INFORMATION SEEKING BEHAVIOUR OF STUDENTS OF SCHOOL OF EARTH SCIENCE & NATURAL RESOURCES MANAGEMENT AND SCHOOL OF LIFE SCIENCES, MIZORAM UNIVERSITY: A COMPARATIVE STUDY

A Dissertation submitted in partial fulfilment of the requirement for the Degree of Master of Philosophy in Library & Information Science

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D E C L A R A T I O N

I, **C. Lalrinenga**, hereby declare that the dissertation entitled '**INFORMATION SEEKING BEHAVIOUR OF STUDENTS OF SCHOOL OF EARTH SCIENCE & NATURAL RESOURCES MANAGEMENT AND SCHOOL OF LIFE SCIENCES, MIZORAM UNIVERSITY: A COMPARATIVE STUDY**' is the result of the work done by me, the contents this dissertation did not form the basis for the award of any degree to me or to anybody else to the best of my knowledge and the dissertation has not been submitted by me for any research degree in any other university or institute.

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C E R T I F I C A T E

This is to certify that Mr. **C. Lalrinenga** has completed the dissertation entitled "**INFORMATION SEEKING BEHAVIOUR OF STUDENTS OF SCHOOL OF EARTH SCIENCE & NATURAL RESOURCES MANAGEMENT AND SCHOOL OF LIFE SCIENCES, MIZORAM UNIVERSITY: A COMPARATIVE STUDY**" for awarding the degree of Master of Philosophy in Library and Information Science under my supervision. This is the candidate's original work and worthy of examination.

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Abbreviations

Term	Description
BCIL	Biotech Consortium India Limited
BIF	Bioinformatics Infrastructure Facility
CBCS	Choice Based Credit System
CRUS	Centre for Research on User Studies
CSIR	Council of Scientific and Industrial Research
DBT	Department of Biotechnology
DeLCON	Digital e-Library Consortium
DM	Decision Maker
DST	Department of Science and Technology
EE&RD	Extension Education and Rural Development
FIST	Fund for Improvement of Science & Technology
GIS	Geographic Information System
HAMP	Horticulture Aromatic and Medicinal Plant
HIV	Human Immunodeficiency Virus
HVMS	Human and Veterinary Medical Scientists
ICAR	Indian Council of Agricultural Research
ICFAI	Institute of Chartered Financial Analysts of India
ICMR	Indian Council of Medical Research
KVIC	Khadi and Village Industries Commission
MOEF	Ministry of Environment & Forest
MZU	Mizoram University
NEHU	North Eastern Hill University
OPAC	Online Public Access Catalogue
PG	Post Graduate

R&D	Research and Development
Retd.	Retired
SAP	Special Assistance Programme
SES&NRM	School of Earth Sciences & Natural Resources Management
SLS	School of Life Sciences
STI	Sexually Transmitted Infection
UGC	University Grant Commission

CHAPTER – I

INTRODUCTION

1.1 Information

Information is all around us and next to matter and energy. It is the most important and common entity in this world. It moves the world. Being a much over used term, it is least understood and there is no consensual definition of it. But its properties are numerous and well recognized. In fact, information is the act of informing the fact. Thus, the concept of information is taken to the meaning "as a collection of fact or other data". There is no clear cut meaning of the term "information". Farrane defines information as "any physical form of representation or of a particular thought used for communication". Information plays an important role in our daily life. Every human being may be socialist, researcher, journalist, scholars, students, workers, layman etc. needs information in the creation, maintenance and development of his knowledge. We do seek information by different forms and different sources. We also seek information for achieving goals and objectives in education, economy, politics and social activities. As we are living in the "information society" or "information age" where information is one of the important factors of life and is also considered as one of basic needs of human being. Everyone needs information in taking the right decision in every step of life, from the organizational level to the personal level, from the highly educated person to a child, from a prominent person to an ordinary person. Modern society incessantly produces and uses information. In this information era, there is so much of information being generated that we are confronted with information explosion, information pollution and exponential growth of information. Due to this information explosion or information pollution the people are confused about the information need, information access and information sources. The university plays a significant role in the development of the society. The main function of any university is to seek and cultivate new knowledge by way of research and extend higher education to the youth, to encourage academic investigations into the problems of the society and for advancement of civilization. The university library plays an important role in the achievement of this objective. Information sources play a vital and viable role to cater to the needs of research and faculty in the process of advancement of society in the present environment.

Information is an ingredient, which is very much required for decision making in every walk of life. Information is a part of all human experience. Acquiring and

processing information are fundamental aspect of life itself. Current interest in science of information has developed as the result of complexity of life problems.

There are several types of information such as:

Information as a Commodity: Information like any other commodity is meant for consumption. When information is used as a commodity, it often assumes economic value. Consequently, the management of information as commodity becomes essential. The individual in possession of information does in a more advantageous position than the one not possessing it.

Information as Energy: Information is regarded as a quantifiable entity for those who viewed it and can be said that the information is transmitted by, or embedded in, ordinary forms of energy.

Information as Communication: Information is often considered to be synonymous with communication when one person is in communication with another; the person initiating the exchange of data is moving his or her understanding of the data to the other person, when the data are received the persons become informed. Being informed therefore is the result of communication, or information transfer.

Information as Fact: Information is often thought to be the same as fact. Example, what is the population of Mizoram? When the word information is used in this way, it does not necessarily mean there is any implied or actual use of the facts, although one actually wonders about day-to-day facts. The facts may or may not be of immediate concern unless the fact placed in context, it remain just a fact and nothing else.

Information as Data: Information is often thought as the same data. Data are the product of symbols that are organized according to established rules and conditions. A data may have meaning or may not. Example, the population of Mizoram is 10 Lacs are the data with specific meaning to convey.

Information as Knowledge: Information is often used interchangeably with knowledge. Knowledge implies a state of understanding beyond awareness. It represents an intellectual capability to extrapolate beyond facts and draw original

conclusions. Knowledge must be deducted, not simply sensed. What we know or think is often so called information.

This wide variety of perspective illustrates that data; information and knowledge are used quite differently depending on context and intention. An information scientist or a librarian has some interest in both the theories of information. He is more concerned with behavioural problem i.e. with the effect, which the meanings of the transmitted symbols produce on the recipient. If the behaviour or conduct of the recipient is not affected, no information is said to have been conveyed to him.

According to Rajan, "No universally accepted definition of information has yet crystallized; perhaps it will never be crystallised." However, Wersig and Neveling suggested the following approaches to information:

- *The Structural Approach*

  In this Approach, information is viewed as structures of the world of static relations between physical objects which may be perceived or no;
- *The Knowledge Approach*

  This approach records knowledge that is built on the basis of perception of the structure of the world. But the problem with this approach is that the term information may erroneously be used for the term 'knowledge.'
- *The Message Approach*

  The mathematical theory of communication uses this approach. It is concerned with the transmission of symbols representing a message.
- *The Meaning Approach*

  In this approach the semantic contents of a message are accepted as information.
- *The Effect Approach*

  This approach says that information occurs only as a specific effect of the process.
- *The Process Approach*

  According to this approach the process of information occurs in the human mind when a problem and useful data are brought together.

Information is one of the several basic resources available today. The role and value of information has been much discussed by economists in the context of competitive marketing, advertising and marketing. There is no field of human activity where information is not a component. Whether it is research and development, business and industry, government affairs, education and training: the information has to be acquired, processed, stored, retrieved and disseminated for communication. Information is viewed as an essential resource for all economic and social change. Thus, the information plays a very important role in every field of human activity like research and development, business and industry, government affairs, education and training. All human activity results in the creation of information, which is mostly communicated through various media. Since information is an essential ingredient for socio- economic and scientific advancement, its acquisition, storage and dissemination, processing, retrieving and acquiring, which depends largely upon the availability of information at the right time in adequate quality and quantity, indeed, has become very important in all spheres of human activity.

It is only in recent years that systematic studies of user community and the information behaviour of various groups have been started. Before that library professional neglected one of the most important components of an information system, namely, the users.

Most of the earlier studies of information needs were based on indirect methods, like citation, counting of recent documents, library issue records, reference records, etc. Later, professionals found that what they required was much more than what these types of studies could reveal. They required a complete picture of the functioning of the entire system of communication and its components. This resulted in the use of more direct methods of studies in information use and information seeking behaviours of users. User studies have now been well accepted and performed by various direct methods. There is considerable accumulation of literature on user studies and more and more is being generated, as can be judge from the reviews appearing on the subject. The establishment of the Centre for Research on User Studies (CRUS) is an evidence of the increasing emphasis on user studies.

1.2 User Study

User study is meant for systematic examination of the characteristics and behaviour of the users of the systems and services. User study is conducted to draw attention to the interrelationships among concepts used in the field. The user study is directly linked with the effectiveness of the library and information services as they aim at satisfaction of user needs. The key concept in the user studies or information needs is information seeking behaviour. It essentially implies the study of the use of the demand or need for information.

User studies have now been well accepted and performed by various methods: Diaries and user administered records, interviews, observations, questionnaires and combined technique studies. There is considerable accumulation of literature on user studies and more and more is being generated as can be judged more from the reviews appearing on the subject. The user studies have not been restricted to actual users alone. Studies have also been made of non - users may be those who are unable to use information due to mental, physical and sociological reasons; or those professionals like doctors, dentists, solicitors, teachers and social workers who may often be unable to visit information centres due to professional demands. User studies have also, therefore, to identify such groups who can be potential users and point out ways and means to react them.

User studies are excellent tools for estimating information requirements of a specific group of users. These studies often designed to identify and to analyze how various persons or groups use libraries. Alice Lohren explained the need for user studies in librarianship as “what people really want to read, to review or listen to may vary considerably from what they are able to secure in books or through the air or screen. It is of great significance to know how to produce better what the consumer needs, how to get the product to the consumer in the bookstores, and how to give them better service to the patron in the libraries. Knowledge of what research tells us can help us to be more relevant in the programs of service and in producing better books and mass media”.

User studies are similar to audience research in the field of communication. The significance and value of knowing the communication needs and practices of library

users and potential library users are being increasingly recognised as librarians find themselves in keen competition for financial resources particularly new media of communication and innovations such as the electronic digital computer. The second reason, which necessitates the conduct of user studies, is the need to eliminate wastage and duplication while utilizing the available financial resources. Information, today, is an expensive commodity and it is unthinkable that any single library can posses all that are needed by its clientele. The concept of National Information Systems, therefore, is to create networking within the country so that the entire country's resources can be made available to any user irrespective of his professional and organizational affiliations and socio – economic status. User studies can reveal the extent of country's overall resources and services and also the extent to which these systems and services have been of use. Such findings will help in proper conservation of information resources by enabling elimination as far as possible, of uneconomic duplication of effort.

1.3 Presentation of Information

The word information is commonly used in our day to day life of working. Information has a precise meaning and it is different from data. The information has a value in decision making while data does not have. Information brings clarity and creates an intelligent human response in the mind.

A clear distinction is made between data and information. Data is like raw material while information is equivalent to the finished goods produced after processing the raw materials. Information has certain characteristics such as

- Information
- Improves representation of an entity
- Updates the level of knowledge
- Has a surprise value
- Reduces uncertainty
- Aids in decision making

The quality of information could be called good or bad depending on the mix of these characteristics. Presentation of the information is an art. The data may be collected in

the best possible manner and processed analytically, bringing lot of value in the information. However, if it is not presented properly, it may fail to communicate anything of value to the receiver. The degree of communication is affected by the methods of transmission, the manner of information handling and the limitation and constraints of a receiver as the information user.

The methods used for improving the communication are summarization and message routing. The concept of summarization is user to provide information which is needed in the form and content. The information can be summarized in number of ways. The principle behind summarization is that too much of information causes noises and distortion, i.e., confusion, misunderstanding and missing and purpose. The summarization suppresses the noises and distortions.

Another method of improving the degree of communication is through message routing. The principle here is to distribute information to all those who are accountable for the subsequent actions or decisions in any manner. That is if the information is generate with a certain purpose for a primary user, the information may have secondary purpose to some other users in the organization. This is achieved by sending the copies of the reports or documents to all the concerned people or users. The principle of the message routing achieves the spread of information to the appropriate quarters.

Knowledge is a power and an intelligent person in the organization can misuse this power to achieve personal goals undermining the functional and organizational goals. This tendency should be curbed. Further, the decision maker may call for the information on the grounds that, just in case required, he should readily have it. Apart from the misuse of information, it has an impact on the cost of information processing.

1.4 Review of Literature

Review of related literature is very essential in any research work. The survey of related literature is a crucial aspect of planning of study and time spent on such a survey invariably is a wise investment as it provides a base for further research on the already existing knowledge in the field. Study of related literature implies locating,

reaching and evaluating report of research as well as report of casual observation and opinion that are related to the individuals planned research project.

Abifarin, Abimbola. (1994) made a study on information seeking behaviour of agricultural students in selected Nigerian universities. The agricultural students of the selected Nigerian universities are studied and examined their information seeking behaviour. The use of questionnaire method was adopted and was distributed in five universities offering agricultural courses including the University of Agriculture. The results of the questionnaire showed that less no. of the students make use of the library. Over 58.5% of the respondent shows that after attending the class lecture, they first turn and make use of the lectures for their further information rather than the use of the library and its materials. The findings shows that library shelves are disorganized as the users have a vague knowledge with the usage of systematic library system.

Connor, Lisa G.O. (2012) conducted a study on the information seeking and uses behaviours of retired investors. The researcher examines the information seeking methods and the use behaviour of a group of US retired or near retirement investors from everyday life information seeking and serious leisure perspectives. Semi-structured questionnaire and interview methods were used to study the information seeking behaviour of a diverse group of investors and to assess those personal characteristics such as sex, socio economic status and educational attainment on their behaviours. Female investors studied were less likely to create information intensive fields and that this tendency is exacerbated by low educational attainment. Male investors studied were more likely to adopt Internet technology for their investing information seeking regardless of their educational attainment. Some recommendations are also made for the improvement of the information services for the retired investors groups.

Duff, Wendy M., and Johnson, Catherine A. (2002) made a study on a qualitative research study of the information-seeking behaviour of historians. Based on semi-structured interviews with ten midcareer historians, it investigates how they locate primary sources, carry out their re-search, and use archival material. The study identified four different types of information-seeking activities, including (1)

orienting oneself to archives, finding aids, sources, or a collection; (2) seeking known material; (3) building contextual knowledge; and (4) identifying relevant material. Finding information in archives is not an easy task. Archival information systems can be overwhelming and daunting at times. Designing intuitive systems that meet the researchers' needs requires a thorough understanding of the information-seeking behaviour of archival users. Until recently, few archivists seemed interested in studying their users. In 1980, Richard Lytle claimed that the reason archivists lagged behind librarians in their study of user behaviour may have been archivists' resistance to "social and behavioural science techniques, especially those applied in library and information services".

Ellis, David. (1993) made a study on employment of the grounded theory approach to derive models of the information-seeking patterns of academic researchers. The background to the development of interest in qualitative approaches to information studies in the United Kingdom is described, and the results of four studies, carried out at the University of Sheffield, into the information-seeking patterns of researchers in the social sciences, sciences, and humanities are out-lined. The methodological issues involved in the employment of the grounded theory approach in the studies are discussed-with particular attention being given to the conceptual questions of analysis, comparison, and validity and to the practical issues of data recording, coding, and selection. Reference is also made to other studies carried out at the University of Sheffield that have employed the grounded theory approach.

Gross, Melissa. (2005) made a study on Source Competency theory which suggests that people who function at a low level of skill lack the meta-cognitive ability to recognize their own incompetence and are unable to accurately assess the skill levels of others. Therefore, they tend to overestimate their own abilities and to proceed with confidence as they develop awkward strategies and make poor decisions. Worse still, because the incompetent do not know they are incompetent, they may be unlikely to seek training or skill-remediation services. This article reviews competency theory and outlines how this theoretical perspective may allow for a new approach to research and practice in the area of information literacy instruction.

Howerton, Amanda. (2007) explored the factors that influence help seeking for mental distress by offenders. Qualitative study based on in-depth interviews with prisoners before and after release was conducted. Participants were 35 male offenders aged 18-52, a quarter of whom had been flagged as being at risk of self harm from local prison in Southern England. As a result most respondents reported that they would not seek help from a general practitioner or other healthcare professional if experiencing mental distress. When followed up after release, none had sought medical help despite the fact that many had considerable emotional problems. Many participants were hesitant to seek help because they feared being given a formal diagnosis of mental illness. Some of these men feared the stigma that such a diagnosis would bring, whereas others feared that a diagnosis would mean having to confront the problem. Lack of trust emerged as the most prominent theme in prisoners' discourse about not seeking help from health professionals. Distrust towards the "system" and authority figures in general was linked to adverse childhood experiences. Distrust directed specifically at healthcare professionals was often expressed as specific negative beliefs: many perceived that health professionals (most often doctors) "just don't care," "just want to medicate," and treat patients "superficially." Those men who would consider going to a general practitioner reported positive previous experiences of being respected and listened to. He concludes that distrust is a major barrier to accessing health care among offenders. Like most people, the respondents in this study wanted to feel listened to, acknowledged, and treated as individuals by health professionals. By ensuring that a positive precedent is set, particularly for sceptical groups such as ex-prisoners, general practitioners and prison doctors may be able to encourage future help seeking. Information specifically designed for prisoners is needed to help to de-stigmatise mental illness, and preparation for release should include provision of information about access to health and social services. Awareness training for health professionals is recommended: trust might be fostered in this population by seemingly trivial gestures that indicate respect.

Kanungo, Neena Talwar. (1997) attempted to investigate the methods of seeking information by women researchers in the disciplines of History and Political Science in University of Delhi and Jawaharlal Nehru University. Attempts have been made to

make a comparative analysis of the methods adopted by these researchers in finding accessing and acquiring information.

Ken, Mc Nweke. (1995) made a study under the title "Information methods of human and veterinary medical scientists (HVMS) in Borno state, Nigeria". A combination of questionnaire and interview method was used to obtain information from all HVMS working in the state. A questionnaire contains a list of seventeen methods of obtaining information. The questionnaire was administered and in person interviews were conducted by research assistants to validate answer supplied in the questionnaire. A total of 123 humans and 65 veterinary medical scientists took part in the state wide investigation. A personal record of the data was one of the most highly ranked sources of information. Respondents reported that these includes photocopies of relevant sections of printed information sources, computer printouts, correspondence with experts in Nigeria and abroad, personal notes from discussions with colleagues, and records of experience from professional practice. There is a need to re examine the currently available information services to HVMS in Borno state with a view towards developing more relevant services that will meet their information needs, especially in the light of the present reality of dwindling library budgets. Most librarians in Borno state should adopt measures that would improve access to the categories that constitute personal records data that HVMS prefer using a source of information. Training sessions should be organized to expose HVMS to various filing systems already in existence for organising personal files.

Korah, A. C. and Devarajan, G. (1991) made a study based on the information needs and use pattern of the scientists in the Rubber Institute of India. There is an adequacy of library collections and there is a need for subscribing of more journals for organizing user education and for building up their theses and dissertation.

Lalitha, M. (1995) made a study to identify the various categories of medical and engineering personnel and to ascertain their information requirements and the types of materials needed by them. The study found that:

- Engineering community showed a lower percentage or response, especially the students, practitioners and teachers were better, on the whole, and the medical community showed more interest.

- There is not much difference between the practitioners in both the fields with regard to their research activities.
- Except for minor difference the type of information sought is the same for the medical and engineering communities.
- Both use their own libraries very frequently. Majority of the doctors and engineers frequently used libraries other than their own once a fortnight.

Leckie, Gloria J, Pettigrew, Karen E and Sylvain, Christian. (1996) proposed a model of information seeking that is applicable to all professionals. The model was developed through a careful analysis and interpretation of empirical studies on the information habits and practices of three groups: engineers, health care professionals, and lawyers. The general model and its six major components are presented in detail. These six components are (1) work roles, (2) associated tasks, and (3) characteristics of information needs and three factors affecting information seeking: (4) awareness, (5) sources, and (6) outcomes.

Mooko, Neo Patricia. (2005) investigates the information needs and information seeking behaviour of rural women residing in three non-urban villages in Botswana. The total population of the study was divided into two groups, opinion leaders and women residing in the three villages. The women residing in the villages were either single heads of households or married. The family situations that led them to seek information included health, agriculture, employment, family violence, and basics needs for the family. In addition, the women needed information on government aided funding, welfare subsidies and policies, and training. The sources of information used included village nurses, community welfare officers, traditional doctors, other women in the villages, village chiefs, and agricultural demonstrators.

Munshi, U. M. and Manju Kanti. (1997) conducted their study which deals with the information seeking patterns in electronic environment and pointed out that the electronic environment have influenced information seeking by amplifying what is possible in manual environment and requiring new information seeking strategies. Discusses in details, the two different consequences namely- physical and intellectual and highlights their specific attributes, which directly influence the information

seeking in electronic environment. States that the specific attributes combine to give information seekers a highly interactive environment that offers more finely grained steps and more iterations of activity than manual environments do. Further, more access points, more tools, and more immediate feedback all lead to a process that is highly specifiable. This result is significant and leads to secondary changes such as inviting broader communities of users, changing the expectations of users and the strategies they use to seek information, and ultimately changing the way that information is organized and how systems are designed to make that information accessible. Points out that electronics system most obviously affect the physical attributes of information such as quantity, time, location and format. States that electronic system have begun to blur the distinctions between secondary and primary materials and the respective search strategies for across and within documents searching. Brings out that the connectivity, virtuality, and malleability of electronic environments can lead to decentralization and personal freedom and enable natural, human-centralization and personal freedom and enable natural, human-centered approaches to information seeking. Concludes that electronic environments have already provided richer and more varied representations in a single location than manual environments can and this trend will continue to accelerate in the future. For certain, electronic environments have changed the resource mix.

