%)	119 (59.5%)	39 (55.71%)	137 (68.5%)	5 (7.14%)	9 (4.5%)
No	193 (96.5%)	196 (98%)	68 (34%)	81 (40.5%)	31 (44.28%)	63 (31.5%)	65 (92.85%)	191 (95.5%)
Mean	100.00	100.00	100.00	100.00	35.00	100.00	35.00	100.00
SD	131.52	135.76	45.25	26.87	5.66	52.33	42.43	128.69

Table 4.3.19 shows the assessment tools to determine information literacy competency in the users of selected libraries. It is observed from Table 4.3.19 that the majority of the research scholars of IITR 132 (66%) more than IIML 39 (55.71%) indicated that they have assessment tools to determine information literacy competency while postgraduate students of IIML 137 (68.5%) more than IITR 119 (59.5%) indicated that they have assessment tools to determine information literacy competency. The majority of research scholars and postgraduate students of IITD and IIMI indicated that they do not have any assessment tools to determine information literacy competency in the users.

Statistical Inference

Table 4.3.19 means score shows that, the highest number of responses above the mean were "assessment tools to determine information literacy competency" While, the mean score received for RS and PGS, IITD (RS) (Mean=100.0, SD=131.52), IITD (PGS) (Mean=100.0, SD=135.76), IITR (RS) (Mean=100.0, SD=45.25), IITR (PGS) (Mean=100.0, SD=26.87), IIML (RS) (Mean=35.00, SD=5.66), IIML (PGS) (Mean=100.0, SD= 52.33), IIMI (RS) (Mean=35.00, SD=42.43), IIMI (PGS) (Mean=100.0, SD=128.69)


ASSESSMENT TOOLS TO DETERMINE INFORMATION LITERACY COMPETENCY
200
170
140
110
80
50
20
-10
193
132
68
65
39
31
7
5
YES
NO
RSTD
RSTR
RSML
RSMI

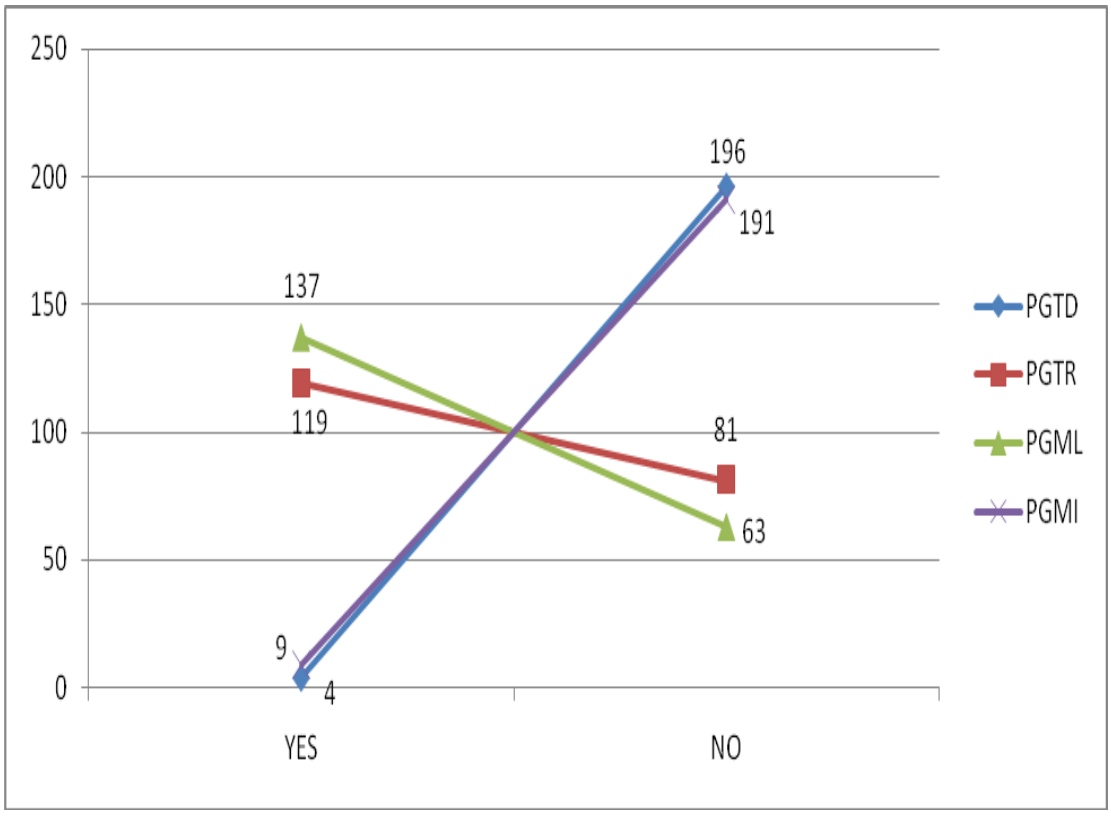

250
200
150
100
50
0
196
191
137
119
81
63
9
4
YES
NO
PGTD
PGTR
PGML
PGMI

TABLE 4.3.20: HINDRANCES ENCOUNTERED BY RESPONDENTS IN ILP

Hindrances	IITD		IITR		IIML		IIMI	
	RS N=200	PGS N=200	RS N=200	PGS N=200	RS N=70	PGS N=200	RS N=70	PGS N=200
Lack of staff	40 (20%)	37 (18.5%)	53 (26.5%)	42 (21%)	14 (20%)	42 (21%)	18 (25.71%)	65 (32.5%)
Lack of trained staff	31 (15.5%)	42 (21%)	23 (11.5%)	28 (14%)	11 (15.71%)	34 (17%)	9 (12.85%)	26 (13%)
Lack of finance	36 (18%)	32 (16%)	43 (21.5%)	39 (19.5%)	19 (27.14%)	23 (11.5%)	14 (20%)	21 (10.5%)
Lack of administrative support	43 (21.5%)	21 (10.5%)	25 (12.5%)	32 (16%)	19 (27.14%)	34 (17%)	23 (32.85%)	33 (16.5%)
Lack of policy matter	49 (24.5%)	64 (32%)	53 (26.5%)	34 (17%)	9 (12.85%)	31 (15.5%)	21 (30%)	58 (29%)
Mean	39.80	39.20	39.40	35.00	14.40	32.80	17.00	40.60
SD	6.83	15.90	14.66	5.57	4.56	6.83	5.61	19.71

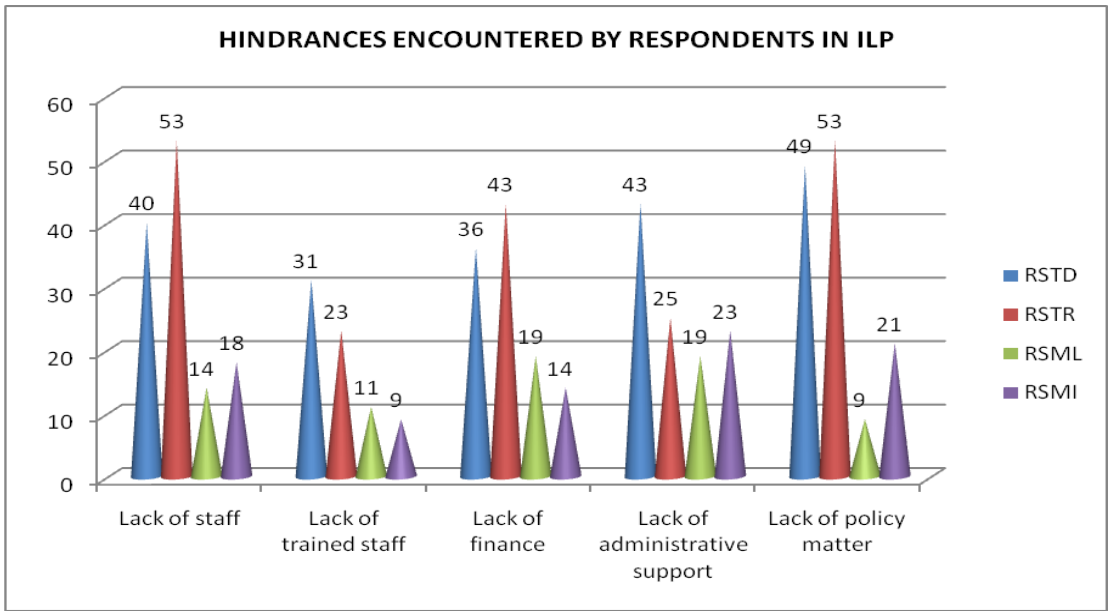
(Multiple answers were permitted)

Information literacy has become a common tool among the academic communities. Respondents still face a various problems when accessing information resources. Table 5.3.20 shows that research scholars of IITR 53 (26.5%) found the problem of lack of staff more than IIMI 18 (25.71%), IITD and IIML 40 (20%) in organizing information literacy programmes while postgraduate students of IIMI 65 (32.5%), IITR and IIML 42 (21%), and IITD 37 (18.5%) found the problem of lack of staff. The majority of research scholars of IIMI 23 (32.85%) more than IIML 19 (27.14%), IITD 43 (21.5%), and IITR 25 (12.5%) found the problem of the lack of administrative support while postgraduate students of IIML 34 (17%) more than IITR 32 (16%), IIMI 33 (16.5%) and IITD 21 (10.5%) found the problem of organizing ILP.

The maximum research scholars of IIMI 21 (30%) more than IITR 53 (26.5%), IITD 49 (24.5%) and IIML 9 (12.85%) found the problem of lack of policy matters while postgraduate students of IITD 64 (32%) more than IIMI 58 (29%), IITR 34 (17%), IIML 31 (15.5%) found the problem of lack of policy matters in organizing ILP.

Statistical Inference

Table number 4.3.20 shows that the maximum number of RS (49) and IITD (PGS) (64) responses were obtained for the option 'Lack of policy matter" in case of IITD whereas, the least number of RS (9) of response were received for the option 'Lack of trained staff/ Lack of policy matter'. A similarity was observed in IITR, IIML and IIMI.



