Information Literacy and Competency in Some University Libraries in Dhaka City: A Study

Md. Rashedur Rahman

Thesis submitted to
the Department of Information Science and Library Management,
University of Dhaka, for the Degree of Master of Philosophy (M.Phil)

Department of Information Science and Library Management
University of Dhaka, Dhaka-1000, Bangladesh

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Session: 2010 - 11

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DECLERATION

I hereby declare that the thesis entitled **Information Literacy and Competency in Some University Libraries in Dhaka City: A Study** is my own work and to the best of my knowledge and belief such material as has been obtained from other sources is duly acknowledged in the thesis. The whole research work was conducted by me under the guidance and kind supervision of Dr. Salma Chowdhury, Professor, Department of Information Science and Library Management, University of Dhaka.

This thesis has not been previously submitted in partial or in full by me to any university or institution for the award of any degree or diploma.

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CERTIFICATE

I have the pleasure to certify that the thesis entitled **Information Literacy and Competency in Some University Libraries in Dhaka City: A Study** by **Md. Rashedur Rahman**, Reg. No - 216 for the degree of Master of Philosophy (M.Phil) in Information Science and Library Management, University of Dhaka under my supervision.

I also certify that this thesis represents in independent work on the part of the Candidate.

Dr. Salma Chowdhury
(Supervisor)

Dedicated to:

My Beloved Parents, for their prayers, support, and words of encouragement throughout this process.

Acknowledgement

At first I wish to acknowledge the immeasurable grace and profound kindness of Almighty Allah, the Supreme Ruler of the Universe, who enabled me to make my dream a reality.

Throughout my M.Phil journey at the Department of Information Science and Library Management, I was privileged and blessed to be "surrounded" by many persons who in different and multiple ways assisted me to begin, run and to finish this "race". I am grateful to everyone who touched my life in some way and assisted in making this dissertation possible.

In this regard, I feel a profound pleasure to express my heartiest thanks, sincere guideline, and deepest sense of appreciation to my supervisor Dr. Salma Chowdhury, Professor, Department of Information Science and Library Management, University of Dhaka, for her scholastic guidance, advice, constructive criticism and constant inspiration from the beginning to the completion of this research. She also painstakingly edited the work and offered valuable suggestions for improvement of this untiring cooperation. Without her direction, guidance, suggestion and constant encouragement, the accomplishment of this work would have not been possible.

I am grateful to all my teachers of the Department of Information Science and Library Management, University of Dhaka for their helpfulness, valuable suggestions and providing necessary information to complete the thesis perfectly. I am very grateful to my beloved and inspiring teacher Professor Dr. Muhammad Mezbah-ul-Islam, who inspired and helped me to conduct M.Phill from University of Dhaka. I must express my gratitude to Dr. Md. Roknuzzaman, Associate Professor, University of Dhaka, for his scholastic guidance and constant inspiration from the very beginning of this work. I am extremely grateful to my beloved teacher Dr. Kazi Mostak Gausul Hoq, for his valuable suggestions, regular supervision and guidelines and expending his valuable time to look after my work again and again. I would like to express my profound gratitude to the

entire university librarian and other library officers related to this thesis for their heartiest effort and overall cooperation regarding filling up survey questionnaire and responding over telephone in many times in spite of their busyness to complete this work perfectly. I am very grateful to Dr. Md. Zillur Rahman for his invaluable advice, support and encouragement to complete this work. I specially thanks and would like to express my hearty gratitude to Mr. Mohammad Nayeem Abdullah and Mr. Rahat Bari Tooheen for their kind and selfless cooperation.

I must express my heartiest gratitude to my beloved one Suraiya Sultana Lipa, for her continuous encouragement, inspiration and support to conduct M.Phill and finally completing this thesis. There are so many peoples of my professional network, friends, seniors, teachers and relatives who provided advice, assistance, personal support and encouragement throughout the journey to accomplish this work perfectly, that it is impossible to name them all individually. I am very grateful to all of them and thank you all! However, special thanks for two of my younger brothers Shonjoy Mozumder from my department and Mohiuddin Khan Mukul from Jagannath University, who helped me in various ways throughout this journey.

At last, I would like to express my deepest sense of regard to my father and my mother for their kind cooperation, prayers, financial supports and constant inspiration that helped me to bring out this study. I heartily thank to my beloved brother Md. Sajjadur Rahman and my two elder sisters Advocate Nigar Sultana Mokta and Advocate Nishat Sultana Mitu as well as my beloved younger sister Nihar Sultana Micu for their unlimited support and encouragement all along.

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List of Abbreviations

AAHE	American Association for Higher Education
ACRL	Association of College and Research Libraries
AILS	Australian Information Literacy Standard
AIUB	American International University Bangladesh
AIUBL	American International University Bangladesh Library
ALA	American Library Association
ANZILL	Australia and New Zealand Institute for Information Literacy
AVM	Audio Visual Materials
BALID	Bangladesh Association of Librarian, Information Scientist and Documentalists
BI	Bibliographic Instruction
BRACU	BRAC University
BRACUL	BRAC University Library
BSMMU	Bangabandhu Sheikh Mujib Medical University
BSMMUL	Bangabandhu Sheikh Mujib Medical University Library
BUET	Bangladesh University of Engineering and Technology
BUETL	Bangladesh University of Engineering and Technology Library
CAUL	Council of Australian University Librarian
CAUL	Council of Australian University Librarians
CD	Compact Disc
CD-ROM	Compact Disc – Read Only Memory
CILIP	Chartered Institute of Library and Information Professional

CPL	Central Public Library
DILL	Digital Library Learning
DU	Dhaka University
DUL	Dhaka University Library
E-Course	Electronic Course
E-Information Literacy – Electronic Information Literacy	
E-Journal	Electronic Journal
E-mail	Electronic Mail
E-Resource	Electronic Resources
EWU	East West University
EWUL	East West University Library
ICT	Information and Communication Technology
IFLA	International Federation of Library Associations and Institutions
IL	Information Literacy
ILCP	Information Literacy and Competency Program
ILP	Information Literacy Program
ISLM	Information Science and Library Management
IT	Information Technology
IUB	Independent University Bangladesh
IUBL	Independent University Bangladesh Library
JU	Jagannath University
JUL	Jagannath University Library
LAB	Library Association of Bangladesh

LIC	Library and Information Centre
LIS	Library and Information Science
NILIS	National Institute of Library and Information Science
NSU	North South University
NSUL	North South University Library
OA	Open Access
OPAC	Online Public Access Catalogue
SAU	Sher-e-Bangla Agricultural University
SAUL	Sher-e-Bangla Agricultural University Library
SCONUL	Society of College, National and University Librarian
SPSS	Statistical Package for Social Services
Std. Deviation	Standard Deviation
UK	United Kingdom
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
US	United States
WWW	World Wide Web

Chapter – One

Introduction

1.1 Background of the study

Information has become a very important resource in every sector of operation, and people rely on it for their functioning and livelihood. The workplace of the present times and the future therefore demands a new kind of university graduate, who knows when information is needed and can access, manage and use the vast amount of information available to him or her through multiple channels such as phones, internet, email, printed documents, and web-casts (Cheuk, 2002).

The society of the 21st century depends on access to and use of information for its decision-making, growth and development. This has resulted into an information explosion, produced in multiple media. Library and Information Center (LIC) professionals have the task of handling the information explosion and delivering the right kind of information services to the right users at the right time. LIC professionals are expected to guide the users for using the right information and develop the skill of users.

A contribution that institutions of higher education make to society includes the development of a knowledge and skills base that prepares people for vocation and empowerment of its students to become lifelong learners. The academic library plays a vital role in the development of a student as information–literate persons, and serves to assist an institution of higher education in achieving this goal through the provision of instructional programming. In an effort to assist the academic library to fulfill its goal to provide better research or library instruction to students, the Association of College and Research Libraries (ACRL) adopted a series of information literacy instruction objectives for institutions of higher education. The objectives define purpose for information

literacy instruction: Information literacy encompasses more than good information-seeking behavior. It incorporates the abilities to recognize when information is needed and then to phrase questions designed to gather the needed information. It includes evaluating and then using information appropriately and ethically (ACRL, 2001).

Information literacy and competency is the ability to identify information needs, seek out resources to meet those needs, and then analyze, evaluate, synthesize and communicate the resulting knowledge. It is a core instructional pedagogy in higher education. People who recognize their own need for good information, and who have the skills to identify, access, evaluate, synthesize and apply the needed information are thus information literate (ACRL, 2001).

According to the Association of College and Research Libraries, an information literate person is able to: (a) recognize and understand an information need or problem, (b) discern the appropriate the sources to satisfy the information need or problem, (c) evaluate, synthesize and apply the information as it applies to the need or problem, (d) discern when enough information has been gathered to satisfy the need or problem, and (e) use information and information technology appropriately (ACRL, 2000).

The information literate person is defined according to a range of attributes, which, once acquired, facilitate the development of critical thinking and problem-solving skills and motivate students to learn throughout life (Lioyd, 2006).

The Chartered Institute of Library and Information Professional (CILIP, 2006) states that an information literate person should have the ability to be a lifelong learner and to be able to reflect on what one does? Information literacy is also about commitment to value, to worth and to success.

Library research instruction provides students with a general acquaintance with resources that are both interdisciplinary and discipline-specific, and provides guidance in how to use the resources. It may also provide basic instruction on the research process, equipping students with techniques about how to select a topic for

investigation, formulate questions for exploration, narrow and focus topics for greater management of information, develop a research strategy, including knowing which sources to use, understand the differences between primary and secondary sources, and re-fine techniques in searching for information sources, including those found in and through the electronic resources of the library (Ulmer & Fawley, 2009).

Information literacy presents a broad approach that offers the opportunity to educate students to understand the importance of information, and have the competence to locate, evaluate and manage it. In that way, information literacy contributes towards a higher level of literacy and lifelong learning. It can be argued therefore that students become information literate when they are comfortable in using all information formats independently and when they are able to evaluate and base decisions on information obtained. It is in this vein that students should be empowered to be literate and comfortable in using information available in printed and in electronic formats.

In the present age of information technology, it is essential for university students to develop the skills of independent information searching, evaluating and utilizing all available sources of information. According to Abid (2004), information literacy is concerned with teaching and learning about the whole range of information sources and formats. The author further states that information literacy enables people to interpret and make informed judgments as users of information sources and it also enables them to become producers of information in their own right, and thereby to become more powerful participants in society. Information literacy forms the basis for lifelong learning. It is common to all disciplines, to all learning environments and to all levels of education (Abid, 2004).

Information literacy and competency programs can inculcate good principles in the fundamental skills of information use in the knowledge society. Information literacy has been redefined to take account of the demands of the knowledge society conceptualized within lifelong learning. The focus broadened from just acquiring the skills and understandings for success in academic settings to developing those required

across the lifespan, including both professional and citizenship dimensions (George et al., 2001).

The ultimate goal of a comprehensive information literacy and competency program is to inculcate in the individual the ability to recognize when information is required and to teach them to understand how the information is organized, and how to access it.

The information society calls for all people to become information literate which means that they should not only be able to recognize when information is needed but also be able to identify, locate, evaluate and use effectively information needed for decision making or fulfilling different goals. Information literacy (IL) is increasingly important in the present context of the information explosion and concomitant uncertainties about its authenticity, validity, and reliability. For the students, regardless of their discipline, information literacy skills enable them to master content and give them the confidence to proceed with investigation, be self-reliant and have a sense of being in control of their learning (Kavulya, 2003).

Information literacy has broader perspectives and applications. Although information literacy embraces related concepts like user education, library instructions, bibliographic instructions and library research, libraries alone cannot address IL. This is an educational and societal issue, and cooperative efforts of the government, nongovernmental organizations, educational institutions; community information centres and academic/professional associations are to be involved. Whereas historically libraries focus on the search-process, IL also involves the basis of every search viz. formulating a topic and formulating the right questions to answer the actual information need. Preparation of a search is very important to decide whether found information is useful or not. IL also focuses on the effective use of found information, e.g. writing an article or giving a lecture (Singh, 2009).

Finally, information literacy instruction is a curriculum component that combines the aforementioned concepts, but such instruction also needs to provide a foundation for the evaluation of information and sources for validity, the appropriate and ethical use

of information and information technology, and the ability to access, understand, synthesize and apply the information that has been collected. Further, information literacy instruction enhances the academic endeavors of the students and promotes the process of lifelong learning. The skills gained through the instruction sessions may be applied over a wide range of information needs and demands that are placed upon the students through the course of their studies as well as in their professional and personal pursuits (Birch, 2012).

The world over, universities are making an effort to implement IL programs to enable their students to cope with the current information proliferation, improve their educational performance and enable their students to compete favorably in the information society. As libraries are involved in a number of ways in supporting teaching and research in terms of resourcing, reading material, facilitating use of these materials and providing collaborative focus for partnership with other institutions they play an important role in promoting information literacy of the students and staff members (Birch, 2012).

Many graduate or even undergraduate programs in both public and private universities in Bangladesh do not offer or provide formal information literacy training that could equip students with the skills necessary to fulfill the current information need as well as fill future information needs.

In addition, university students often experience either library using problems, research problems, or both when asked to utilize the university library's resources and services to gather the information needed to fulfill the requirements of a course or research project. These problems often affect the searching behavior, information retrieval, and information use of these students (Birch, 2012).

In Bangladesh, a few private university libraries have taken initiatives to arrange Information literacy and competency programs regularly whereas in most of the universities have absence this program. Most students in selected universities of Dhaka City have been found to lack the sophisticated skills that are needed to exploit the

university libraries information resources. The main objective of this study is to investigate to what extent university libraries in Dhaka city are providing information literacy programs to equip students with the necessary skills.

1.2 Statement of the problem

Tertiary institutions are centers of learning and knowledge generation. This means that student, academic staff, administrative staff, researchers and librarian's work are related with information. Therefore it is imperative for students to have information literacy skills to enable them to independently search, identify, locate, retrieve and use information. By imparting information literacy skills to students, the students become information literate. Information literate students access, evaluate and use information from a variety of sources. They communicate effectively and reflect on the process as well as the product. It is in this regard, therefore, that a deliberate program of teaching and learning of information literacy should be incorporated in universities' curricula (Barton, n.d.).

This researcher has observed that most of the undergraduate students do not posses the much needed information literacy skills for conducting their research and most of the university libraries are not providing this services to their students. One is thus led to ask the question: what and where is the problem? Why are students not performing as expected in regard to the application of information literacy skills? Why university libraries are not interested to conduct this course?

It is the intention of this study to reveal, among other findings, how valuable the course is. This study also tries to examine the practice of information literacy in university libraries and competency of library staff to providing Information literacy services to the users and users' perception about information literacy in selected university libraries of Dhaka city.

1.3 Objectives of the Study

The research will be carried out under the following objectives:

- To find out the information literacy and competency level of university librarians and students.
- To investigate the practice of information literacy in selected university libraries in Dhaka city.
- To identify the major barriers to providing information literacy services to the users.
- To ascertain the significance of information literacy education and training program among students and librarians.
- To identify the critical and analytical skills of students in order to use information appropriately and judiciously.
- To seek suggestions from librarian and library users on the most effective method for teaching and improvement of information literacy program.

1.4: Research design and methodology

Research strategy: This research used a mixed method research approach. Both quantitative and qualitative methods for data collection and subsequent analysis were used. Data for this research came from both primary and secondary sources. The primary data was collected from librarians and library users using questionnaires comprising both open-ended and close-ended questions designed to issues directly related to the objectives of the research and some informal interviews or conversation with librarians and other library professionals have been taken under considerations to get additional information as well as in-depths views on the topic being researched. Secondary sources of data included previous works such as reports, books, journals, magazines, electronic sources and other related materials.

Sampling: Purposive sampling was used to collect data from both librarians' and students' perceptions from selected universities using questionnaire. There are only 5 (Five) public and 50 (Fifty) private universities located in Dhaka city. To maintain

similarities regarding collection of information from the students and professionals of both public and private universities, only five leading and best private universities associated with five public universities have been selected for this research. In this regard, 10 questionnaires were submitted to the ten university libraries to collect librarians' data and total numbers of 1250 questionnaires were submitted randomly to the ten university libraries to collect students' data.

Data collection: This study is mainly of empirical in nature. For the purpose of collecting data, two-structured questionnaire have been designed. One is for library professionals and another for library users. An informal interview or conversation also been adopted in the case of targeted library personnel who are working in the libraries as well as users of those libraries for classification and authenticity of data filled up in questionnaire.

Data Analysis: Finally, collected data from the students and library professionals of both public and private university libraries were analyzed using standard data analysis software like, Statistical Package for Social Services (SPSS) and graphical presentations were made using MS Excel for preparing the result.

1.5 Scope and limitations of this study

There are a total number of 5 (Five) public and 50 (Fifty) private universities located in Dhaka city. For the purpose of research, a total number of 10 (Ten) university libraries including 5 (Five) public and other 5 (Five) leading private university libraries were selected. This study will be limited within these 10 (Ten) university libraries and their Library users. These university libraries are namely:

Public University Library

1. Dhaka University Library (DUL)
2. Bangladesh University of Engineering and technology Library (BUETL)
3. Bangabandhu Sheikh Mujib Medical University Library (BSMMUL)
4. Sher-e-Bangla Agricultural University Library (SAUL)
5. Jagannath University Library (JUL)

Private University Library

1. North South University Library (NSUL)
2. East West University Library (EWUL)
3. BRAC University Library (BRACUL)
4. Independent University Bangladesh Library (IUBL)
5. American International University Bangladesh Library (AIUBL)

Limitations of the study

This study had the following limitations:

- The study was conducted with due care and data analysis was done with the help of qualified analyzer. In spite of all the efforts, there might have been some shortcomings e.g. linguistic problems, analytical problems, etc.;
- The size of sample of library users and staff members might have limited the scope of the study. A larger sample size would definitely provide more specific information;
- The sample users were not familiar with the role and responsibility about IL. That is why the interview result may reflect the exact condition properly.