Musih, S. K. (1991) conducted a study to find out the principal information needs and the sources utilized for obtaining information by the persons engaged in cottage industries of earthen products at the rural areas of Burdwan district. The study found that the main sources of information regarding production' marketing, technical appliances are the self, family members, fellow professionals, friends, neighbours, relatives, shop-keepers, market interactions.

Ojha, Ram Awatar. (2004) undertook a study to investigate the information needs for the newspaper journalists in India. Out of two hundred fifty journalists only one hundred eighty journalists responded. The result shows that most of the journalists rely upon source type within informal channels of information. Personal communication with journalists within the newspaper organization is the most frequently used for informal channel source type. Meanwhile the newspaper library

available within the organization is the most frequently used for formal information channel.

Okereke, Chukwunenye I. (2010) examined unmet reproductive health needs and health-seeking behaviour of adolescents in Owerri, Nigeria. Primary information was obtained through questionnaire, and in-depth interviews. The adolescents were mostly Christians (99.6%) and Catholics (78.6%), with 66.4% living with their parents. Half (50.8%) of the adolescents have had sex. Contraceptive use was low, due to culture. Data showed that 27.2% of the ever had sex have had STIs, mostly gonorrhoea and syphilis; 30.2% of the female adolescents have had unintended pregnancies, amongst 73.3% had recurrent pregnancies and 19.6% of all the females have had abortion. The primary contact for health-care was patent medicine operators. In conclusion, more accessible and cost-effective method of disseminating STI/HIV information involving the use of vernacular and traditional/ local opinion leaders should be used.

Sahoo, S. K. and Ramesh, D. B. (2011) conducted a study to assess and evaluate the information needs and seeking behaviour of information resources of the library by the faculty members of the ICFAI Business School, Hyderabad. Data were collected from 70 faculty members for the analysis. Findings indicate that the library professionals are required to help them for maximum utilization of library resources and create awareness amongst members to access the library resources available to them.

Sasikala, C. (1994) made a study on Information seeking behaviour of managers in industry. The result shows that the managers only occasionally visit the library and they are trying to satisfy their information needs from other sources. They seek information for additional information relating their jobs, for solving different immediate problems and updating their current knowledge and idea.

Sharma, Bindu, and Gupta, Sangita. (2012) made an attempt to explore the information seeking behaviour of the faculty members at Sher-e-Kashmir University of Agriculture Science and Technology, Jammu. Internet is used almost on daily basis by most of the faculty members. The low speed for the access of Internet is the major problem faced by the faculty members. The use of search engine and the web address

are the frequently preferred method of browsing the Internet. It is also found that Internet Explorer, Google, Yahoo are the most frequently used search engines by the faculties.

Summers, Edward G, Conry, Robert and Matheson, Joyce. (1984) investigated the relationship between education position and (1) purposes in seeking information, and (2) sources of information used. As part of a larger study, a questionnaire was distributed to a random sample of public school educators in British Columbia, and respondents were asked to indicate the extent to which they sought information for 15 different purposes and their preference for 13 information sources. With respondents stratified into four position groups (Elementary and Secondary Principals and District Administrators, n=173; Secondary Support Personnel and District Support Personnel, n=265; Secondary Teachers and Department Heads, n=292; and, Elementary Teachers and Elementary Support Personnel, n=304), analysis of variance and Scheffe post hoc comparisons revealed highly significant differences among the four groups in purposes for seeking information and expressed preference for information sources. The findings support the notion that characteristics of user groups, including work role, will affect their information seeking and use behaviour and that such characteristics should be given greater consideration in developing delivery systems and designing information products and services. Limitations of the study are discussed and practical and theoretical implications presented within the context of Canadian, American, and British user research in the field of information science.

Thabah, J. J. (2001) examined the status of the information needs and information seeking behaviour of housewives in Shillong. Conclude that housewives need information to run their household activities particularly in assisting their children's studies, and supplementing cooking recipes, knowing more about food and nutrition and other health issues as well as updating their knowledge. It also mentions that to satisfy their needs, some of the housewives visit the library while others depend on informal channels of information only.

Timpka, Thomas. (1989) conducted questionnaire survey of 186 general practitioners in Sweden showed that 67% saw the overall supply of medical information as less satisfactory or unsatisfactory, and that 80% experienced major hindrances in seeking

relevant information. The most frequent need for information concerned general medicine, with respect to both diagnosis and choice of therapy. Of situations which required additional information, only every second was completely resolved. These results imply a need for a reorganization of the supply of information to general practitioners. As they cannot depend on conventional medical libraries for day-to-day information, personal libraries should be improved and updated regularly, and be readily to hand. Computer technology should be considered for communication between health care providers, and as support for differential diagnosis in general medicine.

Verma, Neerja. (1997) conducted a study deals with development of human resources deployed by Indian public sector banks. The study identifies often sought sources of information by different levels of staff working in public sector banks. It also details about the role of various organizations and associations engaged in the career development of bank employees. Suggest establishment of a national banking information service with model points in different cities to take care of information needs of the employees of public sector banks.

1.5 Research Design

1.5.1 Statement of the Problem

In the current information age, it has been increasingly felt that readers are to be served better with authentic and reliable information. Their needs are diverse ranging in different categories and are differentiated depending upon their functions, occupations, responsibilities and duties. The users group may diverge from scholars, students and common men who require information professional's guidance in a specialized manner. Thus, the information professionals have to provide a specialized service for better and easy access to information. In fact, to cater the needs of these users, certain attempts have to be made to provide solutions to their problems and needs.

In higher education, the role of post graduate students and research scholars are very crucial, where their reading interests, current awareness, subject knowledge have direct impact on their wisdom. They need reliable sources to cultivate their knowledge and produce quality education. Information needs and use happens to be

the pioneer area of study to know the requirements of the students and the research scholars. Their needs and requirements have challenged a new ground in the field of information searching. Under such circumstances, attempts will be made to explore problems, and suggest some positive solutions from the input received by the end users.

1.5.2 Objectives of the Study

This present study has the following objectives:

- To identify the information needs and use of the students of the School of Earth Sciences & Natural Resources Management and School of Life Sciences, Mizoram University.
- To determine the adequacy of the library resources and services provided by the library for its users.
- To assess the present and future needs of the users and to suggest some recommendations to improve the library collection and services.

1.5.3 Research Methodology

Since the study has been designed to ascertain the information seeking behaviour of students of School of Earth Sciences & Natural Resources Management and School of Life Sciences, the survey method supported by questionnaire has been found suitable. The semi-structured questionnaire was designed for the study in which the respondents were given the option to put remarks as and where necessary so as to get the real sense of information received by them.

The questionnaire of the study is having two parts (i) Brief bio-data of students; and (ii) Details of the resources, facilities and services that the users obtain from the Central Library of the Mizoram University, Aizawl.

a) Data Collection Method

The survey method with semi-structured questionnaire methods of data collection are applied for collecting the data among the Post Graduate students of Schools of Earth Sciences & Natural Resources Management and School of Life Sciences, Mizoram University.

b) Data Collection

The data of information of the post graduate students of School of Earth Sciences & Natural Resources Management and School of Life Sciences, Mizoram University are collected by visiting different departments of the two schools. A questionnaire is handed over the class representatives in their own class for distributing and collecting the questionnaire.

c) Time Duration of Data Collection

The response questionnaire was collected by the class representative of different departments under the School of Earth Sciences & Natural Resources Management and School of Life Sciences. The months of September and October have been chosen for distributing and collecting of data. The data has been collected without any fixed time frame. The collection of questionnaire was completed within one and half month i.e. from September to mid October.

d) Data Analysis Techniques

The collected data of the response questionnaire was analyzed and tabulated with the help of Microsoft Excel.

1.5.4 Scope of the Study

The scope of study is confined to the information seeking behaviour of students under the School of Earth Sciences & Natural Resources Management and School of Life Sciences in Mizoram University. There are six (06) departments under the School of Earth Sciences & Natural Resources Management and three (03) departments under the School of Life Sciences in Mizoram University. The names of departments under both Schools are given below in the following table.

Table 1.1: List of departments in schools covered under study

SN	School of Earth Sciences & Natural Resources Management	School of Life Sciences
1	Department of Forestry	Department of Botany
2	Department of Geology	Department of Zoology
3	Department of Horticulture, Aromatic & Medicinal Plants	Department of Biotechnology
4	Department of Environmental Science	
5	Department of Geography & Resource Management	
6	Department of Extension Education & Rural Development	

Further, in School of Earth Sciences & Natural Resources Management, there are about 155 students except Department of Extension Education and Rural Development. The Department of Extension Education and Rural Development has been established on February, 2007 but academically department is not functioning and no course has been started. In School of Life Sciences, there are about 97 students. The scope of the study is limited to 20 students from all the eight functioning departments of both the schools under study. Thus total population of the study shall be 160 students. The population is made limited to 20 students from each department because there is less number of intake capacity, less no. of admissions, no. of dropouts, etc. causes the less number of students in some departments. So, to make it justifiable, it has been decided to select 20 students as population from each department. The list of intake capacity as well as admitted students of both the schools under study is given below in the following table.

Table 1.2: Intake capacity/ No. of Admission of departments under SLS

SN	**School of Life Sciences**	**2nd Semester**		**4th Semester**	
		Intake	**Admitted**	**Intake**	**Admitted**
1	Department of Botany	20	20	12	12
2	Department of Zoology	20	19	16	16
3	Department of Biotechnology	25	18	20	12
Total		**65**	**57**	**48**	**40**

Table 1.3: Intake capacity/ No. of Admission of departments under SES&NRM

SN	**School of Earth Sciences & NRM**	**2nd Semester**		**4th Semester**	
		Intake	**Admitted**	**Intake**	**Admitted**
1	Department of Forestry	18	17	8	8
2	Department of Geology	20	20	15	13
3	Department of Horticulture, Aromatic & Medicinal Plants	14	13	13	10
4	Department of Environmental Science	20	14	10	8
5	Department of Geography & Resource Management	26	26	26	26
6	Department of Extension Education & Rural Development	Course is not running yet			
Total		**98**	**90**	**72**	**65**

1.5.5 Significance of the Study

Nowadays, information is felt as the prime requirement at every walk of life of human being. Without getting information, no one can perform his/her task. The researchers, scholars, academicians, and students, who are the big players of information, it is most required entity. They cannot complete their academic or research work. Not only they are needy of information but also they are big producers of information. With the generation of information, there should be users also for the same. How they are seeking and using the information, it is also very much important. In the field of academics, students, researchers, faculties are seeking the information from various sources and in various physical formats. The information seeking pattern and use of that is totally very different from discipline to discipline. The study deals with the comparative analysis of information needs and their use in two different disciplines of the university. The study is an attempt to know the different information seeking behaviour among students of School of Earth Sciences & Natural Resources Management (SES&NRM) and School of Life Sciences (SLS).

1.6 Chapterization

Chapter 1 – gives an introduction to the meaning and importance of information.

Chapter 2 – highlights about Mizoram University, Central Library, School of Earth Sciences & Natural Resources Management and School of Life Sciences.

Chapter 3 – deals with the information seeking behaviour of the users which involves the interaction among the user, the information needs and models.

Chapter 4 – highlights the tables of data and its findings through questionnaires from the students of School of Earth Sciences & Natural Resources Management and School of Life Sciences.

Chapter 5 – deals with the conclusion of the whole study and suggestions for the university library to improve the services for prospective users.

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CHAPTER – II

SCHOOL OF EARTH SCIENCES & NATURAL RESOURCES MANAGEMENT AND SCHOOL OF LIFE SCIENCES: AN OVERVIEW

2.1 Mizoram University

Mizoram University was established on 2nd July 2001 by the Mizoram University Act (2000) of the Parliament of India, which was notified by the Gazette of India on 25th April, 2000 as a Central University.

Mizoram University was started with seven academic departments, at now it has a total number of thirty three departments. Boys and girls hostels are functioning at the campus with good facilities and hostel building.

In Mizoram University the schools are as follows:

- School of Social Sciences
- School of Earth Sciences and Natural Resource Management
- School of Economics, Management and Information sciences
- School of Education and Humanities
- School of Physical Sciences
- School of Life Sciences
- School of Engineering and Technology
- School of Fine Arts, Architecture and Fashion Design

There are thirty three (33) departments under Mizoram University which as given below as school wise:

School of Earth Sciences and Natural Resources Management

- Department of Environmental Science
- Department of Forestry
- Department of Geology
- Department of Horticulture Aromatic and Medicinal Plants
- Department of Extension Education & Rural Development

School of Life Sciences

- Department of Botany
- Department of Zoology
- Department of Biotechnology

School of Economics, Management and Information Sciences

- Department of Library and Information Science
- Department of Commerce
- Department of Management
- Department of Mass Communication
- Department of Economics

School of Education & Humanities

- Department of English
- Department of Education
- Department of Mizo
- Department of Hindi

School of Engineering & Technology

- Department of Electronics & Communication Engineering
- Department of Information Technology
- Department of Computer Engineering
- Department of Electrical Engineering
- Department of Civil Engineering

School of Physical Sciences

- Department of Chemistry
- Department of Physics
- Department of Mathematics & Computer Science

School of Social Sciences

- Department of Psychology
- Department of Social Work
- Department of Political Science
- Department of Public Administration
- Department of History & Ethnography
- Department of Sociology

School of Fine Arts, Architecture and Fashion Design

- Department of Architecture

2.2 Brief Profile of Schools and Departments under Study

2.2.1 School of Earth Sciences and Natural Resources Management

The School of Earth Sciences and Natural Resources Management was established in the year 2002. The school which was originally set up by the name 'School of Forestry and Earth Sciences' in 2002 was changed its name of the school to 'School of Earth Science and Natural Resources Management' in 2006. There are six academic departments under the School of Earth Sciences and Natural Resources Management. The departments included under the School of Earth Sciences and Natural Resources Management is:

- Department of Forestry
- Department of Geology
- Department of Environmental Science
- Department of Geography and Natural Resources Management
- Department of Horticulture Aromatic and Medicinal Plant
- Department of Extension Education and Rural Development

All these departments, except for EE&RD department, currently offer post-graduate studies and PhD programmes and the mandated M.Phil. courses.

a. Department of Environmental Science

The department of environmental science was setup in July 2002. At present, the department is functioning with two Professors, one Associate Professor, five Assistant Professors, three technical and two office staffs. At present there are twenty (20) students admitted in the first semester of Post Graduate course and currently ten (10) students in the third semester. The department deals with relevant issues relating to the changing environment at the global, regional and local levels. The basic laboratory equipments of ecology and pollution study have been installed in the department. The faculty members of this department are constantly engaged in teaching and research activities and impacting environmental awareness to the people at large. The department also organized national and state level training programmes, workshops, seminars, refresher courses, etc.

b. Department of Extension Education and Rural Development

The department of extension education and rural development started functioning since February 2007 with only one faculty. Since there have been no additional sanctioned teaching posts, the department is yet to start its academic programmes. Till now no students were admitted under the Department of Extension Education and Rural Development due to lack of faculty members and course approval.

c. Department of Forestry

The department of Forestry was established in the year 1990 under Mizoram Campus as a post-graduate department. The Department of Forestry was from the erstwhile campus of NEHU in the year 2001 upon the establishment of Mizoram University. It started its PhD and MSc programs in 1992 and 1997 respectively. Presently there are seventeen (17) admitted students in the first semester of the Post Graduate degree and eight (8) students in the third semester. The syllabus mainly focuses on the issues that are important for livelihood support and income generation. However, a major revision has been made recently in the syllabus and many new courses are incorporated in the light of increased decentralization and participation in forestry sector at national level. The syllabus cover issues relating sustainable management, conservation and development of all forest types, empowerment of rural poor through sustainable farming system taught in classroom, supported with field exposure and practical exercises. The programme has been carried out with the following thrust areas – agro-forestry and cropping system, seed technology and tree improvement, sustainable forest management and non-timber forest products.

d. Department of Geography & Resource Management

The department was established in 2003 under the name of Department of Geography, Tribal Culture and Resource Management. The charge was taken over by Prof R. B. Singh (Retd.) from Banaras Hindu University till March 2004 followed by the appointment of regular faculty in March 2004. Twenty six (26) students were admitted in both the third semester and first semester of the Master of Arts in Geography. The department offer specialized courses in regional planning and is actively engaged in developing its laboratories – GIS and Computer Cartography. The target for the 12^{th} plan is the introduction of diploma course in GIS and remote sensing, to be offered by the department.

e. Department of Geology

The department is consistently engaged in preparing competent, self-reliant, socially committed and inspired students capable of contributing significantly in the development of the country in general and the state in particular. In view of the growing population there is a challenge to meet the demand of natural resources (viz. hydrocarbon, metal and industrial materials) and to mitigate the frequently occurring natural calamities like earthquakes, landslides, floods, drought, tsunamis, and etc. Further, the department aims at imparting sound education in the subject at the post-graduate and doctoral levels and to build a centre of excellence for geological studies with good infrastructure in terms of teaching and research.

f. Department of Horticulture, Aromatic & Medicinal Plants

The Department of Horticulture, Aromatic & Medicinal Plants (HAMP) was established in 2007. At present, the department has 7 faculties – two Professors and 5 Assistant Professors with excellent academic records and proven R&D work on MAPs and horticulture crops. Under CBCS, the department is offering PG courses comprising of 17 core courses, 16 soft courses with specialization on various aspects of MAPs and horticulture crops and 8 open elective courses which are structured and based on important aspects of horti-MAPs and open to all PG students of the university. The department is also set to conduct three months certificate course on 'Post harvest technology of horticulture crops.' The main thrust area of the department is to produce trained man-power for survey, documentation, cultivation and scientific exploration of horticultural, aromatic and medicinal plants wealth of North- East region in general and Mizoram in particular.

2.2.2 School of Life Sciences

The school of Life Sciences was established in the year 2005 and consists of the departments of Zoology, Botany and Biotechnology of all which are assisted by the Department of Science and Technology (DST), Ministry of Science and Technology, New Delhi under FIST and Non-SAP UGC programmes. The School of Life Sciences consist of three departments namely Department of Biotechnology, Department of Botany and Department of Zoology. All the departments offer MSc, MPhil and PhD degree courses. The school is developing a modern animal house, tissue culture laboratory, museum, transgenic glass and net houses. The school is engaged in the

frontier areas of research in biological sciences including cancer biology, conservation biology, molecular entomology, algal physiology, oxidative stress, microbial diversity, forest ecology, ethno botany, plant and microbial biotechnology which are supported by ICMR, CSIR, DBT, UGC, DST, ICAR, Central Silk Board and Mizoram Govt. Health Department.

a. Department of Biotechnology

The Department of Biotechnology, Mizoram University was established in the year 2007. The first batch for Master of Science in biotechnology was started in the same year. The department offers a two year MSc degree course in Biotechnology. The department also offer a research programs leading to Master of Philosophy and Doctor of Philosophy (PhD) degrees. The department is undertaking several research projects and has attracted funds from various National agencies such as DBT, DST, CSIR, ICAR, UGC and Mizoram Govt Health department.

In the year 2008, the Biotechnology department has established Bioinformatics Infrastructure Facility (BIF) with the support of DBT, New Delhi. This facility has high/medium end servers and state of the art desktop machines and softwares with 2Mbps Internet connectivity. Electronic journal access facility with about 1000 free online scientific journal through DBT digital e-library consortium (DeLCON) in the area of modern biology and biotechnology is made available to Mizoram University.

The Department of Biotechnology (DBT), Government of India has sanctioned to set up State Biotech Hub under the North Eastern Region Biotechnology Programme Management Centre (NER-BPMC) for promotion of biotechnology in Mizoram through Biotech Consortium India Limited (BCIL). The department has programmes for obtaining online access facility of library resources for higher secondary and senior secondary schools in Mizoram through DBT, New Delhi.

b. Department of Botany

The department is offering MSc and PhD degree in botany. The department is covered under FIST programme of DST, New Delhi and different equipments e.g. research microscope with fluorescence, gas chromatograph, flame photo meter, automated water analyzer, ultrasonicator, vacuum oven, etc have been procured with financial

assistance from DST and other funding agencies. New transgenic glass house (100 sq m area) and net house are under construction. Eleven students are registered in the department for their doctoral research on various subjects. Seven externally funded research projects focussing on development of algal biodiesel and cyan bacterial biodiversity, microbial diversity, ethno-botanical study and bio resources are being run by the faculty members of the department. The main thrust areas of research in the department are algal physiology and biochemistry, oxidative stress adaptation in algae, proteomics of cyan bacteria, microbial biodiversity, forest ecology, biodiversity and ethno botany. Major projects from UGC, KVIC, Mumbai, DBT, MOEF, NIF, CSIR are undertaken by the department.

c. Department of Zoology

The Department of Zoology was established on 11th February 2005 as the post graduate department in Mizoram University. Since then the first batch for Master of Science in Zoology was admitted in the year 2006. The department has upgraded their course and also offers a programme for Master of Philosophy and Doctor of Philosophy. At the present fifteen (15) research scholars are being enrolled for pursuing their degrees in research.