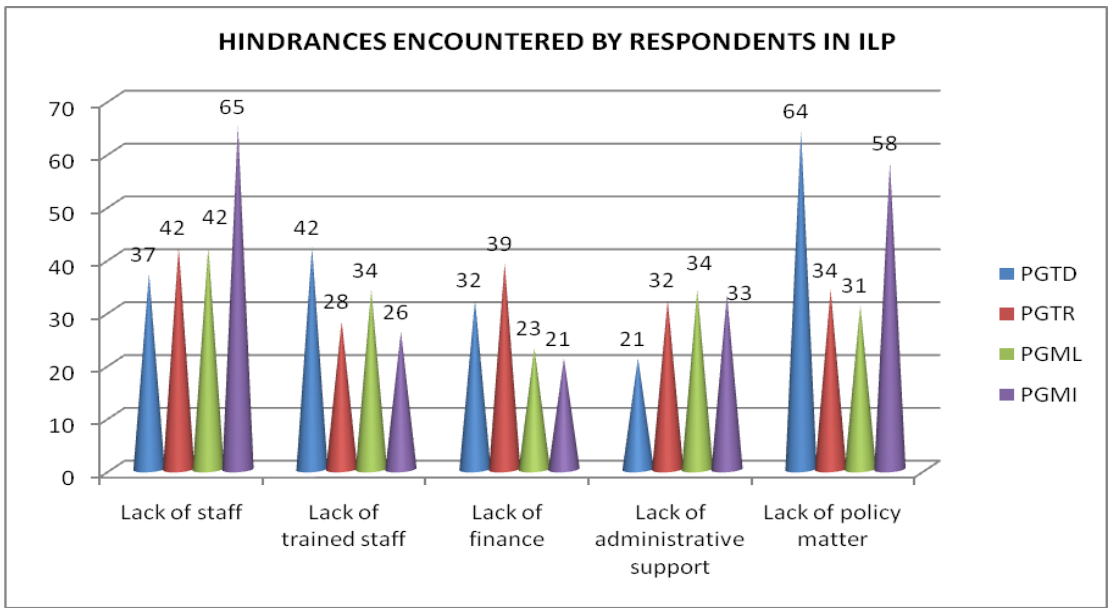


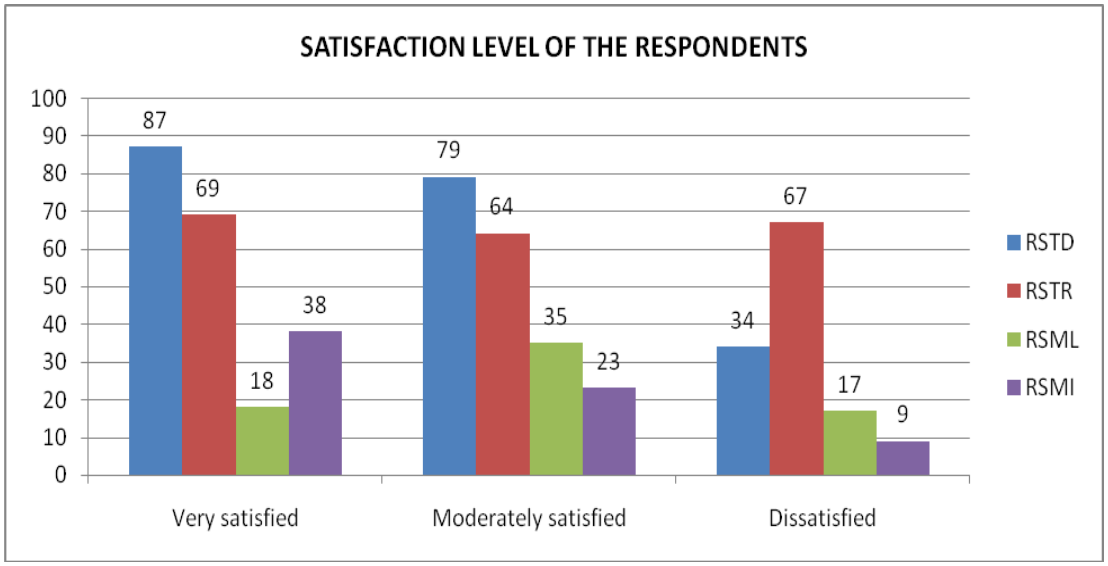
TABLE 4.3.21: SATISFACTION LEVEL OF THE RESPONDENTS

Satisfaction Level	IITD		IITR		IIML		IIMI	
	RS N=200	PGS N=200	RS N=200	PGS N=200	RS N=70	PGS N=200	RS N=70	PGS N=200
Very satisfied	87 (43.5%)	62 (31%)	69 (34.5%)	59 (29.5%)	18 (25.71%)	74 (37%)	38 (54.28%)	134 (67%)
Moderately satisfied	79 (39.5%)	83 (41.5%)	64 (32%)	75 (37.5%)	35 (50%)	59 (29.5%)	23 (32.85%)	46 (23%)
Dissatisfied	34 (17%)	55 (27.5%)	67 (33.5%)	66 (33%)	17 (24.29%)	67 (33.5%)	9 (12.87%)	20 (10%)
Total	200 (100%)	200 (100%)	200 (100%)	200 (100%)	70 (100%)	200 (100%)	70 (100%)	200 (100%)
Mean	66.67	66.67	66.67	66.67	23.33	66.67	23.33	66.67
SD	28.57	14.57	2.52	8.02	10.12	7.51	14.50	59.74

It is important to know the satisfaction level of research scholars and postgraduate students with the present information literacy programmes of the selected libraries. Table 4.3.21 shows that the majority of the research scholars of IIMI 38 (54.28%), IITD 87 (43.5%), IITR 69 (34.5%), IIML 18 (25.71%) were very satisfied with the present information literacy programmes of the library while postgraduate students of IIMI 134 (67%), IIML 74 (37%), IITD 62 (31%), and IITR 59 (29.5%) were very satisfied with the present information literacy programmes of the library. The maximum research scholars of IIML 35 (50%), IITD 79 (39.5%), IITR 64 (32%), IIMI 23 (32.85%) were moderately satisfied with the present information literacy programmes of the library while postgraduate students of IITD 83 (41.5%), IITR 75 (37.5%), IIML 59 (29.5%), and IIMI 46 (23%) were moderately satisfied with the present information literacy programmes. It is found that research scholars of IITR 67 (33.5%), IIML 17 (24.29%), IITD 34 (17%), IIMI 9 (12.87%) were dissatisfied with the present information literacy programmes of the library while postgraduate students of IIML 67 (33.5%), IITR 66 (33%), IITD 55 (27.5%), and IIMI 20 (10%) were dissatisfied with the present information literacy programmes of the library.

Statistical Inference

The statistical analysis of the data shows that highest satisfaction level (very satisfied) observed among the researchers from IITs and IIMs based on Mean (66.67). Whereas, majority of PGS were 'Moderately satisfied' based on percentage. PGS of IIMI PGS (67%). The obtained Mean signifies that overall the researchers of the four institutes under study were satisfied with the quality of information retrieved through the web.