1.6 Justification of the study:

Today university students are facing various challenges in their institutions or university libraries relating to information access and effective use of it. Information has become such an important resource that every work place requires relevant and current information, promptly delivered by its employees to their superiors, colleagues and knowledge seekers. The IL programs offered by the information professionals to their students and IL skills and competency of both library staff members and students in universities in Dhaka city have not been explored yet. This research has attempted to identify the IL programs offered to university students and to determine their IL competency level and IL knowledge and skills of information professionals' related to the university libraries in Dhaka city.

1.7 Significance of the study:

From the academic perspective, the result of the study will help universities to assess the effectiveness of their IL programs on students and consolidate what is retained, add new aspects, which are lacking, and find a new direction where retention lacks. The study seeks to introduce IL not as a discipline, which is restricted to any field of study, but as a generic concept that should be taught across all fields. The findings will shed light on the actual state of IL among university students and what needs to be done to enhance it in order to meet the current needs of the job market as expressed from the employers' IL expectations and try to learn them.

From the information professionals' perspective, the result will show the librarians' role in reviewing university curricula, and help work places to exploit the IL skills among students for appropriate use of information resources and proper utilization of other resources for their educational improvement. Librarians will contribute to the proper training of students at universities through highlighting their expectations.

The publication of the results of this study will contribute to the existing knowledge by showing the contextual and empirical performance of students of universities in Dhaka city regarding IL skills and applications, their strengths, weaknesses and recommendations to improve areas of need. Furthermore, it may result in increased use of information and knowledge resources and the development of appropriate IL programs in universities. This may consequently result in improved services provision and optimum production by the university students in Dhaka city for its development.

1.8 Definition of terminologies / research terms

This section identifies the specific concepts and terms of the research topic, which will be analyzed in the research. Some concepts have already been defined in the section about the concepts related to the research topic.

Information: in this study, information has been defined as a collection of recorded facts, data or knowledge, and electronic data.

Literacy: basic meaning of literacy is “the ability to read and write” In broader sense, literacy is the ability to make and communicate meaning from and by the use of a variety of socially contextual symbols. In this research, Literacy means a person's knowledge of a particular subject or field.

Information literacy: According to the Association of College and Research Libraries' Information Literacy Competency Standards for Higher Education - Information literacy is a set of abilities requiring individuals to "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information".

Information competency: “Information competency is the ability to find, evaluate, use, and communicate information in all its various formats. It combines aspects of library literacy, research methods, and technological literacy. Information competency includes consideration of the ethical and legal implications of information and requires the application of both critical thinking and communication skills.”

Information Literacy and Competency: The definition of information literacy and competency that guides academic librarianship is provided by the American Library Association (ALA) and Association of College & Research Libraries (ACRL). Information literacy and competency as a set of abilities to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information. This definition is further specified by a set of competency standards that emphasize five key skills. A person who is information literate:

1. Determines the nature and extent of the information needed.
2. Accesses needed information effectively and efficiently.
3. Evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.
4. Individually or as a member of a group, uses information effectively to accomplish a specific purpose.

5. Understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

University: Universities refer to the highest level of educational institutions where students study for degrees and do academic research. Dhaka city has 5 Public university and over 50 Private Universities. This study is done in 10 leading universities (5 Public and 5 private Universities) among them.

University Library: A University library is a library that is attached to a University, serving the teaching and research needs of students and staff. These libraries serve two complementary purposes: to support the academic curriculum, and to support the research of the university faculty, researcher and students.

Respondents: Respondents in this research refer to the university librarian, library employers and library users.

Lifelong learning: All types of learning activities in which adults engage.

Library orientation: Activities that introduce patrons to the facilities, services, and policies of the library.

Library instruction: is also called as user education or bibliographic instruction. Its goal is to teach users how to search, evaluate, and use information and how to use the library effectively and independently.

User Education: All the activities involved in teaching users how to make the best possible use of library resources, services, and facilities, including formal and informal instruction delivered by a librarian or other staff member one-on-one or in a group. Also includes online tutorials, audiovisual materials, and printed guides and pathfinders. It is a broader term than bibliographic instruction.

Bibliographic Instruction (BI): Instructional programs designed to teach library users how to locate the information they need quickly and effectively. BI usually covers the library's system of organizing materials, the structure of the literature of the field, research methodologies appropriate to the discipline, and specific resources and finding tools (catalogs, indexes and abstracting services, bibliographic databases, etc.). It is also known as Library Instruction

1.9 Structure of the dissertation:

The research is organized into seven chapters as follows:

Chapter One: Introduction and background of the study

This chapter covers the main introduction, background of the study, statement of the problem, objectives of the study, research design and methodology, scope and limitation of the study, justification of the research, significance of the study, definitions of terminologies / research terms and organization of the thesis.

Chapter two: Review of the Literature

It provides the literature review of the information literacy in some selected institutions of higher learning internationally, nationally and also specifically in selected university libraries in Dhaka city. This will be done using books, journal articles and Internet resources.

Chapter Three: Meaning and concept of information literacy

The total concept of information including meaning and definition of IL, need for IL, objectives, scope and benefits of information literacy as well as information literacy standards are included in this chapter.

Chapter Four: Research Design and Methodology

In this chapter, research design, sources of data, sampling methods, questionnaire distribution systems, data processing and analysis, interpretation of results and implementation of thesis are included broadly.

Chapter Five: Data analysis and presentations of findings

This chapter covers the analysis of data collected from the questionnaires that were distributed to students and library staff and presentations of findings.

Chapter Six: Summary of findings

It is the discussion chapter which summarizes the results and findings of the study from chapter five which includes responses from students, academic and library staff.

Chapter Seven: Problems, Recommendations and Conclusion.

This chapter provides a summary of problems, conclusions and recommendations, based on the findings of the study.

References

Appendices

1.10 Conclusion:

The chapter one has provided the background for the research, with a brief introduction about the research as a whole and what will be discussed in subsequent chapters. It states the problem and equally gives the justification for doing the research. In short, a general overview of the research has been elaborated, and the immediate chapter will review related literature.

Chapter – Two

Review of the Literature

2.1: Introduction

This chapter presents an overview of the concept of information literacy, looking at the various definitions, models, and standards of information literacy. The need for information literacy education, and practice of information literacy in the university libraries were also discussed. The literature reviewed did not cover all the various aspects of the concept of information literacy, but only those related to the topic of this study. Searches were conducted in online databases like Emerald, ERIC, LISTA, and E-journal, through EBSCOHOST, and in other search engines like Goggle Scholar using the following terms "information literacy education", "Information Literacy in Higher education", and "University Libraries". Various books, magazines, and journals on information literacy, as well as organisational websites like CILIP, were also consulted to get different views on the topic. Only articles and other materials written in English language were consulted.

2.2: Overview of the Concept of Information Literacy

Various definitions, concepts, models and standards of information literacy have been presented by different authors, and information organizations and associations. For example, the Australian Information Literacy Standards (AILS) developed by Australia and New Zealand Institute for Information Literacy (ANZILL) in 2004 identifies an information literate person as one who has learnt how to learn and is capable of recognizing the need for information and determining the extent of the information needed; accessing the needed information efficiently and effectively; evaluating the information and its sources and incorporating selected information into his or her knowledge base and value system; using information effectively in order to accomplish a purpose; understanding the economic, legal, social and cultural issues in the use of information; accessing and using information ethically and legally; classifying, storing,

manipulating and re-drafting information collected or generated; recognizing information literacy as a prerequisite for life-long learning (CAUL, 2001).

Virkus (2003) has also contributed to the review of definitions by focusing her attention on prevailing European approaches. The European attempts at defining information literacy, just as was the case with the many Australian and American endeavors, produced no deviation from the definition provided in 1989 by the American Library Association Presidential Committee on Information Literacy.

The Society of College, National and University Libraries (SCONUL, 2004) proposed a model of information literacy popularly known as the seven pillars of information literacy. This model outlines the following components of information literacy: recognizing information need; distinguishing ways of addressing information gap; constructing strategies for locating information; locating and accessing information; comparing and evaluating information; organizing, applying and communicating information; synthesizing and creating information.

Kinengyere (2006) expresses being information literate "requires knowing how to clearly define a subject or area of investigation; select appropriate terminology that expresses the concept under investigation; formulate a search strategy that takes into consideration different information sources and the various ways information is organized; analyze the data collected for value, relevancy, quality and suitability; and subsequently turn them into knowledge".

According to Williams and Wavell (2007), "Descriptions of information literacy take the form of differing interpretations, frameworks illustrating the information process, lists of attributes or skills, or models designed to support the development of information literacy".

However, the most widely spread definition comes from the American Library Association (ALA). The ALA (1989) definition states that to be information literate an individual "must recognize when information is needed and have an ability to locate,

evaluate and use effectively the information needed. Ultimately information literate people are those who know how to learn, how to find information and how to use information in such a way that others can learn from them" (Oware, 2010).

To emphasize this fact, the ALA (1989) report again called for a revamping of the learning process itself, rather than of any particular curriculum, ensuring that students were competent in six general areas which are "recognizing a need for information; identifying what information would address a particular problem; finding the needed information; evaluating the information found; organizing the information; using the information effectively in address the specific problem" (Oware, 2010).

2.3: The Significance of Information Literacy Education

The need for information literacy cannot be underscored and many authors have recognized that information literacy is of crucial importance.

Wurman (2001) stated that "without information literacy people are condemned to lack of information, dependence upon others for access to knowledge and information, and even to acute levels of information anxiety".

Bruce et al., (2002) also have the same view and maintain that, information literacy from both national and international perspectives is a central issue and strategies to raise awareness and make information literacy a focal point of the academic experience within the university community should be explored and developed. They state further that computer competence and critical thinking skills are the components that give information literacy its unique identity and differentiate it from traditional library orientation and bibliographic instruction.

Bruce (2004) stated that information literacy is no doubt very important in education and therefore a convenient approach must be used to teach it in order to make it more effective.

Idiodi (2005) also echoes the importance of information literacy by pointing out that "the information explosion of the 20th century subsequently gave birth to the concept of information literacy which has gradually become a strategic issue for tertiary institutions, where the emphasis is placed on teaching and learning strategies that deliver the skills needed by learners to succeed in an increasingly competitive environment". As stated earlier, "the quality, authenticity, validity and reliability of some of the materials in electronic format via the internet cannot be guaranteed, and these uncertainties are one factor in particular that makes the need for information literacy pressing" (Idiodi, 2005).

For that matter, "information literacy has gradually become a strategic issue for tertiary institutions, where the emphasis is placed on teaching and learning strategies that deliver the skills needed by students to succeed in an increasingly competitive environment" (Idiodi, 2005).

Adeogun (2006) expresses similar views by stating "the purpose of information literacy (IL) education is to help students to develop critical thinking and analytical skills which they will need for transforming information into knowledge".

Adeogun (2006) also shares similar views that there is the need for graduates to acquire lifelong learning skills which will not only be beneficial in education, but will help them to continue to grow even outside the classroom after their education. She concludes that "such skills are acquired through an educational system that enables students to develop a set of critical thinking skills involving the use of information to create meaning" and she adds that "building such skills requires interaction with real world information resources for information gathering and synthesis, and this calls for the development of information literacy skills among tertiary institution students".

Baro and Fyneman (2009) note that "information literacy is important particularly in this age because it allows us to cope by giving us the skills to know when we need information and where to locate it effectively and efficiently".

Dadzie (2009) also confirms the importance of information literacy by mentioning that "information literacy has thus become one of the most vital sets of skills for the twenty first-century", and therefore, "everyone needs IL skills to enable him/her to function adequately as a citizen of the community".

Dadzie (2009) also states that "some students entering college and university have limited knowledge of fundamental research and information competency skills". She goes on to mention as a reason that students "may not have learnt how to effectively locate information, or evaluate, synthesise and integrate ideas; or may not have learned how to use information in original work and give proper credit for information used".

Dadzie further confirmed that students who follow information literacy programmes "have fewer difficulties in writing papers are better able to identify reliable sources and assess available resources and services provided by the library and learn how to understand and draft bibliographical references and avoid plagiarism" (Dadzie, 2009).

Another important fact is that information literacy skills potentially enable students to succeed academically and ultimately help them also to secure future job opportunities (Dadzie, 2009).

2.4: Approach to Information Literacy Education

It is worth noting that information literacy education or instruction may be approached differently either as a course-related library instruction, course integrated projects, online tutorials or a stand-alone course. Hook and Corbett (2005) agree and emphasize it by mentioning that because information literacy is not specific discipline, students are able to transfer skills and research techniques from one course to another, and mostly for that reason, implementing information literacy across the university curricula should receive greater attention and focus. They further state that it is important to constantly

keep in mind that information literacy is really for the students and it must be incorporated in the curriculum in a way that will encourage students to see the value of using it in their academic studies.

Cochrane (2006) agrees with other authors and states that "ideally, IL should be embedded into degree pathways and students offered the opportunity to develop their competence as they progress through their degree". These ideas show to some extent the significance of information literacy education and it must therefore be given the needed attention to make it more effective.

Kinengyere (2007) also supports the idea that information literacy education should be embedded in the curriculum: "IL should be included in the respective universities curricular so as to give it more emphasis and this will make all researchers as a potential researcher and other library users realize the importance of being information literate".

According to Dadzie (2009) "a number of authors share in the opinion that the ideal method for enabling students to develop their information literacy skills is by embedding the information literacy activity into the students' course materials". This opinion is shared by authors like Cmor (2009), and Hook and Corbett (2005).

Cmor (2009) states clearly that building a curriculum-integrated information literacy programme that provides students the opportunity to learn, practice, and refine their skills and knowledge throughout their programmes is a worthy goal in higher education (Dadzie, 2009).

One reason cited in support of this method of teaching information literacy is "allows information literacy to be delivered in the context of the subject students are studying, as well as consolidating the partnership between librarians and teaching faculty in providing IL training" (Dadzie, 2009).

Korobili, Malliaria and Christodoulou (2009) are equally convinced that "a course for credit integrated in the curriculum of each department which would be prepared by

faculty in cooperation with librarians would provide the necessary knowledge for students so that they could operate in the emerging information environment".

2.5: Challenges to Information Literacy Education

Kinengyere (2007) identified that information literacy education has not been embedded in the curriculum and sees it as one of the challenges to information literacy education. She states that not embedding information literacy education into the curriculum, will not give it "more seriousness". She also mentions that limited knowledge in ICT can influence greatly the development of information literacy programs.

Sharing her views on making information literacy a success, Kinengyere (2007) mentioned that "helping people become information literate is a responsibility of all stakeholders, whether they be librarians, lecturers, or administrators. It involves all disciplines that are involved in research and teaching in an institution. Ideally, administrators support IL goals for their institutions. Course instructors help their students achieve IL in their chosen fields, and librarians and other campus professionals collaborate with course instructors in this effort".

Lwehabura and Stilwell (2008) mentioned that there is no dedicated IL policy to guide IL practices, and also there is lack of awareness among students about the IL instruction sessions on offer. They identified these challenges among other challenges such as lack of pro activity by librarians, lack of partnerships between librarians and teaching staff to mainstream IL, availability of resources, all these weaken the effectiveness of imparting IL knowledge and skills.

2.6: Information Literacy in University Libraries

Cannon (1994) had earlier on studied fulltime academics from the faculties of humanities and social sciences at the York University in Toronto, Canada. She found that most of the academics who responded to her questionnaire rated information skills as "being valuable or extremely valuable for their students". They also felt that "lower-level undergraduates had poor information literacy skills but that this improved in the upper years". The majority did not know that librarians could come into their classes to discuss library research. They also responded positively to the idea of a shared approach to teaching information-related skills.

There are a handful of studies that focus on the academics and not those in the library profession. Leckie and Fullerton (1999) surveyed the perceptions about information literacy held by academics from the science and engineering faculties of the University of Waterloo and the University of Western Ontario in Canada. They also looked at the various ways academics at these universities incorporate information literacy into their teaching` programmes.

In their survey, they listed six options namely assignment involving library resources, assignment involving critical thinking, explanation about the research process, explanation about retrieval tools and search strategies, explanation about the Internet, explanation about indexes and reference tools. Their findings suggested that "a large proportion of the faculties are doing very little or nothing about information literacy in their classes" (Leckie and Fullerton, 1999).

Today, the role of libraries as one of the infrastructures in information society and a system of self-education is much more highlighted and having access to an active and effective information society would not be possible without the libraries. Therefore librarian in various countries as a group which have a highly risk responsibility in the development of information literacy paid special attention to independent learning opportunities (Edge and Edge, 2000).

Most universities have integrated IL programs in their curricula in order to equip their students with IL skills. Information Literacy (IL) is a key component and contributor to long life learning, which is central to the mission of higher and other educational institutions. IL extends learning beyond formal classroom settings and supports individuals in self directed learning in all arenas of life (CAUL, 2001).

Actions recommended by ACRL (2004) and Byerly & Brodie (1999) identify what is required to implement the IL programme; involve all relevant parties in the planning process - library team, faculty, administrators, and final decision-maker for the project. IL programs include: developing an IL skills course; incorporating IL across the university curricula; developing IL teaching methods; collaboration of librarians, faculty, students and administrators; budgeting for the acquisition of information resources and equipment; personnel training and development; and monitoring and evaluating the IL programme regularly (CAUL, 2001).