The department is in the process of setting up a modern animal house and tissue culture facilities, museum and to procure state of art equipments required to cater to the needs of teaching and research. The department is generously funded for its reach activities by Department of Biotechnology (DBT), Department of Science and Technology (DST), University Grants Commission (UGC), Indian Council of Medical Research, Council of Scientific and Industrial Research, Govt of India, New Delhi.

2.3 Central Library, Mizoram University

Central Library, Mizoram University has continuously been witnessing noteworthy development in various spheres. Growth may be seen in its holdings, users and application of technology. The collection by March, 2014 included 95,818 books, 213 Thesis, 123 M.Phil. Dissertations, 269 Master Degree Dissertations/Project Work, and 10,776 numbers of Bound Volumes of Journals.

The Library at present subscribes to 226 Journals, 48 General periodicals and 14 dailies (English: 5, Mizo: 8, Hindi: 1). The total Library membership is 2,277 i.e. 270 UG, 1,084 PG Students, 80 M. Phil, 463 Ph. D. scholars, 208 Teachers, 16 Guest Lecturers, 2 Departmental Libraries and 154 Non-teaching staff. During this year, 27,526 books were borrowed by the users and had 28,346 visitors.

The library has introduced the machine readable catalogue since 2008. All the library holdings are now available in machine readable catalogue and the computerized bibliographic information of the library holdings have also been available for users' searching throughout the campus through Local Area Network (intranet) using WebOPAC. Automated circulation system using barcode technology has been used since 1st December, 2008 which provides easy and prompt service to the users. Library has been providing lending and reprographic services, Orientation Programmes for newly admitted students of various Academic Departments.

Digitization of Mizoram University's own documents and publications had been pursued for setting up of an 'Institutional Repository' and the same had been hosted on the intranet in May, 2011. The repository provides free access to all types of institutional research outputs within the campus network (Intranet). Computerized Braille System for blind students had been successfully installed and operated since December 2011 in the Library.

Besides, implementation of advanced technology in the field of identification, security, tracking and automated handling of Library materials using Electro-magnetic and Radio Frequency Identification (RFID) Library management system in order to improve the efficiency of Library operations had been completed, and started using the system since 21st March 2012.

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CHAPTER – III

INFORMATION SEEKING BEHAVIOUR: CONCEPTS AND MODELS

3.1 Introduction

The need for information is one of the cognitive needs of humankind. Information need causes information-seeking behaviour and these concepts complement one another. Information need and information-seeking behaviour are affected by many factors. Information-seeking behaviour is expressed in various forms, from reading printed material to research and experimentation. Scholars, students, and faculty actively seek current information from the various sources available in libraries, e.g., encyclopaedias, journals and, more currently, electronic media. Information-seeking behaviour remains an important research area. Libraries and other information providers strive to understand users' information needs and how they try to fulfil these needs. This understanding helps design and offer appropriate user-centred information systems/services.

Information seeking behaviour also involves personal reasons for seeking information, the kinds of information, which are being sought, and the ways and sources with which needed information is being sought. Scholars, faculties and students actively seek current information from the various media available in libraries.

Information seeking behaviour can be defined as a process of construction in which a user progresses from uncertainty (or confusion) to understanding (or clarity). It is experience with thoughts, actions and feelings interwoven into a complex mosaic rather in a separate distinct entity. Information seeking behaviour includes actions or strategies undertaken to locate information. As such information seeking behaviour may be viewed a process in which user's progress from uncertainty to understanding. It involves use of information to meet an individual's needs. It is recognition of some need perceived by the user who as a result makes demand upon a library, and information system or some other individual in order to meet his information requirement.

This field is composed of studies that are concerned with who need what kind of information and for what reasons, how information is found, evaluated and used and how these needs can be identified and satisfied. The information seeking behaviour is

thus concerned with establishing relationship with the people, information and system of an order so as to obtain the best results.

Information seeking behaviour of user can be observed while the users interacts with the information communication system/ library in formulating needs, in information seeking and exchange, and in using the information. All these aspects of user behaviour and the configuration of the systems as a whole are mutually influencing factors.

Information-seeking behaviour depends on the reasons for seeking information and the starting knowledge of the individual. Marchionini (1995) describes it as, "Information-seeking is a special case of problem solving. It includes recognizing and interpreting the information problem, establishing a plan of search, conducting the search, evaluating the results, and if necessary, iterating through the process again."

Numerous theoretical treatments have been proposed to characterize the information-seeking behaviour, which is complex cognitive process (Belkin et al., 1982; Kuhlthau, 1991; Marchionini, 1995; Saracevic, 1997; Sutcliffe and Ennis, 1998; Jarvelin and Ingwersen, 2004). Information seeking is a basic activity indulged in by all people and manifested through a particular behaviour. It is also an aspect of scholarly work of most of the academic librarians who strive to develop collections, services, and organizational structures that facilitate information seeking.

3.2 Value of information

Information has may faces. It appears as pure knowledge coveted by scholars, as skill acquired by people, as a requisite for individual and organisation decision making. The information is valued in many different ways. The people use information to make decisions and to control processes. The contexts of use are exchange, production and consumption. Exchange and production use information as an instrument or intermediate element, but the information may also be object of final consumption in many different contexts. Information is the ability of a goal seeking system to decide or control. By 'decide' we mean choosing an alternative from several that may be executed in pursuit of well defined objectives. Control means the ordering of action that may be undertaken to achieve a well defined objective. The

ability to decide or control value of information is consistent with Shannon's interpretation of information as the removal uncertainty. However, the economic value of information depends on the expected payoffs associated with the use of that information. Two messages from different sources may have exactly the same entropy or uncertainty, but differ markedly in the respective payoffs expected from their use. The Shannon's entropy measure may be used to characterise the uncertainty and the economic value of information is analogous to the relationship between quantity and economic value of tangible goods. The economic value of information to a user cannot be determined solely by the amount of uncertainty it promises. Information to have value like any commodity should be amendable to be 'owned' and 'valued'. The fundamental question is whether information as commodity is fundamentally different from the conventional ones. Certainly information is different from matter and energy, but this does not necessarily imply that a commodity made up of information inherits those differences. For example, 'bread' and 'information' differ with respect to the result of consumption. When bread is eaten, its essence is to give, but information is processed under consumption. A book can be read and read, a program can be executed repeatedly, and a database queried by many users, but there is no degradation of information contained in it. There are five major value adding dimension of information as a commodity. These are:

Kernel

Storage

Processing

Distribution

Presentation

The kernel of an information commodity is the ability to decide and control. This includes the organization and structure of information. The kernel is an organized system of declarative and procedural statements. The storage dimension of an information commodity encompasses both the medium used to store information and the method used to gain access to the medium. Traditional information commodities such as books are essentially passive, they do not have the ability to reorganize or represent the information they contain. The user has to do whatever processing that there is to be done. Whereas a computer can process and reconfigure the information stored in it. Like processing, the value added by means of the distribution of

information as a commodity may be direct or indirect. Value is added indirectly when the use of information presupposes a particular distribution environment. The final link in the value adding chain between producer and consumer is presentation. Presentation requirement may vary with the intended application.

It is extremely difficult to define the value of information. The difficulty stems from the following characteristics of information:
Information is subjective because its effectiveness ultimately depends upon the recipient – essentially a decision maker (DM). The decision maker may accept it or reject it, acknowledge it or ignore it externally even though it may help him in decision making.

One can at best assign some 'expected value' to pieces of information which could affect the course of action chosen by the individual. As per Voigt (1961), information has more of an incremental value than the absolute value.' The role and value of information has been much discussed by economist in the context of competitive marketing, advertising and prices. In the context of information and knowledge it has received even less attention. The cost benefit analysis has also been used to study the value of information. The report by Flowerdew and Whitehead (1974) is a model of clarity on the value of information. Paradoxically its success lay in the manner in which it convincingly showed that evaluating information is extremely difficult. They have concluded that 'no really satisfactory cost-benefit-study has yet been carried out.

3.3 Types of Information

On the purpose and upon the basis of its usage information can be categorised into different categories. J. H. Shera (1972) has categorised information into different six categories as given:
Conceptual information: The idea, theories, hypotheses about the relationships exists among the variables in the area of a problem.

Empirical Information: Experience, the data of research, may be drawn from one's self or through communication from others. It may be laboratory generated or it may be a product of Literature Search.

Procedural Information: The methodology which enables the investigator to operate more effectively. Procedural information relates to the means by which the data of the investigation is obtained, manipulated and tested, it is certainly methodological, and from it has been derived the scientific attitude. The communication of procedural information from one discipline or field or investigation to another may illuminate vast shadows of human ignorance.

Stimulatory Information: Man must be motivated and there are but two sources of such motivation, himself and his environment. Stimulatory information that is transmitted by direct-communication the contagious enthusiasm of another individual – but whether directly or indirectly communicated. It is probably the most difficult of all forms of information to systematise. It is fortuitous by nature, it submits unwillingly to direction or compulsion.

Policy Information: This is the focus of the decision making process. Collective activity necessitates the definition and objective and purpose, the fixing of responsibility, the codification of rights and privileges and the delineation of functions.

Directive Information: Group activity cannot be processed effectively without coordination and it is through this directive information that this coordination is achieved.

The conceptual information relates to ideas, theories and hypothesis about the relationship which exists among the variables in the area of problem. Empirical information relates to data and experience of research which may be drawn from oneself or communication from others. Procedural information is the data of investigation which are obtained, manipulated and tested. It is essentially methodological and it is derived from scientific attitude. Stimulatory information is a type of information which is motivated by oneself or environmentally derived. That type of information which is focused on the decision making process is known as policy information whereas information which is used for coordination and for enabling effective group activity is grouped under directive information.

3.4 Information Needs

Every human being needs information for different purpose and reasons. It is one of the important basic needs now days. There is no aspect of a person's life where information is not required by. Crawford (1988) has defined "information needs' is a difficult concept to define, to isolate and especially to measure. It involves a cognitive process, which may operate on different levels of consciousness, and hence may not be clear even to the inquirer himself. First we need to understand the term 'need' in order to understand and know the clear cut meaning of the term 'information needs'. The Encyclopaedia of Psychology has given a comprehensive and clear cut explanation of the term 'need'. Need is one of the several English words (the others being derive, motive, want, urge, desire and so on) each in some respects unsuitable-used by psychologist today to designate an internally or externally aroused, brain located force (often coupled with an accelerating emotion), subjectively experienced as an impulsion or felt necessity (a mild or intense urge) to act (immediately or later) so as to produce a certain specifiable terminal effect which is ordinarily expected to be beneficial to the actor, and/or positively hedonic (less painful, more pleasurable) relative to the arousing situation."

Information needs refers to individual needs of users regarding information, which are expected to be satisfied by the specific information system used by him. The user group belongs to different categories such as the government officials, legislators, parliamentarians, researchers, students etc. It is of great significance to know the information needs of the users and to produce better what the user of different category needs, how to get the product to the user, and how to give them better services.

The information need of the users is of central concern to providers of information service. The ultimate aim of any information retrieval system is to supply and deliver the information, which can precisely match the information requests or requirements. Information needs and users are studied with a view to improve the overall system of information transfer. User study is a multidisciplinary area of knowledge; it is primarily concerned with the behaviour and experience of users of information systems and services with regard to their interaction.

The information needs of the users have to be satisfied by the libraries and information centres through their services. The information needs relate to:

i) Which information is needed i.e. the subject or the theme. It presupposes that any and all information about the requested subject will somehow satisfy the information needs.

ii) The other approach is rather different. It might be called a situational approach for example user wants information on a certain subject, what can be done to satisfy this need? What does the user want to know, at which level of detail and abstraction etc? This specifies the intrinsic characteristics of information, whatever the subject may be.

The information need is factual situation in which there exists an inseparable interconnection between information and need. Information originates and is generated because there exist a need and interest. The content of information is of primary concern. The information objectively necessary for realizing a function is the objective information. Such information needs of users have to be satisfied.

Information need is something that comes into existence when a person recognizes something wrong in his or her state of knowledge and wishes to resolve the anomaly; or when there is insufficient knowledge to cope with voids, uncertainty or conflict in knowledge area. Maurice B. Line (1971) has defined information needs as, "what an individual ought to have for his work, his research, his edification, his recreation etc."

Brenda Dervin (1976) also defined that, "Information need is an impediment preventing an individual from moving forward in cognitive time and space. The person is faced with a gap that must be bridged by 'asking questions, creating ideas, and/or obtaining resources'. Such gaps do not occur in the abstract but arise out of particular critical events and situations".

Ching-Chih Chen and Peter Hernon (1982) stressed that an information need is more than a question asked of an information provider. It occurs whenever people find themselves in situations that require some form of knowledge of resolution.

The Librarian's Thesaurus defines information need as "the need which library services or materials are intended to satisfy." Menzel (1966) has argued that needs and uses primarily aim to study the behaviour and experiences of researchers in confrontation with information channels. He has therefore categorized investigations into following three types:

i) Preference or demand studies- which include opinions, evaluations, requests for information, and experiments on the impact of a service. These, he observed are useful as guides to operation, especially when few options are available.
ii) Use studies- which include relative contributions of communication.
iii) Channels and critical incident studies, example sampling of information receiving incidents and measurement of their impact. User's interaction with dissemination in systems, as in studies of the flow of information at a scientific meeting.

Information needs reflects a desire for increased expected accuracy in the solution of a problem. The need should not be viewed in a negative sense as a 'hole', which needs to be filled. Instead it should be seen positively as that which increases accuracy in decision making. Individuals seek information because they have a present information need or because they feel that the information might be of some use in future. Decisions are often made based on information gathered for earlier decisions. Information may be stored in the brain or an external storage medium such as printed book or a computer disk.

Information needs is expressed in terms of messages although many studies do not identify the users need so discretely. The studies describe the needs in terms of media (articles, books, reports, conventions, colleagues etc). The reason for this is that these media are where messages are found and in this form, users readily identify them. There is also a user process corresponding to their information seeking and exchange. This process coupled with the organization and management of information, describes the various channels that transmit messages from authors to the users.

It has been realized that information need is a composite concept of various different types of requirements and approaches to information. Melvin Voigt (1961) made a

remarkable analysis of this composite nature. The findings of his study showed that the same person could interact with the information system in different ways at different times depending upon his purpose in relation to his work, stage of his work, general interest, amount of information already available to him and so on. He identified three types of information requirements or approaches and later on other workers in the field added a fourth type. They are:

i) Current Approach

In this approach, every active worker has to keep himself abreast of current developments, up to a fair degree, not only in his specific field of work but also in the broader or fields of interest or areas, whose developments can substantially change the course of his present work. With such kind of requirement the worker interact with the information system in a very general way – browsing through his favourite periodical, going through the abstract journals etc. The user with this approach requires constant interaction with the library/ information system.

ii) Everyday Approach

This kind of approach stems from the research worker's frequent need, in the course of his investigation, specific piece of information such as data, example, chemical formula of a compound, a method etc. The nature of information sought in such a situation is very specific and a quick answer is usually expected. This is called everyday approach because of its frequency of occurrence, as compared to other approaches.

iii) Exhaustive Approach

The exhaustive approach usually arises when work begins on a new investigation, and involves a check through all the relevant information on a given subject. It is called for less frequently than the current or everyday approaches, but is vitally important, and often urgent.

iv) Catching – Up Approach

A worker at times needs to have a brief but a complete picture of the recent developments of a related subject or a subject in which he was not very much interested or which did not come with this the area of his main interest. This is likely to be an area where he is not an expert. As a result of this he is not quite familiar with the subject. Hence, in such a situation,

a device is required in the communication system which will help the user in quickly catching up with the subject.

Different approaches of users will have different kinds of implications on the designing of the information services. Users' needs are shaped by these approaches. Therefore, from the different approaches discussed above, it is clear that the understanding of the meaning and implications of user needs and their information seeking behaviour is very important in all human activities. It is also clear that knowing the requirements of users for designing and services are very important. There are many devices and means, which can help the librarian to know about his users, and it is possible to obtain information regarding user's information requirement by conducting user studies.

3.5 Information Seeking Behaviour Models

A model may be described as a framework for thinking about a problem and may evolve into a statement of the relationships among theoretical propositions. Most models in the general field of information behaviour are of the former variety: they are statements, often in the form of diagrams, which attempt to describe an information-seeking activity, the causes and consequences of that activity, or the relationships among stages in information-seeking behaviour. Rarely do such models advance to the stage of specifying relationships among theoretical propositions: rather, they are at a pre-theoretical stage, but may suggest relationships that might be fruitful to explore or test. Models of information behaviour, however, appear to be fewer than those devoted to information-seeking behaviour or information searching.

3.5.1 Wilson Model (1981)

Wilson's second model of 1981 is based upon two main propositions: first, that information need is not a primary need, but a secondary need that arises out of needs of a more basic kind; and second, that in the effort to discover information to satisfy a need, the enquirer is likely to meet with barriers of different kinds. Drawing upon definitions in psychology, Wilson proposes that the basic needs can be defined as physiological, cognitive or affective. He goes on to note that the context of any one of these needs may be the person him- or herself, or the role demands of the person's work or life, or the environments (political, economic, technological, etc.) within

which that life or work takes place. He then suggests that the barriers that impede the search for information will arise out of the same set of contexts. This model is shown in a simplified version. Wilson's model is clearly what may be described as a macro-model or a model of the gross information-seeking behaviour and it suggests how information needs arise and what may prevent (and, by implication, aid) the actual search for information. It also embodies, implicitly, a set of hypotheses about information behaviour that are testable: for example, the proposition that information needs in different work roles will be different, or that personal traits may inhibit or assist information seeking. Thus, the model can be regarded as a source of hypotheses, which is a general function of models of this kind. The weakness of the model is that all of the hypotheses *are* only implicit and are not made explicit. Nor is there any indication of the processes whereby context has its effect upon the person, nor of the factors that result in the perception of barriers, nor of whether the various assumed barriers have similar or different effects upon the motivation of individuals to seek information. However, the very fact that the model is lacking in certain elements stimulates thinking about the kinds of elements that a more complete model ought to include.

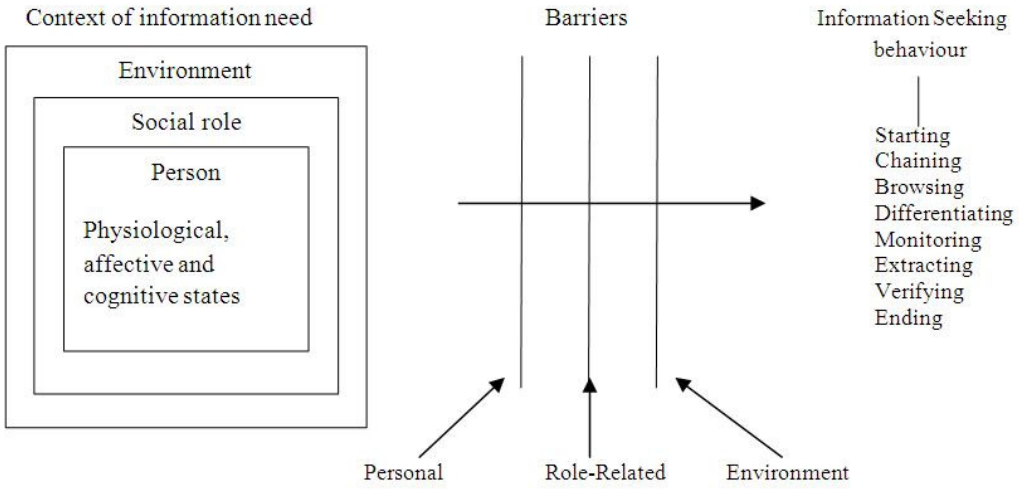

Figure 3.1: Wilson's model of information seeking behaviour

3.5.2 Dervin's Model (1983, 1986)

Dervin's Sense-Making theory has developed over a number of years, and cannot be seen simply as a *model* of information-seeking behaviour: it is, rather, as she says, '… a set of assumptions, a theoretic perspective, a methodological approach, a set of

research methods, and a practice' designed to cope with information perceived as, '… a human tool designed for making sense of a reality assumed to be both chaotic and orderly'. However, Sense-Making is implemented in terms of four constituent elements: a *situation* in time and space, which defines the context in which information problems arise; a *gap*, which identifies the difference between the contextual situation and the desired situation (e.g. uncertainty); an *outcome*, that is, the consequences of the Sense-Making process, and a *bridge*, that is, some means of closing the gap between situation and outcome. Dervin presents these elements in terms of a triangle: situation, gap/bridge, and outcome. However, it may be preferable to use the bridge metaphor more directly and present the model. The strength of Dervin's model lies partly in its methodological consequences, since, in relation to information behaviour, it can lead to a way of questioning that can reveal the nature of a problematic situation, the extent to which information serves to bridge the gap of uncertainty, confusion, or whatever, and the nature of the outcomes from the use of information. Applied consistently in 'micro-moment, time-line interviews' such questioning leads to genuine insights that can influence information service design and delivery.