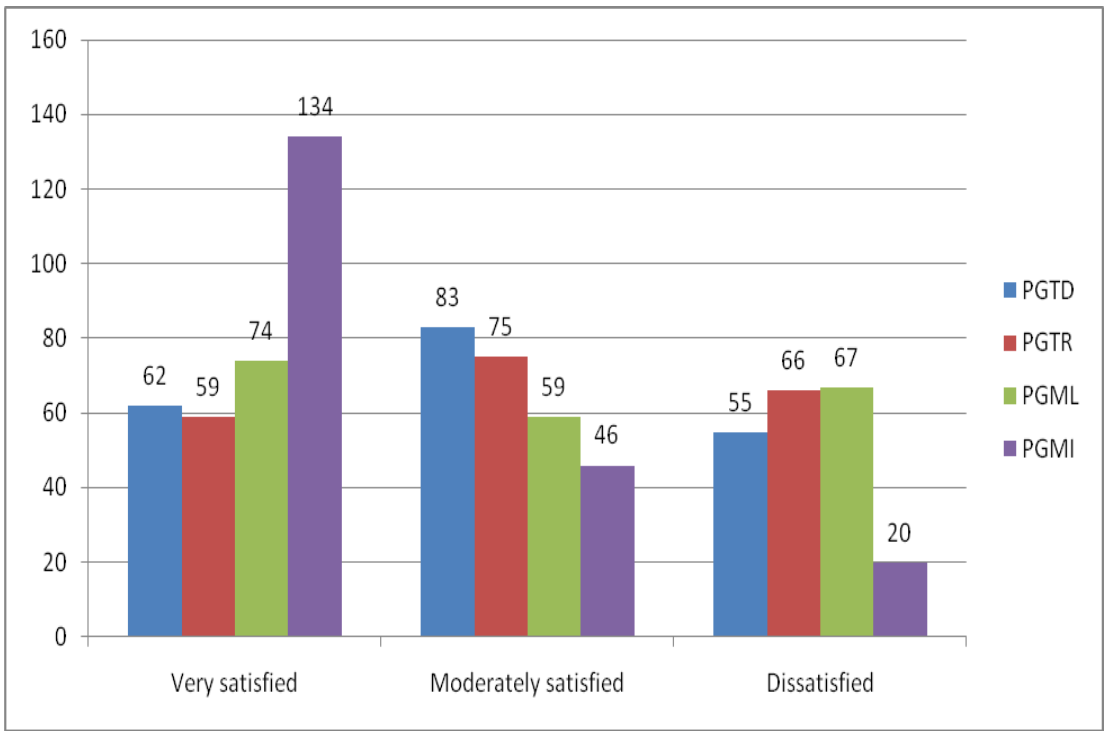


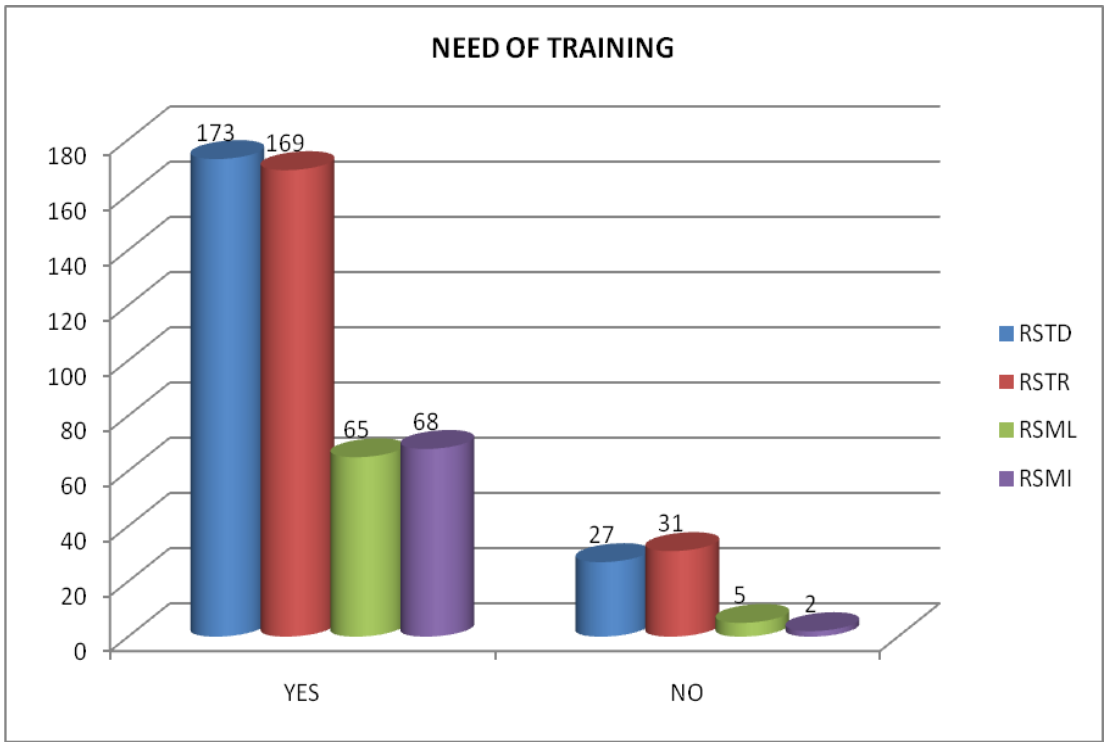
TABLE 4.3.22: NEED OF TRAINING

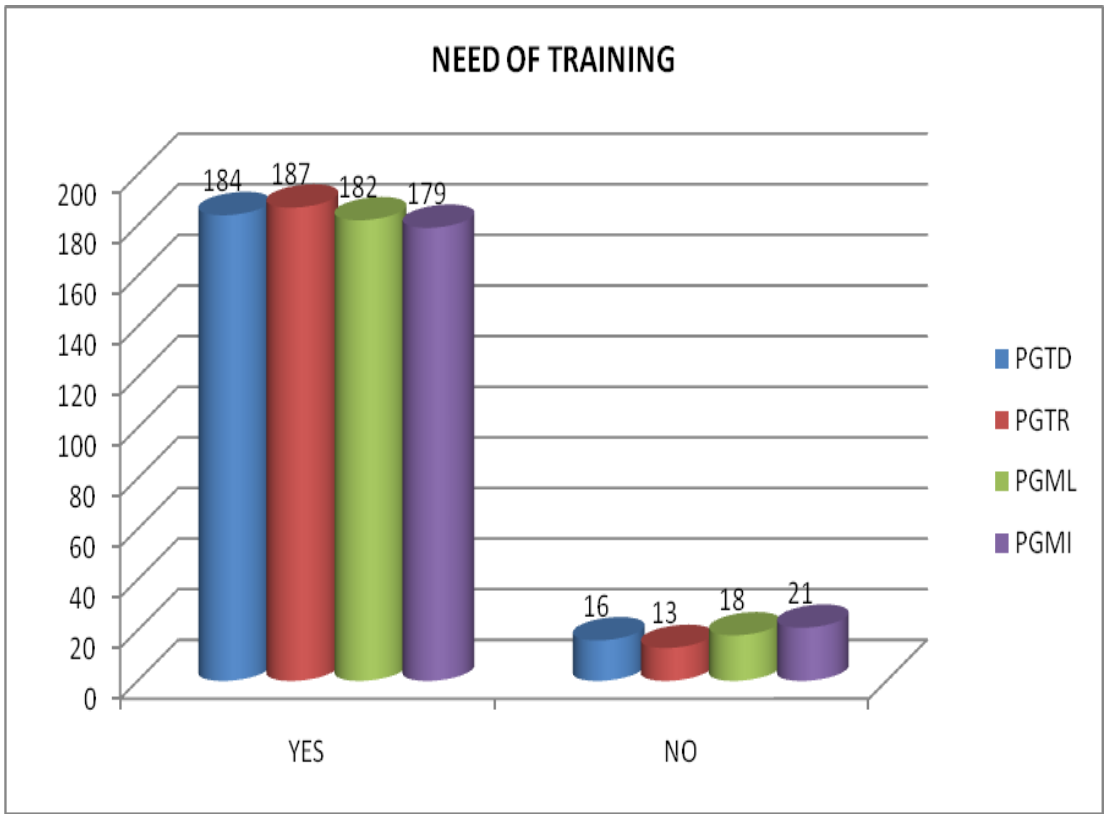
Response	IITD		IITR		IIML		IIMI	
	RS N=200	PGS N=200	RS N=200	PGS N=200	RS N=70	PGS N=200	RS N=70	PGS N=200
Yes	173 (86.5%)	184 (92%)	169 (84.5%)	187 (93.5%)	65 (92.86%)	182 (91%)	68 (97.14%)	179 (89.5%)
No	27 (13.5%)	16 (8%)	31 (15.5%)	13 (6.5%)	5 (7.14%)	18 (9%)	2 (2.86%)	21 (10.5%)
Mean	100.00	100.00	100.00	100.00	35.00	100.00	35.00	100.00
SD	103.24	118.79	97.58	123.04	42.43	115.97	46.67	111.72

The respondents were asked whether they need training to make maximum use of information resources and library services. Table 4.3.22 shows that the majority of the research scholars of IIMI 68 (97.14%), IIML 65 (92.86%), IITD 173 (86.5%), and IITR 169 (84.5%) were in favour of imparting training while postgraduate students of IITR 187 (93.5%), IITD 184 (92%), IIML 182 (91%), IIMI 179 (89.5%) were in favour of imparting training. It was also found that the research scholars of IITR 31 (15.5%), IITD 27 (13.5%), IIML 18 (9%), IIMI 2 (2.86%) knew how to use resources and services of the library, so they did not need training while postgraduate students of IIMI 21 (10.5%), IIML 18 (9%), IITD 16 (8%), IITR 13 (6.5%) were not in favor of training.

Statistical Inference

The highest number of response was obtained for hands on training in all the four institutes under study i.e. (RS : 173,169,65,68 and PGS:184,187,182,179) in IITD, IITR, IIML and IIMI respectively which was quite above the mean score. The mean score of IITD, IITR, IIML and IIMI was observed to be 100.0 (SD=103.24), 100.0 (SD=97.58), 35.0 (SD=42.43) and 35.0 (SD=46.67). The lowest response below the average score was obtained for the option 'I do not need any training'.


NEED OF TRAINING
180
160
140
120
100
80
60
40
20
0
173
169
65
68
27
31
5
2
YES
NO
RSTD
RSTR
RSML
RSMI


NEED OF TRAINING
200
180
160
140
120
100
80
60
40
20
0
184
187
182
179
16
13
18
21
YES
NO
PGTD
PGTR
PGML
PGMI

CHAPTER 5

FINDINGS, TENABILITY OF HYPOTHESIS, CONCLUSION AND SUGGESTIONS

This chapter presents the major findings, which have been drawn on the basis of data collected from the four institutes under the study. Tenability of the hypotheses is checked with the help of independent t-test as a statistical tool and suggestions are provided to improve the information literacy skills in research scholars and PG students in the IIT and IIM libraries. At the end some recommendation and possible areas for further research also have been mentioned in this chapter.

5.1 SUMMARY OF FINDINGS

The study intends to know the status of information literacy competencies among research scholars and postgraduate students of selected IIT and IIM libraries. The major findings of the study are identified on the basis of data received from the users and the working librarians. The major findings of the study are:

5.1.1 LIBRARIANS' VIEWS

On the basis of data analysis of librarians' responses, the following findings have been derived:

1. Table 4.1.2 indicates that IIT, Roorkee and IIM, Indore have a full-time librarian, whereas IIT, Delhi, and IIM, Lucknow have an in-charge librarian. Further categorized the strength of total staff in these four libraries, IIT, Roorkee has maximum staff such as (24), followed by (18) in IIT, Delhi, (16) in IIM, Indore, and 13 staff in IIM, Lucknow.

2. Table 4.1.3 shows that the total collection IIT, Delhi has the highest, i.e.13.2 lakhs in print form and 1.6 lakhs in electronic form, followed by IIT, Roorkee has 4.5 lakhs in print form and 65,000 in electronic form. Similarly, IIM, Indore has 37,878 in print form and 2.7 lakhs in electronic form and IIM, Lucknow has 45,470 in print form and 166,856 in electronic form.

3. Table 4.1.4 indicates that IIT, Delhi has the highest number of registered users such as 4582, in which 1597 users are research scholars and 2985 are postgraduate students followed by IIT, Roorkee has 4520, in which 1352 research scholars and 3168 postgraduate students similarly IIM, Indore has 1223, in which 106 research scholars and 1117 postgraduate student and IIM, Lucknow has 1000, in which 80 research scholars and 920 postgraduate students registered.

4. Table 4.1.5 clearly indicates the current annual budget (2015-16) of selected libraries. IIT, Roorkee has the highest annual budget, i.e. (15.4 crore), followed by IIT, Delhi Library, i.e. (14.25 crore), IIM, Lucknow, i.e. (3.75 crore), and IIM, Indore has the lowest annual budget, i.e. (3.4 crore).

5. Table 4.1.6 shows these three libraries, i.e. IIT, Delhi, IIT, Roorkee, and IIM, Lucknow use LIBSYS software followed by IIM, Indore uses VIRTUA software.

6. Table 4.2.4 shows IIT, Delhi has prior agenda while organizing ILP to attract students towards the library and optimize the usage of library resources followed by IIT, Roorkee and IIM, Lucknow have most prior agenda while organizing ILP to attract students towards the library, optimize the usage of library resources, and ability to retrieve data for their assignments efficiently. IIM, Indore has one prior agenda while organizing ILP to develop the ability to retrieve data for their assignments efficiently.

7. It is observed that IITD and IITR libraries covered all related topics in information literacy instructions. Similarly, IIML and IIMI libraries covered topics in information literacy instruction slightly less.

8. The study revealed that IIML has an assessment tool to determine student information literacy competency. Similarly, IITD, IITR, and IIMI have not any assessment tools to determine student information competency.

9. Table 4.2.12 depicts that IL instruction methods were used by the selected libraries. It is clear from table 5.2.12 that IIM, Indore used all IL instruction

methods, i.e. face-to-face, workshop/seminars, online/web-based tutorials, combination of online and face-to-face, printed training manuals, individual instruction at the reference desk for the users. Similarly, IIT, Delhi used IL instruction methods, i.e. face-to-face, workshop/seminars, Online/web-based tutorials, individual instruction at the reference desk and IITR provided IL instruction, i.e. face-to-face, workshop/seminars, online/web-based tutorials, combination of online and face-to-face, printed training manuals, individual instruction at the reference desk, whereas IIM, Lucknow used only two IL instruction methods, i.e. face-to-face and individual instruction at the reference desk for their users. It indicates that the majority of libraries, i.e. IIM, Indore, IIT, Roorkee, and IIT, Delhi felt that providing better information literacy instruction methods to the users will increase the proper utilization of library resources and services.

5.1.2 USER'S PERFORMS

A separate questionnaire has been distributed to find out the user's viewpoint about information literacy skills. This part shows major findings on the basis of the analysis and interpretation of the collected data received from users in the IIM and IIT libraries under study:

- Majority of researchers in IIMI (55.71%) visit to the Library daily, similarly in IIML (52.85%), IITD (48.5%) and IITR (43.5%). It can also be seen m table that majority of PGS in IITD (26%) visit to the library daily, similarly in IIML (23.5%), IITR (22.7%) and IIMI (22.5%). It is also visible from the study that monthly visit to the library by RS of IITR (21.5%) is more than RS of IITD (16.5%), IIML (12.87%) and IIMI (18.57%).

- Response received from the users indicated that the major purpose of information needed by the RS in different institutions admitted using information needed for research work, (71.5%), (69%), (70%) and (68.57%) in IITD, IITR,IIML and IIMI respectively,. Table data also shows low percentage of information needed by PG students, (27%) in

IITR, (25.5%) in IITD, (29.5%) in IIML and (18.5%) in IIMI, admitted using information needed for research work.

- Researchers and PG students work always involves keeping abreast of the recent developments in their respective fields and it can be clearly depicted from the table 4.3.3 that, a percentage of the researchers from the select institutes under the study acknowledged using purpose of information needed by the RS to be research work for Assignment i.e. (26.50%) in IITD, (19%) in IITR, (25.71%) in IIML and (20%) in IIMI.

- The majority of research scholars frequently used information sources for theses/Dissertation moreover (87.5%) in IITD, in IITR (73.5%), IIML (61.42%) and IIMI (55.71%). On the other hand the PG students frequently used information sources for Textbooks (90.5%) in IITD, (82.5%) in IITR, (86%) in IIML and (88.5%) in IIMI.

- Majority of IITR RS respond "familiarity with information literacy" is maximum (82%), IITD RS and IIML RS (69%), IIMI (58.57%). In contrast, IITD PG students familiarity with information literacy moreover (77%), (59.5%) in IITR, (68.5%) in IIML and (64.5%) in IIMI.

- It is observed that research scholars and PG students of IITD, IITR, IIML and IIMI prefer Print medium to access information.

- It reveals that number of research scholars of IIML and IIMI (58.57%) rated their skills highly in printing document files, IITR (62.5%) in opening and saving files, IIMI (61.42%) in making spreadsheets, IIMI (60%) in copying and transferring files, IIMI (58.57%) in drawing pictures rated their skills highly except for power point presentations rated their skills as average, whereas postgraduate students of IIMI (54%), IITR (64.5%), IIMI (67%), IIML (49%) rated their skills highly in printing document files, opening and saving files, copying and transferring files and picture drawing. The majority of postgraduate students of IIML (58.58%) and IIMI (55%), IITR (49.5%) and IITD

(48.5%) rated their skill average in spreadsheet making and IIMI (50.5%) rated their skills as average in Power Point presentations.

- It is observed that postgraduate students were more familiar with Facebook, and WhatsApp than the research scholars. Thus, they were able to make use of these social media platforms for their services.

- It reveals that Google Chrome was more used as browser 38 (54.28%), while the least used browser was Opera 5 (2.5%).