Rader (2002) points out that librarians, teachers, technologists, and policy makers have begun to address the need for IL skills training and teaching at all levels of education. Many IL initiatives have been documented throughout the world with particularly strong examples in North America, Australia, Northern Europe, and South Africa. However, in East Africa and Uganda in particular little has been documented, especially on IL among workers especially university graduates. Training members of the existing workforce in effective information handling still needs to be addressed in a major way. More recently, employers and policy makers have addressed the need for IL as part of workforce development to ensure that workers develop appropriate technology and information skills to handle their job responsibilities productively and effectively. This is in support of Eisenberg, Lowe and Spitzer's observation that, although the concept of IL emanated from the library profession, it has been embraced by those within and outside it throughout the world.

Rader (2002) recommends further that, in order to ensure that students at all levels of learning acquire IL skills, librarians and educators/teachers/faculty do among others, the following: become facilitators of life-long learning rather than keepers of

information; develop curricular which integrates IL skills into all instruction programmes; survey employers regarding information needs for current and future employees; work with employers to ensure that students have the required information skills for the workplace when they graduate; work with employers as business partners to help them establish goals for work place environment.

Effective IL training requires that teachers and librarians work closely to integrate information literacy as part of the total instructional program for students in an academic setting (Rader, 2002).

In 1989, the ALA Presidential Committee on Information Literacy released its final report and definition states that, "To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" (Warnken, 2004).

Shuva (2004) showed in his paper, "the present status of IL situation in Bangladesh" as well as proposed some recommendations to increase the IL levels and also provided some national and international alliance for IL.

CAUL (2001), Parker (2003) and Dulle (2004) point out that the total integration of IL into the curriculum, and collaboration of librarians and faculty to deliver lectures in the context of subjects, is often considered the most effective method for students to develop their IL skills. However, when one investigates the case of Uganda, there is no formal IL course developed by any of the universities under study; nor is there collaboration among librarians and faculty in teaching the few aspects of it found, or special personnel training for its instruction to teach it. This study points out these challenges and makes recommendations for solutions. Information literacy teaching and practice within the curriculum improves students' research and critical thinking skills, improves lifelong learning, enhances employability and prepares students to live as informed and responsible citizens (Labelle & Nicholson 2005).

IL programmes at universities and other educational institutions are intended to address the promotion of general IL skills applicable to all categories of users and to promote the information skills required for specific target groups (Chagari, 2005).

Information professionals working in all types of libraries should have as one of their main goals the facilitation of users' efforts to acquire information competencies. IL skills are vital to the success of lifelong learning, employment, and daily interpersonal communication of any citizen (Lau, 2006).

Lau (2006) observes that, institutional commitment is important for the success of an IL programme. Getting institutional support requires one to identify the IL program, share with the leadership, plan the program, become acquainted with institutional culture, be prepared for challenges and do whatever one can, not expecting to be perfect (Lau,2006).

Information professionals working in all types of libraries should have as one of their main goals the facilitation of users' efforts to acquire information competencies. IL skills are vital to the success of lifelong learning, employment and daily interpersonal communication of any citizen (Lau, 2006).

"Consultations between librarians and professors are necessary to ensure that information literacy learning objectives will be relevant to students and closely tied to whatever subject matter is studied". Although "teaching students to find, evaluate, and use information is still often viewed by faculty and librarians as the role of the librarian alone designing IL instruction that prepares students for success in the classroom and going forward is a collective effort of the educator and librarian (Buck et al., 2006).

It is ultimately the job of the librarian to measure and share the impact of information literacy for students in the long-term, "librarians need to take a more proactive approach to market their unique expertise" and "constantly educate themselves and

teach faculty about information literacy concepts, standards, learning outcomes and objectives" (Buck et al., 2006).

Gausul Hoq (2006) stated that IL programs being implemented in other parts of the world should act as an eye-opener for the government and educational institutions in Bangladesh. He also focused that knowledge creation, codification, - diffusion and effective use will be driving growth and competitiveness and lack of IL and knowledge tools will give rise to knowledge divides and social exclusion.

To employ the best methods of delivering information literacy, a collective effort by faculty, educators, and libraries must exist. "Focusing on a prescribed set of skills is not assessing the impact of instruction on actual use and behavior in a library" (Matthews, 2007).

Majumdar & Singh (2007) conducted a research on "information literacy and competency programme in academic libraries: a case study of DULS"; where they introduced the need of information literacy and competency program in Delhi university library system by carrying out a program with the help of highly interactive Power Point presentations. They also analyzed the feedback of the audience of entire Information Literacy and Competency Program (ILCP) and showed that such programs are very essential to reap the full benefit of ICT, Internet and other digital resources.

The results of Rachel (2008) also showed that academic librarians in information literacy instruction have subdued presence and little collaboration between faculty and librarians on designing and providing information literacy courses. He also believed in case of proper resources; librarians are ready and willing to accept responsibilities to have such courses.

Current practices in IL instruction have come under criticism. Quality IL instruction cannot be provided through the simple bibliographic instruction of the past. In fact, Johnston and Webber (2003) discovered a variety of difficulties related to modern practices of teaching information literacy. Most troubling was the idea that the

Association of College and Research Libraries (ACRL) standards could be viewed as a simple checklist of skills that "once taught are labeled as completed, without consideration of transfer of knowledge or reinforcement of skill" (Macklin & Culp, 2008).

Moreover, Whitson also rejected this method of both teaching and evaluating important IL skills "as superficial and likened it to memorizing important facts or applying a list of rules, rather than gaining a deeper understanding of the resources and competencies to use them". Therefore, information literacy standards are only effective when used in conjunction with content-based curriculum that has clearly defined course objectives where learning complex concepts can result in relevant "personal connections…among ideas, context, and perspectives" (Macklin & Culp, 2008).

Technology plays an enormous role in information literacy, and this places great demand on librarians and library support staff to stay informed on industrial change and best practices. Developing lessons for skill progression in IL can be difficult and methods for delivery of IL content can often depend on student amenability. "A study assessing information literacy at the University of California, Berkeley, found that students think they know more about accessing information and conducting library research than they are able to demonstrate when put to the test" (Matthews, 2007).

Additionally, "students in higher education often believe themselves to be competent users of information resources", which can lead to students' disinterest in learning skills to improve their use of search engines and electronic research databases (Macklin & Culp, 2008).

Thus, Macklin and Culp (2008) found:

> Educators who accept the challenge of teaching information literacy skills must be prepared to: find a strategy to reach users who believe they are already proficient; make the learning relevant to the users' needs, including using the technologies the students already know to anchor the learning in something

familiar; create learning opportunities to keep the students on task; and assess the impact of instruction on learning outcomes.

Salam and Islam (2009) focused on an exclusive work entitled “Information literacy : perceptions and skills of graduates of the institute of Education and Research” where they carried out to assess the IL perceptions and skills of the graduates of the Institute of Education and Research (IER) and also give focuses to determine their strength and weakness. They also mentioned that students had limited skills in the area of IL. They urged that incorporation of IL concepts and courses in the curriculum of IER could be widening the scope of IER graduates to be more information literate.

Where there is an effective IL program, integrated in the curriculum and involving the collaboration of librarians and faculty, the graduates are more likely to be information literate. Singh and Stern (2009) state that this can best be done when librarians and classroom faculty infuse information literacy into and across the curriculum. Therefore LIS and other stakeholders, professionals need to create relevant strategies to convince the institutional administration about the benefits of an IL program; ask to include IL philosophy in the core institution documents, for example: mission, strategic plan and other policies; convince authorities to grant finances for library resources including equipment, training staff, and developing procedures; communicate and recognize IL support received such as when lecturers refer students to library; and ask for bibliographic citation or referencing. They need to understand what IL related activities are taking place between faculty and students and appreciate them (Singh and Stern, 2009).

Saunders (2009) in a research entitled "The future of information literacy in academic libraries: a Delphi study", discussed the importance of information literacy in academic libraries. In this article, he discussed 13 information literacy skills in order to assess the information literacy goals coming in the next coming year. He came to the conclusion that given the importance of information literacy and the role of librarians in the future, a number of university librarians prevent achieving and facing the advances in technology and effective changes.

Ranaweera (2010) conducted a study entitled “Information Literacy Programmes conducted by the Universities in Sri Lanka” where he stated that, the value of information literacy programmes conducted by the universities in Sri Lanka in order to achieve the higher level of learning in the university sector; with special reference to Sri Lankan universities, with the focus on Outcome Space. The outcome space information literacy framework runs through Information sources, Information Technology, Information Control, Information Processing, Knowledge construction, Knowledge Extension and Wisdom as explained by Christine Bruce. Further the paper elucidates the information literacy initiatives commenced by the libraries of the University of Colombo, University of Kelaniya, University of Moratuwa, University of Sri Jayewardenapura and National Institute of Library and Information Sciences (NILIS). The survey results reveal that the information literacy programmes initiated by the university libraries and the Institute range from user orientation to the credit based programmes. All the university libraries that were chosen for this study had commenced some sort of information literacy programme. But most of the programmes are at the lower level of the outcome space. Two university libraries and the Institute had made an attempt to initiate outcome space information literacy programmes.

Islam and Tsuji (2010) carried out a comprehensive work entitled "assessing information literacy competency of Information Science and Library Management (ISLM) graduate students of Dhaka University" in which they shown that the IL competency of Information Science and Library Management (ISLM) graduate students at the University of Dhaka, Bangladesh, and to determine their strengths and weaknesses. They also found that students had limited 'skills in the area of IL, as it is not discussed extensively in their academic course curriculum. They urges the incorporation of an IL program in the course curriculum and more writing, discussion and other relevant issues that will make the students more information literate.

Chowdhury, Islam & Islam (2011) conducted a research on “The Information literacy Education Readiness of Central Public Library (CPL) in Dhaka of Bangladesh" in which they examines whether the Central Public library in Dhaka is ready to assume an

enhanced responsibility for information literacy education. They also focused that the CPL in Bangladesh has shortcomings in information literacy education programmes due to lack of physical facilities, absence of information retrieval tools and low level of professional education of public library staff. They also argued that the recognition that present approaches are not meeting the requirements of users and more effective system with experienced educator is required.

In discussing the relationship between information literacy and library and information professionals and librarians, scholars have offered different theoretical perspectives. Murdoch said that, the view that information literacy is seen as a tool that enables library users identify their information needs and find their information, assess, and manage them, leads skills associated with information literacy to be included in librarians working area and they face serious challenges. Demands of library users, particularly in the academic world have changed.

Tirado and Munoz (2011) argued that "Library and Information Science students as individuals whom in the future are responsible for developing information literacy, information literacy E-courses" in order to be effective in developing e- information literacy (Tirado and Munoz, 2011).

Shoeb (2013) carried out a research where he observed that students more or less have used information for their purposes. He focused on students' detail behavior regarding different information literacy statements of awareness defining information needs and findings as per their needs, evaluating and organizing information as per requirement, presenting in correct form and using it fairly. He also observed that most of the respondents have no idea about information literacy; either they have not planned before formally to use information systematically, or even they did not find IL necessary or important to solve their problem earlier.

2.7: SUMMARY

The advent of the twenty-first century brought with it renewed interest in information literacy amongst the librarians and library science educators. Information literacy programmes are important for the development of IL in educational institutions like universities, colleges and schools. Various stakeholders should be involved for IL programme to succeed. There should be adequate information infrastructure to support the implementation of IL. The stakeholders are now trying to make information literacy an agenda within the higher education system. This brief literature review demonstrates the significance and approach to information literacy, challenges to information literacy education and information literacy in university libraries. Librarians are responsible for conducting information literacy education and training program to create awareness about students' information research process.

Chapter – Three

Meaning and Concept of Information Literacy

3.1: Meaning of Information Literacy

Since 1974, information literacy has been an area of increasing interest to librarians and information professionals, in education, social, political and economical areas. Many definitions regarding information literacy have been outlined by many authors and institutions and other terms also can be used.

The term 'Information Literacy', sometimes referred to as information competency, is generally defined as the ability to access, evaluate, organization, and use information from a variety of sources. It is the knowledge of commonly used research techniques. Being information literate requires knowing how to clearly defines a subject or area of investigation; select the appropriate terminology that express the concept or subject under investigation; formulate a search strategy that takes into consideration different sources of information and the variable ways that information is organized; analyze the data collected for value, relevancy, quality and suitability; and subsequently turn information into knowledge (ALA, 1989).

Information literacy used primarily in the library and information studies field and rooted in the concepts of library instruction and bibliographic instruction is the ability "to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information" (Presidential Committee on Information Literacy, 1989).

In this view, IL is the basis for life-long learning. The 2001 draft accreditation standards for Middle States, Characteristics of Excellence defines "IL-the understanding and set of skills necessary to carry out the functions of effective information access, evaluation and application is an essential component of any general education program" (emphasis added).

The term 'Information Literacy' refers to the broad set of skills and understandings that enable a person to recognize information needs, decide which resources will best answer those needs, know how to use the resources effectively and evaluate the information they found (Bundy, 2004).

In the UK, the Chartered Institute of Library and Information Professionals (CILIP) (2004) defined IL as "IL knows when and why you need information, where you find it and how to evaluate, use and communicate it in an ethical manner".

Shapiro and Hughes (1996) provide a broader vision in referring to "a new liberal art that extends from knowing how to use computers and access information to critical reflection on the nature of information itself, its technical infrastructure, and its social, cultural and even philosophical context and impact".

Lenox and Walker (1993) observes Information Literacy by characterizing the information literate person, who has the analytical and critical skills to formulate research questions and evaluate results and the skills to search for and access a variety of information types in order to meet his or her information need. As will be outlined below, this focus on the individual is continued in the US and Australian standards for IL.

Pioneering work on the definition of information literacy, Doyle (1992) summed up IL as the "ability to access, evaluate and use information from a variety of sources".

Bruce (2004) also makes an important observation about IL as she notes that "IL is conceivably the foundation for learning in our contemporary environment of continuous technological changes. As information and communication technologies develop rapidly and the information environment becomes increasingly complex, educators are recognizing the needs for learners to engage with the information environment as part of their formal learning processes. IL is generally seen as pivotal to the pursuit of lifelong learning and central to achieving both personal empowerment and economic development".

Bruce (2004) further observes that IL education is the catalyst needed for the transformation of the information society of today into the learning society of tomorrow.

Kuhlthau (2001) argues that, IL is gaining a high profile as a central theme of education. This dynamic concept extends basic reading, writing and calculating skills for application in information and technologically rich environments for the purpose of learning or solving problems.

US National Commission on Library and Information Science (2003) in the UNESCO sponsored meeting of experts on IL in Prague observes, "IL encompasses knowledge of one's information concerns and needs and the ability to identify, locate, evaluate, organize and effectively create, use and communicate information to address issues or problems at hand; it is a prerequisite for participating effectively in the information society, and is part of the basic human right of lifelong learning".

To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information (ALA, 1989).

IL is an understanding and set of abilities enabling individuals to recognize when information is needed and have the capacity to locate, evaluate and use effectively the needed information (Powell, 2003).

O'Sullivan (2002) defines "IL is not just about library education or skill nor is it relevant only in schools and institutions of learning among information professionals, academics and students".

Webber and Johnston (2003) define "IL is the adoption of appropriate information behaviour to obtain, through whatever channel or medium, information well fitted to information needs, together with a critical awareness of the importance of wise and ethical use of information in society".

State University of New York (1997) observes IL as "the abilities to recognize when information is needed and to locate, evaluate, effectively use and communicate information in its various formats".

College of DuPage Library (2002) has given the definition of IL as "the ability to recognize an information need and then to locate, evaluate and effectively use information from a variety of sources to satisfy the need. The acquisition of IL skills contributes to an individual's development as a critical thinker, problem solver and independent learner".

Darch et al., (1997) defines IL as "requires an awareness of the way in which information systems work, of the dynamic link between a particular information need and the sources and channels required to satisfy that need".

Behrens (1994) identified the following scope of IL in the 1980s:

- It has to be taken into consideration with regard to the manner in which they can assist information handling and the skills which are required for their use;
- Particular attitudes, such as the awareness of a need for information, a willingness to locate and use information, the appreciation of the value of information and the accurate application of the information are required;
- Higher order critical thinking skills such as understanding and evaluating information are necessary; mere location of information is insufficient;
- Although libraries are regarded as major repositories of information sources, they should not be seen as the only resources;
- Library skills are not sufficient for complete IL; neither are computer skills;
- User education programs require a paradigm shift in order to accommodate the full range of skills required for IL;
- In an information society, IL could be seen as an extension of the literacy realm;
- IL is a prerequisite for active, responsible citizenship;
- Goal of IL is the attainment of lifelong skills which enable the person to be an independent learner in all spheres of life;

- IL teaching can enhance the attempts at educational reform which aim at producing independent learners.
- Teaching of IL is a combined librarianship and educational issue that requires a partnership between the two disciplines;
- In order for IL teaching to be effective in the educational sphere, the skills should be taught across the curriculum in a resource based learning approach;
- Various information skills are required for IL: a) knowing when there is a need for information, b) identifying the information needed in order to address a problem, c) finding the needed information, d) evaluating the located information, e) organizing the information and f) using the information effectively to address the problem.

Zurkowski (1974) observed "people trained in the application of information resources to their work can be called information literates. They have learned techniques and skills for using the wide range of information tools as well as primary sources in moulding information solutions to their problems."

Radar (1991) gave a much broader definition of IL emphasizing that IL is essential for survival in the future; she argues that information literate citizen will be characterized by an ability to acquire and use information appropriate to any situation, within and beyond the library, both locally and globally. This will be brought about by a variety of rather general competencies, so that information literate people will be able to:

- survive and be successful in an information/technology environment;
- lead productive, healthy and satisfying lives in a democratic society;
- deal effectively with rapidly changing environments;
- ensure a better future for the next generation;
- appropriate information for personal and professional problem solving;
- Have writing and computer proficiencies.