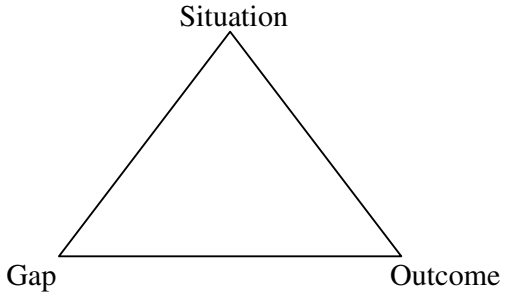

Figure 3.2: Dervin's sense- making frame work

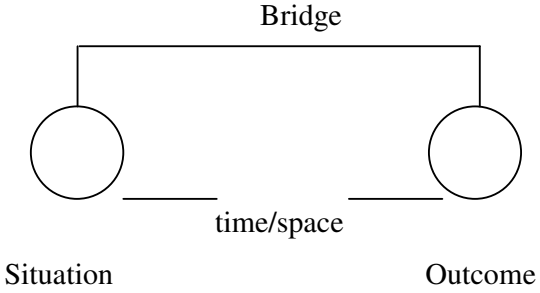

Figure 3.3: Dervin's sense- making frame work modified

3.5.3 Ellis (1989) and Ellis, Cox and Hall (1993)

Ellis's elaboration of the different behaviours involved in information seeking is not set out as a diagrammatic model and Ellis makes no claims to the effect that the different behaviours constitute a single set of stages; indeed, he uses the term 'features' rather than 'stages'. These features are named and defined below:

Starting: the means employed by the user to begin seeking information, for example, asking some knowledgeable colleague;
Chaining: following footnotes and citations in known material or 'forward' chaining from known items through citation indexes;
Browsing: 'semi-directed or semi-structured searching'
Differentiating: using known differences in information sources as a way of filtering the amount of information obtained;
Monitoring: keeping up-to-date or current awareness searching;
Extracting: selectively identifying relevant material in an information source;
Verifying: checking the accuracy of information;
Ending: which may be defined as 'tying up loose ends' through a final search?

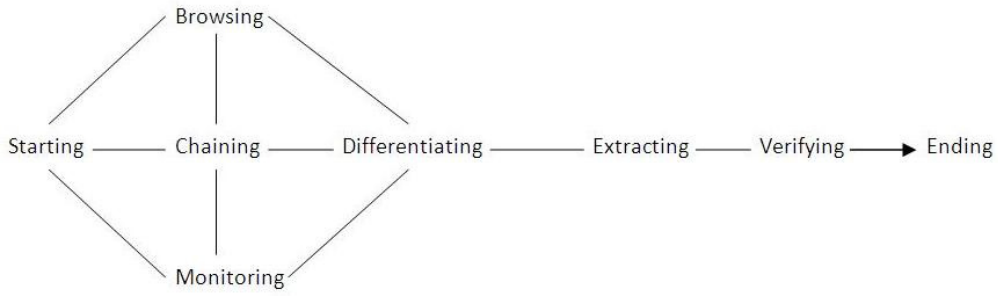

Figure 3.4: A stage process version of Ellis's behavioural framework

The strength of Ellis's model, as with Kuhlthau's is that it is based on empirical research and has been tested in subsequent studies, most recently in the context of an engineering company. Of the features, Ellis notes that, 'the detailed interrelation or interaction of the features in any individual information seeking pattern will depend on the unique circumstances of the information seeking activities of the person concerned at that particular point in time'. However, it is clear that 'starting' must initiate a process and that 'ending' must end it. It also seems reasonable to suggest that 'verifying' is a penultimate stage in a process and that 'extracting' must follow on

from a specific search behaviour such as 'browsing'. Indeed, drawing attention to this fact leads to the conclusion that 'extracting' is not an information behaviour of the same kind as 'browsing', or 'chaining' or 'monitoring', and further suggests that 'differentiating' is also a different kind of behaviour: browsing, chaining and monitoring are search procedures, whereas differentiating is a filtering process and extracting may be seen as an action performed on the information sources. The remaining behaviours do not necessarily take place in a specific sequence and may be initiated in different sequences at different times in the overall search process. Ellis's account, therefore, in terms of the different kinds of features it embodies, appears to sit between the micro-analysis of search behaviour (starting, chaining, extracting, verifying, ending) and a more macro-analysis of information behaviour generally (browsing, monitoring, differentiating). If these points are accepted, it is then possible to suggest a diagrammatic presentation of the model. Thus, the models of Wilson and of Ellis are intended to function at different levels of the overall process of information seeking and this fact is demonstrated by the ability to nest one within the other.

3.5.4 Kuhlthau Model (1991)

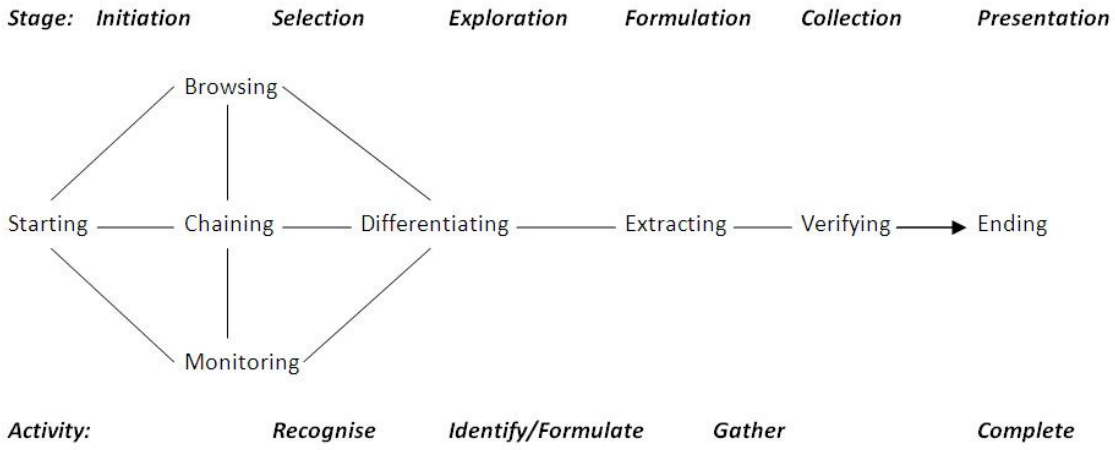

Figure 3.5: A comparison of figure 3.4 with Kuhlthau's stage process model

Kuhlthau's work complements that of Ellis by attaching to stages of the 'information search process' the associated feelings, thoughts and actions, and the appropriate information tasks. This association of feelings, thoughts and actions clearly identifies Kuhlthau's perspective as phenomenological, rather than cognitive. The stages of

Kuhlthau's model are: Initiation, Selection, Exploration, Formulation, Collection and Presentation. As an example, the Initiation phase of the process is said to be characterised by feelings of uncertainty, vague and general thoughts about the problem area, and is associated with seeking background information: the 'appropriate task' at this point is simply to 'recognise' a need for information. The remaining appropriate tasks are: Identify, that is, fix the general topic of the search; Investigate, or search for information on that general topic; Formulate, focus on a more specific area with in the topic; Collection, that is, gather relevant information on the focus; and Complete, end the information search. Kuhlthau's model is thus more general than that of Ellis in drawing attention to the feelings associated with the various stages and activities. In this regard, Kuhlthau acknowledges her debt to Kelly's 'personal construct theory' which describes the affective experience of individuals involved in the process of constructing meaning from the information they encounter. The fundamental proposition is that the feelings of uncertainty associated with the need to search for information give rise to feelings of doubt, confusion and frustration and that, as the search process proceeds and is increasingly successful, those feelings change: as relevant material is collected confidence increases and is associated with feelings of relief, satisfaction and a sense of direction. In effect, what Kuhlthau postulates here (and confirms by empirical research) is a process of the gradual refinement of the problem area, with information searching of one kind or another going on while that refinement takes place. Thus, a successive search process is implicit in Kuhlthau's analysis of the search activity. Although Kuhlthau's early work was a series of longitudinal studies of high school students, more recently she has shown the applicability of the model to the work of a securities analyst.

3.5.5 Wilson Model (1996)

Wilson's 1996 model is a major revision of that of 1981, drawing upon research from a variety of fields other than information science, including decision making, psychology, innovation, health communication and consumer research. The basic framework of the 1981 model persists, in that the person in context remains the focus of information needs, the barriers are represented by 'intervening variables' and 'information-seeking behaviour' is identified. However, there are also changes: the use of the term 'intervening variables' serves to suggest that their impact may be supportive of information use as well as preventive; information seeking behaviour is

shown to consist of more types than previously, where the 'active search' was the focus of attention; 'information processing and use' is shown to be a necessary part of the feedback loop, if information needs are to be satisfied; and three relevant theoretical ideas are presented: stress/coping theory, which offers possibilities for explaining why some needs do not invoke information-seeking behaviour; risk/reward theory, which may help to explain which sources of information may be used more than others by a given individual; and social learning theory, which embodies the concept of 'self-efficacy', the idea of 'the conviction that one can successfully execute the behaviour required to produce the desired outcomes'. Thus, the model remains one of macro-behaviour, but its expansion and the inclusion of other theoretical models of behaviour make it a richer source of hypotheses and further research than Wilson's earlier model. We can also attempt to relate this model to the others discussed above. Dervin's model is completely different in character, since its aim is to provide a framework for exploring the totality of information behaviour from the exploration of the context in which information needs arise to the means whereby that need is satisfied, whether through active searching or otherwise. In effect, it is a model of a methodology, rather than a model of a set of activities or a situation.

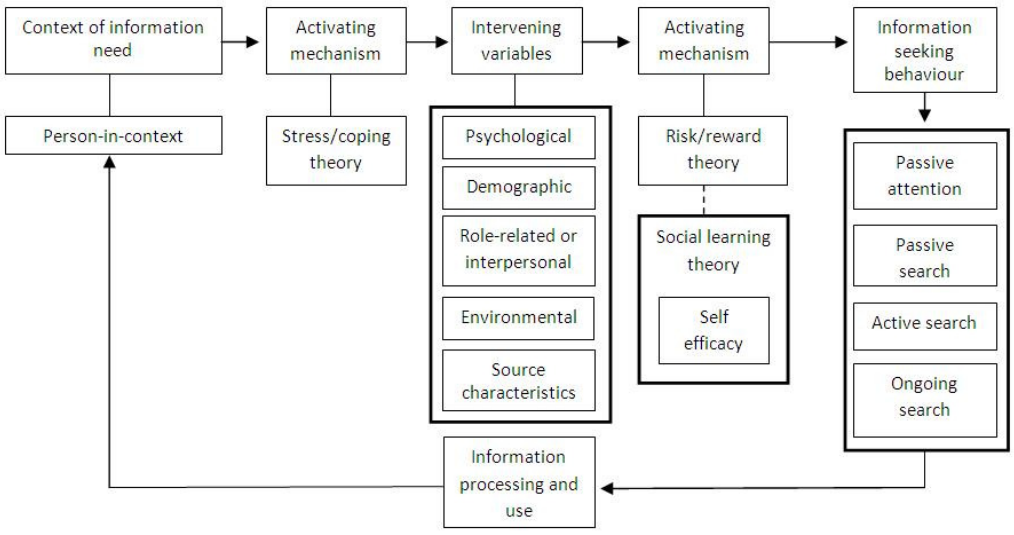

Figure 3.6: Wilson's model of information behaviour

3.6 Different Kinds of Information Users

Information today is an important commodity and it is unthinkable that any single organisation can possess all that are needed by its clientele. The concept of National system therefore is to create a networking within the country so that the entire country's resource can be made available to any users irrespective of his professional and organisational affiliations and socio economic status. There are various terms used interchangeably with the term users such as client, customers, patrons, and consumer.

Heidi Julian's has defined the different users of information as:
Client- This term refers a particular type of professional relationship.
Customer- This term is associated with a business model of service provision. It evokes notions of financial transactions.
Patron- This term elicits images of wealthy benefactors and guardians.

Different kinds of information are required by different categories of information seekers. The main group of users which may be classified into the following categories according to the type of work they are involved in:

Research institution or scientific organisation: Scientists/ Researchers engaged in either basic or applied research in different organisation and research institutions.
Governmental agencies and departments: Planners, policy makers, and administrator.
Industrial enterprises: Managers, entrepreneurs etc.
Laymen: Unskilled persons

There are also several other categories of information users such as training and extension workers, professionals (Engineers, lawyers etc) etc.

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CHAPTER – IV

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter deals with interpretation and presentation of data collected through the questionnaire. The purpose of this study is to understand the methods of information searching and use pattern among the students of School of Life Sciences (SLS) and School of Earth Sciences & Natural Resources Management (SES&NRM), Mizoram University. For this purpose, a total of 160 questionnaires were distributed, out of which 60 questionnaires for SLS and 100 questionnaires for SES&NRM. In SLS, out of 60 questionnaires 47 students responded the questionnaires, and in SES&NRM out of 100 questionnaires 78 students responded the questionnaires.

The data were organised and analysed in the context of the research objectives set out for the study. The information sources used by the PG students of SLS and SES&NRM are identified in the analysis of information gleaned from the questionnaires. The data analysis and its interpretation are as given below:

4.2 Data Analysis & Interpretation

The data analysis and its interpretation have been done to fulfil the purpose of the work and getting meaningful findings from the collected data.

4.2.1 Questionnaire Response Ratio (Department wise)

Table 4.1: Questionnaire response ratio

Department Name	**Questions Distributed**	**No. of Responses**	**Response Ratio (%)**
Environmental Science	20	17	85
Forestry	20	17	85
Geography	20	19	95
Geology	20	18	90
HAMP	20	06	30
Botany	20	15	75
Biotechnology	20	16	80
Zoology	20	16	80
Total	**160**	**124**	**77.5**

The above table (4.1) shows the department wise students response to the questionnaire distributed amongst them. The average response ratio of the questionnaire was found 77.5% among all the eight departments under the SLS & SES&NRM of Mizoram University.

4.2.2 Semester wise Respondents' Ratio

Table 4.2: Semester wise respondents' ratio

Semester	SES&NRM	SLS
1st	18 (23.37%)	1 (2.12%)
3rd	59 (76.62%)	46 (97.87%)
Total	77 (100%)	47 (100%)

The table (4.2) reveals the semester wise break-up of the respondents. Out of 77 respondents from SES&NRM, 23.37% respondents belong to 1st semester and 76.62% respondents belong to 3rd semester while among the respondents from SLS, 97.87% respondents belong to 3rd semester and only 2.12% respondents belong to 1st semester.

4.2.3 Gender wise Analysis of Respondents

Table 4.3: Gender wise analysis of respondents

Gender	SES&NRM	SLS	Total
Male	41 (53%)	18 (38%)	59 (47.58%)
Female	36 (47%)	29 (62%)	65 (52.42%)

The table 4.3 displays the gender analysis of the respondents. Out of 124 respondents, 59 respondents were male and 65 were female. Female respondents were in majority (52.42%) than male respondents (47.58%). Among the 77 respondents from SES&NRM, 47% respondents belong to female while 53% (majority) respondents belong to male. In contrary, female respondents were in majority (62%) than male respondents (38%) in case of SLS.

4.2.4 Frequency of Library Visit

Table 4.4: Frequency of library visit

Frequency	SES&NRM	SLS
Daily	01 (1.29%)	0 (0%)
Once a week	19 (24.67%)	12 (25.53%)
More than once in week	25 (32.46%)	8 (17.02)
Fortnightly	0 (0%)	0 (0%)
Once in month	01 (1.29%)	3 (6.38%)
When there is need	29 (37.66%)	24 (51.06%)
Rarely	02 (2.59%)	0 (0%)

From Table 4.4 and figure 4.1, it would be noticed that a larger proportion of respondents visit the library at when there is a need. According to the table given, in SLS, there were 51% respondents visits the library when they felt that there is a need whereas about 37.66% respondents felt this kind of need in case of SES&NRM i.e. comparatively SLS respondents are less regular visitor of library than SES&NRM respondents. From the analysis, there is lack of daily visitors in case of SLS whereas SES&NRM is in little better condition.

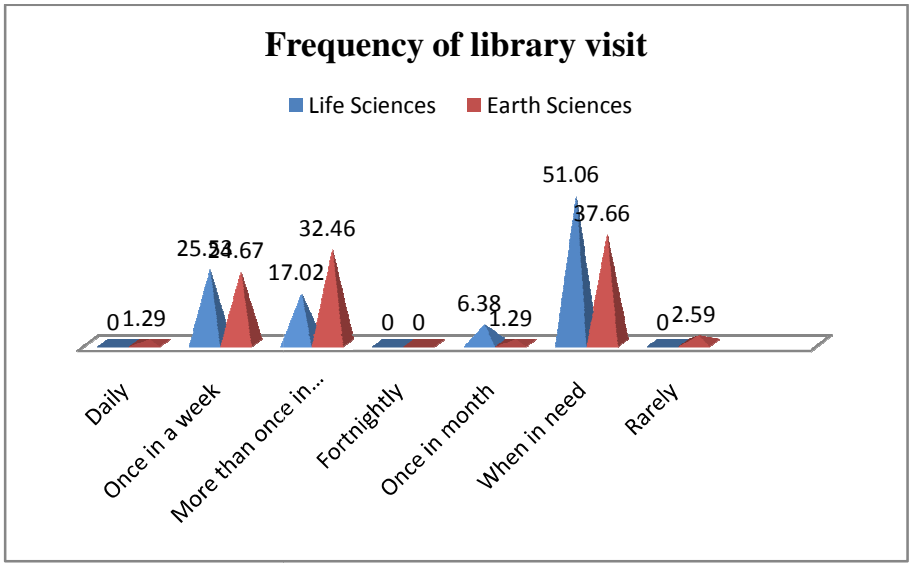


Figure 4.1: Frequency of library visit

About 24.67% respondents of SES&NRM visit library once in a weak which is very near to visits of SLS respondents (25.53%). There were more than 32% respondents of SES&NRM visits library more than once in a weak while SLS respondents are

poorly (17%) visits more than once in a weak. There is lack of respondents who visits on fortnightly basis in both of the schools under study. Once in a month and rarely visitors of library is also very less in case of both the schools under study.

4.2.5 Purpose to Visit the Library

Table 4.5: Purpose of visiting the library

Purpose	**SES&NRM**	**SLS**
For studying course material	61 (79%)	32 (68%)
For borrowing documents	35 (45%)	32 (68%)
For consulting research material	10 (12%)	4 (8%)
For competitive exams	8 (10%)	5 (10%)
To use reference material	32 (41%)	8 (17%)
To read newspaper/ magazines	21 (27%)	9 (19%)
For recreation	2 (2%)	3 (6%)

The table (4.5) and figure (4.2) shows the purpose of visiting libraries by the respondents. There were majority of respondents from SES&NRM who visits the library for studying course material (79%) followed by for borrowing documents (45%), to use reference material (41%), reading news paper/magazines (27%), consulting research materials (12%) and for competitive exams (10%). Among the SLS respondents, majority visits for studying course materials and for borrowing documents (68%) followed by reading news paper/magazines (19%), using reference materials (17%), for competitive exams (10%), and for consulting research materials (8%). Respondents from both the schools have less interest for visiting library for recreation purpose. From the analysis, it has been inference that majority visits for studying course materials and borrowing documents in case of both schools under study. Further consulting reference materials and reading news paper/magazines were the choice of respondents to visits the library. Similar trend has been found among the respondents of both schools for visiting the library.

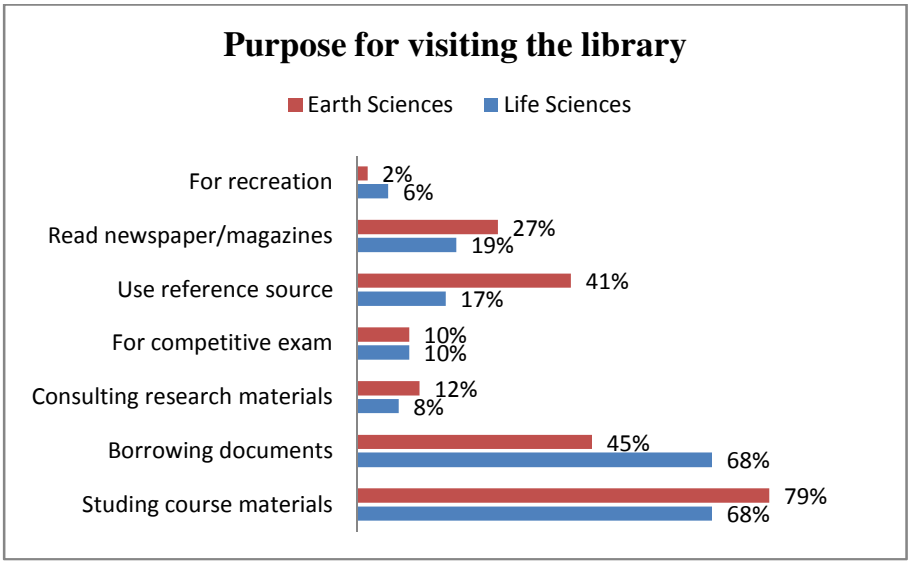


Figure 4.2: Purpose of visiting the library

4.2.6 Time Spent During Library Visit

Table 4.6: Time spent during library visit

Frequency	SES&NRM	SLS
Less than 1 hour	26 (34%)	15 (32%)
1-2 hours	46 (60%)	23 (49%)
2-3 hours	5 (6%)	9 (19%)
More than 3 hours	0 (0%)	0 (0%)

The above table (4.6) and figure (4.3) shows the time spent during library visit by the respondents. As per analysis, majority spent time between 1-2 hours in SES&NRM (60%) and SLS (49%) whereas nobody spent time more than 3 hours in the library from SES&NRM & SLS. Time spent less than one hour is more or less equal in case of both SES&NRM (34%) and SLS (32%) respondents whereas there is significant difference found for 2-3 hours duration in case SES&NRM (6%) and SLS (19%) respondents. It has been inference that majority of respondents from both the schools (SES&NRM and SLS) spent less than 2 hours in library for their study purpose.