- It is observed that research scholars of IITD (31.5%) prefer "Title" for locating documents on shelves, in contrast research scholars of IITR (28.5%) prefer "Subject" and RS of IIMs prefer "Call number" with (44.28%), (35.71%) IIML, IIMI respectively. In PGS responses, trend is in contrast. None of institutions PGS prefer "Title". The responses of PGS institutions prefer "Subject" with (33.5%), 29.5%), (32.5%) and (33.5%) of IITD, IITR, IIML and IIMI respectively.

- It reveals that the field search (title, author, subject, etc.) were used more by the research scholars and postgraduate students than simple search, and Boolean operators were used less by research scholars and postgraduate students for searching documents.

- It reveals from the study that the research scholars of IITR 88 (44%) rated their skills as average than IIML 27 (38.57%), IITD 71 (35.5%) and IIMI 19 (27.4%) while postgraduate students of IITR 93 (46.5%) more than IITD 92 (46%), IIMI 88 (44%) and IIML 67 (33.5%) rated their skills as average in downloading scholarly articles. The number of research scholars of IIML 31 (44.28%) and IIMI 30 (42.85%) rated their skills highly for searching in Web OPAC while that majority of postgraduate student of IITR 95 (47.5%), IITD 91 (45.5%), IIML 90 (45%) and IIMI 87 (43.5%) rated themselves as low. Most of the research scholars of IITD 89 (44.5%) and IITR 81 (40.5%) rated their skills as average for searching in Web OPAC.

- It is observed that research scholars and PG students do not have a proper awareness regarding information literacy standards, guidelines, and policies.

- It reveals that the highest number of research scholars and PG students participated at the starting of the academic year in the information literacy programmes and the lowest number of responses were observed in case of monthly basis.

- It is observed that the 118 (59%) of research scholars and 98 (49%) of postgraduate students of IITD, whereas the librarian takes responsibility for delivering information literacy programmes. On the other hand, 46 (23%) of research scholars of IITR and 55 (27.5%) of postgraduate students of IITD, where, both librarian and faculty are responsible for conducting information literacy programmes in their library.

- It is identified that majority of research scholars and PG students of selected IIT and IIM libraries attended information literacy programmes organized by the libraries.

- It reveals from the table 4.3.18 that "Authority and Currency" of the web resources was revealed to be the most important criteria in the evaluation of web resources among resources of IITs researchers. However, in IIMs research scholars *checked* the "Accuracy" *credentials* for evaluating the authority of web resources the accuracy.

- It is identified that majority of the research scholars of IITR 132 (66%) more than IIML 39 (55.71%) indicated that they have assessment tools to determine information literacy competency while postgraduate students of IIML 137 (68.5%) more than IITR 119 (59.5%) indicated that they have assessment tools to determine information literacy competency. It is also reveals from the study that research scholars and postgraduate students of IITD and IIMI indicated that they do not have any assessment tools to determine information literacy competency in the users.

- It reveals that the maximum number of RS (49) and IITD (PGS) (64) responses were obtained for the option 'Lack of policy matter" in case of IITD whereas, the least number of RS (9) of response were received for the option 'Lack of trained staff/ Lack of policy matter'. A similarity was observed in IITR, IIML and IIMI.

- The statistical analysis of the data shows that highest satisfaction level (very satisfied) observed among the researchers from IITs and IIMs. Whereas, majority of PGS were 'Moderately satisfied' based on percentage. PGS of IIMI PGS (67%). The obtained Mean signifies that overall the researchers of the four institutes under study were satisfied with the quality of information retrieved through the web.

- The respondents were asked whether they need training to make maximum use of information resources and library services. It reveals from the study that majority of the research scholars of IIMI 68 (97.14%), IIML 65 (92.86%), IITD 173 (86.5%), and IITR 169 (84.5%) were in favour of imparting training while postgraduate students slightly less in favour of imparting training.

5.2 TENABILITY OF HYPOTHESIS

A thorough analysis of previous research investigations and related literature has been significant in formulating the hypothesis for the present study. In the light of findings the tenability of hypothesis formulated for the study is checked and is presented below:

Hypothesis No. 1

H0: The users have considerable awareness of different sources of information.

It is evident from the Table 4.3.4 that the research scholars and postgraduate students were able to identify the appropriate sources of information for their study purposes. Awareness of different sources of information, i.e. textbooks, reference books, journals, newsletters, theses, dissertations, conference and seminar proceedings, Wikipedia, online databases, e-journals, e-books.

t-test

Institutes		Mean	Std. Deviation	Std. Error Mean	F	Sig.	t	Sig. (2-tailed)
RS	IITD	127.25	36.058	127.25	.654	.432	.074	.942
	IITR	126.00	31.555	126.00				
PG	IITD	80.50	52.745	80.50	.325	.578	.749	.466
	IITR	61.88	46.508	61.88				
RS	IIML	35.88	7.918	35.88	1.829	.198	-.408	.690
	IIMI	38.38	15.436	38.38				
PG	IIML	64.75	52.993	64.75	.373	.551	.130	.898
	IIMI	61.25	54.717	61.25				

(RSTD: IITD(RS), RSTR: IITR(RS), PGTD: IITD(PG), PGTR: IITR(PG), RSML: IITML(RS), RSMI: IIMI(RS), PGML: IIML(PG), PGMI: IIMI(PG)

For verification of above data, respondent has applied t-test at 95% confidence interval percentage.

From the above test result, it is clear that significance value (p) of IIT(s) and IIM(s) combination(s) are more than .05, which shows, there is no statistically significant difference between different resources of four institutes.

The table 4.3.6 shows that most of the research scholars of IIT, Delhi (61.5%) than 60% of IIM, Lucknow, 58.57% of IIM, Indore and 46% of IIT, Roorkee rated their skills highly in accessing information in print format. On the other hand postgraduate students of IIT, Delhi (61%) more than 56.5% of IIM, Lucknow 53.5% of IIM, Indore and 48.5% of IIT, Roorkee rated their skills highly for accessing information in print format.

It is clear from the study that for accessing information in print format, the majority of the research scholars and postgraduate students rated their skills highly. Therefore on the basis of the above mentioned results this hypothesis is **proved.**

Hypothesis No. 2

H0: The users have considerable awareness of search strategies and techniques for accessing the required information.

It is clear from Table 4.3.12 that research scholars and postgraduate students' awareness regarding search strategies and techniques were found not significantly different.

t-test

Institutes		Mean	Std. Deviation	Std. Error Mean	F	Sig.	t	Sig. (2-tailed)
RS	IITD	50.00	25.364	12.682	.022	.888	.000	1.000
	IITR	50.00	26.658	13.329				
PG	IITD	50.00	24.536	12.268	1.948	.212	.000	1.000
	IITR	50.00	18.166	9.083				
RS	IIML	17.50	10.970	5.485	.483	.513	.000	1.000
	IIMI	17.50	11.619	5.809				
PG	IIML	50.00	34.986	17.493	.397	.552	.000	1.000
	IIMI	50.00	32.228	16.114				

(RSTD: IITD(RS), RSTR: IITR(RS), PGTD: IITD(PG), PGTR: IITR(PG), RSML: IITML(RS), RSMI: IIMI(RS), PGML: IIML(PG), PGMI: IIMI(PG)

For verification of above data, researcher and PGS have applied t-test at 95% confidence interval percentage.

From the above test result, it is clear that significance value (p) of IIT(s) and IIM(s) combination(s) are more than .05, so there is no statistically significant difference between different resources of four institutes.

It is evident from table 4.3.10 that the maximum research scholars and PG students of IIT and IIM libraries were more familiar with search engines.

It is clear from the table 4.3.11 that all these responses indicate that research scholars and postgraduate students of IIMI and IIML were more familiar with the call number for locating documents on the shelves than the research scholars and postgraduate students of IITR and IITD. Most of the postgraduate students, 67 (33.5%) of IITD and IIMI, 65 (32.5%) of IIML, 59 (29.5%) of IITR indicated that they searched for books according to the subject of the book while research scholars, 60 (30%) of IITD, 57 (28.5%) IITR, 19 (27.14%) of IIMI and 18 (25.73%) searched for books according to the subject of the books. Therefore this hypothesis gets **accepted.**

Hypothesis No. 3

H0: Researchers and postgraduate students are able to use appropriate methods as evaluation criteria while selecting the required information for their study purposes.

It is evident from the Tables 4.3.18 that, the majority of the respondents were more aware of criteria for evaluating information while selecting the required information.

t-test

Institutes		Mean	Std. Deviation	Std. Error Mean	F	Sig.	t	Sig. (2-tailed)
RS	IITD	116.50	14.201	7.100	.269	.623	-.960	.374
	IITR	127.50	17.972	8.986				
PG	IITD	107.75	10.046	5.023	.654	.450	-.242	.817
	IITR	110.25	18.099	9.050				
RS	IIML	27.00	12.832	6.416	.070	.801	.180	.863
	IIMI	25.50	10.630	5.315				
PG	IIML	104.75	16.378	8.189	.447	.529	-.285	.785
	IIMI	108.25	18.319	9.159				

(RSTD: IITD(RS), RSTR: IITR(RS), PGTD: IITD(PG), PGTR: IITR(PG), RSML: IITML(RS), RSMI: IIMI(RS), PGML: IIML(PG), PGMI: IIMI(PG)

For verification of above data, respondent has applied t-test at 95% confidence interval percentage.

From the above test result, it is clear that significance value (p) of IIT(s) and IIM(s) combination(s) are more than .05, so there is no statistically significant difference between different resources of four institutes. Therefore, on the basis of the above findings this hypothesis is **proved.**

Hypothesis No. 4

H0: The majority of the users are able to retrieve the required information from the sources.

It is clear from the table that all these responses indicate that research scholars and postgraduate students of IIMI and IIML were more familiar with the call number for locating documents on the shelves than the research scholars and postgraduate students of IITR and IITD. Most of the postgraduate students, 67 (33.5%) of IITD and IIMI, 65 (32.5%) of IIML, 59 (29.5%) of IITR indicated that they searched for books according to the subject of the book while research scholars, 60 (30%) of IITD, 57 (28.5%) IITR, 19 (27.14%) of IIMI and 18 (25.73%) searched for books according to the subject of the books.

It is clear from Table 4.3.9 that respondents awareness of call numbers were no significantly different from finding to find a document on shelves in the library.

t-test

Institutes		Mean	Std. Deviation	Std. Error Mean	F	Sig.	t	Sig. (2-tailed)
RS	IITD	50.00	13.342	6.671	14.520	.009	.000	1.000
	IITR	50.00	7.394	3.697				
PG	IITD	50.00	16.432	8.216	.006	.943	.000	1.000
	IITR	50.00	16.693	8.347				
RS	IIML	17.50	9.747	4.873	.411	.545	.000	1.000
	IIMI	17.50	7.047	3.524				
PG	IIML	50.00	16.793	8.396	.016	.903	.000	1.000
	IIMI	50.00	16.852	8.426				

(RSTD: IITD(RS), RSTR: IITR(RS), PGTD: IITD(PG), PGTR: IITR(PG), RSML: IITML(RS), RSMI: IIMI(RS), PGML: IIML(PG), PGMI: IIMI(PG)

For verification of above data, researcher and PGS have applied t-test at 95% confidence interval percentage.

From the above test result, it is clear that significance value (p) of IIT(s) and IIM(s) combination(s) are more than .05, so there is no statistically significant difference between different resources of four institutes. Therefore, on the basis of above result hypothesis is **proved.**

Hypothesis No. 5

H0: Research scholars and postgraduate students need more training assistance and guidance on how to use and access electronic and print information resources.