National Forum on Information Literacy, United States (2005) defines, IL is defined as the ability to know when there is a need for information, to be able to identify, locate, evaluate and effectively use that information for the issue or problem at hand. The aspects which constitute the IL are represented by:

- Tool literacy or the ability to understand and use the practical and conceptual tools of current information technology relevant to education and the areas of work and professional life that the individual expects to inhabit.
- Resource literacy or the ability to understand the form, format, location and access methods of information resources, especially daily expanding networked information resources.
- Social-structural literacy, or knowing that and how information is socially situated and produced.
- Research literacy or the ability to understand and use the IT-based tools relevant to the work of today's researcher and scholar.
- Publishing literacy, or the ability to format and publish research and ideas electronically, in textual and multimedia forms (including via World Wide Web, electronic mail and distribution lists, and CD-ROMs).
- Emerging technology literacy, or the ability to permanently adapt to, understand, evaluate and make use of the continually emerging innovations in information technology so as not to be a prisoner of prior tools and resources, and to make intelligent decisions about the adoption of new ones.
- Critical literacy or the ability to evaluate critically the intellectual, human and social strengths and weaknesses, potentials and limits, benefits and costs of information technologies.

Information literacy can be defined as the ability to know, to be able to identify, locate and evaluate information sources. In other words it is the ability to access, process and use information effectively.

The Alexandria Proclamation of 2005 on information literacy and lifelong learning proclaims that Information Literacy is a prerequisite for lifelong learning. It enables

people for all life, to seek, evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals. “It is a basic human right in a digital world and promotes social inclusion of all nations” (IFLA, 2005).

3.2: The need for information literacy

Information literacy is a necessary competency that is utilitarian in every aspect of a person’s life. For students, IL competencies would facilitate independent and authentic learning, rather than dependence on the teacher to provide answers to questions or problems that they are faced with. This creates greater responsibility towards their own learning, which in turn would help them become self-motivated learners and thinkers who are creative, analytical and effective. For employees, IL competencies would equip them with abilities to source for the most up-to-date and authoritative information that would assist them in doing their work more effectively. They would then be able to constantly adapt to changes to keep up with the demands of ever increasing information requirements that they encounter.

Ultimately, information literate employees are dynamic and are able to value-add the organisation that they work in. As for ordinary citizens, IL competencies would help them effectively analyze information that they face every day and utilize it to their benefit. Information literate individuals are aware of their personal and consumer rights, and of how changes in national or foreign policies affect them. IL is not simply a library competency**,** nor is it relevant only in schools or research institutions; it is also widely practiced in businesses specifically in knowledge management, which is currently an important aspect of every business organization (Rockman, 2003).

It is also important to make the distinction between IL and ICT literacy. IL entails the ability to search, locate, evaluate and use this information or facts to create useful knowledge, whereas the ICT encompasses competencies in utilizing technology based tools effectively. It is therefore reasonable to consider ICT literacy as one facet of IL. The indispensable nature of IL generated the development and implementation of IL

standards and guidelines for the integration of information related skills in the school curriculum, where such competencies can be imparted more effectively to students (ALA, 1989).

The advent of the information explosion in the late 20th century has given impetus to the teaching of information literacy because individuals were faced with a myriad choice of information in both print and electronic media. The electronic media, however, do not have the variety of quality assurance processes that are inherent in print media, where the content passes from authors, through editors, reviewers and publishers and possibly through recommendations by tutors, to the learner (Idiodi, 2005)**.** Uncertainties such as quality, authenticity, validity and reliability of some of the materials in electronic format via the internet are one factor in particular that makes the need for information literacy pressing.

Idiodi (2005) further writes that, information literacy instruction assists users in identifying and selecting necessary information, and using appropriate search strategies in evaluating, organizing and synthesizing the information thus acquired into a meaningful state. The challenge of critically evaluating, understanding and using information in the present-day context is quite daunting, and information literacy skills help students to master content and give them the confidence to proceed with investigation and enquiry.

Idiodi (2005) observes another factor that has made information literacy an essential attainment is that, participative citizenship in today's world requires that all people, not only students, become information-literate.

This means that they must not only be able to recognize when information is needed, but also be able to identify, locate, evaluate and use information needed for decision-making or fulfilling different goals. Information literacy is a skill that is widely relevant and extends beyond the walls of the classroom into the world of social responsibility. In this sense, it is essential that undergraduates acquire both information and the skills to

use it, if they are to be able to cope in a fully formed, modem information-based society (Idiodi, 2005).

It is due to the above mentioned factors that, African universities are now witnessing a rapid growth in computer networking and the use of computerized databases to access information in their libraries. In addition, information literacy programs have been introduced in some departments offering Library and Information Science (Somi and Delager, 2005).

As a concept and professional practice, information literacy is considered critically in a growing number of social and academic contexts. The importance of the concept in society has implications for the quality of IL instruction in academic institutions. An understanding of how information literacy is implemented in practice becomes essential since how library-centered instruction is delivered is critical for today's students (Watson, 2007).

Information literacy is widely recognized as foundational for effective engagement with information in academia, the workplace, for citizenship and for daily living. Information literacy has a profound impact on education, employment and quality of life in today's information-driven and information-rich environment (Watson, 2007).

In the *Prague Declaration* (2003), information literacy is firmly embedded in the process of lifelong learning and valued as human rights. Its social roles were reiterated by the United Nations Educational Scientific and Cultural Organization (UNESCO) in the *Alexandria Proclamation on Information Literacy and Lifelong Learning* information literacy lies at the core of lifelong learning. It empowers people in all walks of life to seek, evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals. It is a basic human right in a digital world and promotes social inclusion of all nations (UNESCO, IFLA & NFIL, 2005).

The global reach of information literacy is underscored by the work of UNESCO which aims at fostering information literacy worldwide by assisting in the development of

national information literacy policies. Currently, the organization provides national and regional information literacy programs and projects in areas including, the Caribbean and Latin America, India, Africa, and Europe to equip people "to seek, evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals" (UNESCO, 2008).

Further, the IFLA/UNESCO School Library Manifesto (2006) which documents information literacy as a key goal in education has been translated into over 30 languages. Information literacy has become a global issue and its initiatives in all spheres of life including education and workplace are documented throughout the world (Virkus, 2003).

This research assumed the importance of information literacy and aimed to investigate how it is implemented in practice in any kind of educational sphere. Information is the basic requirement for every human activity and it is important as food, air and water. Information in itself has no value, but its value lies in its communication and use. The need of information literacy may be essential due to the following reasons.

a) Rapid increase in the stream of information due to information revolution;
b) Advent of information and communication technologies;
c) Vast variety of information sources;
d) Changing shape of libraries;
e) Wide dispersal of information;
f) Increase in number of users; and
g) Research on complex and interdisciplinary topics.

Information literacy is critically important because we are surrounded by a growing ocean of information in all formats. Not all information is created equal: some is authoritative, current, reliable, but some is biased, out of date, misleading and false. The amount of information available is going to keep increasing. The types of technology used to access, manipulate, and create information will likewise expand.

3.3: Importance of Information Literacy

Information Literacy (IL) skills are very important for all citizens whether they are in an office, in a work-at-home environment, in school, or in other social settings, due to the growing boost not only in information resources, but also in the different access methods.

For students, IL competencies should smooth the progress of independent and authentic learning, rather than create a dependence on the teacher to provide answers to questions or problems that they are faced with. In addition, these competencies should help them become self-motivated learners and thinkers, who are creative, analytical and effective (Mokhtar and Majid 2008).

Increasingly, information comes unfiltered. So, questions about authenticity, validity, and reliability, which represent large challenges for researchers, begin to be raised. "Sheer abundance of information and technology will not in itself create more informed citizens without a complementary understanding and capacity to use information effectively" (Bundy, 2004).

Therefore, information literacy aims to provide people with an important concept of lifelong learning. If people recognize that everything is becoming increasingly dependent on information, as well as the learning skills necessary to get it (business, economic development, governance and so forth), then getting information, evaluating it and using it becomes essential to knowledge. Eventually, information literate people are those. Who have learned how to become skilled at something? They can always find the information needed for any task or decision at hand (ALA 1989). When individuals are able to do that over the course of their lifetime, they become lifelong learners (UNESCO, 2007).

3.4: Objectives of Information Literacy

The Ministry of Education, Science, Sports and Culture, Japan has identified the following objectives of information literacy:

a) Capabilities of judgment (evaluation), selection, organization and processing of information as well as of information creation and communication;
b) Understanding of characteristics of information society, effect of information user society and human beings;
c) Recognition of importance of, and responsibility for information; and
d) Understanding of foundation of information science, learning of basic operation skills of information and information device, particularly computer.

Broadly, the other objectives of information literacy programme may include the development of skills and competencies, which enable a client:

a) to recognize an information gap;
b) to construct alternative strategies to reduce the information gap;
c) to select a strategy;
d) to act on a strategy to find and retrieve information;
e) to assess the effectiveness of a strategy;
f) to acknowledge the sources of information and ideas; and
g) to store the information for future use (Dhiman, 2006).

3.5: Scope of Information Literacy

Dhiman (2006) mentioned that Information literacy includes a range of literacy. The range of literacy may be:

a) Traditional Literacy: to read and write;
b) Computer Literacy: to understand and operate computers those are interfaces between information and end-users;
c) Media Literacy: to understand different media storing networked information and use them;

d) Network Literacy: Network literacy for library users consists of two aspects: knowledge of networked information and skills to locate, select, evaluate and use the networked information; and,
e) Traditional Information Literacy: to locate, select, evaluate and use information effectively.
f) Visual Literacy : to see and understand the information, and
g) Web Literacy: to locate, select, retrieve and use the information from web.

3.6: Benefits of Information Literacy

Dhiman (2006) has observed the following benefits of information literacy:

a) Expansion of knowledge through substantive operations of knowledge creation;
b) Synthesis of data and information into knowledge;
c) Appropriate and critical application of information and knowledge in problems solving;
d) Enhancement of the critical thinking;
e) Incorporation of validated information in the personal or corporate knowledge base;
f) Motivation for self-directed learning; and
g) Appreciation for lifelong learning.

3.7: Characteristics of Information Literate People

The American Library Association's report on 1989 characterizes information literate people as follows: "ultimately, information literate people are those who have learned how to learn. They know how to learn because they know information is organized, how to find information and how to use information in such a way that others can learn from them". In January 2000, the Association of College and Research Libraries Task Force on Information Literacy Competency Standards and the American Association for Higher Education (AAHE) approved the "Information Literacy Competency Standards for Higher Education". These standards were created to ensure the development of

information smart, lifelong learners who can flourish in a rapidly changing, information rich environment (Oxnam, 2003).

The five standards used to characterize students competent in information literacy include:

1. The information literate student determines the nature and extent of the information needed.
2. The information literate student accesses needed information effectively and efficiently.
3. The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.
4. The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.
5. The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally (ACRL, 2000).

The arrival of the Internet in the 1990s resolved those in higher education to the fact that information literacy is more than a library issue; it was a learning issue. The information landscape was changing and so was the role of the academic library within the institution. In an effort to curtail information mismanagement resulting from the instant delivery of information to computer desktops, academic librarians emerged from the stacks to become a visible fixture within the higher education curricula.

3.8: Information Literacy and competency Standards for Higher Education

The Information Literacy and Competency Standards for Higher education were reviewed by the ACRL Standards Committee and approved by the Board of Directors of the Association of College and Research Libraries (ACRL) on January 18, 2000, at the Midwinter Meeting of the American Library Association in San Antonio, Texas.

Standard One: The information literate student determines the nature and extent of the information needed.

Performance Indicators:

1. The information literate student defines and articulates the need for information.

Outcomes Include:

- Confers with instructors and participates in class discussions, peer workgroups, and electronic discussions to identify a research topic, or other information need.
- Develops a thesis statement and formulates questions based on the information need.
- Explores general information sources to increase familiarity with the topic.
- Defines or modifies the information need to achieve a manageable focus.
- Identifies key concepts and terms that describe the information need.
- Recognizes that existing information can be combined with original thought, experimentation, and/or analysis to produce new information.

2. The information literate student identifies a variety of types and formats of potential sources for information.

Outcomes Include:

- Knows how information is formally and informally produced, organized, and disseminated.
- Recognizes that knowledge can be organized into disciplines that influence the

way information is accessed.

- Identifies the value and differences of potential resources in a variety of formats (e.g., multimedia, database, website, data set, audio/visual materials and book).
- Identifies the purpo5e and audience of potential resources (e.g. popular vs. scholarly, current vs. historical).
- Differentiates between primary and secondary sources, recognizing how their use and importance vary with each discipline.
- Realizes that information may need to be constructed with raw data from primary sources.

3. The information literate student considers the costs and benefits of acquiring the needed information.

Outcomes Include:

- Determines the availability of needed information and makes decisions on broadening the information seeking process beyond local resources (e.g., interlibrary loan; using resources at other locations; obtaining images, videos, text, or sound).
- Considers the feasibility of acquiring a new language or skill (e.g. foreign or discipline-based) in order to gather needed information and to understand its context.
- Defines a realistic overall plan and timeline to acquire the needed information.

4. The information literate student re-evaluates the nature and extent of the information need.

Outcomes Include:

- Reviews the initial information need to clarify, revise, or refine the question.
- Describes criteria used to make information decisions and choices.

Standard Two: The information literate student accesses needed information effectively and efficiently.

Performance Indicators:

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

Outcomes Include:

- Identifies appropriate investigative methods (e.g. laboratory experiment, simulation, fieldwork).
- Investigates benefits and applicability of various investigative methods.
- Investigates the scope, content, and organization of information retrieval systems.
- Selects efficient and effective approaches for accessing the information needed from the investigative method or information retrieval system.

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

Outcomes Include:

- Develops a research plan appropriate to the investigative method.
- Identifies keywords, synonyms and related terms for the information needed.
- Selects controlled vocabulary specific to the discipline or information retrieval source.
- Constructs a search strategy using appropriate commands for the information retrieval system selected (e.g. Boolean operators, truncation, and proximity for search engines; internal organizers such as indexes for books).
- Implements the search strategy in various information retrieval systems using different user interfaces and search engines, with different command languages, protocols, and search parameters.
- Implements the search using investigative protocols appropriate to the discipline.

3. The information literate student retrieves information online or in person T using a variety of methods.

Outcomes Include:

- Uses various search systems to retrieve information in a' variety of formats.
- Uses various classification schemes and other systems (e.g. call number systems or indexes) to locate information resources within the library or to identify specific sites for physical exploration.
- Uses specialized online or in person services available at the institution to retrieve information needed (e.g. interlibrary loan/document delivery, professional associations, institutional research offices, community resources, experts and practitioners).
- Uses surveys, letters, interviews, and other forms of inquiry to retrieve primary information.

4. The information literate student refines the search strategy if necessary:

Outcomes Include:

- Assesses the quantity, quality, and relevance of the search results to determine whether alternative information retrieval systems or investigative methods should be utilized.
- Identifies gaps in the information retrieved and determines if the search strategy should be revised.
- Repeats the search using the revised strategy as necessary.

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

Outcomes Include:

- Selects among various technologies the most appropriate one for the task of extracting the needed information (e.g., copy/paste software functions, photocopier, scanner, audio/visual equipment or exploratory instruments).

- Creates a system for organizing the information.
- Differentiates between the types of sources cited and understands the elements and correct syntax of a citation for a wide range of resource.
- Records all pertinent citation information for future reference.
- Uses various technologies to manage the information selected and organized.

Standard Three: The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base arid value system.

Performance Indicators:

1. The information literate student summarizes the main ideas to be extracted from the information gathered.

Outcomes Include:

- Reads the text and selects main ideas.
- Restates textual concepts in his/her own words and selects data accurately.
- Identifies verbatim material that can be then appropriately quote.

2. The information literate student articulates and applies initial criteria for evaluating both the information and its sources.

Outcomes Include:

- Examines and compares information from various sources in order to evaluate reliability, validity, accuracy, authority, timeliness, and point of view or bias.
- Analyzes the structure and logic of supporting arguments or methods.
- Recognizes prejudice, deception, or manipulation.
- Recognizes the cultural, physical, or other context within which the information was created and understands the impact of context on interpreting the information.

3. The information literate student synthesizes main ideas to construct new concepts.

Outcomes Include:

- Recognizes interrelationships among concepts and combines them into potentially useful primary statements with supporting evidence.
- Extends initial synthesis, when possible, at a higher level of abstraction to construct new hypotheses that may require additional information.
- Utilizes computer and other technologies (e,g. spreadsheets, databases, multimedia, and audio or visual equipment) for studying the interaction of ideas and other phenomena.

4. The information literate student compares new knowledge with prior knowledge to determine the value added, contradictions, or other unique ... characteristics of the information.

Outcomes Include:

- Determines whether information satisfies the research or other information need.
- Uses consciously selected criteria to determine whether the information contradicts or verifies information used from other sources.
- Draws conclusions based upon information gathered.
- Tests theories with discipline-appropriate techniques (e.g. simulators, experiments).
- Determines probable accuracy by questioning the source of the data the limitations of the information gathering tools or strategies, and the reasonableness of the conclusions.
- Integrates new information with previous information or knowledge.
- Selects information that provides evidence for the topic.

5. The information literate student determines whether the new knowledge has an impact on the individual's value system and takes steps to reconcile differences.

Outcomes Include:

- Investigates differing viewpoints encountered in the literature.

- Determines whether to incorporate or reject viewpoints encountered.

6. The information literate student validates understanding and interpretation of the information through discourse with other individuals, subject-area experts, and/or practitioners.

Outcomes Include: -

- Participates in classroom and other discussions.
- Participates in class-sponsored electronic communication forums designed to encourage discourse on the topic (e.g., email, bulletin boards, chat rooms).