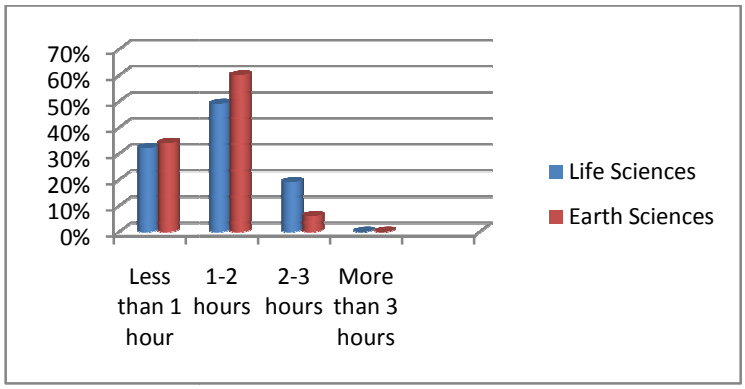


Figure 4.3: Time spent during library visit

4.2.7 Prefer to Use University Library

Table 4.7: Prefer to use university library

Purpose	SES&NRM	SLS
Yes	68 (88%)	43 (91.49%)
No	9 (9%)	1 (2.13%)
No Response	2 (3%)	3 (6.38%)

On the analysis of table 4.7, it has been found that 88% respondents from SES&NRM and 91.49% respondents from SLS have been preferred to use Mizoram University Central Library than other libraries of the city. There were very few respondents, who have given option not to use university library and some have not responded to the question from both the schools. Further, on the analysis of the reasons for not preferring to use the university library, there were some respondents from SES&NRM who felt that library lacks to satisfy them in terms of collection and some respondents felt that location of the library building is too isolated and far from the department. Similar result from SLS respondent that library lacks amount of preferred books in the concerned subject.

Table 4.7.1: Reasons to prefer the university library

Reasons	SES&NRM	SLS
Collections	53 (77.94%)	40 (93.02%)
Services	5 (7.35%)	1 (2.33%)
Others	5 (7.35%)	2 (4.65%)
No response	5 (7.35%)	0 (0.00%)

On the analysis of table 4.7.1, there were about 78% respondents from SES&NRM and 93% respondents from SLS prefer to use the library due to library collections. Respondents from SES&NRM have given some preference to services (7.35%) and other reasons also to use the library whereas respondents from SLS have given less preference to services (2.33%) and other reasons (4.65%) comparatively to SES&NRM respondents. From the SLS&NRM, some respondents (7.35%) have no idea to prefer what for using the university library while SLS respondents have valid reasons to prefer their university library.

4.2.8 Ability to keep up to date with the latest literature

Table 4.8: Ability to keep up to date with the latest literature

Ability	SES&NRM	SLS
Yes	39 (51%)	18 (38%)
No	38 (49%)	29 (62%)

On the analysis of table 4.8, it has been found that 51% respondents of SES&NRM and 38% respondents of SLS were able to keep up to date with the latest literature in their field while 49% respondents of SES&NRM and 62% of SLS were not able to keep up to date with the latest literature in their field. The respondents of SES&NRM were more updated with the latest literature in their field than respondents of SLS.

Table 4.8.1: Level of ability to keep up to date

Up to what extent	SES&NRM	SLS
Great extent	9 (23.07%)	7 (38.88%)
Some extent	30 (76.92%)	11 (61.11%)

On the analysis of table 4.8.1, it has been observed that 23% respondents from SES&NRM and 38.88% respondents from SLS were updated themselves in much extent while majority (76.92%) of respondents of SES&NRM and 61.11% respondents of SLS were updated themselves up to some extent in their field of study with available literature in the library.

Table 4.8.2: Reasons for not able to keep up to date

Reasons	SES&NRM	SLS
Lack of time	26 (34%)	19 (40%)
Information scattered	4 (5%)	10 (21%)
Vast information	3 (4%)	4 (9%)
Not access to library	6 (8%)	1 (2%)
Library lack resources	5 (6%)	5 (11%)
Others	1 (1%)	1 (2%)

Table 4.8.2 shows different reasons not to be able to keep up to date with the latest literature in their field among the respondents of SES&NRM and SLS. The major reason regarding this was lack of time with the respondents of both schools, another reasons were due to information scattered in many places (5% by SES&NRM and 21% by SLS), lack of library resources (6% by SES&NRM and 11% by SLS), information is too vast (4% by SES&NRM and 9% by SLS) etc.

4.2.9 Number of periodicals reading

Table 4.9: Students reading periodicals daily

Daily	SES&NRM	SLS
One	16 (21%)	-
No Response	61 (79%)	47 (100%)

Table 4.9 shows that only 16 respondents of SES&NRM were habitual to read one periodical daily. Majority (79%) of the respondents from SES&NRM and 100% respondents from SLS had no response to the question.

Table 4.9.1: Students reading periodicals weekly

Weekly	SES&NRM	SLS
One	5 (6%)	5 (11%)
Two	9 (12%)	4 (9%)
Three	3 (4%)	1 (2%)
No Response	60 (78%)	37 (79%)

The above table (4.9.1) reveals number of periodicals read by the respondents weekly. Only one periodical was read by 6% respondents of SES&NRM weekly while 11% respondents from SLS read weekly. Further, two periodicals were read by 12% respondents of SES&NRM weekly while 9% by SLS. There were very less number of respondents who had read three periodicals weekly by both the schools. Majority, 78% from SES&NRM and 79% from SLS, had given no answer to the question.

Table 4.9.2: Students reading periodicals fortnightly

Fortnightly	**SES&NRM**	**SLS**
One	3 (4%)	-
Two	1 (1%)	1 (2%)
No Response	73 (95%)	46 (98%)

On the observation of table 4.9.2, there were 4% respondents from SES&NRM who have read at least one periodical fortnightly whereas SLS have no such instance. Further, very less number of respondents from SES&NRM (1%) and SLS (2%) who have read two periodicals in fortnight. Majority of the respondents from the SES&NRM (95%) and from SLS (98%) have not responded to the question.

Table 4.9.3: Students reading periodicals monthly

Monthly	**SES&NRM**	**SLS**
One	2 (3%)	1 (2%)
Two	2 (3%)	-
Three	4 (5%)	1 (2%)
Four	3 (4%)	-
Five	4 (5%)	-
Eight	1 (1%)	-
No Response	61 (79%)	45 (96%)

Table 4.9.3 indicates that majority of respondents from SES&NRM (79%) and from SLS (96%) have not responded to the question. Besides these, there were very few respondents from SES&NRM who read up to eight periodical in a month while in SLS there is lack of respondents who were read up to three periodicals in a month.

Table 4.9.4: Students reading periodicals yearly

Yearly	SES&NRM	SLS
One	2 (3%)	-
Two	1 (1%)	-
Four	3 (4%)	-
Ten	-	1 (2%)
No Response	71 (92%)	46 (98%)

As tabulated in table 4.9.4, majority of respondents from SES&NRM (92%) and from SLS (98%) have not responded to the query. There was very little percentage of respondents from both schools who were reading up to ten periodicals in a year.

From the above tables (4.9 – 4.9.4), it has been inference that majority of respondents from both schools under study have no interest to read the periodicals hence resulted more number of no response in all above cases.

4.2.10 Average Books Borrowed per Month

Table 4.10: Average no. of books borrowed per month

No. of books borrowed/month	SES&NRM	SLS
1 – 4	43 (55.84%)	24 (51.06%)
5 – 8	13 (16.88%)	13 (27.65%)
9 – 12	3 (3.89%)	5 (10.63%)
13 – 16	2 (2.59%)	3 (6.38%)
More than 16	0 (0%)	0 (0%)
No Response	16 (20.77%)	2 (4.25%)

On the analysis of table 4.10, it has been found that on an average majority of respondents from both schools (55.84% from SES&NRM and 51.06% from SLS) borrowed upto 4 books in a month from the library. There were about 17% respondents from SES&NRM and 28% respondents from SLS borrowed 5-8 books per month. There was significant number of respondents (20.77%) from SES&NRM who have not responded to the query while this situation was much better in case of

SLS (4.25%). From the analysis, it has been concluded that respondents from SLS were much active in borrowing the books within a month than respondents from SES&NRM who have maximum transactions up to 8 books per month.

4.2.11 Reservation for New Arrivals

Table 4.11: Reservation for new books

Reserves New Books	SES&NRM	SLS
Yes	11 (14.28%)	8 (17%)
No	66 (85.71%)	39 (83%)

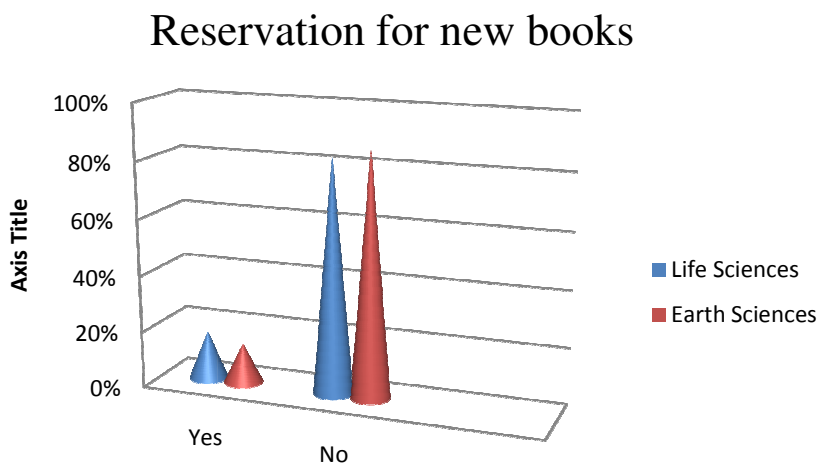


Figure 4.4: Reservation for new books

From the above table 4.11 and figure 4.4, only 14% respondents from SES&NRM and 17% respondents from SLS reserves the new arrivals in the library for their study purposes while majority of respondents from SES&NRM (85.71%) and SLS (83%) don't reserves the recently arrived books in the library. Respondents from SLS were very much active compared to SES&NRM in terms of reservation of newly arrived books in the library.

4.2.12 Usage Rate of Publications and Other Sources

Table 4.12: Usage rate of publications and other sources

Sources	SES&NRM		SLS	
	(Yes)	(No)	(Yes)	(No)
Books	92%	08%	98%	02%
Periodicals	26%	74%	13%	87%
Newspaper	60%	40%	53%	47%
Newspaper Clippings	04%	96%	11%	89%
Doctoral Theses	13%	87%	19%	81%
Research Reports	14%	86%	28%	72%
Microforms	0%	100%	0%	100%

Table 4.12 shows the users and non users of types of various publications and other sources of information among the respondents of both schools under study. There were 92% respondents from SES&NRM used books, followed by newspaper (60%), periodicals (26%), research reports (14%), and doctoral dissertations (13%). In case of respondents of SLS, majority were used books (98%) followed by newspaper (53%), research reports (28%), doctoral dissertations (19%), periodicals (13%), and newspaper clippings (11%). From both the schools, no respondent used microforms of documents for their study purposes. It is evident from the analysis that textbooks are most preferred documents amongst respondents followed by newspapers. Periodicals were less used than books and newspapers.

4.2.13 Consulting for Non Availability of Materials in the Library

Table 4.13: Consulting for non available documents in library

Consulting Library Staff	SES&NRM	SLS
Yes	17 (22%)	14 (30%)
No	60 (78%)	33 (70%)

The above table (4.13) indicates that only 22% respondents of SES&NRM have consulted for non availability of reading materials while 30% respondents of SLS ask

for the materials not available in the library. Though majority of respondents from SES&NRM (78%) and SLS (70%) have not consulted for non availability of reading materials. This seems that SLS respondents had much interest to ask for the availability of required documents that SES&NRM respondents.

4.2.14 Purpose for Asking Assistance from Librarian/ Library Staff

Table 4.14: Purpose for asking help from librarian/ library staffs

Purpose	**SES&NRM**	**SLS**
To locate books	35 (45%)	26 (55%)
To search dissertations	3 (4%)	4 (9%)
To locate current periodicals	5 (6%)	8 (17%)
To use various tools	14 (18%)	11 (23%)
Reference assistance	10 (13%)	6 (13%)
Bibliographies	7 (9%)	10 (21%)
Catalogue/ Web OPAC	6 (8%)	6 (13%)
Any other	1 (1%)	0 (0%)

The above table 4.14 and figure 4.5 indicates how the respondents ask assistance from the librarian and the other staff of the library for different purposes. In case of locating books respondents from SLS (55%) are having much query than SES&NRM (45%). Respondents from SLS (9%) have much interest to locate about dissertations than SES&NRM (4%). Similarly, for locating current periodicals, for using various tools, for reference assistance, for bibliographies, for catalogue/WebOPAC respondents from SLS have shown much interest than respondents from SES&NRM. In this particular query, SLS respondents have higher percentages than SES&NRM.

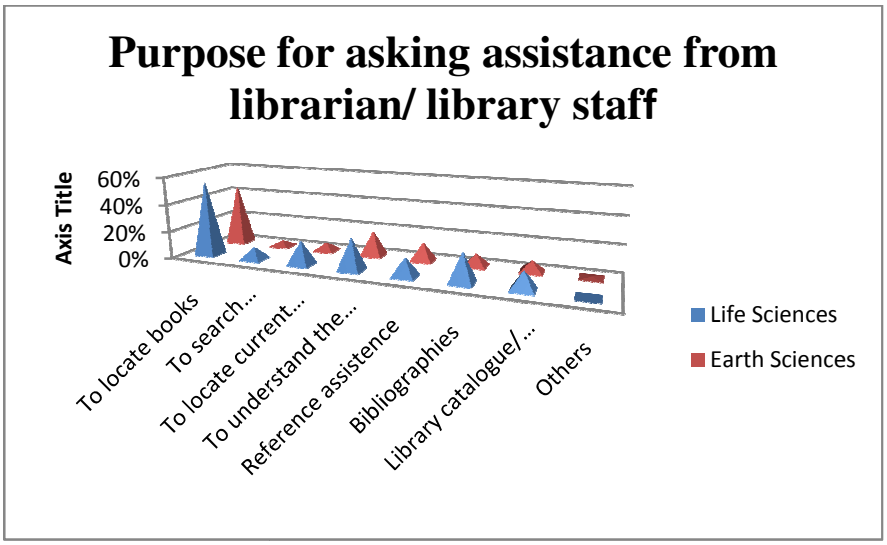


Figure 4.5: Purpose for asking assistance from librarian/ library staffs

4.2.15 Effectiveness of Library Catalogue/ Web OPAC

Table 4.15: Effectiveness of the library Web OPAC

Can Use Web OPAC	SES&NRM	SLS
Yes	61 (79%)	38 (81%)
No	16 (21%)	9 (19%)

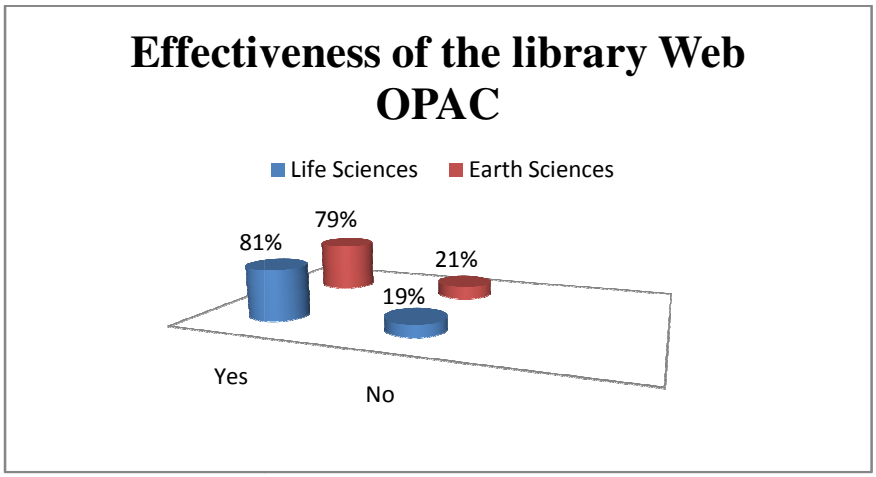


Figure 4.6: Effectiveness of library catalogue/ Web OPAC

Table 4.15 and figure 4.6 indicates that 79% respondents from SES&NRM and 81% from SLS can use Web OPAC effectively. Majority of respondents can use Web OPAC, and more SLS respondents can use it than SES&NRM. For 21% respondents from SES&NRM and 19% from SLS, Web OPAC becomes difficult to use.

4.2.16 Organising Lectures on Effective Use of Library

Table 4.16: Whether library organise lecture on effective use of library

Organising Lectures	SES&NRM	SLS
Yes	71 (92%)	30 (64%)
No	6 (8%)	17 (36%)

Table 4.16 displays that 92% respondents from SES&NRM and 64% respondents from SLS found that library organises lectures on effective use of library. There is significant difference found between SES&NRM and SLS respondents in terms of participating in lecture programs organised by library. In contrary, 36% respondents from SLS have not attended such any program than 8% respondents from SES&NRM.

4.2.17 Satisfaction with the Opening Hours of Library

Table 4.17: Satisfaction with opening hours of library

Satisfied	SES&NRM	SLS
Yes	57 (74%)	22 (47%)
No	20 (26%)	25 (53%)

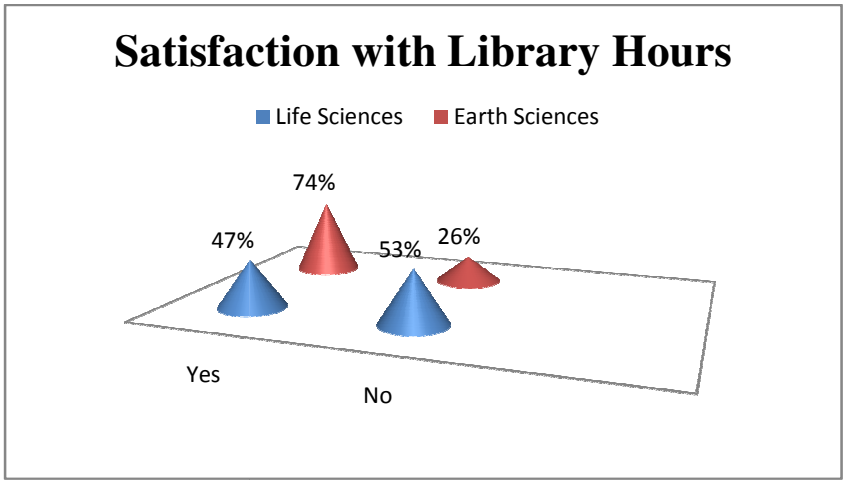


Figure 4.7: Satisfaction with library hours

The above table (4.17) and figure (4.7) indicates that 74% respondents from SES&NRM were satisfied whereas only 47% respondents from SLS were satisfied with opening hours of library. Majority of respondents from SLS (53%) were not

satisfied with present opening hours of library while only 26% respondents from SES&NRM agreed with the SLS. This indicates that majority of respondents from SLS wanted to have open library for more number of hours and this was supported by 26% respondents of SES&NRM.

4.2.18 Reasons for Not Using Library Frequently

Table 4.18: Reasons for not using library frequently

Reasons	SES&NRM	SLS
Isolated library location	56 (73%)	32 (68%)
Time shortage	31 (40%)	28 (60%)
Unhelpful staff	8 (10%)	3 (6%)
Unsuitable library hours	12 (16%)	15 (32%)
Lack of information	7 (9%)	4 (9%)
Use other sources	0 (0%)	0 (0%)
Any other	0 (0%)	0 (0%)

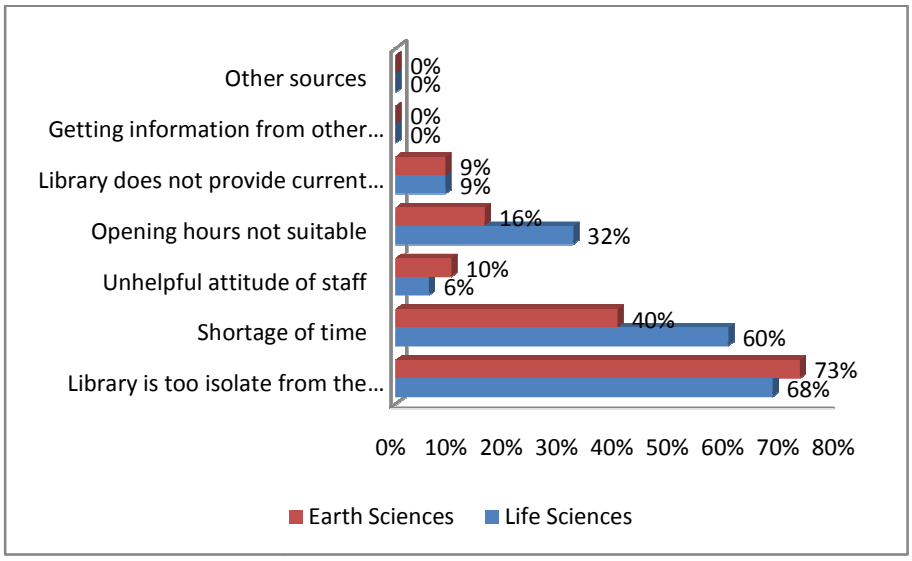


Figure 4.8: Reasons for not using library frequently

Table (4.18) and figure (4.8) shows that majority of respondents from SES&NRM (73%) and SLS (68%) felt that library building is too isolated from their department due to that they are not using the library frequently. Further, 40% respondents from SES&NRM and 60% respondents from SLS were not visited library frequently due to

shortage of time. Unhelpful attitude of library staff resulted less use of library by 10% respondents from SES&NRM and 6% from SLS whereas unsuitable opening time of library resulted less use of library by 16% respondents from SES&NRM and 32% from SLS. Due to lack of current/specialised information in the library turned not to use library by 9% respondents from each school under study.