The respondents were asked whether they need training to make maximum use of information resources and library services. It is evident from the table 4.3.22 shows that the majority of the research scholars of IIMI 68 (97.14%), IIML 65 (92.86%),

IITD 173 (86.5%), and IITR 169 (84.5%) were in favour of imparting training while postgraduate students of IITR 187 (93.5%), IITD 184 (92%), IIML 182 (91%), IIMI 179 (89.5%) were in favour of imparting training. It was also found that the research scholars of IITR 31 (15.5%), IITD 27 (13.5%), IIML 18 (9%), IIMI 2 (2.86%) knew how to use resources and services of the library, so they did not need training while postgraduate students of IIMI 21 (10.5%), IIML 18 (9%), IITD 16 (8%), IITR 13 (6.5%) were not in favor of training.

(t-test)

Institutes		Mean	Std. Deviation	Std. Error Mean	F	Sig.	t	Sig. (2-tailed)
RS	IITD	100.00	103.238	73.000	.	.	.000	1.000
	IITR	100.00	97.581	69.000				
PG	IITD	100.00	118.794	84.000	.	.	.000	1.000
	IITR	100.00	123.037	87.000				
RS	IIML	35.00	42.426	30.000	.	.	.000	1.000
	IIMI	35.00	46.669	33.000				
PG	IIML	100.00	115.966	82.000	.	.	.000	1.000
	IIMI	100.00	111.723	79.000				

(RSTD: IITD(RS), RSTR: IITR(RS), PGTD: IITD(PG), PGTR: IITR(PG), RSML: IITML(RS), RSMI: IIMI(RS), PGML: IIML(PG), PGMI: IIMI(PG)

For verification of above data, respondent has applied t-test at 95% confidence interval percentage.

From the above test result, it is clear that significance value (p) of IIT(s) and IIM(s) combination(s) are more than .05, so there is no statistically significant difference between different resources of four institutes.

It is evident from the table 4.3.13 these findings suggest that the research scholars of IITR 88 (44%) rated their skills as average than IIML 27 (38.57%), IITD 71 (35.5%)

and IIMI 19 (27.4%) while postgraduate students of IITR 93 (46.5%) more than IITD 92 (46%), IIMI 88 (44%) and IIML 67 (33.5%) rated their skills as average in downloading scholarly articles. The number of research scholars of IIML 31 (44.28%) and IIMI 30 (42.85%) rated their skills highly for searching in Web OPAC while that majority of postgraduate student of IITR 95 (47.5%), IITD 91 (45.5%), IIML 90 (45%) and IIMI 87 (43.5%) rated themselves as low. Most of the research scholars of IITD 89 (44.5%) and IITR 81 (40.5%) rated their skills as average for searching in Web OPAC.

t-test

Institutes		Mean	Std. Deviation	Std. Error Mean	F	Sig.	t	Sig. (2-tailed)
RS	IITD	95.83	21.094	8.612	.248	.629	.031	.976
	IITR	95.50	16.134	6.587				
RS	IITD	82.50	7.477	3.052	4.370	.063	-.600	.562
	IITR	84.50	3.271	1.335				
RS	IITD	21.67	20.245	8.265	.653	.438	.153	.881
	IITR	20.00	17.367	7.090				
PG	IITD	85.83	19.488	7.956	.010	.922	.279	.786
	IITR	82.67	19.846	8.102				
PG	IITD	86.00	13.594	5.550	1.762	.214	.729	.483
	IITR	79.50	17.097	6.980				
PG	IITD	33.00	31.787	12.977	.045	.836	.000	.789
	IITR	37.83	29.055	11.861				
RS	IIML	39.83	5.913	2.414	.045	.836	.000	1.000
	IIMI	39.83	6.178	2.522				
RS	IIML	25.50	2.074	.847	1.116	.316	3.288	.008
	IIMI	20.67	2.944	1.202				
RS	IIML	4.67	5.354	2.186	1.691	.223	-1.197	.259
	IIMI	9.50	8.313	3.394				
PG	IIML	50.00	34.986	17.493	.378	.552	.124	.904
	IIMI	83.17	18.883	7.709				
PG	IIML	80.83	14.621	5.969	.353	.566	-.206	.841
	IIMI	82.67	16.219	6.622				
PG	IIML	36.00	30.272	12.359	.134	.722	.020	.985
	IIMI	35.67	27.696	11.307				

(RSTD: IITD(RS), RSTR: IITR(RS), PGTD: IITD(PG), PGTR: IITR(PG), RSML: IITML(RS), RSMI: IIMI(RS), PGML: IIML(PG), PGMI: IIMI(PG)

For verification of above data, researcher and PGS have applied t-test at 95% confidence interval percentage.

From the above test result, it is clear that significance value (p) of IIT(s) all combination are more than .05, so there is no statistically significant difference between different resources of four institutes. Therefore, on the basis of the above results this hypothesis is **proved and accepted**.

Hypothesis No. 6

H0: The users are reasonably satisfied with the information literacy programmes offered by the libraries.

The statistical analysis of the data shows that highest satisfaction level (very satisfied) observed among the researchers from IITs and IIMs based on Mean (66.67). Whereas, majority of PGS were 'Moderately satisfied' based on percentage. The obtained Mean signifies that overall the researchers of the four institutes under study were satisfied with the quality of information literacy programmes.

t-test

Institutes		Mean	Std. Deviation	Std. Error Mean	F	Sig.	t	Sig. (2-tailed)
RS	IITD	66.67	28.572	16.496	11.266	.028	.000	1.000
	IITR	66.67	2.517	1.453				
PG	IITD	66.67	14.572	8.413	1.625	.271	.000	1.000
	IITR	66.67	8.021	4.631				
RS	IIML	23.33	10.116	5.840	.153	.716	.000	1.000
	IIMI	23.33	14.503	8.373				
PG	IIML	66.67	7.506	4.333	8.417	.044	.000	1.000
	IIMI	66.67	59.744	34.493				

(RSTD: IITD(RS), RSTR: IITR(RS), PGTD: IITD(PG), PGTR: IITR(PG), RSML: IITML(RS), RSMI: IIMI(RS), PGML: IIML(PG), PGMI: IIMI(PG)

For verification of above data, respondent has applied t-test at 95% confidence interval percentage.

From the above test result, it is clear that significance value (p) of IIT(s) and IIM(s) combination(s) are more than .05, so there is no statistically significant difference between different resources of four institutes.

It is evident from the table 4.3.17 shows that the majority of the research scholars of IITR 156 (78%), IIML 47 (67.14%), IITD 134 (67%), and IIMI 45 (64.28%) attended information literacy programmes while postgraduate students of IIML 147 (73.5%), ITD (145 (72.5%), IITR 137 (68.5%) and IIMI 134 (67%) attended information literacy programmes. It is found from the study that research scholars of IIMI 25 (35.72%), IITD 66 (33%), IIML 23 (32.86%) and IITR 44 (22%) did not attend information literacy programmes while postgraduate students of IIMI 66 (33%), IITR 63 (31.5%), IITD 55 (27.5%) and IIML 53 (26.5%) did not attend the information literacy programmes.

t-test

Institutes		Mean	Std. Deviation	Std. Error Mean	F	Sig.	t	Sig. (2-tailed)
RS	IITD	100.00	48.083	34.000	.	.	.000	1.000
	IITR	100.00	79.196	56.000				
PG	IITD	100.00	63.640	45.000	.	.	.000	1.000
	IITR	100.00	52.326	37.000				
RS	IIML	35.00	16.971	12.000	.	.	.000	1.000
	IIMI	35.00	14.142	10.000				
PG	IIML	100.00	66.468	47.000	.	.	.000	1.000
	IIMI	100.00	48.083	34.000				

(RSTD: IITD(RS), RSTR: IITR(RS), PGTD: IITD(PG), PGTR: IITR(PG), RSML: IITML(RS), RSMI: IIMI(RS), PGML: IIML(PG), PGMI: IIMI(PG)

For verification of above data, respondent has applied t-test at 95% confidence interval percentage.

From the above test result, it is clear that significance value (p) of IIT(s) and IIM(s) combination(s) are more than .05, so there is no statistically significant difference between different resources of four institutes. On the basis of above findings this hypothesis is **proved to be true**.

5.3 SUGGESTIONS AND RECOMMENDATIONS

On the basis of findings consequent from the study, the view received from the librarians and users; and personal observation of the investigator, the following suggestions are made for improving and ensuring the information literacy competency in users of the libraries:

1. Librarians and authorities of the institute should insist on students attending library orientation to increase their awareness regarding organization of information and understanding of library tools, services, and resources.

2. The finance and other facilities should be provided by the libraries to organize the information literacy programmes.

3. It is suggested that users need orientated information literacy programmes which should be organized regularly.

4. There should be one compulsory library based assignment.

5. Information literacy Instruction should be integrated into the curriculum as a credit based score.

6. As it was found that users were not aware of search techniques and strategies, i.e. Boolean operators, field search, etc should be included and librarians should reinforce their learning.

7. There should be number of computers having good bandwidths with internet/intranet access available in the library for the users to provide faster access and better downloading speed and save the time of users.

8. Library Staff should be given adequate technical training from time to time to handle up with the latest updates in the technological development.

9. MHRD, UGC, and NAAC have identified information literacy instruction as one of the best practices. This should be converted into Information Literacy Policy.

10. It was found that users lacked awareness of the tools for retrieving the required documents. The librarian should collaborate with IT professionals and database vendors to make searching simple and easy.

11. It was found that the libraries do not have the assessment tools to determine information literacy competency in the users. Librarians should have the relevant tools which will help in designing effective information literacy programmes.

12. Collaboration between teachers and librarians is essential for enhancing the information literacy skills of the users.

13. Librarians and teachers should be trained for preparing information literacy programmes.

5.4 CONCLUSION

Researchers and PG students work always involves keeping abreast of the recent developments in their respective fields and it can be clearly depicted from the table 4.3.3 that, a percentage of the researchers from the select institutes under the study acknowledged using purpose of information needed by the RS to be research work for Assignment i.e. (26.50%) in IITD, (19%) in IITR, (25.71%) in IIML and (20%) in IIMI. For accessing information in electronic format, the majority of the research scholars of IIM, Lucknow and IIM, Indore (57.14%), 45% of IIT, Roorkee and 44.5% of IIT, Delhi rated their skills highly, whereas the majority of research scholars and postgraduate students were unfamiliar with search techniques and strategies, i.e. Boolean operators, field search (title, author, subject, etc.) used for searching in an online databases. Therefore, it was found that respondents faced difficulties with information retrieval tools like, call numbers, use of keywords and Boolean operators. It reveals from the study that postgraduate students were more familiar with Facebook, and WhatsApp than the research scholars. Thus, they were able to make use of these social media platforms for their services.

Everybody needs to develop information literacy and computer literacy competence. It was revealed from the study that institutes should develop assessment tools to determine information literacy competency for the users. The study also reveals that the majority of the respondents are able to identify and evaluate the required information. The study shows that an information literacy programme is inevitable for the research scholars and postgraduate students to make them more information literate. Information literacy instructions and training programmes needs to be organized on a regular basis due to the rapid growth of electronic and web-based information resources. Management and technology library professionals should do efforts to develop complete training programme or information literacy course not only for PG students and research scholars but for faculty members and UG students also, so that the existing gap between the capabilities and skills of the students and faculty can be improved. These training and instruction programmes should be revised and improved on regular basis. The library and information science professionals and teachers can do a lot to achieve this goal.

5.5 SUGGESTIONS FOR FURTHER RESEARCH

The present study has exposed the information literary among the research scholars and postgraduate students of selected IIT and IIM libraries. Similar type of studies can also be conducted on the following topics:

- Information Literary Competency of the Research Scholars of Engineering Colleges.
- Assessment of Information Literary Skills of Medical Students.
- Status of Information Literacy Programmes in Indian University Libraries.

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Appendices

Appendix-A

Information Literacy Among Users of Select IIT and IIM Libraries: A Comparative Study

Questionnaire for Librarian

1. Please tick (√) wherever appropriate.
2. Please fill the information in the blank space.
3. You may also provide more relevant information not included in the questionnaire, in a separate sheet if required.