  Seeks expert opinion through a variety of mechanisms (e.g. interviews, email, list serves).

7. The information literate student determines whether the initial query should be revised.

Outcomes Include:

- Determines if original information need has been satisfied or if additional information is needed.
- Reviews search strategy and incorporates additional concepts as necessary.
- Reviews information retrieval sources used and expands to include others as needed.

Standard Four: The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.

Performance Indicators:

1. The information literate student applies new and prior information to the planning and creation of a particular product or performance.

Outcomes Include:

- Organizes the content in a manner that supports the purposes and format *of* the product or performance (e.g. outlines, drafts, storyboards).

- Articulates knowledge and skills transferred from prior experiences to planning and creating the product or performance.
- Integrates the new and prior information, including quotations and Paraphrasing, in a manner that supports the purposes of the product or performance.
- Manipulates digital text, images, and data, as needed, transferring them from their original locations and formats to a new context.

2. The information literate student revises the development process for the product or performance.

Outcomes Include:

- Maintains a journal or log of activities related to the information seeking, evaluating, and communicating process.
- Reflects on past successes, failures, and alternative strategies.

3. The information literate student communicates the product or performance effectively to others.

Outcomes Include:

- Chooses a communication medium and format that best supports the purposes of the product or performance and the intended audience.
- Uses a range of information technology applications in creating the product or performance.
- Incorporates principles of design and communication.
- Communicates clearly and with a style that supports the purposes of the intended audience.

Standard Five: The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

Performance Indicators:

1. The information literate student understands many of the ethical, legal and socio economic issues surrounding information and information technology.

Outcomes *Include:*

- Identifies and discusses issues related *to* privacy and security in both the print and electronic environments.
- Identifies and discusses issues related to free vs. fee-based access *to* information.
- Identifies and discusses issues related to censorship and freedom of speech.
- Demonstrates an understanding of intellectual property, copyright and fair use of copyrighted materials.

2. The information literate student follows laws, regulations, institutional policies, and etiquette related to the access and use of information resources.

Outcomes Include:

- Participates in electronic discussions following accepted practices (e.g. “Netiquette").
- Uses approved passwords and other *forms* of ID for access to information resources.
- Complies with institutional policies on access to information resources.
- Preserves the integrity of information resources, equipment, systems and facilities.
- Legally obtains, stores, and disseminates text, data, images, or sounds.
- Demonstrates an understanding of what constitutes plagiarism and does not represent work attributable to others as his/her own,
- Demonstrates an understanding of institutional policies related to human subjects research.

3. The information literate student acknowledges the use of information sources in communicating the product or performance.

Outcomes Include:

- Selects an appropriate documentation style and uses it consistently to cite sources.
- Posts permission granted notices, as needed, for copyrighted material.

3.9: The Big Six Skills Information literacy Model

The framework for the entire curriculum is the Big Six skills information literacy model developed by Mike Eisenberg and Bob Berkowitz (Wooliscroft, 1997). The Big Six skills approach is one of the most widely-used models of information literacy.

The Big Six represents a systematic approach to information problem-solving. It is a set of skills that is transferable to school, personal, or works applications, as well as all subject areas across a full range of grade levels. According to the Big Six approach, whenever a student has an information-oriented problem, it is appropriate and useful to initiate the following six steps and sub steps.

1. Task Definition

1.1 Define the problem.

1.2 Identify the information requirements of the problem.

2. Information Seeking Strategies

2.1 Determine the range of possible sources.

2.2 Evaluate the different possible sources to determine priorities.

3. Location and Access

3.1 Locate sources (intellectually and physically).

3.2 Find information within sources.

4. Use of Information

4.1 Engage (e.g. read, hear, view) the information in a source.

4.2 Extract information from a source.

5. Synthesis

5.1 Organize information from multiple sources.

5.2 Present information.

6. Evaluation

6.1 Judge the product (effectiveness).

6.2 Judge the information problem-solving process (*efficiency*)".

Although presented in a logical order, the Big Six approach does not assume that information problem-solving is always a sequential process. In completing tasks and solving problems, students may locate and use a source (steps 3 and 4) and later loop back to figure out exactly how they will handle the situation (step 1). In other situations, students may decide to use one source at a time, going through steps 2-5 a number of times. However, to successfully solve information problems, students must successfully complete the various steps at some point (Wooliscroft, 1997).

Chapter – Four

Research Design and Methodology

4.1 Research Design

The choice of an appropriate research methodology is important for any research study. This chapter discusses the research design and data collection methodology used in this thesis. The study contains a huge amount of data and information. This research used a mixed method research approach. Both qualitative and quantitative methods for data collection and subsequent analysis were used. Data for this research came from both primary and secondary sources. Secondary sources of data included previous works such as reports, books, journals, magazines, electronic sources and other related materials. The primary data was collected using two different data collection instruments; questionnaires comprising both open-ended and close-ended questions designed on issues directly related to the objectives of the research. Some informal interviews or conversation with librarians and other library professionals have also been taken under considerations to get additional information as well as in-depths views on the topic being researched. Both deductive and inductive analyses were used to analyze the collected data. Patton (1990) argues that inductive analysis means that the patterns, themes and categories of analysis come from the data; they emerge out of the data rather than being imposed on prior to data collection and analysis.

4.2 Sources of Data

Data is the main ingredient for any research. Data can be collected from the field from any other sources. Data was collected from the librarians of 10 selected universities and students of these libraries. The study combined both the qualitative and quantitative in nature along with review of related literature. The conceptual and textual information related to the present study were collected both from primary and secondary sources of information.

- **Primary Data or Information:** For collecting Primary data or information would follow questionnaire survey method. I collect my primary information using questionnaire submitted to the university librarians and students who use library regularly.

- **Secondary Data or Information:** For secondary data or information I have gone through different types of publications. I had also used published data. These are various Open Access (OA) of journals in Bangladesh and also other countries, various types of e-journals which were related to my study and existing literature on the subject was searched and studied to examine various websites.

4.3 Sampling

"Sampling is used when it is not possible or practical to include the entire research population in your study, which is usually the case. Sampling is the process of selecting a few from the many in order to carry out empirical research" (Pickard, 2007). In other words, sampling is the act, process, or technique of selecting a suitable sample, or a representative part of a population for the purpose of determining parameters or characteristics of the whole population (Cohen, Manion and Morrison, 2001).

There are various approaches to choice a sample size and sampling techniques. To conduct this research, purposive sampling was used to collect data from both librarians and students of selected universities using questionnaire.

(A) At the first stage, a total number of 10 (5 public universities and 5 leading private universities among 50) universities located in Dhaka city have been selected for the primary population of this research. Following tables shows the sampling university libraries below:

Table – 4.1: Sample public university libraries

SL.	Name of the University and Library	Year of Establishment
1	University of Dhaka	1921
2	Bangabandhu Sheikh Mujib Medical University	1964
3	Bangladesh University of Engineering and Technology	1962
4	Sher e Bangla Agricultural University	2001
5	Jagannath University	2005

Table – 4.2: Sample private university libraries

SL.	Name of the University and Library	Year of Establishment
1	North South University	1992
2	East West University	1996
3	BRAC University	2001
4	Independent University Bangladesh	1993
5	American International University Bangladesh	2005

(B) At the second stage, using judgment sampling techniques 1250 of the total secondary unit of population from various departments and different ages among 10 university libraries were interviewed randomly using structured questionnaires. 1096 questionnaires were received filled up by the users which have been tabulated and analyzed. (Both questionnaires are given in Appendix – 1). The sample consists of the following:

Table – 4.3: Distribution of questionnaires in libraries

Name of University Library	Distribution of questionnaire	Questionnaire received
DUL	200	176
BSMMUL	150	128
BUETL	150	140
SAUL	100	79
JUL	100	89
NSUL	150	137
EWUL	100	95
BRACUL	100	77
IUBL	100	90
AIUBL	100	85
Total	**1250**	**1096**

4.4 Questionnaire

To meet the objective of the thesis two sets of questionnaires were prepared including various technical questions. The questionnaires were designed in order to explore findings supporting on IL. To meet the objectives of the study, both questionnaires were prepared including various types of questions. These were made with simple, direct and familiar words, keeping the respondent level in mind. These also include both open-ended and close questions. Questionnaires were sent to the following groups:

- **University Librarian:** A total number of 10 sets of questionnaires were sent to the selected 10 (5 public and 5 private) university libraries in Dhaka city to get information about librarians' information literacy skills and present condition of information literacy practices in selected university libraries.

- **University Students:** To measure students' information literacy and competency level, a total number of 1250 questionnaires were distributed to the students of the selected university libraries. Librarians or circulation officers of the university libraries distributed randomly to the students.

4.5 Data Processing and Analysis:

Two sets of questionnaire of this study were duly edited to verify that the data recorded in the questionnaire have been carefully and accurately filled in. all the questionnaires were properly coded after editing for computer input. The steps followed in the process of data input are:

- entering data into the computer;
- conducting validation checks to ensure that data have been correctly entered into the computer;
- Preparation of output table.

The SPSS (Statistical Package for Social Sciences) and MS Office Excel 2007 have been used to enter, edit, and analyze data. Findings of the study have been presented in various Tables and Figures using bivariate and multivariate analysis as per their applicability.

4.6 Interpretation of results

After processing and analysis of the data, appropriate physical meaning and interpretation to the numerical results in real life was given for each of the Table and Figures. Findings of the study have been presented in 49 Tables and 51 Figures**.**

4.7 Implementation

The study was implemented in three steps:

Step – I : Reviewing of all available relevant literature, preparation of reading list / bibliography for background study;

Step – II : Designing and testing of questionnaires, sample designing, data collection, data analysis, presentation; and

Step – III : Findings of the problems and recommendation.

Along with the above a number of the techniques and methods have been applied to find related literature and to make the investigation success. These are: search of renowned journals, research visits, various content analysis, visiting of websites and digital archives, etc.

Chapter – Five

Data analysis and presentations of findings

Introduction: This chapter presents the results collected from two sets of questionnaires: (a) Questionnaire for University Libraries [respondent is the Librarian or Head of the Library] (b) Questionnaire for Library Users. After receiving the data from the respondents, the data was entered into Statistical Package for Social Services (SPSS) for analysis. The graphical presentations were also made using Ms Excel. The chapter provides perspective and insight into the research findings. The analysis of results is conducted within the framework of the research.

Section - 1

Survey of the University Libraries

Ten university libraries from Dhaka were selected purposively and brought under the investigation. Librarian or Head of the Library provided various kinds of organizational information, library related information, librarians IL concept and competency related information, IL practices in libraries, collaboration among teachers and librarians, problems and suggestions for improving information literacy programs in university libraries.

Table 5.1.1: Distribution of questionnaires to the respondents by the type of the university

Type of the University	Frequency	Percentage	Distribution of questionnaire	Questionnaire received	Percentage
Public	5	50%	5	5	50%
Private	5	50%	5	5	50%
Total	10	100%	10	10	100%

Table 5.1.1 shows the type of University which was selected for the investigation using structured questionnaire. The distribution and response rate of questionnaire are also given here.

Table 5.1.2: Name of the university, year of establishment, type, number of students, Teachers and departments

Sl	Name of University	Year of establishment	Type of University	No. of Student	No. of Teachers	No. of Depts.
1	DU	1921	Public	33,112	1805	81
2	BSMMU	1964	Public	1,116	394	45
3	BUET	1962	Public	5,500	500	20
4	SAU	2001	Public	2,500	148	36
5	JU	2005	Public	27,000	271	22
6	NSU	1992	Private	16,000	234 +149	10
7	EWU	1996	Private	6,267	189	10
8	BRACU	2001	Private	9,000	265	14
9	IUB	1993	Private	4,000	256	15
10	AIUB	2005	Private	10,725	281	5

The Table 5.1.2 shows that the University of Dhaka is the oldest and largest public university in Bangladesh established in 1921. The Table provides a quantitative summary of the selected universities through selected indicators.

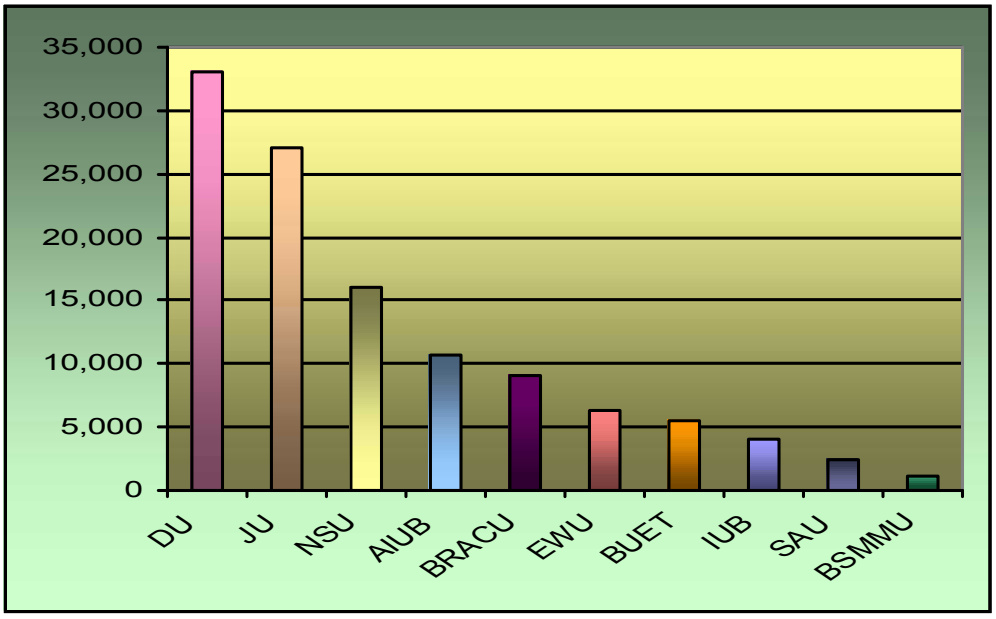

Figure – 1: Bar chart showing the Number of students in 10 Universities

The above figure shows that in terms of number of students, Dhaka University is the largest among both public and private universities selected. Private universities occupy the next few positions in terms of student numbers, showing that among the sample universities, private universities cumulatively have the larger share of the students.

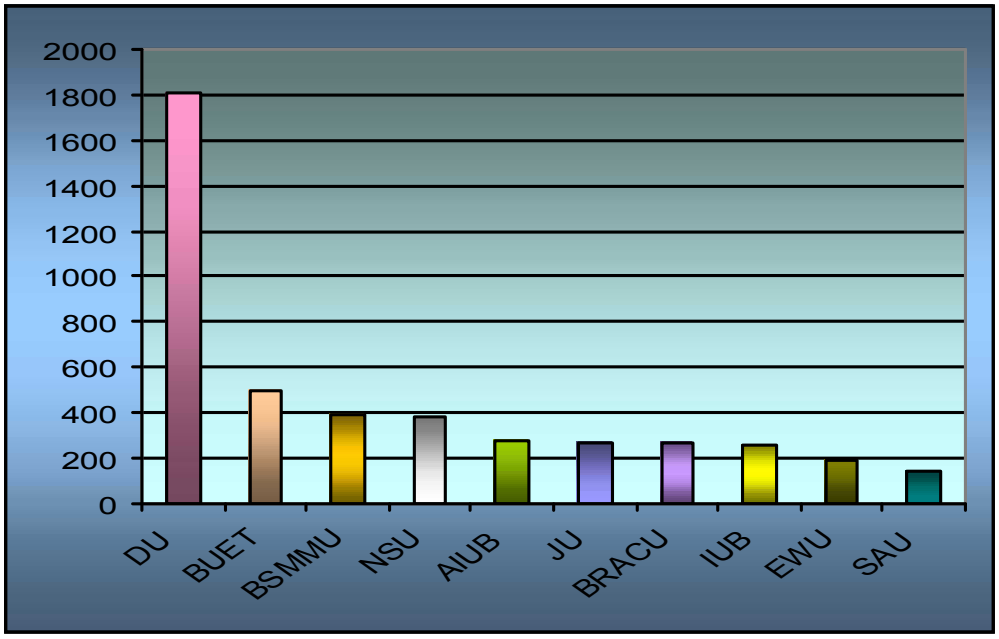

Figure - 2: Bar chart showing the Number of Teachers in 10 Universities

Figure – 2 shows that, DU has the majority of teachers numbering about 1800, whereas SAU has a small number of teachers i.e. only 148. Rests of the teachers are distributed among the remaining sample universities.

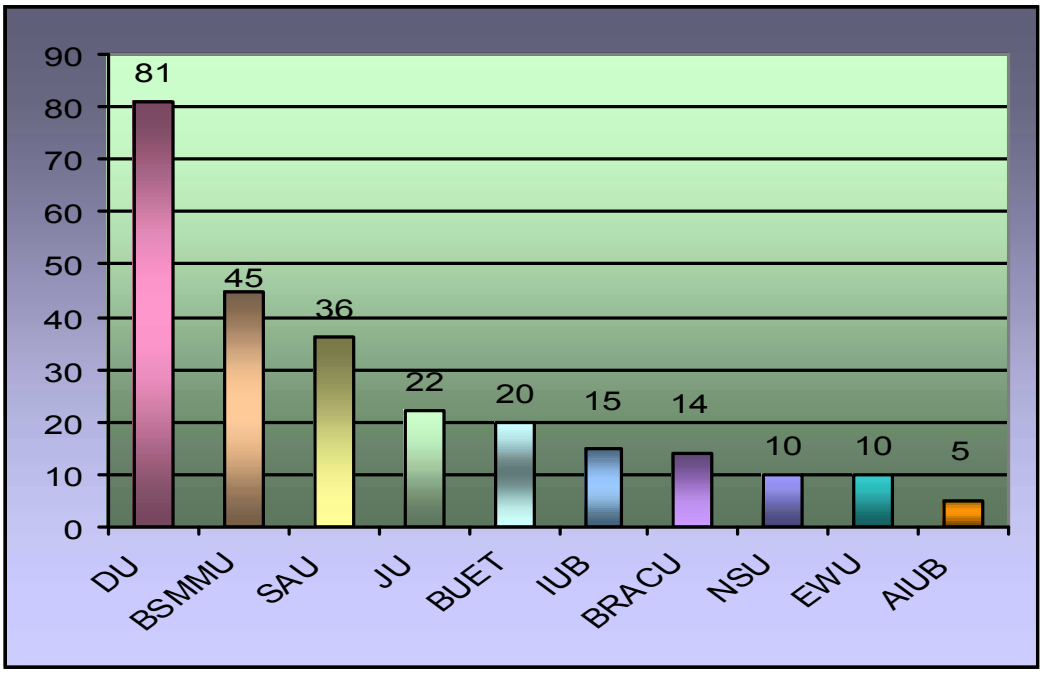

Figure - 3: Bar chart showing the Number of departments in 10 universities

Figure –3 shows that, DU has the largest number of 81 departments, whereas AIUB has the smallest number of departments with only 5. The remaining sample universities are

observed to contain varying numbers of departments. Public universities are observed to have more departments in comparison to private universities.