4.2.19 Rating the Services of Library

Table 4.19: Rating of the services of library

Ratings	SES&NRM	SLS
Poor	3 (4%)	3 (6%)
Inadequate	9 (12%)	19 (40%)
Adequate	50 (65%)	21 (45%)
Excellent	15 (19%)	4 (9%)

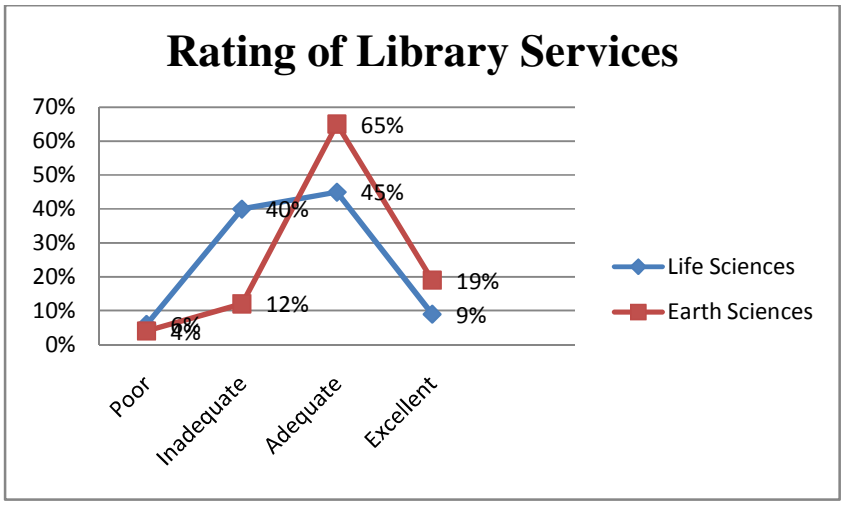


Figure 4.9: Rating of the services of library

The table (4.19) and figure (4.9) shows the ratings given by the respondents for the services provided by the library. There are 65% respondents from SES&NRM accepted present library services are adequate whereas only 45% respondents of SLS agreed upon the fact. There are 19% respondents from SES&NRM who said that library services are excellent while only 9% respondents of SLS accepted this. There are 40% respondents from SLS who said that library services are inadequate while only 12% respondents from SES&NRM accepted the fact. In case of poor library services, 4% respondents from SES&NRM and 6% from SLS accepted it. With regard

to library services, 46% respondents from SLS were not happy whereas only 16% from SES&NRM supported this condition of library with SLS.

4.2.20 Rating the Collection of Library

Table 4.20: Rating of the collection of library

Ratings	SES&NRM	SLS
Poor	6 (8%)	8 (15%)
Inadequate	18 (23%)	19 (40%)
Adequate	41 (53%)	17 (36%)
Excellent	12 (16%)	4 (9%)

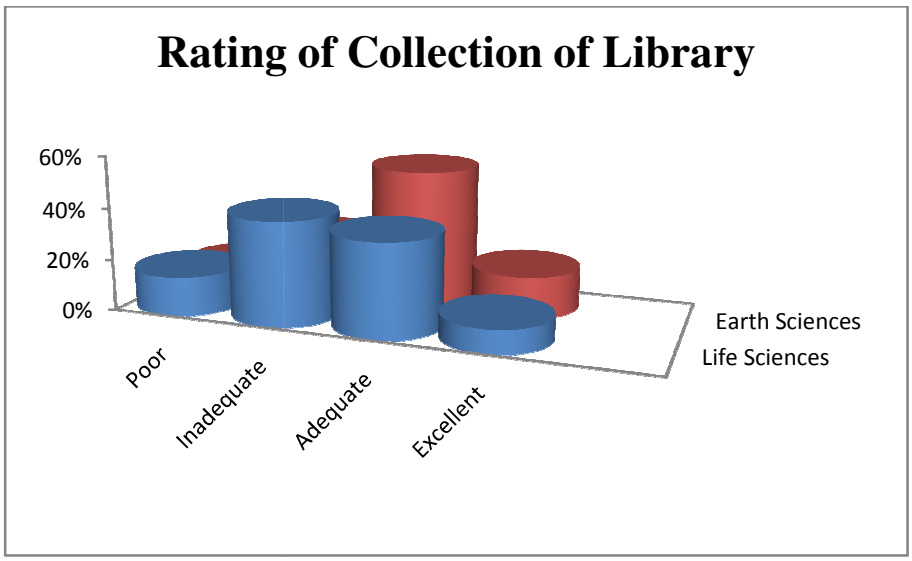


Figure 4.10: Rating of the collection of library

The table (4.20) and figure (4.10) shows the ratings given by the respondents for the collection available in the library. There are 53% respondents from SES&NRM accepted present library collection are adequate whereas only 36% respondents of SLS agreed upon the fact. There are 16% respondents from SES&NRM who said that library collection is excellent while only 9% respondents of SLS accepted this. There are 40% respondents from SLS who said that library collection is inadequate while only 23% respondents from SES&NRM accepted the fact. In case of poor library collection, 8% respondents from SES&NRM and 15% from SLS accepted it. With

regard to library collection, 55% respondents from SLS were not happy whereas only 31% from SES&NRM supported this condition of library with SLS.

4.2.21 Able to Locate Books on Shelf

Table 4.21: Ability to locate books on shelf

Able to Locate	SES&NRM	SLS
Yes	65 (84%)	22 (47%)
No	12 (16%)	25 (53%)

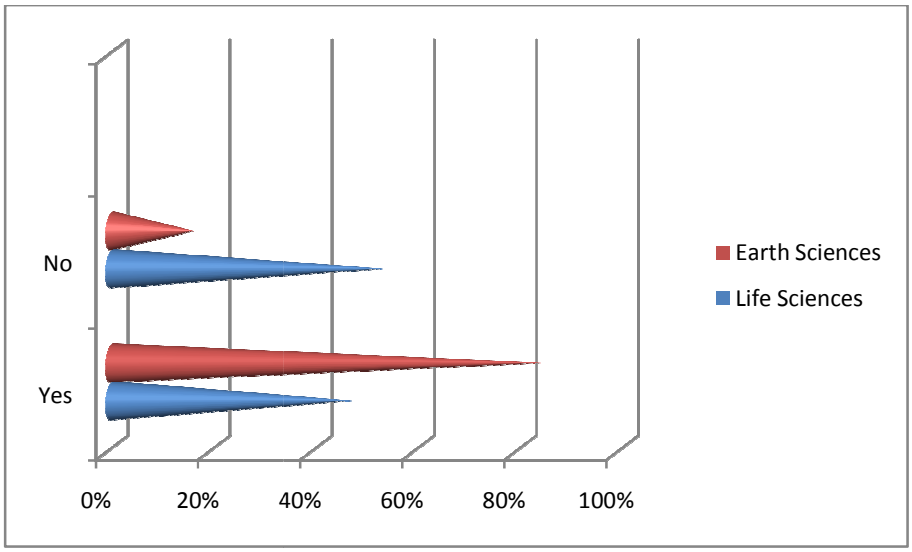


Figure 4.11: Ability to locate books on shelf

To study the ability to locate books looking for on the shelves, data is collected from respondents and tabulated in table 4.21. After the analysis of table and figure (4.11), it has been observed that majority of respondents (84%) from SES&NRM were able to find out their required reading materials whereas majority of respondents (53%) from SLS were unable to do so. Only 16% respondents from SES&NRM faced difficulty during search of material while 47% respondents from SLS were able to locate their reading materials.

4.2.22 Asking Assistance from Library Staff to Locate Books

Table 4.22: Assistance from library staff for locating books

Insist for Assistance to Locate Books	**SES&NRM**	**SLS**
Yes	19 (25%)	13 (28%)
No	58 (75%)	34 (72%)

From table 4.22, it would be noticed that a larger proportion of respondents from both the schools under study do not insist for any assistance from the library staff to locate books. Majority of respondents from SLS (72%) do not prefer to insist for any help from library staff though majority of respondents (53%) from SLS were unable to locate books by them in the library. There are only few respondents 25% of SES&NRM and 28% of SLS who prefers to take help from library staff during difficulty.

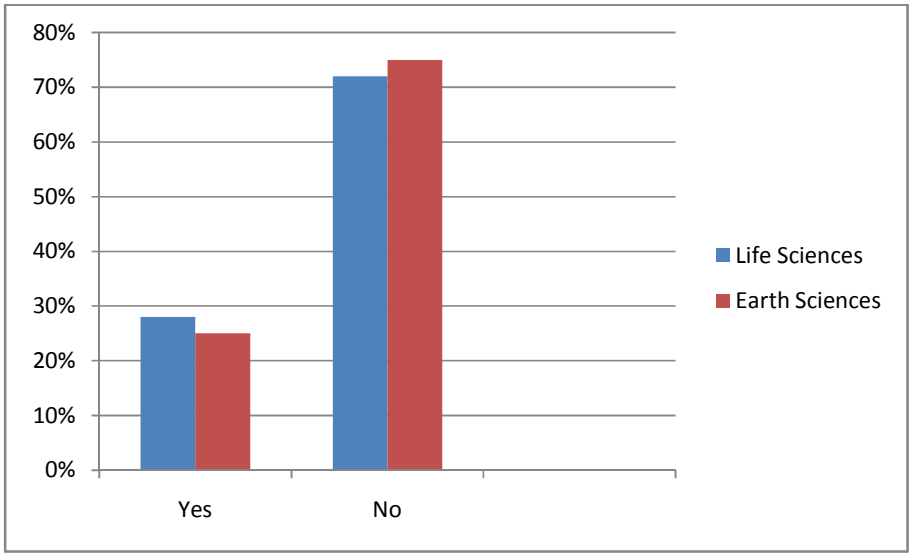
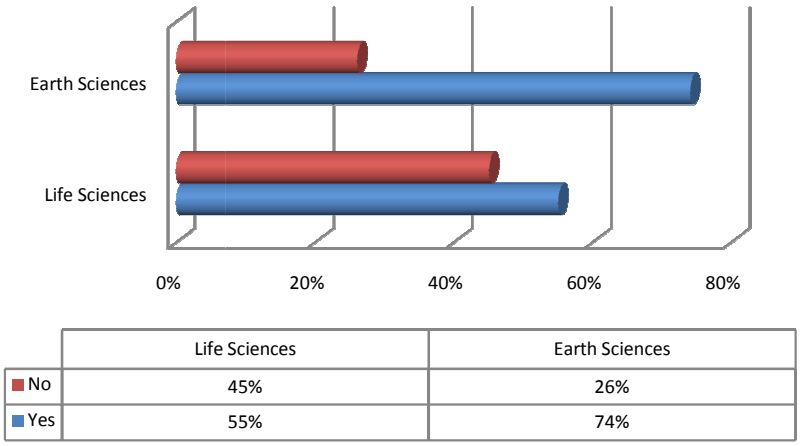


Figure 4.12: Assistance from library staff for locating books

4.2.23 Satisfaction Rate with Loan Period of Books

Table 4.23: Satisfaction rate with loan period

Satisfied with Loan Period	**SES&NRM**	**SLS**
Yes	57 (74%)	26 (55%)
No	20 (26%)	21 (45%)



	Life Sciences	Earth Sciences
No	45%	26%
Yes	55%	74%

Figure 4.13: Satisfaction rate with loan period

On the analysis of table (4.23) and figure (4.13), it has been observed that majority of the respondents (74%) from SES&NRM and 55% from SLS were satisfied with the present loan period of books. At present the PG students can borrow a book for fifteen days from the date of issue and can be renewed once after its expiry date. There are 74% respondents from SES&NRM and 55% respondents from SLS found present loan period satisfactory while 26% respondents from SES&NRM and 45% respondents from SLS did not found it satisfactory.

4.2.24 Satisfaction Level with Number of Books

Regarding the satisfaction with numbers of books issued at a time is responded by 70% respondents from SES&NRM and only 53% respondents from SLS while 30% respondents from SES&NRM and 47% respondents from SLS were not satisfied. Table 4.24 and figure 4.14 show the satisfaction level regarding the number of books issued at a time.

Table 4.24: Satisfaction level with number of books issued at a time

Satisfied with No. of Books	**SES&NRM**	**SLS**
Yes	54 (70%)	25 (53%)
No	23 (30%)	22 (47%)

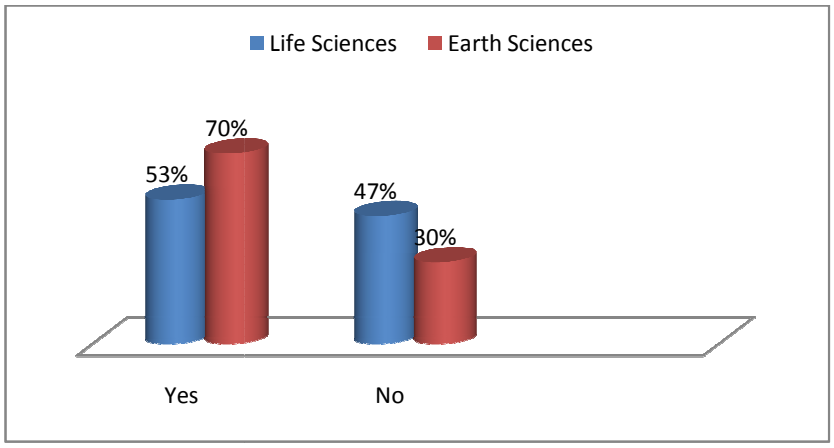


Figure 4.14: Satisfaction level with number of books issued at a time

4.2.25 Satisfaction with Rules and Regulations of Library

Table 4.25: Satisfaction with rules & regulations of library

Satisfied with Rules & Regulations	SES&NRM	SLS
Yes	73 (95%)	43 (91%)
No	4 (5%)	4 (9%)

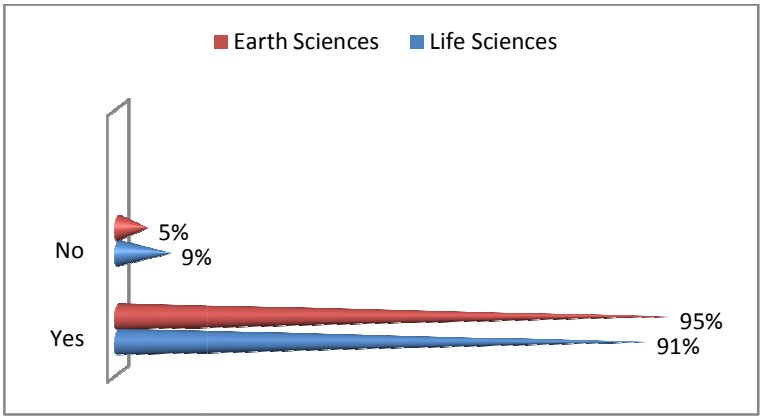


Figure 4.15: Satisfaction with rules and regulations of library

From the above table (4.25) and figure (4.15), it can be inference that majority of the respondents (95%) from SES&NRM and 91% from SLS were satisfied with the present rules and regulations of the library. Only 5% from SES&NRM and 9% from SLS were not satisfied with the present rules and regulations of the library.

4.2.26 Satisfaction with Library Environment

Table 4.26: Satisfaction with library environment

Satisfied with Library Environment	SES&NRM	SLS
Yes	70 (91%)	37 (79%)
No	7 (9%)	10 (21%)

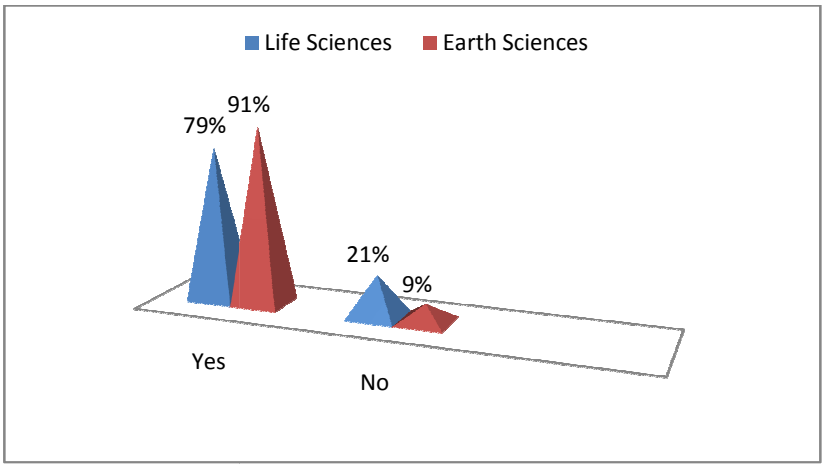


Figure 4.16: Satisfaction with library environment

From the above table (4.26) and figure (4.16), it can be inference that majority of the respondents (91%) from SES&NRM and 79% from SLS were satisfied with the library environment while 9% from SES&NRM and 21% from SLS were not satisfied with present library environment. The present library environment more suits to respondents of SES&NRM than SLS.

4.2.27 Availability of Online Search Facility

Table 4.27: Availability of online search facility in library

Availability of Online Search	SES&NRM	SLS
Yes	69 (90%)	43 (91%)
No	8 (10%)	4 (9%)

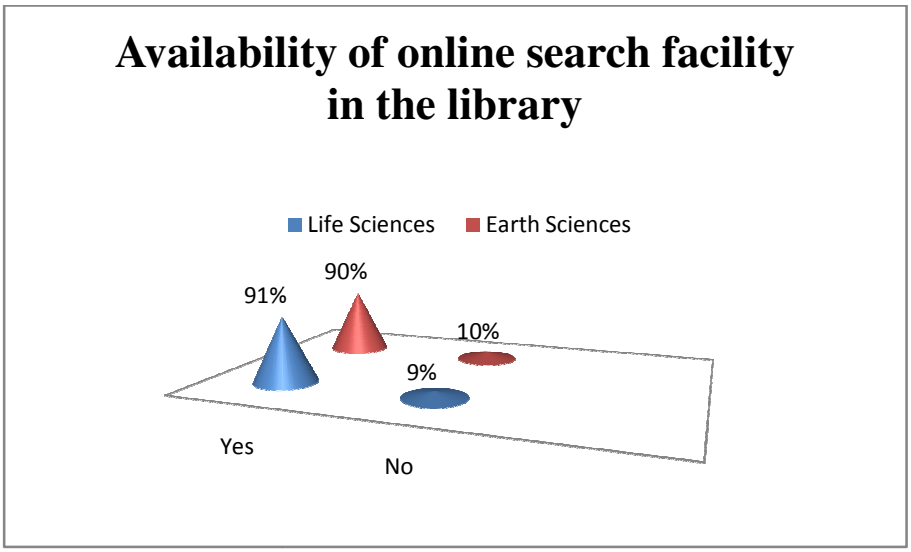


Figure 4.17: Availability of online search facility in library

From the above table (4.27) and figure (4.17), it can be inference that majority of the respondents (90%) from SES&NRM and 91% from SLS accepted that library is providing online search facility while only 10% from SES&NRM and 9% from SLS had no such idea that library is having such kind of search facility.