PART-A: INSTITUTE/LIBRARY PROFILE

1. The Institute/Library

i. Name and Address of the Library----------
---------- ---------- ----------

Phone No----------Fax----------

E-mail:----------

Library Website----------

ii. Head of the Library: Mr./Ms./Dr./Prof.----------

Designation----------

2. Working Hours

Description	
Number of working days (approximately/ year)	
Opening hours (working days)	
Opening hours (Saturdays, Sundays and holidays)	

3. Library Collection

Items	Description	
	Print	**Electronic**
Books		
Current Journals		
Bound Journals		
PhD Thesis		
Online Databases		
Dissertations		
CD-ROMs		
Manuscripts		
Rare Books		
Audio Cassettes		
Videos		
Microfilms/Microfiches		
Magnetic Tapes/Films		
Others (Please specify)		

4. Library Staff

Designation	Strength
Librarian	
Deputy Librarians	
Assistant Librarians	
Information Scientist/Officers	
Professional Assistants	
Semi-Professional Assistants	
Library Assistants	
Technical Assistants	
Library Clerks	
Curators	
Library Attendants	
Others	

5. No. of Registered Library Users

Category of Users	Strength
Research Scholars	
Postgraduate Students	

6. Allocation of Annual Budget (2015-16)

S. No.	Particular	Total (In Rs.)
1.	Annual budget of the Information Literacy Programmes	
2.	Annual budget of the reading material (non-print)	
3.	Annual budget of the Information Technology, networking and automation work	
4.	Online journals, hardware and software	
5.	Others	
	Total	

7. Please state whether the library budget is:
   a. Adequate
   b. Fairly adequate
   c. Inadequate

8. Please state whether the budget for Library Information Literacy programmes are:
   a. Adequate
   b. Fairly adequate
   c. Inadequate

9. Which of the following housekeeping/automation software do you use in the library?
   a. SOUL
   b. KOHA
   c. LIBSYS
   d. E-Granthalaya
   e. NewGENLIB
   f. VIRTUA
   g. Other

10. Which of the following digital library software do you use in the library?
    a.GSDL
    b.D-Space
    c.E-Print
    d.None

11. Please mention the total number of PCs/workstations available to the library technical staff:

    Number of Computers/PCs……

12. Please indicate the library services available in the library (Please tick):
    a. User Education
    b. CAS
    c. SDI
    d. Indexing Services
    e. Abstracting Services
    f. Reprographic Services
    g. Translation Services
    h. Referral Service
    i. Literature Search Services

13. Is your library connected/associated with? (Please tick)
    a. DELNET
    b. INFLIBNET
    c. BONET
    d. ADINET
    e. CALIBNET
    f. MLIBNET
    g. NICNET
    h. SIRNET

14. Do you participate in any consortia for electronic journals? (Please tick)
    a. J-gate/JCCC
    b. UGC Infonet
    c. INDEST
    d. EBSCO

PART-B: INFORMATION LITERACY

1. Does your library provide Information Literacy (IL)?
   a. Yes
   b. No

   If yes, since when?
2. For whom does your library offer Information Literacy Programmes?
   a. Research Scholars
   b. Postgraduate Students
   c. Undergraduate Students
   d. Faculty
   e. Administrative Staff

3. How do you conduct Information Literacy Programmes, as per
   a. Department-wise
   b. Faculty-wise
   c. Class-wise
   d. Subject-wise
   e. Common for all category of users
   f. Other

4. Which social media platform services were used by the library? (Please tick)
   a. Facebook
   b. Orkut
   c. Blogs
   d. Twitter
   e. Worldflot
   f. WhatsApp
   g. Any other

5. Which Internet browser are you familiar with? (Please tick)
   a. Google Crome
   b. Mozilla Firefox
   c. Internet Explorer
   d. Opera
   e. Don’t Know

6. Which Internet search engine do you use? (Please tick)
   a. Google
   b. Yahoo
   c. Rediff

d. Bing
e. Lycos
f. Don't know
g. Any other

7. As a librarian what is your prior agenda while organizing information literacy programmes?
   a. To attract students towards the library
   b. To optimize the usage of library resources
   c. To prepare students for group discussions
   d. Ability to retrieve data for their assignment efficiently
   e. Other

8. Does your organization have a librarian specifically assigned to work with faculty and students in the teacher education programme?
   a. Yes
   b. No

9. Have you changed or modified your course(s) to increase student awareness and knowledge of information literacy standards?
   a. Yes
   b. No

   If yes…how?
   c. Added lecture/discussion
   d. Added new assignment
   e. Modified existing assignment
   f. Added test items
   g. Other (please specify)

10. What barriers, if any, have you encountered when trying to incorporate information literacy standards into your courses?
    a. Not enough time in the course to add extra content
    b. Don't know how these standards relate to the content of my course
    c. Don't have enough expertise to discuss the information literacy standards
    d. Lack of institutional support
    e. Lack of student interest
    f. Students vary in technology expertise
    g. Not part of the curriculum
    h. None
    i. Other

11. Please check any international literacy standards you use in your ILP

a. AASL – American Association of School Libraries (i.e. Information Power)
b. ACRL – Association of College and Research Libraries
c. ISET – International Society for Technology Education
d. Other (please specify) e. None

12. Does your library have an assessment tool to determine student information literacy competency?
    a. Yes
    b. No

    If yes, please specify
    c. Locally created objective test
    d. Objective test provided by the state, outside testing agency, or commercial provider
    e. Project-based
    f. Portfolio
    g. Demonstration of skills
    h. Other

13. Please tick the types of IL instruction your library has provided during the last one year. (Tick all that apply).
    a. Library orientation
    b. Guided library tour
    c. Introductory information skills (e.g. catalogue instruction, introduction to the library website)
    d. Advanced information skills (e.g. database training, advanced Internet searching)
    e. Research-level skills (e.g. conducting literature search and managing information, reference styles, citation management software training, scholarly publishing, etc.)

14. Please tick the topics covered in IL instruction programmes. (Tick all that apply).
    a. Introduction to library resources, services, and policies
    b. Online public access catalogue (OPAC)/library catalogue introduction
    c. Library website introduction
    d. Identification of their own information needs
    e. Online searching techniques
    f. Use of medical databases
    g. Use of search engines
    h. Use of Higher Education Commission (HEC) Digital Library

i. Evaluation of information
j. Plagiarism awareness/ethical use of information
k. Copyright
l. Citation of information (referencing styles)
m. Use of citation management software (EndNote, RefWorks, etc.)
n. Scholarly publishing
o. Other topics (please specify)

15. When is IL instruction provided? (Tick all that apply).
    a. Whenever asked to do so
    b. To new session/first-time users
    c. IL is a required course for students
    d. At a specific time after the installation or acquisition of a new system or information sources
    e. Other (please specify)

16. Where do you provide IL instruction?
    a. In library training room
    b. In lecture hall outside the library
    c. In computer lab
    d. Other (please specify)

17. Which of the following methods do you use for IL instruction? (Tick all that apply).
    a. Face-to-face
    b. Workshops/seminars
    c. Online/web-based tutorials
    d. Combination of online and face to face
    e. Printed training manuals
    f. Individual instruction at the reference desk
    g. Other (please specify)

18. Do you assess the effectiveness of your IL instruction session?
    a. Yes
    b. No

    If your answer is "Yes," then which of the following methods do you use for assessing effectiveness of your IL instruction session? (Tick all that apply).
    c. Quizzes
    d. Multiple choice questions
    e. Short answers
    f. Written feedback

g. Oral feedback
h. Assignment
i. Assessment through practical searching in computer lab
j. Collaborative learning exercise in class
k. Other methods (please specify)

19. Are IL instruction programmes developed in consultation with teachers?
    a. Yes
    b. No

20. Who runs the IL instruction programmes in your institution?
    a. Librarians
    b. Faculty
    c. Both librarians and faculty in collaboration
    d. Other (please specify)

21. What, in your opinion, are the forces that hamper smooth implementation of Information Literacy Programmes in your library? (Please tick)

    a. Lack of staff
    b. Lack of trained staff for imparting user education/information literacy programmes
    c. Lack of enthusiasm/interest in staff for conducting such a program
    d. Lack of finance
    e. Lack of administrative support
    f. Lack of policy in this regard
    g. Need for user education/information literacy programme not felt
    h. Any other (please specify)

22. Do you have any suggestions and comments regarding information literacy?

Thank you for your time and thoughtful response.

Appendix-B

QUESTIONNAIRE FOR RESEARCH SCHOLARS AND POSTGRADUATE STUDENTS

QUESTIONNAIRE

4. Please tick (√) wherever appropriate.
5. Please fill the information in the blank space.
6. You may also provide more relevant information not included in the questionnaire, in a separate sheet if required.

---

1. The Institute/Library

i. Name and Address of the Library----------

Phone No----------Fax----------

E-mail:----------

ii. Head of the Library: Mr./Ms./Dr./Prof.----------

Designation----------

2. How do you meet day-to-day information requirement?

Search	Very frequently	Frequently	Occasionally	Never
Manual searching				
Computer searching				
Internet searching				

3. Reason for using information from the library?

Purpose	Regularly	Sometimes	Rarely	Never
Research Work				
Article preparation				
Attending seminar/workshop				
General				

Knowledge				
Recreational information				

4. Which format of information do you prefer?

Information Format	Regularly	Sometimes	Rarely	Never
Electronic form				
Print form				

5. From where do you get your needed information? (Please tick)
   a. Central Library
   b. From senior faculty
   c. Purchase/personal collection
   d. Use Online Resources
   e. Newspaper
   f. Television/Radio

6. Please tick (√) the frequently used information sources (You may √ more than one)

Information Sources	
Print/Electronic Journals	
Textbooks	
Reference Books	
Newsletters	
Theses/Dissertations	
Wikipedia	
E-database/e-books	

7. To find a book on the shelf in the library you need: (i) ISBN number ____ (ii) Call number ____ (iii) Title ____ (iv) Author ____

8. Which type of computer/gadget do you have?
   a. Personal Computer
   b. Laptop
   c. Tablet

d. Note Pad
e. Any other

9. Which computer peripheral are you familiar with?
    a. Printer
    b. Scanner
    c. Mouse
    d. Key Board
    e. Pen Drive
    f. CD/VC Drive

10. Which social platform services are you familiar with? (Please tick)
    a. Facebook
    b. Orkut
    c. Blogs
    d. Twitter
    e. Worldflot
    f. WhatsApp

11. Which Internet browser are you familiar with? (Please tick)
    a. Google Crome
    b. Mozilla Firefox
    c. Internet Explorer
    d. Opera
    e. Don't know
    f. Any other

12. Which Internet search engine do you use? (Please tick)
    a. Google
    b. Yahoo
    c. Rediff
    d. Bing
    e. Lycos
    f. Don't know
    g. Any other

13. Does your library provide Information Literacy (IL)?
    a. Yes
    b. No

If yes, since when?