Table 5.1.3: Information about Library Staff / Employee

Sl	Name of Library	Category of Library Staff				Number of Total Staff
		Professional	Semi - Professional	Non-professional	Others	
1	DUL	50	75	24	94	243
2	BSMMUL	7	16	16	4	43
3	BUETL	17	2	20	1	40
4	SAUL	5	0	2	5	12
5	JUL	7	0	4	8	19
6	NSUL	9	4	6	8	27
7	EWUL	12	3	5	2	22
8	BRACUL	7	4	4	6	21
9	IUBL	7	0	4	5	16
10	AIUBL	2	1	3	4	10

Table – 5.1.3 is arranged to display the current status of the library employee related information (i.e. Professional, Semi professional, Non professional and others) of the selected sample libraries. The Table has been analyzed through the following figures (listed below):

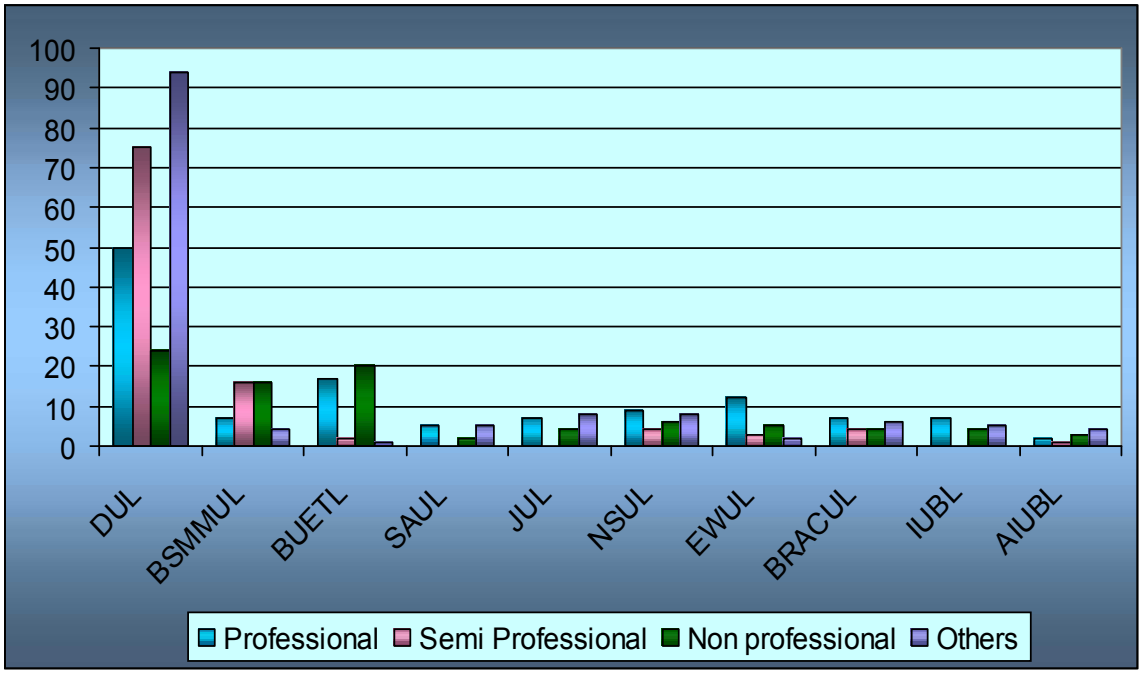

Figure - 4: Scenario of library staff in the university libraries

Figure - 4 shows the information of 10 university library employees such as professional status and other staff related information. The employee related information of the individual university libraries are displayed as follows:

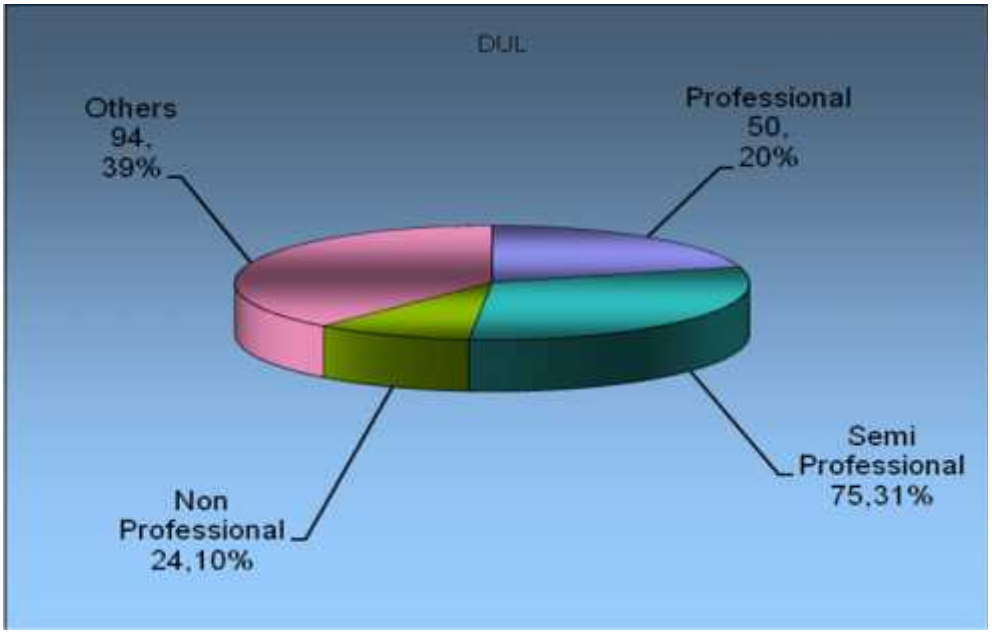

Figure – 5: Number & Percentage of the DU library employees

Figure - 5 shows the number and percentage of the DU library employee related information. The figure indicates that, in the DU library only 50 (21%) staff members are professional librarians.

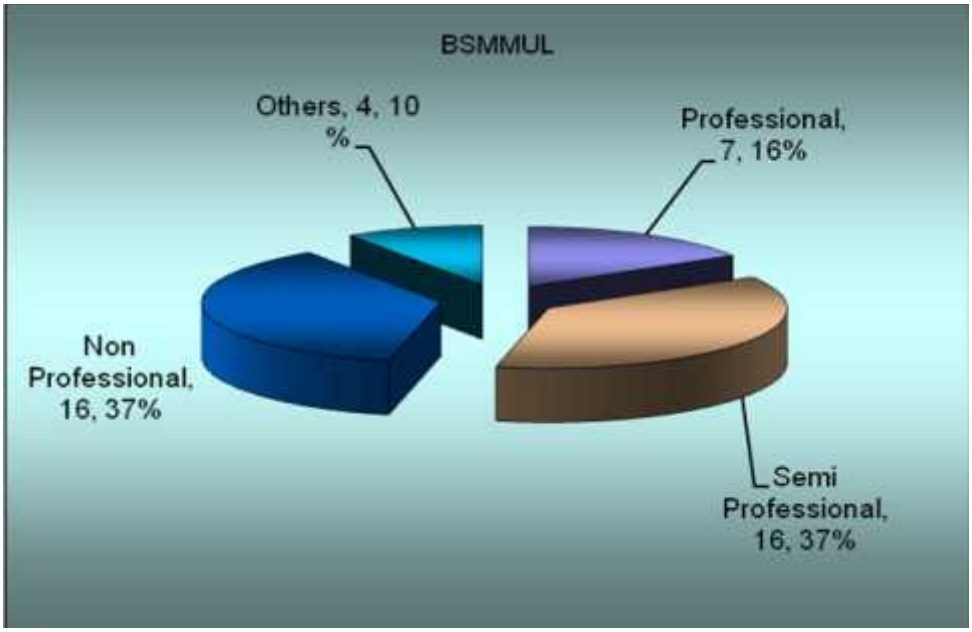

Figure – 6: Number & Percentage of the BSMMU library employees

Figure - 6 indicates the number and percentage of the BSMMU library staff related information. The figure shows that among the 43 BSMMU library staff, professional librarians are only 7 (16%) in proportion.

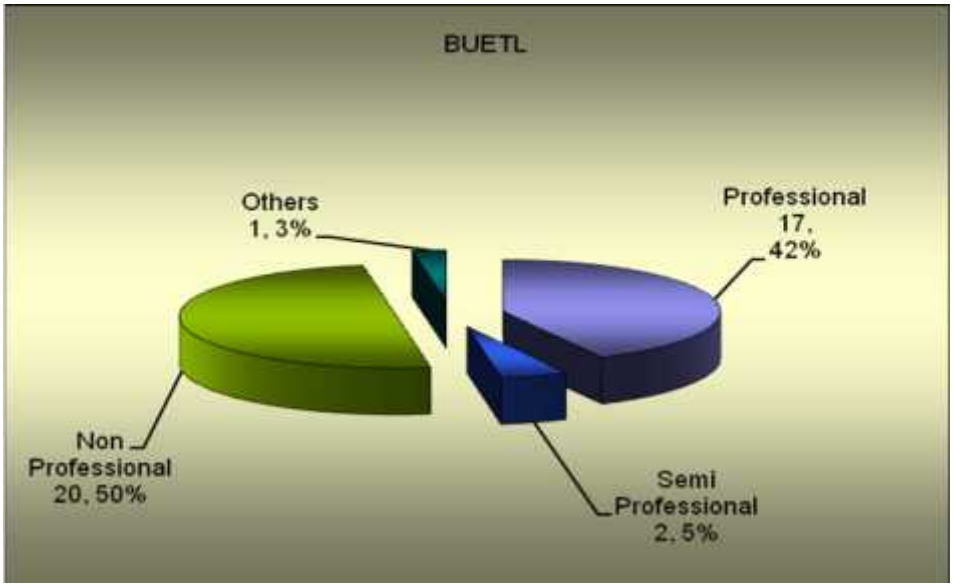

Figure – 7: Number and Percentage of the BUET library employees

Figure 7 shows the number and percentage of the BUET library staff related information. The above figures indicate that, among the 40 library staff 17 are professional which is 43% of the total staff.

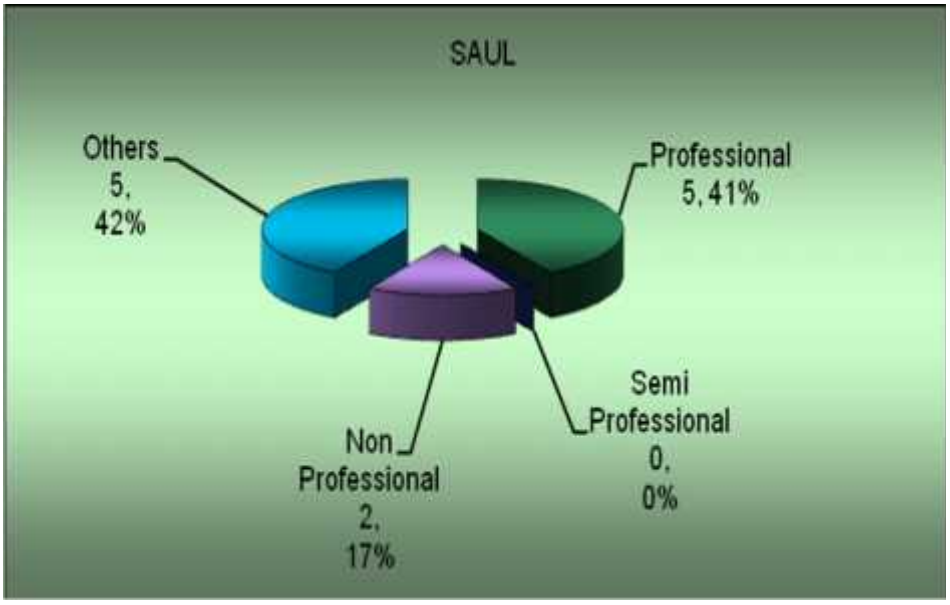

Figure – 8: Number and Percentage of the SAU library employees

Figure 8 illustrates the number and percentage of SAU library staff related information. Sher-e-Bangle Agricultural university library is the smallest library among the selected public university libraries. The library has only 12 staff members among whom 5 are professionals i.e. 41% of the total.

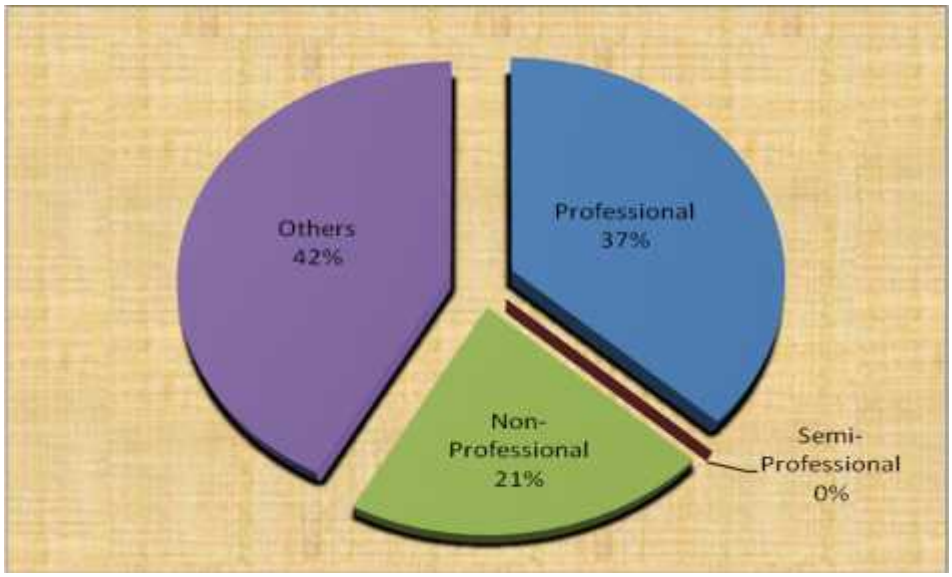

Figure – 9: Number and Percentage of the JU library employees

Figure 9 presents a clear picture about JU library staff related information. The above figures show that, the Jagannath university library has only 19 staff members, among whom only 7 are professional staff.

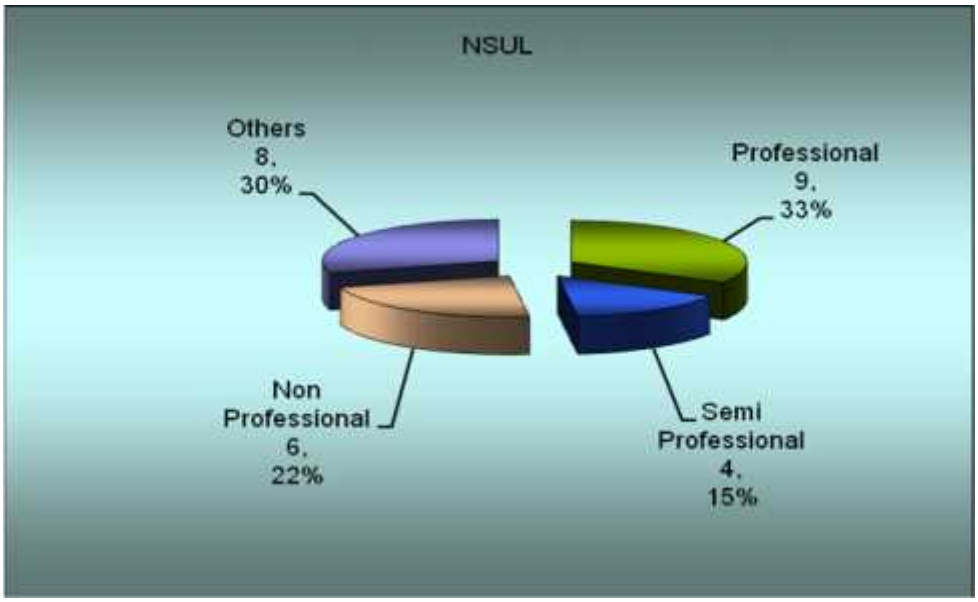

Figure – 10: Number and Percentage of the NSU library employees

Figure 10 shows total number and percentage of NSU library staff. The figure indicates that NSU library has the highest library staff among the 5 selected private university libraries. Out of a total 27 staff, the library has 9 professional staff which is 33%.