4.2.28 Helpfulness of Library Staff

Table 4.28: Helpfulness of library staff

How helpful are the library staff	**SES&NRM**	**SLS**
Always	18 (23%)	14 (30%)
Often	19 (25%)	2 (4%)
Sometimes	22 (29%)	20 (43%)
Rarely	12 (16%)	10 (21%)
Never	6 (8%)	1 (2%)

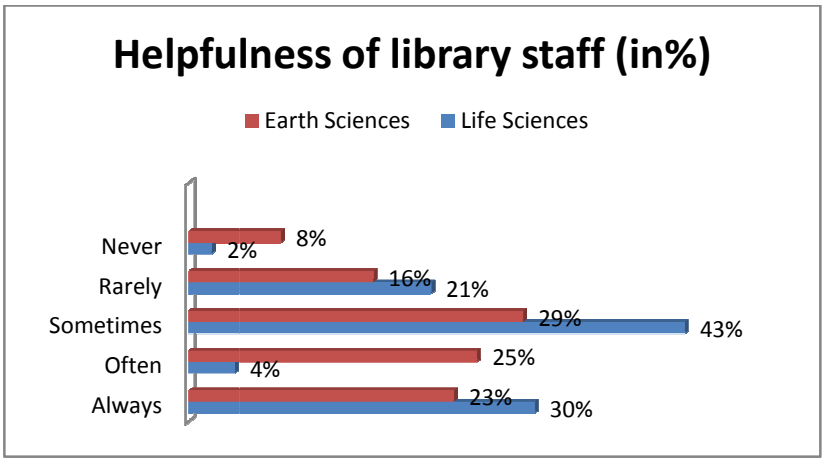


Figure 4.18: Helpfulness of library staff

To understand the status of how helpful are the librarian and his/her staff in finding answer to queries, the respondents were asked a question. Several options such as always, often, sometime, rarely and never have been given them to select. From the table (4.28) and figure (4.18), it has been observed that majority of the respondents from SES&NRM (29%) and from SLS (43%) replied that the librarian and his/her staff are "sometimes" helpful in finding answers to their queries. Library staff becomes "always" helpful by 23% respondents from SES&NRM and 30% respondents from SLS whereas "often" helpful by 25% respondents from SES&NRM and 4% respondents from SLS. They become "rarely" helpful by 16% SES&NRM and 21% SLS respondents. There were 8% respondents from SES&NRM and 2% respondents from SLS found "never" helpful the library staff during their query.

4.2.29 Library services used by students

Table 4.29: Library services used by students

Services Used	SES&NRM	SLS
Circulation service	30 (39%)	20 (43%)
Reference service	27 (35%)	11 (23%)
Reprographic service	14 (18%)	10 (21%)
Web OPAC	24 (31%)	18 (38%)

Table 4.29 reveals the usage level of different services provided by the library to their users. Circulation service is considered as the most used service among other library services by 39% respondents of SES&NRM and 43% respondents of SLS. Reference service is second most useful service in view of 35% respondents of SES&NRM whereas 23% respondents of SLS found it in third place. Reprographic service is the fourth preferred library service by 18% respondents of SES&NRM and 21% respondents of SLS also. WebOPAC is third preferred service in view of 31% SES&NRM respondents while 38% respondents of SLS found it in second place. In case of Circulation and Reprographic services, preference criteria of respondents from both schools under study were same while it varies for Reference and WebOPAC.

4.2.30 Usefulness of Information Services of the Library

To know the usefulness of the information service provided by the library, respondents have been given three point scales (Very Useful, Useful, and Not Useful) to rate the services and number of services have been listed below:

a. Circulation Service
b. Reference Service
c. Reprographic Service
d. Web OPAC

Table 4.30: Usefulness of circulation service

Rating of Circulation Service	**SES&NRM**	**SLS**
Very Useful	14 (18.18%)	9 (19.15%)
Useful	41 (53.25%)	28 (59.57%)
Not Useful	1 (1.30%)	1 (2.13%)
No Response	21 (27.27%)	9 (19.15%)

Table 4.30 indicates the usage level of the circulation service of the library. It indicates that majority of respondents from SES&NRM (53%) and SLS (59%) found it “useful” whereas only 18% respondents from SES&NRM and 19% respondents from SLS found it “very useful”. There were very less respondents from SES&NRM (1%) and SLS (2%) found it “not useful”. Surprisingly, 27% respondents from SES&NRM and 19% respondents from SLS have not responded the question though

they were using the circulation services. This negligence about circulation service of library might be due to ignorance of the technical word "Circulation" because of many respondents aware it with other name like "issue/return".

Table 4.30.1: Usefulness of reference service

Rating of Reference Service	**SES&NRM**	**SLS**
Very Useful	20 (25.97%)	8 (17.02%)
Useful	31 (40.26%)	22 (46.81%)
Not Useful	3 (3.90%)	8 (17.02%)
No Response	23 (29.87%)	9 (19.15%)

Table 4.30.1 indicates the usage level of the reference service of the library. It indicates that majority of respondents from SES&NRM (40%) and SLS (46%) found it "useful" whereas only 26% respondents from SES&NRM and 17% respondents from SLS found it "very useful". There were few respondents from SES&NRM (4%) and significantly higher percentage of SLS respondents (17%) found it "not useful". Surprisingly, 30% respondents from SES&NRM and 19% respondents from SLS have not responded the question though they might be using the reference service. This negligence about reference service of library might be due to ignorance of the technical word "Reference" because of many respondents aware it with other terms like "consulting".

Table 4.30.2: Usefulness of reprographic service

Rating of Reprographic Service	**SES&NRM**	**SLS**
Very Useful	8 (10.39%)	5 (10.64%)
Useful	21 (27.27%)	17 (36.17%)
Not Useful	14 (18.18%)	13 (27.66%)
No Response	34 (44.16%)	12 (25.53%)

Table 4.30.2 indicates the usage level of the reprographic service of the library. The table display majority of respondents from SES&NRM (44%) and 25% respondents

from SLS have not responded the question might be due to their ignorance about the word "Reprography". Though majority of respondents have not responded to the question then also 10% respondents found it "very useful" from both the schools under study. Only 27% respondents from SES&NRM and majority (36%) of respondents from SLS found it "useful". There were significant number of respondents from SES&NRM (18%) and SLS (27%) found it "not useful". Reprography service is one of the important service provided by the library but might be due to ignorance about word "Reprography" they have not responded properly because the most popular term "Xeroxing" has not been used by researcher for the query.

Table 4.30.3: Usefulness of WebOPAC

Rating of WebOPAC	**SES&NRM**	**SLS**
Very Useful	14 (18.18%)	7 (14.89%)
Useful	32 (41.55%)	27 (57.44%)
Not Useful	5 (6.49%)	3 (6.38%)
No Response	26 (33.76%)	10 (21.27%)

Table 4.30.3 indicates the usage level of the WebOPAC service of the library. The table 4.30.4 indicates that majority of respondents from SES&NRM (41%) and SLS (57%) found it "useful" whereas only 18% respondents from SES&NRM and 15% respondents from SLS found it "very useful". There were very less respondents from SES&NRM (6%) and SLS (6%) found it "not useful". Surprisingly, 34% respondents from SES&NRM and 21% respondents from SLS have not responded the question might be due to lack of technical support provided by the library to find out resources through online catalogue.

4.2.31 Making suggestion to acquire desired books by library

Table 4.31: Whether making suggestions to library for acquiring new books

Response	**SES&NRM**	**SLS**
Yes	19 (25%)	6 (13%)
No	58 (75%)	41 (87%)

The table 4.31 shows that only 25% respondents from SES&NRM and 13% respondents from SLS were suggesting the librarian to borrow the new books on desired topics while majority of respondents from SES&NRM (75%) and SLS (87%) didn't made any suggestion. This seems that majority of respondents from both schools have no interest to have their desired text/subject books in the library.

Table 4.31.1: Satisfaction rate of respondents on their arrival of desired books

Response Rate	**SES&NRM**	**SLS**
Highly satisfactory	4 (21%)	2 (33%)
Satisfactory	11 (58%)	2 (33%)
Not satisfactory	2 (11%)	1 (17%)
Poor	2 (11%)	1 (17%)

Further, in response to sending suggestion to the library to acquire new books of specific interest, the response of the library is rated with different levels. Table 4.31.1 display that 21% respondents from SES&NRM and 33% respondents from SLS were "highly satisfied" with the response of the library, whereas majority of respondents from SES&NRM (58%) and SLS (33%) were "satisfactory". About 22% respondents from SES&NRM and 34% respondents from SLS found "not satisfactory and poor" response from the library jointly.

4.2.32 Purpose of using periodicals

Table 4.32: Purpose of using periodicals

Purpose	**SES&NRM**	**SLS**
Updating Knowledge	32 (42%)	18 (38%)
For Assignment	49 (64%)	28 (60%)
General Awareness	10 (13%)	7 (15%)
No Response	6 (8%)	0 (0%)

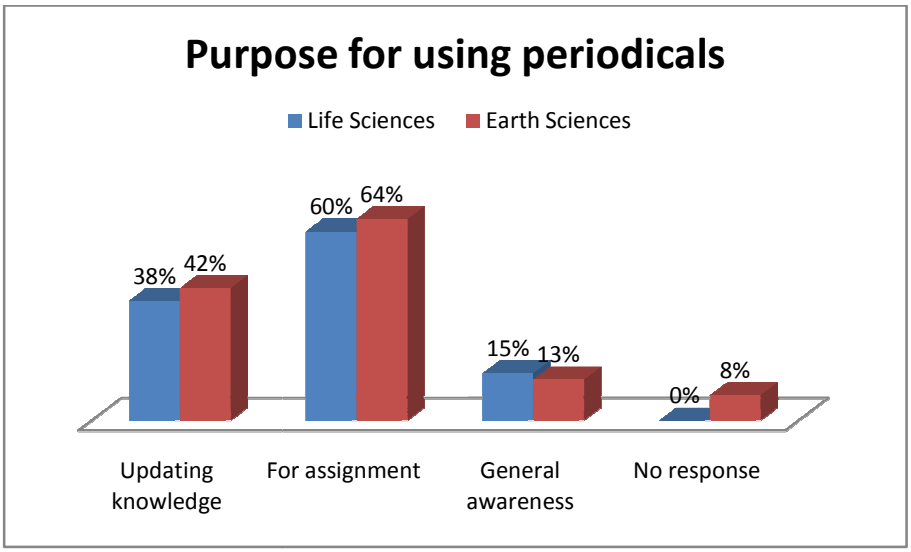


Figure 4.19: Purpose for using periodicals

To study the purpose of using periodicals, data was collected from students of SES&NRM and SLS and tabulated in table 4.32. After analysis, it has been observed that 42% from SES&NRM and 38% from SLS were using periodicals for updating their knowledge whereas majority of respondents from SES&NRM (64%) and SLS (60%) were used it for assignment purposes only. For the general awareness purpose, only 13% respondents from SES&NRM and 15% respondents from SLS were using periodicals. Only 8% respondents from SES&NRM did not responded to the question whereas 100% response received by the respondents from SLS.

4.2.33 Sources of accessing the journals

Table 4.33: Source for accessing the journal

Sources	**SES&NRM**	**SLS**
Through subscription	2 (3%)	6 (13%)
Through Membership	1 (1%)	3 (6%)
From Colleagues	12 (16%)	6 (13%)
University Library	7 (9%)	22 (47%)
Computer Centre	3 (4%)	10 (21%)
No Response	28 (36%)	7 (15%)

Table 4.33 shows the different sources/methods to access the journals and found that majority of the respondents (16%) from SES&NRM used periodicals though their colleagues whereas 13% respondents from SLS followed the same method. University library has been preferred by only 9% respondents from SES&NRM whereas majority of respondents (47%) from SLS preferred to use through university library. Only 4% respondents of SES&NRM preferred Computer Centre to access the journals while 21% respondents of SLS were using Computer Centre. Through subscription (3%) and through membership (1%), very less respondents from SES&NRM preferred to access journals while in case of SLS it was 13% and 6% respectively and comparatively higher response than SES&NRM. Majority of respondents (36%) from SES&NRM and about 15% respondents from SLS have not responded to the question.

4.2.34 Frequency of Use of Information Products

Table 4.34: Frequency of use of information products

Information Sources	Most Frequently		Frequently		Sometimes		Rarely		Never		No Response	
	SES&NRM	SLS	SES&NRM	SLS	SES&NRM	SLS	SES&NRM	SLS	SES&NRM	SLS	SES&NRM	SLS
Subject Books	56%	51%	27%	36%	5%	4%	1%	-	-	-	10%	9%
Reference Books	21%	15%	26%	30%	25%	32%	13%	9%	1%	4%	14%	11%
Printed Journals	1%	4%	13%	19%	30%	47%	27%	21%	5%	-	23%	9%
Newspapers	9%	15%	19%	21%	32%	28%	16%	21%	4%	6%	19%	9%
Theses/ Dissertations	3%	6%	10%	12%	21%	15%	26%	36%	12%	19%	29%	11%
E- Journals/ E- Books	1%	2%	16%	26%	23%	38%	21%	34%	10%	17%	29%	47%
Other Internet Sources	5%	9%	23%	38%	25%	40%	8%	13%	5%	9%	34%	55%

From the table (4.34), it has been observed that subject books have been "most frequently" used by the respondents of SES&NRM (56%) and SLS (51%) followed by "frequent" use by the respondents of both schools (27% & 36% respectively) under study. For reference books, 21% respondents of SES&NRM and 15% respondents of SLS used "most frequently" whereas 26% SES&NRM and 30% SLS respondents used "frequently". "Sometimes" used by 25% respondents of SES&NRM and 32% respondents of SLS while 13% SES&NRM and 9% SLS respondents used it "rarely". For printed journals, very less number of respondents (1% of SES&NRM and 4% of SLS) used it "most frequently" whereas 13% SES&NRM and 19% SLS respondents used it "frequently". The majority of respondents from SES&NRM (30%) and SLS (47%) were used printed journals "sometimes" during course of study while 27% SES&NRM and 21% SLS respondents used it "rarely". For newspapers, only 9% respondents from SES&NRM and 15% respondents from SLS used "most frequently". About 19% respondents of SES&NRM and 21% respondents of SLS used newspapers "frequently" whereas majority of respondents from SES&NRM (32%) and SLS (28%) used "sometimes". It has been used "rarely" by 16% SES&NRM and 21% SLS respondents. In case of theses/dissertations, very less number of respondents from SES&NRM (3%) and SLS (6%) used "most frequently" whereas "frequently" used by 10% SES&NRM and 12% SLS respondents. About 21% SES&NRM and 15% SLS respondents used "sometimes" while majority of respondents from SES&NRM (26%) and SLS (36%) used these documents "rarely". E-journals and e-books have been "most frequently" used by 1% SES&NRM and 2% SLS respondents whereas "frequently" used by 16% SES&NRM and 26% SLS respondents. Majority of respondents from SES&NRM (23%) and SLS (38%) used e-journals/e-books "sometimes" while "rarely" used by 21% SES&NRM and 34% SLS respondents. With regard to the use of other Internet sources, 5% respondents from SES&NRM and 9% from SLS used "most frequently" whereas "frequently" used by 23% SES&NRM and 38% SLS respondents. A large number of respondent from SES&NRM (25%) and SLS (40%) used "sometimes" while 8% SES&NRM and 13% SLS respondents used these "rarely". Besides these responses, significant numbers of respondents have not responded to the questions in each category of information sources.

4.2.35 Usefulness of Information Products

Table 4.35: Usefulness of information products

Information Sources	Most Useful		Useful		Least Useful		Not Useful		No Opinion	
	SES&NRM	SLS	SES&NRM	SLS	SES&NRM	SES&NRM	SLS	SES&NRM	SLS	SES&NRM
Subject Books	60%	55%	27%	-	3%	2%	1%	36%	9%	6%
Reference Books	29%	23%	45%	47%	6%	17%	4%	2%	16%	11%
Printed Journals	8%	11%	45%	43%	17%	26%	5%	2%	25%	19%
Newspapers	16%	15%	32%	49%	22%	21%	9%	2%	21%	13%
Theses/ Dissertations	8%	4%	36%	43%	17%	23%	6%	9%	21%	21%
E- Journals/ E- Books	6%	19%	34%	23%	22%	30%	8%	2%	30%	26%
Other Internet Sources	10%	13%	32%	32%	19%	6%	6%	4%	31%	45%

From the table (4.35), it has been observed that subject books have been considered "most useful" by the majority of respondents from SES&NRM (60%) and SLS (55%) followed by "useful" by the 27% respondents of SES&NRM and no response received by the respondents from SLS in this regard. Very few respondents from SES&NRM (3%) and SLS (2%) found is "least useful" while 36% respondents from SLS feels "not useful" in comparison to 1% respondents of SES&NRM. For reference books, 29% respondents of SES&NRM and 23% respondents of SLS found it "most useful" whereas 45% SES&NRM and 47% SLS respondents said "useful". "Least useful" found by 6% respondents of SES&NRM and 17% respondents of SLS while 16% SES&NRM and 11% SLS respondents had "no opinion". For printed journals, comparatively less number of respondents (8% of SES&NRM and 11% of SLS) found "most useful" whereas majority of respondents from SES&NRM (45%) and SLS (43%) found it "useful". About 17% respondents from SES&NRM and 26% from SLS found printed journals "least useful" while significantly 25% SES&NRM and 19% SLS respondents had "no opinion". For newspapers, only 16% respondents from SES&NRM and 15% respondents from SLS found "most useful" while majority of respondents from SES&NRM (32%) and SLS (49%) found "useful". About 22% respondents of SES&NRM and 21% respondents of SLS found newspapers "least useful" whereas significant number of respondents from SES&NRM (21%) and SLS (13%) had "no opinion". In case of theses/dissertations, comparatively less number of respondents from SES&NRM (8%) and SLS (4%) found "most useful" whereas majority of respondents from SES&NRM (36%) and SLS (43%) found "useful". About 17% SES&NRM and 23% SLS respondents found it "least useful" while significantly 21% respondents from each school under study had "no opinion". E-journals and e-books have been "most useful" by 6% SES&NRM and 19% SLS respondents whereas "useful" by 34% SES&NRM and 23% SLS respondents. Significantly 22% SES&NRM and 30% SLS respondents found it "least useful" while 30% of SES&NRM and 26% of SLS respondents had "no opinion". With regard to the usefulness of other Internet sources, 10% respondents from SES&NRM and 13% from SLS found "most useful" whereas majority of respondents from SES&NRM (32%) and SLS (32%) found it "useful". A large number of respondent from SES&NRM (31%) and SLS (45%) had "no opinion" while 19% of SES&NRM and 6% of SLS respondents found "least useful". Besides these responses, few numbers of respondents had "not useful" opinion in each category of information sources.

4.3 Major Findings of the Study

Following are the major finding of the study drawn from the data analysis and interpretation:

- Average response rate of questionnaire from the respondents during study was very good (77.5%).
- Ratio between male and female respondents is more or less equal in case of SES&NRM while ratio of female respondents (62%) is much higher than male (38%) respondents in case of SLS.
- Larger proportion of respondents visit library when they are in need. There is significant difference found between respondents of SES&NRM and SLS. About half of the respondents from SLS visits library when need arises while only 37% respondents of SES&NRM do the same.
- Majority of respondents from both schools under study visits library for studying course material purposes followed by borrowing the documents from library, consulting reference materials, and reading news paper/magazines.
- Majority of respondents stay in the library upto 2 hours. Comparatively more number of SES&NRM respondents (60%) stays in the library than SLS respondents (49%). More or less equal number of respondents from both schools stays less than one hour in the library.
- 88% respondents of SES&NRM and 91% respondents of SLS prefer to use university library than any other library within the city premises. Out of this, 78% respondents of SES&NRM and 93% respondents of SLS preferred university library due to its rich collection than its user services.
- More or less 50% respondents from SES&NRM were able to keep up to date with latest literature available in the library while comparatively less number of respondents from SLS (38%) were updated themselves in this regard. Further, majority of respondents had updated themselves in some extent whereas fully updated respondents were very less in both schools.
- Lack of time was the main problem with the respondents to keep up to date themselves. Comparatively less number of respondents from SES&NRM (34%) had lack of time problem than SLS respondents (40%).
- Respondents from both schools under study were very week in reading number of periodicals daily, weekly, fortnightly, monthly and yearly basis.

- More or less equal number of respondents from both schools under study borrowed average 1-4 books per month.
- Majority of respondents from both schools under study had no interest to reserve newly arrived books in the library.
- Books have been found most used resource by the 92% respondents of SES&NRM and 98% respondents of SLS. Newspapers have been used by 60% SES&NRM and 53% SLS respondents.
- Very less number of respondents from SES&NRM (22%) and SLS (30%) consulted the library authority for non availability of required documents. Majority of respondents have not shown any interest in this regard from both schools under study.
- Comparatively more number of respondents of SLS asks for assistance to locate books than respondents of SES&NRM. Similar number of respondents from both schools asks for assistance to reference materials.
- More or less similar number of respondents from both schools under study effectively used WebOPAC to find out their required document within library.
- Comparatively more number of respondents of SES&NRM (92%) than SLS (64%) accepted that library organises lectures on effective use of library.
- 74% respondents of SES&NRM were satisfied with opening hours of library than 47% SLS respondents. Majority of SLS respondents (53%) were not satisfied with present working hour of library and that was supported by 26% respondents of SES&NRM.
- Majority of SES&NRM (73%) and SLS (68%) respondents found isolated library location due to which they were not using library frequently followed by lack of time and unsuitable library hours.
- Comparatively higher number of respondents from SES&NRM (65%) than SLS (45%) found that present library services are adequate whereas 40% respondents of SLS reported that present library services are not adequate for them.
- Comparatively higher number of respondents from SES&NRM (53%) than SLS (36%) found that present library collection is adequate whereas 40% respondents of SLS reported that present collection is not adequate for them.