14. Information Literacy is provided to which category of users?
    a. Research Scholars
    b. Post

c. Postgraduate Students
d. Undergraduate Students
e. Faculty
f. Administrative Staff

15. Is the Information Literacy Programme conducted in stages/phases?
    a. Yes
    b. No

If yes, please specify

16. When is the programme conducted? (Please tick)
    a. Starting of the academic year
    b. Monthly basis
    c. Somewhere in the middle of the course
    d. No fixed time
    e. Any fixed time (please specify)

17. Where is the programme conducted? (please tick)

    (i) In the library
    (ii) In the user's workplace (i.e. department)
    (iii) Any other (please specify)

18. What are the specific information literacy skills that are included in your teaching?
    a. Internet searching
    b. Evaluation of sources
    c. Use of electronic databases such as INDEST, JSTOR, EBSCO, etc.
    d. Identification of appropriate sources for information
    e. Formulation of search strategies
    f. Other (please specify)

19. Who gives training?
    a. Library staff
    b. Academic staff
    c. Both library and academic staff in collaboration
    d. Staff of e-publishers

20. Is attending Information Literacy Programmes compulsory for all users?
    a. Yes
    b. No

If yes, for which category of users

21. How would you rate your Computer Literacy Skills? Please tick (√)

Computer Skills	High	Average	Low
Print Document File			
Open & Save File			
Make a Spreadsheet			
Copy/Transfer File			
Draw Picture			
Make Power Point Presentation (PPT)			

22. Do you use the following criteria for evaluating information in different formats?

Evaluation Criteria	Yes	No
Currency		
Relevancy		
Accuracy		
Authority		

23. How would you rate your Internet Literacy Skills?

Internet Skills	High	Average	Low
How would you rate your Internet Literacy Skills?			
Attach a file to an e-mail			
Web browsing			
Copy/ download files			
Download scholarly			

article			
Search in Web OPAC			

24. Has Information Literacy been integrated into the curriculum of courses run by the institution?
    a. Yes
    b. No

    If yes, please specify

25. Are any international/national standards/models of Information Literacy followed for providing Information Literacy?
    a. Yes
    b. No

    If yes, please specify

26. How is Information Literacy imparted? (Please tick)
    a. Face-to-face

        Lecture
        Seminars and discussions
        Workshops
        Library tours and demonstrations

    b. On-line

        Lecture programmes
        Seminars and discussions
        Workshops
        Virtual library tours

    c. Web-based self tutorial programmes
    d. Computer-based self-tutorial programmes on CDs
    e. Printed handout
    f. Individual help at point of use
    g. Any other, please specify

27. Which of the following items are part of the Information Literacy Programme? (Please tick)
    a. Library organizational structure
    b. Library rules and regulations
    c. Importance of library and role of library staff
    d. Information sources and their peculiarities
    e. Selection of right information source
    f. Information services provided by the library
    g. Library classification

h. Use of library catalogue
i. Use of other retrieval tools like indexes, bibliographies, etc
j. Use of path finders
k. Basics of computer
l. Using computers (practical skills)
m. Basics of internet
n. Using internet (practical skills)
o. Media literacy
p. Research literacy
q. Search strategy
r. Search engines and search techniques
s. Using e-documents and databases
t. Intellectual Property Right
u. Writing references
v. Communication literacy
w. Social literacy
x. Report writing
y. Fair use and plagiarism
z. Any other, please specify)

28. Are you aware of various search techniques and strategies?
    a. Simple key words
    b. Boolean operators (AND, OR, NOT)
    c. Truncation
    d. Field search (title, author, subject, etc.)
    e. Other

29. Do you have a separate section/staff to deal with Information Literacy Programmes?
    a. Yes
    b. No

    If yes, please specify
    If no, who handles the Information Literacy Programmes?

30. Which of the following best describe(s) articles published in a scholarly journal?
    a. It includes a list of references
    b. The information is written for the lay person
    c. It has been evaluated by an editorial board before publication
    d. The research method used is described
    e. None of the above
    f. Don't know

31. Among the characteristics that are used to evaluate the quality of an Internet site one finds:
    a. The author is known in the field
    b. The date of publication is provided
    c. The site is rapidly accessible
    d. None of the above
    e. Don't know

32. Does your institution have an assessment tool to determine student Information Literacy competency?
    a. Yes
    b. No

    If yes, please specify
    (i) Locally created objective test
    (ii) Objective test conducted by the institution, outside testing agency, or commercial provider
    (iii) Project based
    (iv) Portfolio
    (v) Demonstration of skills
    (vi) Other

33. Which of the following steps are taken to promote information literacy?
    a. Circulate information to departments
    b. Post information on notice board and library blogs
    c. Post information on library website
    d. Circulate brochures, pamphlets, etc.
    e. Send individual e-mails to users
    f. Involve faculty members
    g. Any other, please specify

34. How do you incorporate research/information literacy skills into your teacher education courses?
    a. Faculty provides the instruction
    b. A librarian provides the instruction
    c. Faculty provides links to online tutorials or supporting materials
    d. The skills are taught in another course common to all teacher education students
    e. A combination of two or more of the above
    f. Collaborate with librarian
    g. Don't incorporate it because we assume the students already have the necessary skills
    h. Other

35. What barriers, if any, have you encountered when trying to incorporate information literacy standards into your courses?

a. Not enough time in the course to add extra content
b. Don't know how these standards relate to the content of my course
c. Don't have enough expertise to discussion the information literacy standards
d. Lack of institutional support
e. Lack of student interest
f. Students vary in technology expertise
g. Not part of the curriculum
h. None
i. Other

36. If Information Literacy Programmes are not yet introduced, will they be introduced in the near future? (Please specify tentative time of introduction)

37. What, in your opinion, are the forces that hamper smooth implementation of Information Literacy Programmes in your library? (Please tick)

i. Lack of staff
j. Lack of trained staff for imparting user education/information literacy programmes
k. Lack of enthusiasm/interest in staff for conducting such a programme
l. Lack of finance
m. Lack of administrative support
n. Lack of policy in this regard
o. Need for user education/information literacy programme not felt
p. Any other (please specify)

38. Do you have any suggestions and comments regarding Information Literacy?

Thank you for your time and thoughtful response.

(Signature of respondent)

Name----------

Qualification----------

Appendix-C

PROFILE OF LIBRARIES UNDER STUDY

1. INDIAN INSTITUTE OF TECHNOLOGY, DELHI

The Indian Institute of Technology Delhi is one of the fifteen IITs created to be the centre of excellence for training, research and development in Science, Engineering and Technology in India. Established as the College of Engineering in 1961, the institute was later declared as an Institute of National Importance by the Government of India under Institutes of Technology (Amendment) Act 1963 and was renamed "Indian Institute of Technology, Delhi". It was then accorded the status of a deemed university with powers to decide its own academic policy, to conduct its own examinations, and to award its own degrees.

CENTRAL LIBRARY

The IIT Delhi Library System comprises a Central Library and 18 departmental libraries that collectively support the teaching, research and extension programmes of the Institute. The Central Library houses a total collection of over three lakh documents comprising books, theses, journals, video cassettes and compact discs in the fields of Science, Engineering, Humanities, Literature and Management. All in-house operations in the library are fully computerized using the Libsys software package that also provides Web-based access to the online catalogue of the library.

The "Indian National Digital Library in Engineering Sciences and Technology (INDEST) Consortium" was set up in 2003 by the Ministry of Human Resource Development (MHRD) on the recommendation of an Expert Group appointed by the Ministry. The IIT Delhi has been designated as the Consortium Headquarters to coordinate its activities. The Consortium enrols engineering and technological institutions as its members and subscribes to electronic resources for them at discounted rates of subscription and favourable terms and conditions.

COLLECTIONS AND RESOURCES

The library has extensive collections on science, technology, humanities, social science and management science. Besides, general and specialized collections in the library are segregated with collection codes as mentioned below:

S. No.	Collection	Collection Size in Number
1.	General Collection	2,15,500
2.	Reference Collection	
3.	Conference Proceedings	
4.	Text Book	
5.	Book Bank	
6.	Progress Reports	
7.	Standards	26,923
8.	Technical Reports	13,430
9.	Theses and Dissertations	3,966
10.	Microfiches and Microfilms	2,261
11.	Current Journals	714
12.	Bound Volumes of Journals	1,05,200

- **Video Collection:** The library is equipped with video viewing facility and has a collection of more than 1,800 CDs kept in the Computer Application Division of the Central Library for viewing.
- **Print Journals and Bound Volumes of Journals:** The library subscribes to 714 current journals (print with online) with back volumes running into more than 1,05,200 bound volumes (print) of journals. Of 714 journals subscribed; 614 are also accessible online from the publishers' website. Links to these electronic journals are available through the library websites as well as through the Library Web OPAC at http://library.iitd.ac.in.

ELECTRONIC RESOURCES

- **Network-based CD ROM Search Services**

The library has a complete collection of Indian Standards and ASTM on CD-ROM that is available on the campus network. The resources can be accessed on the Internet at the URLs given below or through the library website at http://library.iitd.ac.in:

- Indian Standards http://10.116.2.102/bis/
- ASTM Standards http://10.116.2.102/astm/
- IEC Standard http://10.116.2.102/iec/

- **Electronic Journals and Online Bibliographic Databases**

Besides, the Institute has access to over 10,000 full text electronic journals and 6 bibliographic databases from a number of publishers and aggregators through the INDEST-AICTE Consortium.

- **Electronic Books**

The Institute has access to electronic books from the following publishers/aggregators:

- E-brary (http://ebrary.com/lib/iitdelhi/home.action)
- Myilibrary (http://myilibrary.com/home.aspx)
- E-Text Book (http://library.iitd.ac.in/txtbooks.php)

- **DELNET**

The Central Library, IIT Delhi is a member of DELNET. As such, the users at the IIT Delhi can access databases hosted by DELNET.

LIBRARY SERVICES AND FACILITIES

- **OPAC (Online Public Access Catalogue)**
- **Readers' Assistance**
- **Inter Library Loan (ILL) and Resource Sharing Facility**
- **Photocopying Facility**
- **Textbook and Book Bank Facility**
- **Video Collection and Video Viewing Facility**

- **Computer and Networking Infrastructure in the Library**
- **Computerization of In-House Activities**
- **RFID Implementation in the Library**
- **Institutional Repository at IIT Delhi (http://eprint.iitd.ac.in/dspace/)**
- **Database of Research Articles by the Faculty and Researchers of IIT Delhi**

2. INDIAN INSTITUTE OF TECHNOLOGY, ROORKEE

IIT Roorkee ranks among the oldest Engineering education institutes in the world. It was established in 1847 as Roorkee College of Civil Engineering mainly to train native engineers for the ongoing Ganges Canal. This was renamed Thomason College of Civil Engineering in the memory of its founder James Thomason in 1854. Thomason College was again converted to Thomason College of Engineering in 1945 when the departments of Electrical Engineering and Mechanical Engineering were added. During its hundred years of existence, Thomson College produced many great engineers and technocrats and created new heights of excellence.

During 2001, after creation of Uttarakhand state, the Parliament of the country gave it the status of Institute of National Importance and converted it to the Indian Institute of Technology Roorkee. The Institute has completed the 150th year of its existence in October 1996. On September 21, 2001, an Ordinance (later on Act) issued by the Government of India declared it as the nation's seventh Indian Institute of Technology making it an "Institution of National Importance". (http://mgcl.iitr.ac.in/aboutus%20new.html)

The Institute offers Bachelor's Degree courses in 10 disciplines of Engineering and Architecture and Postgraduate's Degree in 55 disciplines of Engineering, Applied Science, Architecture and Planning. The Institute has facilities for doctoral work in all Departments and Research Centres.

Mahatma Gandhi Central Library

The MGCL of the Institute finds a unique place in the academic library scenario in this part of the world. It is an amalgamation of the classic and modern. While it is one of the oldest academic libraries in the country, it is housed in a 80, 000 sq. ft. state-of-the-art ultra-modern centrally air-conditioned building equipped with all the latest ICT facilities spread over on four floors.

The Library building, equipped with surveillance system, has been aesthetically designed for around 500 users keeping in view comfort for cosy access and intelligent use by all kinds of users. The main attraction to the building is availability of simple natural lights for reading. It uses RFID technology for providing human intervention free service to users. It provides seamless wi-fi access connectivity throughout the building besides wired connectivity for more than 200 computers. Its well-equipped imaging centre uses two Minolta Planetary Scanners for digitization of documents for Institute Repositories "Bhagirathi" and "Shodh-Bhagirathi" containing the Institute's archival materials, theses, dissertations and other valuable publications.