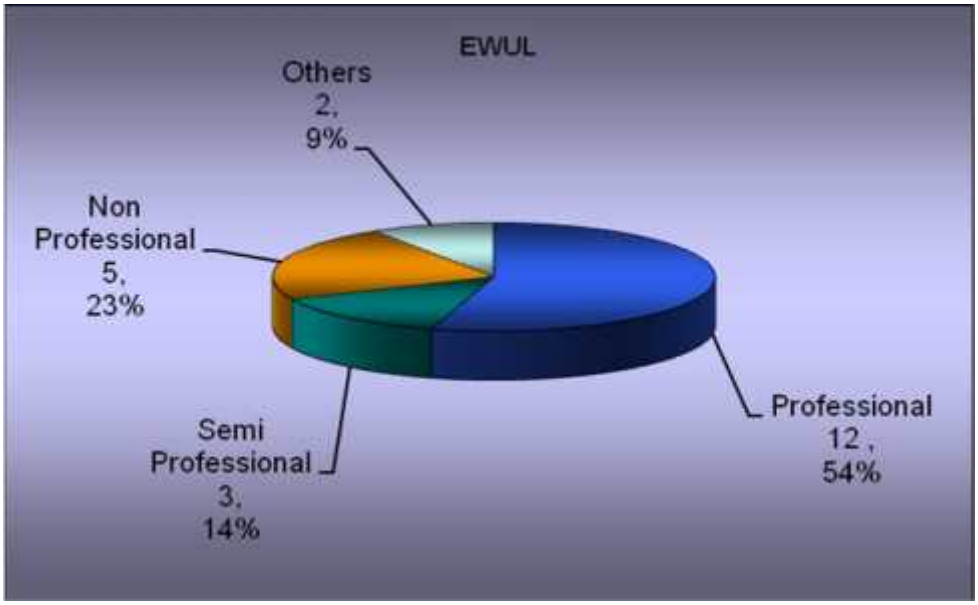

Figure – 11: Number and Percentage of the EWU library employees

Figure 11 illustrates that, East West University library has a total of 22 staff, among whom 12 (54%) are professional staff.

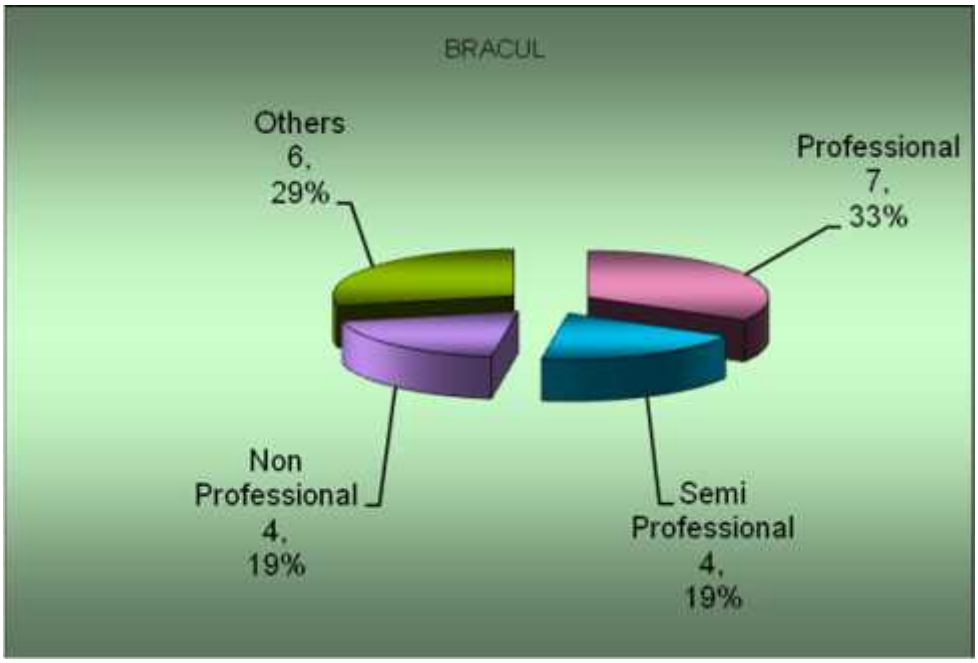

Figure – 12: Number and Percentage of the BRACU library employees

Figure 12 shows the total number and percentage of BRAC University library staff related information. BRAC university library has a total of 21 staff, among whom 7 (33%) are professional.

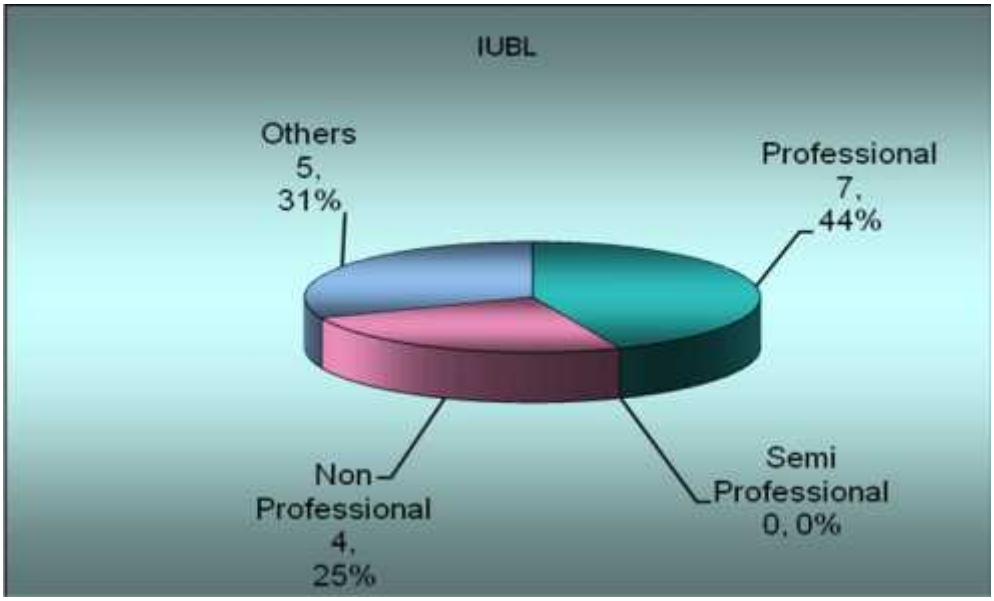

Figure – 13: Number and Percentage of the IUB library employees

Figure 13 indicates the number and percentage of IUB library staff related information. The figures show that, there is a total number of 16 staff available at the IUB library, among whom 7 staff are fully professional which is 44% of the total staff.

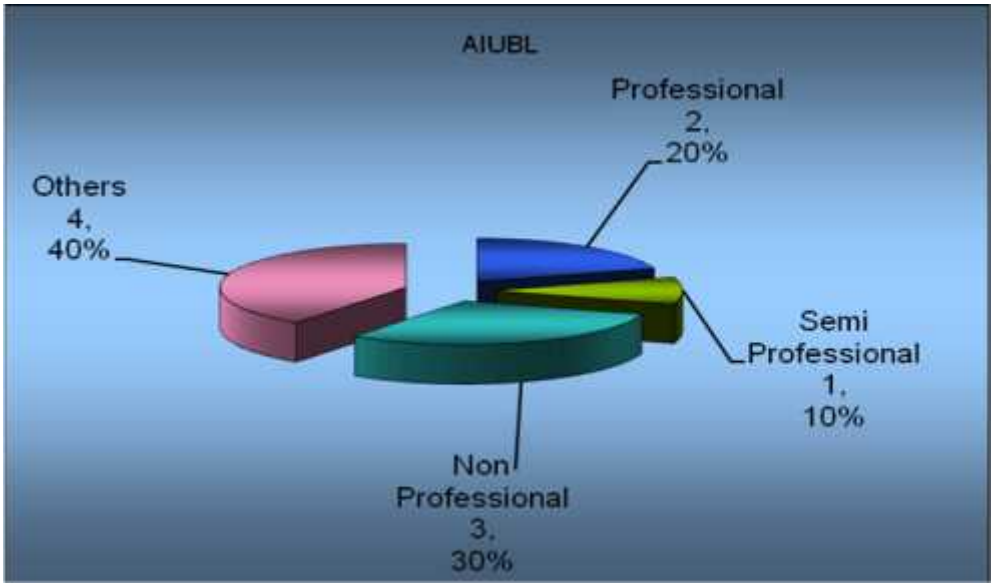

Figure – 14: Number and Percentage of the AIUB library employees

Figure 14 shows the AIUB library staff related information. The figures show that, the American International University of Bangladesh (AIUB) library has a total of 10 staff, among whom 2 (20%) are professional librarians.

Table 5.1.4: Librarians having concept about Information Literacy

Sl	Name of University	Yes	No
1	DUL	√	---
2	BSMMUL	√	---
3	BUETL	√	---
4	SAUL	---	√
5	JUL	√	---
6	NSUL	√	---
7	EWUL	√	---
8	BRACUL	√	---
9	IUBL	√	---
10	AIUBL	√	---

The librarians of the ten selected universities were asked if they have any concept about Information Literacy. Table 5.1.4 shows that out of 10, only 1 librarian had no concept about information literacy and the rest of the librarian's had a concept about information literacy.

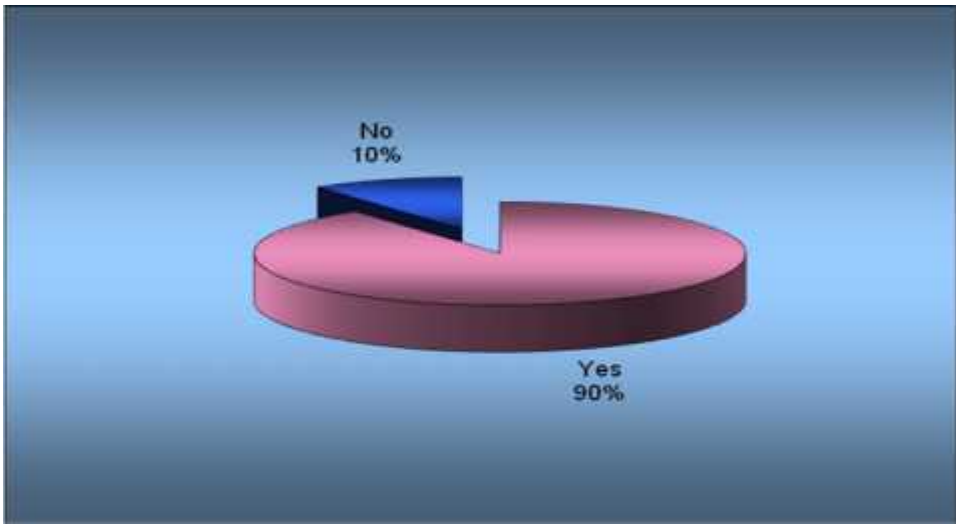

Figure - 15: Pie chart showing Librarians concept about information literacy

Figure 15 reveals that 90 % of the selected librarians have information literacy related concepts and 10% do not have any concept about information literacy.

Table – 5.1.5: Librarians' sources of gaining knowledge about Information Literacy

N = 10

Indicators	Frequency	Percentage
Reading journal articles	6	60%
From everyday library practices	4	40 %
From professional challenges	4	40%

Librarians were asked how they knew about information literacy. Table 5.1.5 shows that, 60% of the librarians gained knowledge about information literacy by reading journal articles, 40% from everyday library practices, and rest of the 40% librarians gained knowledge from professional challenges. Figure – 16 illustrates the source of gaining knowledge about Information Literacy graphically:

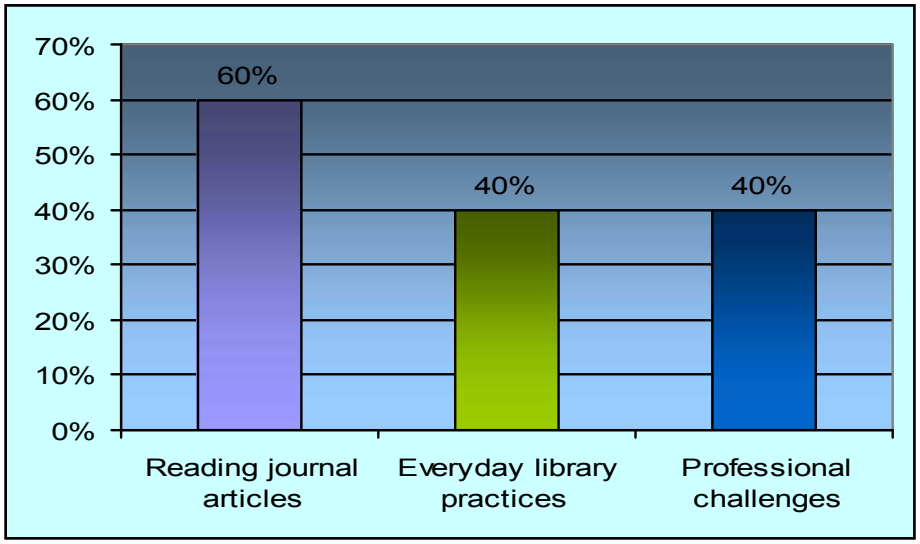

Figure - 16: Librarians' sources of gaining knowledge about information literacy

Table – 5.1.6: Librarians' concept about the related areas of Information Literacy

N = 10

Indicators	Frequency	Percentage
User education	1	10%
Bibliographic instruction	0	0%
Information retrieval techniques	1	10%
Library orientation program	2	20%
Online searching techniques	0	0%
OPAC searching techniques	0	0%
All of the above	5	50%
Do not know	1	10%

The Table reveals the university librarians answers to the question with which indicators information literacy is related? 10% of the librarian thought information literacy is related to user education, 10% thought information literacy is related to

information retrieval techniques, 20% thought it is related to the library orientation program and 50% thought information literacy is related to all of the mentioned indicators i.e. user education, bibliographic instructions, information retrieval techniques, library orientation program, online searching techniques and OPAC searching techniques. Figure – 17 illustrates the librarians' concept on related areas of information literacy:

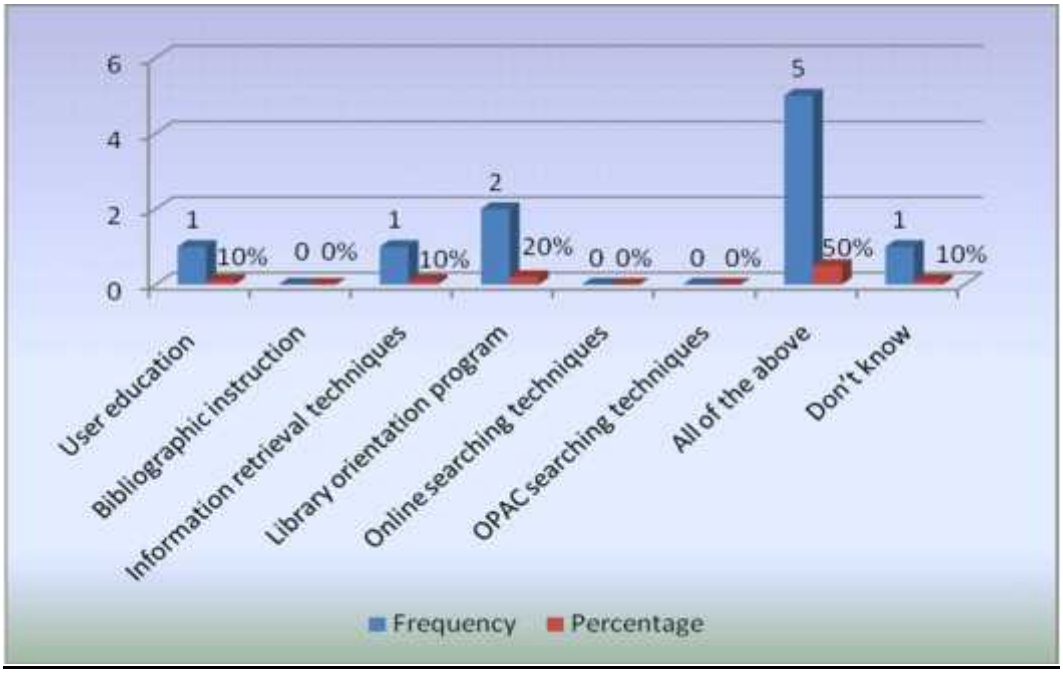

Figure - 17: Librarians' perception on Information Literacy

Table – 5.1.7: Librarians' opinion about the quality of information literate person

N = 10

Indicators	Frequency	Percentage
He is able to identify, retrieve and locate information in the most advanced and appropriate way	5	50%
He knows all the information retrieval techniques	0	0%
He always deals with information and evolves	0	0%
All of the above	4	40%
Do not know	1	10%

The above Table shows that 50% of the librarians thought that the information literate person is that person who is able to identify, retrieve and locate information in the most advanced and appropriate way, 40% of the librarians thought that the information literate person is that person who is able to identify, retrieve and locate information in the most advanced and appropriate way, knows all the information retrieval techniques and always deals

with information and evolves. Figure – 18 illustrates the scenario of the quality of information literate person according to the librarian's opinion:

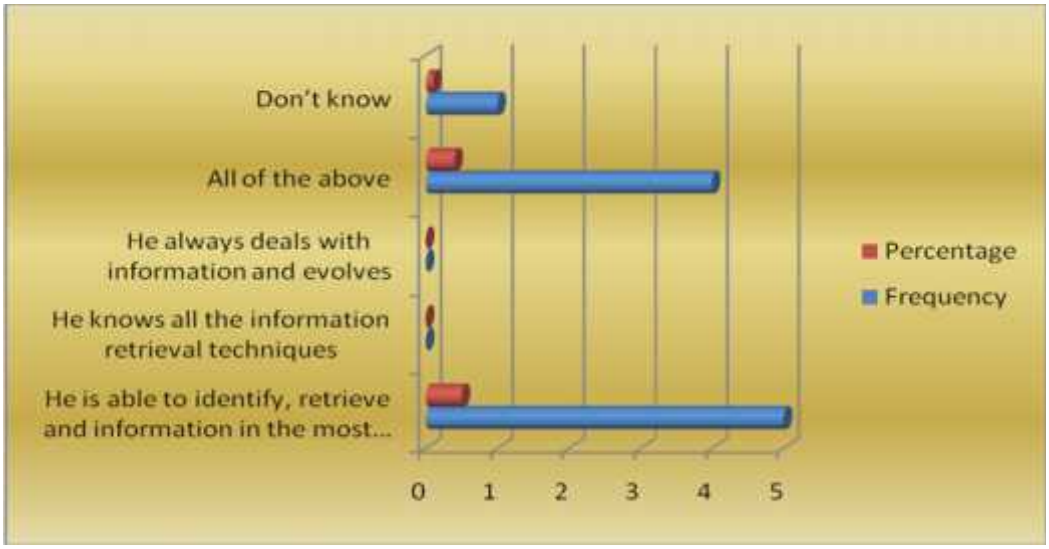

Figure - 18: Librarians' perception about the quality of information literate person