- 84% respondents of SES&NRM can locate books on shelf than 47% respondents of SLS. Majority of SLS respondents (53%) were unable to locate books on shelf by themselves.
- Majority of SES&NRM (75%) and SLS (72%) respondents did not prefer to take any assistance from library staff.
- Comparatively higher number of respondents from SES&NRM (74%) than SLS (55%) satisfied with the loan period of the books. SLS respondents were more dissatisfied with present loan period.
- In case of number of books issued at a time, comparatively higher number of respondents from SES&NRM (70%) than SLS (53%) satisfied while 47% SLS respondents wanted to more number of books.
- With regard to rules and regulations of library, majority of respondents from SES&NRM (95%) and SLS (91%) were satisfied.
- In response to the question that whether library environment is user friendly or not? Majority of respondents from both schools were in positive opinion but SLS (79%) respondents had comparatively lower response rate than SES&NRM (91%) respondents.
- Majority of respondents from both the schools accepted that online search facility is available in the library.
- With regard to helpfulness of library staff, respondents from both the schools had given more or less similar response and majority found that they were "sometimes" helpful.
- Circulation service is most preferred service among the respondents of both schools followed by WebOPAC, Reference and Reprographic service.
- In response to the usefulness of library services, 53% of SES&NRM and 59% of SLS respondents found circulation services is "useful" for them; 40% of SES&NRM and 46% of SLS found reference service is "useful" for them; 27% of SES&NRM and 36% of SLS found reprographic service is "useful" for them; 41% of SES&NRM and 57% of SLS found WebOPAC service is useful for them.
- Majority of respondents from SES&NRM (75%) and SLS (87%) had not made any suggestion to acquire new books of their choice. Only 25% from

SES&NRM and 13% from SLS made suggestion and among them 58% of SES&NRM and 33% of SLS were "satisfied" with library response.

- Majority of respondents from SES&NRM (64%) and SLS (60%) used periodicals for assignment purposes followed by updating knowledge base of them.
- In response to the question that from which source they are accessing journals, respondents from both the schools were very much confused and could not answer properly. About 47% SLS respondents accessed these from university library while 36% respondents from SES&NRM had no response to the question.
- With regard to the frequency of use of information products, subject books had been most frequently used by majority of respondents from SES&NRM (56%) and SLS (51%). Further to check the usefulness of information products, again subject books had been found "most useful" by the respondents of SES&NRM and SLS.

CHAPTER – V

CONCLUSION AND SUGGESTIONS

5.1 Introduction

In today's world, information plays an essential part in education for the students from primary level to university level for developing their knowledge and for development of the society also. It plays a vital role in all activities of human being. Another important thing along with the information is communication of knowledge for the development of society and their activities. Information alone is not useful without knowledge and its communication. Now, information can be considered as power, as it is the product of human brain in action. It is the data of value for decision-making and is needed for any action viz., research activities, planning, development and cultural activities etc. Therefore, the need of information grows rapidly among the decision-makers, educationist, planners, researchers, scientists etc.

5.2 Conclusion

Information seeking differs person to person. There is no clear cut methodology available regarding information seeking. Many scholars have conducted research to study information seeking behaviour of students and found that it differs with place, environment, facilities, time and with age groups. Many scholars have given information seeking behaviour models based on their experiences and they have found that models are changing with environment and time.

With regard to present study conducted on PG students of two schools, it has been observed that except few cases, information seeking behaviour of respondents of both schools were similar. Nowadays, students' visits library when they felt urgent need and most of them visit to fulfil their course curriculum requirement. This shows students do not want to become regular user of the library. Students visit library for few hours or till their requirement. Majority prefers to visit libraries where they found rich collection and good kind of services. Due to lack of regular library visitor, students are not aware with the depth of concerned subject and literature. The opening hour of library matching with students' class timing reduces regular library visitors due to time constraints. Students are having only concern with text books and they do not find any interest in reading journals of their subject. A well organised and well trained orientation program of library makes users capable to use library resources effectively. Some students are good in finding their resources in the library while some hesitate to ask for any assistance from library staff. Positive support from library

staff to library users changes the mindset of such users which will gradually improve their use behaviour. In Mizoram like hilly areas, isolated library location is a big challenge to attract the library users. It is the responsibility of library authority to think over it. Conducive library environment increases regular users of library which can be created with positive attitude and helping nature of library staff.

5.3 Suggestions

Following are the suggestion to improve upon library services which will increase information seeking behaviour of library users:

- Need more cooperation between the librarian/ library staff and the students such as informing the users regarding the new arrivals of documents in the library, sending suggestions to the librarian for acquiring interested books/ documents etc.
- Library staff should be more users friendly.
- Library working hours need to be extended or revised so that maximum users can utilize its services.
- Library location is too isolate from the department building which reduces library users. In turn library can initiate mobile library of extension centres at school level.
- More specified and rich collections and specialised services are needed.
- Online content delivery can be initiated to increase the interest and usage of journals/periodicals.
- Well organised training program should be organised and printed tutorials should be made available every time for users.

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Appendix:

Information Seeking Behaviour of Students of School of Earth Sciences & Natural Resources Management and School of Life Sciences, Mizoram University: A Comparative Study

Dear Mr./Ms.,

I am pursuing M. Phil. from Department of Library and Information Science, Mizoram University, Aizawl. As a component of the syllabus, I have to submit my dissertation on the above mentioned topic under the guidance of Dr. Akhandanand Shukla. You are requested to kindly fill up this questionnaire, which will be used for only academic purpose.

(Please answer the question or tick mark in the box provided against each question)

C. Lalrinenga
M. Phil. Student
Department of Library and Information Science
Mizoram University, Aizawl

1.1 Name of the respondent ……

1.2 Name of the Department ……

1.3 Semester ……

1.4 Sex ……

2. How often do you visit the library?

- Daily ( )
- Once in a week ( )
- More than once in a week ( )
- Fortnightly ( )
- Once in a month ( )
- When there is need ( )
- Rarely ( )

3. Purpose of visiting the library (Answer may be more than one)

- For studying course material ( )
- For borrowing documents ( )
- For consulting research material ( )
- For competitive exam ( )
- To use reference material ( )

- To read news papers/ magazines ( )
- For recreation ( )

4. How much time do you spend in the library?
   - Less than 1 hour ( )
   - 1-2 hours ( )
   - 2-3 hours ( )
   - More than 3 hours ( )

5. Do you prefer to use this library?
   - Yes ( )
   - No ( )

   If Yes, then for what reasons from below mentioned?
   - Collections ( )
   - Services ( )

     Other reasons (please specify) _____

   If No, why? (Please specify)_____

6. Are you able to keep up to date with the latest literature in your field?
   - Yes ( )
   - No ( )

   If Yes, to what extent
   - Great extent ( )
   - Some extent ( )

   If No, give the reason from below mentioned:
   - Lack of time ( )
   - Information scattered in too many sources ( )
   - Information is too vast ( )
   - Do not have access to library ( )
   - Library used lacks adequate resources ( )
   - Any other _____

7. How many periodicals do you read? (Put the number only)
   - Daily _____
   - Weekly _____
   - Fortnightly _____
   - Monthly _____
   - Yearly _____

8. Average number of books you borrow per month _____

9. Do you make reservation for new books?
   - Yes ( )
   - No ( )

10. What types of publications and other sources of information do you use?

	Yes	No
• Book	( )	( )
• Periodicals	( )	( )
• Newspaper	( )	( )
• Newspaper Clipping	( )	( )
• Doctoral Thesis	( )	( )
• Research Reports	( )	( )
• Microforms	( )	( )

11. Do you ask for the materials not available in the library?

- Yes ( )
- No ( )

12. Do you ask any help/assistance from the librarian or from the library staff for following purpose?

- To locate books ( )
- To search dissertations ( )
- To locate current periodicals ( )
- To understand the use of various tools ( )
- Reference assistance ( )
- Bibliographies ( )
- Library catalogue/ Web OPAC ( )
- Any other……

13. Can you use the library catalogue/ Web OPAC effectively?

- Yes ( )
- No ( )

14. Does the library organize lectures on 'how to use library more effectively?'

- Yes ( )
- No ( )

15. Are you satisfied with the opening hours of the library?

- Yes ( )
- No ( )

16. In case, if you are not using the library frequently, then give reasons

- Library is too isolate from the department building ( )
- Shortage of time ( )
- Unhelpful attitude of staff ( )
- Opening hours are not suitable ( )
- Library does not provide current/ specialized information ( )
- Get information from other library/sources ( )
- Any other (Please specify)

  ……..

17. How do find the services of the library?
- Poor ( )
- Inadequate ( )
- Adequate ( )
- Excellent ( )

18. How do you find the collection of the library?
- Poor ( )
- Inadequate ( )
- Adequate ( )
- Excellent ( )

19. Are you able to locate books you are looking for on the shelf?
- Yes ( )
- No ( )

20. Do you insist the assistance from the library staff to locate books?
- Yes ( )
- No ( )

21. Are you satisfied with the loan period for books?
- Yes ( )
- No ( )

22. Are you satisfied with the number of books issued at a time?
- Yes ( )
- No ( )

23. Are you satisfied with the rules and regulations of the library?
- Yes ( )
- No ( )

24. Do you find the library environment user (reader) friendly?
- Yes ( )
- No ( )

25. Does the library provide online search facility?
- Yes ( )
- No ( )

26. How helpful are the librarian and his/her staff in finding answer to your queries?
- Always ( )
- Often ( )
- Sometime ( )
- Rarely ( )
- Never ( )

27. Which of the library services listed below do you use?

- Circulation service ( )
- Reference service ( )
- Reprographic service ( )
- Web OPAC ( )

28. Please indicate the usefulness of information services provided by your library.

	Very Useful	Useful	Not Useful
• Circulation service	( )	( )	( )
• Reference service	( )	( )	( )
• Reprographic service	( )	( )	( )
• Web OPAC	( )	( )	( )

29. Do you send your suggestion to the library to acquire books of your specific interest?

- Yes ( )
- No ( )

If Yes, the response of the library is

- Highly satisfactory ( )
- Satisfactory ( )
- Not satisfactory ( )
- Poor ( )

30. Please indicate the purpose of using periodicals? (Answers may be many)

- Updating knowledge ( )
- For assignment ( )
- General awareness ( )

31. How do you access the journals?

- Personal copy through subscription ( )
- Personal copy through membership ( )
- From colleagues ( )
- From university library ( )
- From computer center ( )

32. Listed below are various information sources/ products. Please indicate the frequency of use and its usefulness for your present work or activity involved.

- **Frequency of Use of Information Products (put tick mark in appropriate)**

Information Sources	Most Frequently	Frequently	Sometimes	Rarely	Never
Subject Books					
Reference Books					
Printed Journals					
Newspapers					
Theses/Dissertations					
E-Journals/E-Books					
Other Internet Sources					

- **Usefulness of Information Products (put tick mark in appropriate)**

Information Sources	Most Useful	Useful	Least Useful	Not Useful	No Opinion
Subject Books					
Reference Books					
Printed Journals					
Newspapers					
Theses/Dissertations					
E-Journals/E-Books					
Other Internet Sources					

Thanking you very much

Abstract

on

INFORMATION SEEKING BEHAVIOUR OF STUDENTS OF SCHOOL OF EARTH SCIENCE & NATURAL RESOURCES MANAGEMENT AND SCHOOL OF LIFE SCIENCES, MIZORAM UNIVERSITY: A COMPARATIVE STUDY

A Dissertation submitted in partial fulfilment of the requirement for the Degree of Master of Philosophy in Library & Information Science

Submitted by
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M. Phil. Registration No.: MZU/ M. Phil/196 of 20.05.2014

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2015

Introduction

Information is all around us and next to matter and energy. It is the most important and common entity in this world. It moves the world. Being a much over used term, it is least understood and there is no consensual definition of it. But its properties are numerous and well recognized. In fact, information is the act of informing the fact. Thus, the concept of information is taken to the meaning "as a collection of fact or other data". There is no clear cut meaning of the term "information". Farrane defines information as "any physical form of representation or of a particular thought used for communication". Information plays an important role in our daily life. Every human being may be socialist, researcher, journalist, scholars, students, workers, layman etc. needs information in the creation, maintenance and development of his knowledge. We do seek information by different forms and different sources. We also seek information for achieving goals and objectives in education, economy, politics and social activities. As we are living in the "information society" or "information age" where information is one of the important factors of life and is also considered as one of basic needs of human being. Everyone needs information in taking the right decision in every step of life, from the organizational level to the personal level, from the highly educated person to a child, from a prominent person to an ordinary person. Modern society incessantly produces and uses information. In this information era, there is so much of information being generated that we are confronted with information explosion, information pollution and exponential growth of information. Due to this information explosion or information pollution the people are confused about the information need, information access and information sources. The university plays a significant role in the development of the society. The main function of any university is to seek and cultivate new knowledge by way of research and extend higher education to the youth, to encourage academic investigations into the problems of the society and for advancement of civilization. The university library plays an important role in the achievement of this objective. Information sources play a vital and viable role to cater to the needs of research and faculty in the process of advancement of society in the present environment.

The need for information is one of the cognitive needs of humankind. Information need causes information-seeking behaviour and these concepts complement one another. Information need and information-seeking behaviour are affected by many factors. Information-seeking behaviour is expressed in various forms, from reading printed material to research and experimentation. Scholars, students, and faculty actively seek current information from the various sources available in libraries, e.g., encyclopaedias, journals and, more currently, electronic media. Information-seeking behaviour remains an important research area. Libraries and other information providers strive to understand users' information needs and how they try to fulfil these needs. This understanding helps design and offer appropriate user-centred information systems/services.

Information seeking behaviour can be defined as a process of construction in which a user progresses from uncertainty (or confusion) to understanding (or clarity). It is experience

with thoughts, actions and feelings interwoven into a complex mosaic rather in a separate distinct entity. Information seeking behaviour includes actions or strategies undertaken to locate information. As such information seeking behaviour may be viewed a process in which user's progress from uncertainty to understanding. It involves use of information to meet an individual's needs. It is recognition of some need perceived by the user who as a result makes demand upon a library, and information system or some other individual in order to meet his information requirement.

Information-seeking behaviour depends on the reasons for seeking information and the starting knowledge of the individual. Marchionini (1995) describes it as, "Information-seeking is a special case of problem solving. It includes recognizing and interpreting the information problem, establishing a plan of search, conducting the search, evaluating the results, and if necessary, iterating through the process again."

Objectives of the Study

This present study has the following objectives:

- To identify the information needs and use of the students of the School of Earth Sciences & Natural Resources Management and School of Life Sciences, Mizoram University.
- To determine the adequacy of the library resources and services provided by the library for its users.
- To assess the present and future needs of the users and to suggest some recommendations to improve the library collection and services.

Scope of the Study

The scope of study was confined to the information seeking behaviour of students under the School of Earth Sciences & Natural Resources Management and School of Life Sciences in Mizoram University. There are six (06) departments under the School of Earth Sciences & Natural Resources Management and three (03) departments under the School of Life Sciences in Mizoram University. The names of departments under both Schools are given below in the following table.

SN	Departments under School of Earth Sciences & Natural Resources Management	Departments under School of Life Sciences
1	Department of Forestry	Department of Botany
2	Department of Geology	Department of Zoology
3	Department of Horticulture, Aromatic & Medicinal Plants	Department of Biotechnology
4	Department of Environmental Science	
5	Department of Geography & Resource Management	
6	Department of Extension Education & Rural Development	

Methodology

The semi-structured questionnaire was designed for the study in which the respondents were given the option to put remarks as and where necessary so as to get the real sense of information received by them. The survey method with semi-structured questionnaire methods of data collection was applied for collecting the data among the Post Graduate students of Schools of Earth Sciences & Natural Resources Management and School of Life Sciences, Mizoram University. The data collected from the questionnaire was analyzed and tabulated with the help of Microsoft Excel.

Findings of the Study

Following are the major finding of the study drawn from the data analysis and interpretation:

- Average response rate of questionnaire from the respondents during study was very good (77.5%).
- Ratio between male and female respondents is more or less equal in case of SES&NRM while ratio of female respondents (62%) is much higher than male (38%) respondents in case of SLS.
- Larger proportion of respondents visit library when they are in need. There is significant difference found between respondents of SES&NRM and SLS. About half of the respondents from SLS visits library when need arises while only 37% respondents of SES&NRM do the same.
- Majority of respondents from both schools under study visits library for studying course material purposes followed by borrowing the documents from library, consulting reference materials, and reading news paper/magazines.
- Majority of respondents stay in the library upto 2 hours. Comparatively more number of SES&NRM respondents (60%) stays in the library than SLS respondents (49%). More or less equal number of respondents from both schools stays less than one hour in the library.
- Majority of respondents of SES&NRM (88%) and respondents of SLS (91%) prefer to use university library than any other library within the city. Out of these, 78% respondents of SES&NRM and 93% respondents of SLS preferred university library due to its rich collection than services.
- More or less 50% respondents from SES&NRM were able to keep up to date with latest literature available in the library while comparatively less number of respondents from SLS (38%) were updated themselves in this regard. Further, majority of respondents had updated themselves in some extent whereas fully updated respondents were very less in both schools.
- Lack of time was the main problem with the respondents to keep up to date themselves. Comparatively less number of respondents from SES&NRM (34%) had lack of time problem than SLS respondents (40%).
- Respondents from both schools under study were very week in reading number of periodicals daily, weekly, fortnightly, monthly and yearly basis.

- More or less equal number of respondents from both schools under study borrowed average 1-4 books per month.
- Majority of respondents from both schools under study had no interest to reserve newly arrived books in the library.
- Books have been found most used resource by the 92% respondents of SES&NRM and 98% respondents of SLS. Newspapers have been used by 60% SES&NRM and 53% SLS respondents.
- Very less number of respondents from SES&NRM (22%) and SLS (30%) consulted the library authority for non availability of required documents. Majority of respondents have not shown any interest in this regard from both schools under study.
- Comparatively more number of respondents of SLS asks for assistance to locate books than respondents of SES&NRM. Similar number of respondents from both schools asks for assistance to reference materials.
- More or less similar number of respondents from both schools under study effectively used WebOPAC to find out their required document within library.
- Comparatively more number of respondents of SES&NRM (92%) than SLS (64%) accepted that library organises lectures on effective use of library.
- 74% respondents of SES&NRM were satisfied with opening hours of library than 47% SLS respondents. Majority of SLS respondents (53%) were not satisfied with present working hour of library and that was supported by 26% respondents of SES&NRM.
- Majority of SES&NRM (73%) and SLS (68%) respondents found isolated library location due to which they were not using library frequently followed by lack of time and unsuitable library hours.
- Comparatively higher number of respondents from SES&NRM (65%) than SLS (45%) found that present library services are adequate whereas 40% respondents of SLS reported that present library services are not adequate for them.
- Comparatively higher number of respondents from SES&NRM (53%) than SLS (36%) found that present library collection is adequate whereas 40% respondents of SLS reported that present collection is not adequate for them.
- 84% respondents of SES&NRM can locate books on shelf than 47% respondents of SLS. Majority of SLS respondents (53%) were unable to locate books on shelf by themselves.
- Majority of SES&NRM (75%) and SLS (72%) respondents did not prefer to take any assistance from library staff.
- Comparatively higher number of respondents from SES&NRM (74%) than SLS (55%) satisfied with the loan period of the books. SLS respondents were more dissatisfied with present loan period.
- In case of number of books issued at a time, comparatively higher number of respondents from SES&NRM (70%) than SLS (53%) satisfied while 47% SLS respondents wanted to more number of books.

- With regard to rules and regulations of library, majority of respondents from SES&NRM (95%) and SLS (91%) were satisfied.
- In response to the question that whether library environment is user friendly or not? Majority of respondents from both schools were in positive opinion but SLS (79%) respondents had comparatively lower response rate than SES&NRM (91%) respondents.
- Majority of respondents from both the schools accepted that online search facility is available in the library.
- With regard to helpfulness of library staff, respondents from both the schools had given more or less similar response and majority found that they were "sometimes" helpful.
- Circulation service is most preferred service among the respondents of both schools followed by WebOPAC, Reference and Reprographic service.
- In response to the usefulness of library services, 53% of SES&NRM and 59% of SLS respondents found circulation services is "useful" for them; 40% of SES&NRM and 46% of SLS found reference service is "useful" for them; 27% of SES&NRM and 36% of SLS found reprographic service is "useful" for them; 41% of SES&NRM and 57% of SLS found WebOPAC service is useful for them.
- Majority of respondents from SES&NRM (75%) and SLS (87%) had not made any suggestion to acquire new books of their choice. Only 25% from SES&NRM and 13% from SLS made suggestion and among them 58% of SES&NRM and 33% of SLS were "satisfied" with library response.
- Majority of respondents from SES&NRM (64%) and SLS (60%) used periodicals for assignment purposes followed by updating knowledge base of them.
- In response to the question that from which source they are accessing journals, respondents from both the schools were very much confused and could not answer properly. About 47% SLS respondents accessed these from university library while 36% respondents from SES&NRM had no response to the question.
- With regard to the frequency of use of information products, subject books had been most frequently used by majority of respondents from SES&NRM (56%) and SLS (51%). Further to check the usefulness of information products, again subject books had been found "most useful" by the respondents of SES&NRM and SLS.

Organisation of the Study

The study is presented in the following chapters:

Chapter 1 – gives an introduction to the meaning and importance of information.

Chapter 2 – highlights about Mizoram University, Central Library, School of Earth Sciences & Natural Resources Management and School of Life Sciences.

Chapter 3 – deals with the information seeking behaviour of the users which involves the interaction among the user, the information needs and models.

Chapter 4 – highlights the tables of data and its findings through questionnaires from the students of School of Earth Sciences & Natural Resources Management and School of Life Sciences.

Chapter 5 – deals with the conclusion of the whole study and suggestions for the university library to improve the services for prospective users.