COLLECTIONS AND RESOURCES

The library is rich in the following types of current information resources for meeting the users' information needs: Printed Books, Textbooks, Reference Books, Printed Journals, Theses and Dissertations, Online e-journals, Standard/patents, Archival Collection Audio/Visuals Databases. The library contains around 4 lakhs documents in print in its collection. It's e-resource collection is robust which comprises 15,000 current e-journals, 2 lakhs back volumes of e-journals, 2 lakhs standards and patents, 2 million theses and dissertations (including Pro Quest database), 35,000 e-books, and Access to World eBook Library (WeL).

MGCL provides access to eBooks from Elsevier Science, Springer, CRC Press, CUP, OUP, John Wiley, Tata McGraw-Hill and Pearson Education. Access for Print and Online journals are available from all major societies' publishers, viz. ASCE, ASME, ACS, AIP, APS, AMS, AICHE, IEEE, ASM, RSC, RS, AAAS, etc. and all major STM publishers like Elsevier Science/T&F/CUP/OUP/Springer/John Wiley. (http://mgcl.iitr.ac.in/collectionnew.html)

LIBRARY MEMBERSHIP

All current IITR students, research scholars and professionals/industrialists are eligible to become members of the library.

LIBRARY SERVICES AND FACILITIES

SELF CHECK-IN/CHECK-OUT FACILITY

The user can issue/return library book(s) in his/her name/account through self-check-in/check-out terminal kept inside the library using his/her log-in details provided by MGCL, without any physical intervention/support of library staff on any day in the week. Library staff may be consulted for any assistance anytime.

E-RESOURCE TERMINALS

MG Central Library provides a sufficient number of the latest computers for browsing academic information available online through Internet. Separate computers have also been provided on every floor for searching the library's catalogue.

Wi-Fi CONNECTIVITY

All floors in the library are Wi-Fi enabled zones. Users may use their laptops, mobiles, or any other similar devices for accessing catalogues and academic information.

HOW TO SEARCH PRINT COLLECTION

MGCL's documents collection can be browsed through Single Window catalogue search for bibliographical details from http://mgcl.iitr.ac.in/

PERIODICAL SECTION

Print and online research journals are subscribed and displayed for users in this section.

HOW TO SEARCH PRINT JOURNALS

The current year's print journals subscribed by MGCL are displayed alphabetically according to subject in the display racks. For old volumes of journals LIST OF SERIALS HOLDINGS file can be downloaded from MGCL website for reference.

HOW TO SEARCH E-RESOURCES/E-JOURNALS

MGCL have subscribed access rights for a huge collection of scientific e-books/e-journals/e-standards, e-databases, etc for permanent download and use for its users, which can be browsed through http://mgcl.iitr.ac.in/.

BOOK SECTION

All the printed books of general reference nature have been stacked on the first floor, Books have been classified and arranged following the Dewey Decimal Classification Scheme. Suitable subject guides have been provided for users' help at relevant places.

OPEN ACCESS AND SHELF ARRANGEMENT

Library users have the privilege of direct access to the shelves in the book stacks, reading halls and may enjoy the freedom to browse among the books, journals during specified hours. On shelf, classified arrangement of books or journals is maintained.

BOOK BANK FACILITY

The section exclusively contains 60,000 textbooks prescribed for study at the undergraduate and M.Sc./M.Tech. (Earth Sciences/Bio.Tech) level. One may get 5 (3+2) textbooks issued for the duration of the whole semester.

RESEARCH REFERENCE AND INFORMATION SERVICES

This section contains research and reference tools such as atlases, bibliographies, biographical dictionaries, data-books, dictionaries (general and special), directories, encyclopaedias, gazetteers, guides to literature, handbooks, maps, thesaurus, etc. It also contains the latest books for competitive exams such as GATE, GRE, CAT, GMAT, etc.

3. INDIAN INSTITUTE OF MANAGEMENT LUCKNOW

The Indian Institute of Management Lucknow is an autonomous public Business School located in Lucknow. It was established in 1984 as the fourth Indian Institute of Management (IIM) by the Government of India. IIM Lucknow offers Postgraduate diploma fellowships and executive programmes in management. It is recognized as an "Institution of Excellence" by India's Ministry of Human Resource Development and is ranked among the top 5 B-schools in India. (http://www.iiml.ac.in/?page_id=10)
IIM Lucknow also serves as the mentor institution for the newly established IIM Rohtak and IIM Kashipur.

GYANODAYA LIBRARY

Stocking a rich collection of over 60,000 select learning resources in the discipline of management and related areas, in a variety of formats and operating from a 30, 000 sq. ft. spacious, centrally located, air conditioned building, built on most modern lines, equipped with ergonomically designed furniture and fittings, managed by a highly dedicated team of professionals, the library caters to the information needs of its highly demanding clientele, by offering a wide range of Information Technology (IT) based (and value-added) services and products.

LIBRARY COLLECTIONS

The Collections of the IIML are as follows:

Sr. No.	Collections	Number
1.	Books	34882
2.	Cases	516
3.	Children's Books	650
4.	Reference Books	5000
	Periodicals	
1.	Current Periodicals (Hard Copy)	564
2.	Indian	212
3.	Foreign	352
4.	Light Magazines	24
5.	Newspapers	21
6.	E-journals	891
7.	Back Files (Bound Volumes)	13802
8.	Micro Films and Fiches	11875
	E-databases	
1.	No. of Databases	26
2.	Through paid subscription	12
3.	Through INDEST	14

SPECIAL SERVICES

Besides, a member will be entitled to receive a free copy of each of the library's Current Awareness Bulletins. These include: (i) Current additions of books and reports; and (ii) Current contents of periodicals.

In addition, members may avail themselves of the following fee-based services:

Reprographic Services: On request, photocopies of the documents available in the library may be provided subject to copyright restrictions.

Retrospective Searches: On request, retrospective literature searches, on topics of interest, will be conducted by the library. The service would include all the sources held by the library in print, non-print as well as the magnetic media.

Selective Dissemination of Information (SDI) Services: It is proposed to start the service wherein monthly lists of articles matching the interest profiles of the members, would be sent to keep them updated with the latest literature appearing in the most recent issues of national and international periodicals..

Borrowing Facility:

4. INDIAN INSTITUTE OF MANAGEMENT INDORE

With the objectives of imparting high quality management education and training, the Department of Higher Education, Ministry of Human Resource Development, Government of India established the Indian Institute of Management Indore as an institution of Excellence. These institutions are recognized as premier management Institutions, comparable to the best in the world for teaching, research and interaction with industries.

Established in 1996, IIM Indore is the sixth in the family of state-supported management schools. Since its inception, IIM Indore has acted as a leader in the field of management education, interfacing with the industry, government sector and PSUs. IIM Indore is registered as a Society under the Societies Registration Act. 1973.

Situated atop a scenic hillock, the 193-acre campus of IIM Indore provides an ideal backdrop for contemplative learning. IIM Indore has the latest in teaching aids, rich learning resources, a strong IT backbone, state-of-the-art sports complex and hostels as well as contemporary infrastructure. (http://www.iimidr.ac.in/about-us/iim-indore-at-a-glance/)

THE LEARNING CENTRE (LIBRARY)

The IIMI Learning Centre (IIMI LC), with its wide range of collection of knowledge resources and innovative information services, fills an essential requisite in the intellectual pursuits for our students, faculty and surrounding community. IIM LC, a hybrid centre with state-of-the-art technological applications holds knowledge resources predominantly related to management and allied subjects. The entire LC collection of books, print journals/magazines along with its wide range of e-collection including e-journals, e-books, online databases, CD-ROM collection, etc., are accessible through the Institute's network and wi-fi.

The LC building has a sprawling space of about 27000 sq. ft., with central air-conditioning and designated areas for different sections of the IIMI LC, providing the right ambience for reading and reflection.

(http://www.iimidr.ac.in/facilities/library/about-the-learning-centre/)

The broad objectives of IIMI LC are:

To build a state-of-the-art knowledge resource centre for management and allied subjects.

To acquire need-based resources to meet information requirements of the academic community of the Institute; and,

To provide proactive and innovative reference services to the user community.

Due to the growing needs and preference of members, LC focuses more on subscription to online resources than printed documents. In the last few years, e-resources of the IIMI LC increased considerably in terms of number and subject coverage.

In addition to circulation and acquisition services, the Learning Centre provides reference, photocopying and scanning services to members. Documents, which are not available in the IIMI LC are sourced from other (IIMs, IITs and other major) institutions in the country through a robust Inter-Library Loan arrangement.

COLLECTONS AND RESOURCES

Books (print) 37, 878, Electronic Resources, i.e. CMIE India Trades, CMIE Industry Analysis Services, OECD Monthly International Trade, ISI Emerging Markets, Prime Database, Word Bank e-Library (online), Thomson Reuters, E-library, EBSCO e-books, Science Direct/Elsevier e-books.

SERVICES

Borrowing Facility: Learning Centre users (student, staff, faculty) can visit the LC to borrow the library material..

Inter Library Loan: As the LC has a comprehensive ILL facility in place, member may approach the LC staff for availing the ILL services.

Photocopy Service: Members may get photocopies of select chapter/portion of non-issuable resources on payment of prescribes charges.

Book Requisition: IIM Indore LC encourages the faculty, staff and students of the Institute to recommend books for the library. Members who wish to recommend books for the library, may send an e-mail at library@iimdr.ac.in

Remote Access to Electronic Resources

Members of LC can use Remote Access facility of electronic resources being subscribed by IIM Indore Learning Centre. (http://www.iimidr.ac.in/facilities/library/services/)

LIST OF RESEARCH PAPERS PUBLISHED BY RESEARCH SCHOLARS

1. Mishra, Rajeev and Upadhyay, Ashok Kumar (2015) Information Literacy among Research Scholars and Post Graduate Students of Jamia Millia Islamia (University), New Delhi: A Study. *Journal of Information Management*, Volume 2, Number 2 July (2015), pp. 24-35. ISSN: 2348-1765 (Print), ISSN: 2348-1773 (Online).

2. Mishra, Rajeev and Upadhyay, Ashok Kumar (2015). Information Literacy in India: Enhancing Services to the Research Community in the Digital Environment. *National Conference on Library Information Science and Information Technology for Education* organized by Modern Rohini Education Society, New Delhi, 27th August 2015.

3. Mishra, Rajeev (2016). Assessment of Information Literacy Skills of Faculty Members and Research Scholars: A Case Study, published in National Conference on Building Digital India: Enhancing Capacities through Libraries and Information organized by *Shaheed Bhagat Singh College (Delhi University) and Asian Library Association*, New Delhi, November 22-23, 2016. ISBN: 9789382059523.

4. Mishra, Rajeev and Mishra, Priyanka. Promoting Information Literacy among Special Library users with special reference to the Maharani Laxmibai Medical College, Jhansi, Uttar Pradesh, published in *2nd International Conference- Conjugative Management, Library Information Science, Social Science and Technology for Virtual World (ICCLIST2017)* organized by Modern Rohini Education Society, New Delhi, 15th January, 2017. ISBN: 9781635356335.

5. Mishra, Rajeev and Upadhyay, Ashok Kumar (2014). Managing E-library with CALIBRE (Software): A Case Study of India International Centre, New Dellhi. Journal of Library & Information Communication Technology, Vol 3 (1), pp. 23-30.

6. Mishra, Rajeev and Upadhyay, Ashok Kumar and Mishra, Priyanka (2017). Information Literacy at School Level: A Developmental Approach. *Emerging Trends in LIS Services and Changing Role of LIS Professionals in I.T. Era: A Festschrift Honoring to Dr. R, K. Chadha.* New Delhi: G. B, Books, 2017. (ISBN:9789383930661)