Table – 5.1.8: Information literacy and competency level of library professionals

N= 10

Section	Could you rate your skills level Regarding the following Skills?	Indicators	N	Minimum	Maximum	Mean	Std. Deviation
1	To Construct strategies for locating information	How to do Literature searches	10	3	5	3.80*	.79
		How to use specific subject database	10	2	4	3.20	.79
		How to use appropriate search engines	10	2	4	3.20	.79
2	To locate & access the information	How to find research material in the library	10	3	5	4.40*	.70
		How to find and obtain research evidence from outside the university	10	3	4	3.50	.53
		How to obtain published research papers	10	1	4	3.00	.94
3	To compare and evaluate the information	How to use electronic repositories in your research	10	1	5	3.40*	1.26
		How to use subject based electronic portals and gateways	10	2	5	3.10	1.20
		How to use wikis and blogs in your research	10	1	5	3.10	1.29
		How to evaluate published research papers	10	2	4	3.10	.88
4	To organize, apply and communicate the information	How to write research reports and journal articles	10	2	4	3.20*	.79
		How to prepare and submit conference papers	10	2	4	2.90	.57
		How to manage information generated through your research	10	2	4	2.80	.63
		How to cite journal articles, books and reports to demonstrate that you have covered the ground	10	1	5	2.70	1.49
		How to cite information on website	10	1	5	2.60	1.35
		How to retain and preserve information generated through your research	10	1	4	2.40	1.17

(Here * means 1st in rank)

Weight: Very Competent = 5, Competent = 4, Fairly Competent = 3, Less Competent = 2, Not Competent = 1

The above mentioned Table is arranged to identify the library professionals' information literacy & competency levels. Three questions were asked in the 1st section regarding constructing strategies for locating information using a five-point Likert Scale. Table – 5.1.8 indicates that "how to do literature search" is 1st in rank with a mean score of 3.80 and std. deviation .79. Accordingly "how to use specific subject database" and "How to use appropriate search engines" ranked 2nd and 3rd with a mean score of 3.20 and std. deviation .79.

Three questions were also asked to the librarians in Section-2 regarding locating and accessing information. The Table shows that, "How to find research material in the library" ranked 1st with a mean score of 4.40 and std. deviation .70, "how to find and obtain research evidence from outside the university" and "how to obtain published research papers" ranked 2nd and 3rd with a mean score of 3.50 & 3.00 and std. deviation .53 & .94.

Section-3 was arranged for comparing and evaluating the information with four questions using the five-point Likert Scales. The Table shows that, "how to use electronic repositories in your research" ranked 1st with a mean score of 3.40 and std. deviation 1.26. Similarly, "How to use subject based electronic portals and gateways", "how to use wikis and blogs in your research" and "how to evaluate published research papers" ranked 2nd, 3rd & 4th respectively, with a mean score of 3.10 and std. deviation 1.20, 1.29 and .88.

Section-4 was arranged indicating six questions with the five-point Likert Scale. Table – 5.1.8 indicates that, "how to write research reports and journal article" ranked 1st with a mean score of 3.20. "how to prepare and submit conference papers", "how to manage information generated through your research", "how to cite journal articles, books and reports to demonstrate that you have covered the ground" and "how to cite information on website" are ranked 2nd, 3rd, 4th and 5th with a mean score respectively of 2.90, 2.80, 2.70 and 2.60.

Table – 5.1.9: Practice of Information Literacy Program in Libraries

Sl	Name of University	Yes	No
1	DUL	√	---
2	BSMMUL	√	---
3	BUETL	√	---
4	SAUL	---	√
5	JUL	---	√
6	NSUL	√	---
7	EWUL	√	---
8	BRACUL	√	---
9	IUBL	√	---
10	AIUBL	√	---

Table 5.1.9 is designed to ask the librarians whether library departments arrange information literacy program regularly or not. The table shows that 80 % of the library departments arrange information literacy program on regular basis and rest of the 20% library departments do not arrange Information literacy program. Figure – 19 illustrates the present situation of arranging information literacy programs in university libraries:

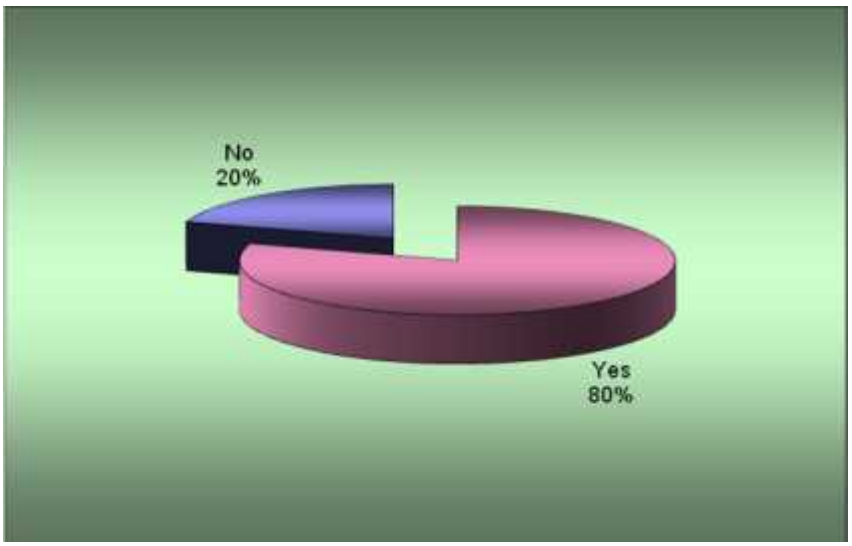

Figure - 19: Practice of information literacy programs in university libraries

Table – 5.1.10: Target group of offering information literacy program

N = 10

Indicators	Frequency	Percentage
Official / Staff	4	40%
All of the above	4	40%
Students	3	30%
Teachers / Faculty	2	20%
Researchers	0	0%

Table – 5.1.10 indicates that, librarians were asked to whom information literacy programs are offered or taught. 40% of the university libraries offer information literacy program to the officials / staff, another 40% provide this services to all users such as, staff, students, teachers / faculty members and also researchers. 30% of the libraries are arranging this program only for students and 20% of the libraries are arranging this program only for teachers / faculty members. Figure – 20 shows the scenario of the target group:

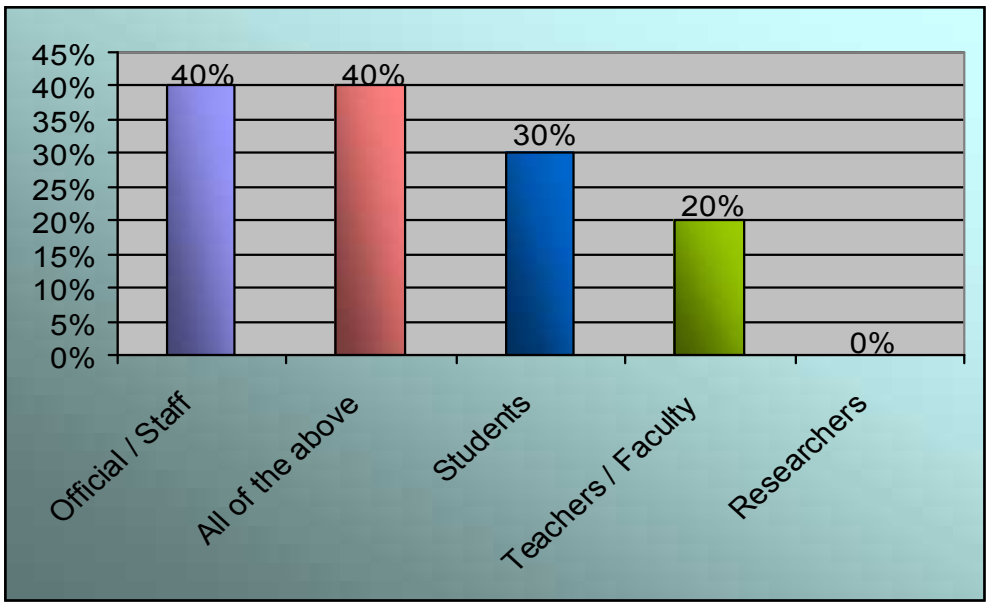

Figure – 20: Target group of information literacy programs

Table – 5.1.11: Types of information literacy program arranges in libraries

N=10

Rank	indicators	N	Minimum	Maximum	Mean	Std. Deviation
1	Bibliographic instructions	10	3	5	3.30	.67
2	User education	10	1	5	3.20	1.03
3	OPAC searching techniques	10	1	5	3.20	1.23
4	Online searching techniques	10	1	5	3.10	1.20
5	Card catalogue searching techniques	10	1	5	3.10	1.66
6	Web based literacy	10	1	5	3.10	1.37
7	Library orientation program	10	1	5	3.00	1.33

Weight: Very often = 5, Often = 4, Sometimes = 3, Rarely = 2 Never = 1

Librarians of the selected university libraries were asked to rate the types of information literacy program arranged by the libraries through seven indicators using five-point Likert Scale. Table – 5.1.11 indicates that, Bibliographic Instruction ranked 1st

with a mean score of 3.30 and std. deviation .67 whereas User Education and OPAC searching techniques are 2nd & 3rd in rank with a mean score of 3.20 and std. deviations 1.03 & 1.23. Similarly, Online searching techniques, Card Catalogue searching techniques and Web Based Literacy are 4th, 5th & 6th in rank with the same mean score of 3.10 and std. deviations 1.20, 1.66 & 1.37 respectively.

Table – 5.1.12: Frequency of arranging Information Literacy Program in libraries

N = 10

Indicators	Frequency	Percentage
At every semester	4	40%
Sometimes	3	30%
Quarterly	1	10%
Yearly	1	10%
Monthly	0	0%
Half yearly	0	0%

The librarians were asked how often their library arranges information literacy programs. Table – 5.1.12 shows that, 90% of the librarians replied to the question. The Table also shows that, 40% of the libraries arrange information literacy programs every semester, 30% of the libraries arrange this program sometimes, 10% of the libraries arrange it quarterly and the remaining of the 10% of the libraries arrange on a yearly basis. Figure – 21 illustrates the arranging period of the information literacy programs:

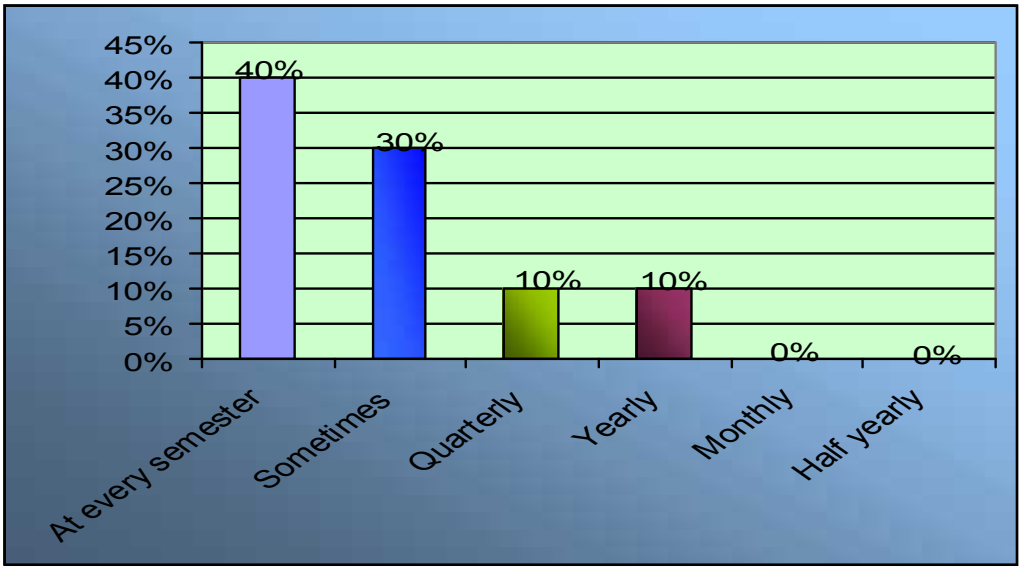

Figure – 21: Frequency of arranging information literacy program in libraries

Table – 5.1.13: Infrastructure facilities of the libraries (i.e. space, efficient staff and retrieval tools) to conduct information literacy program

N = 10

Rank	Indicators	N	Minimum	Maximum	Mean	Std. Deviation
1	Need more facilities	10	2	5	4.10	1.10
2	Have all facilities	10	1	5	3.20	1.48
3	Some of the facilities are of available	10	2	5	3.20	1.14
4	Have severe shortage of all facilities	10	1	4	3.00	1.05
5	No comments	10	0	0	.00	.00

Weight: Strongly Agree = 5, Agree = 4, Fairly Agree = 3, Disagree = 2, Strongly Disagree = 1

University librarians were asked a question "Does the library have sufficient infrastructure facilities (i.e. Space, efficient staff and information retrieval tools) to conduct information literacy program". Table – 5.1.13 indicates that most of the librarians answered "need more facilities" which is ranked 1st with a mean score of 5.10 and std. deviation 1.10. "Have all facilities" and "Some of the facilities are of available" ranked 2nd and 3rd with the same mean score of 3.20. "Have severe shortage of all facilities" ranked 4th with a mean score of 3.00 and std. deviation 1.05. Figure – 22 shows the percentage of the librarians' response visually:

Table – 5.1.14: Librarians' opinion on required training facilities for employees to conduct IL Program

N = 10

Rank	Indicators	N	Minimum	Maximum	Mean	Std. Deviation
1	Need more training on IL program	10	2	5	4.10	1.20
2	Need modern facilities to retrieve Information more easily	10	3	5	3.70	.95
3	Need more orientation classes	10	2	5	3.70	1.16
4	Need to adopt with OPAC	10	2	5	3.40	1.26

Weight: Strongly Agree = 5, Agree = 4, Fairly Agree = 3, Disagree = 2, Strongly Disagree = 1

The Head of the selected 10 university libraries were asked to mention about the required training programs for the library employees to conduct information literacy and competency activities to enhance their information literacy skills and to provide these services to the users. This portion used a Five-point Likert Scale to record the respondents' result. Table – 5.1.14 shows that "need more training on IL Program" is 1st in rank with a mean score of the 4.10. "Need modern facilities to retrieve Information more easily" and "Need more orientation classes" ranked 2nd and 3rd with the same mean score of 3.70 and "Need to adopt with OPAC" ranked 4th with the mean score of 3.40.

Table– 5.1.15: Librarians' opinion on problems of arranging IL program regularly

N = 10

	Indicators	N	Minimum	Maximum	Mean	Std. Deviation
1	Lack of trained information professional	10	2	5	3.60	1.17
2	Lack of well equipped information retrieval tools	10	3	5	3.60	.84
3	Lack of sufficient staff	10	3	5	3.40	.70
4	Library staff are not aware about Information Literacy	10	2	5	3.10	1.37
5	University authority have no intension to arrange such kind of program	10	2	5	2.90	1.20
6	All of the above	10	2	5	2.80	1.23

Weight: Strongly Agree = 5, Agree = 4, Fairly Agree = 3, Disagree = 2, Strongly Disagree = 1

The head of the selected university libraries were asked to mention their opinion about the problems of arranging information literacy programs regularly in light of the above Six indicators. The portion used a Five-point Likert Scale to record the response of the respondents. Table – 5.1.15 indicates that respondents were "Strongly Agree" on two indicators with a mean score of 3.60. *Lack of trained information professional* is 1st in rank with a mean score of 3.60 and std. deviation 1.17 and *lack of well equipped information retrieval tools* ranked 2nd with std. deviation .84. *Lack of sufficient staff* ranked 3rd with a mean score of 3.40. *Library staff are not aware about Information Literacy, University authority have no intension to arrange such kind of program,* and *all of the above* are ranked 4th, 5th and 6th with a mean scores of 3.10, 2.90 and 2.80 and std. deviation 1.37, 1.20 and 1.23.

Table – 5.1.16: Librarians' opinion on including IL education and training program into the Undergraduate curriculum

Sl	Name of University	Yes	No	No comments
1	DUL	√	---	---
2	BSMMUL	√	---	---
3	BUETL	√	---	---
4	SAUL	√	---	---
5	JUL	√	---	---
6	NSUL	√	---	---
7	EWUL	√	---	---
8	BRACUL	√	---	---
9	IUBL	√	---	---
10	AIUBL	√	---	---

Librarians were asked to give their opinion on including information literacy education and training program into the undergraduate curriculum. All of the librarians responded positively. Table 5.1.16 shows that all of the librarians thought that information literacy and training program should be included into the undergraduate curriculum.

Table – 5.1.17: Practice of collaboration among library staff, teachers and other departments to conduct IL Program

Sl	Name of University	Yes	No
1	DUL	√	---
2	BSMMUL	√	---
3	BUETL	√	---
4	SAUL	---	√
5	JUL	---	√
6	NSUL	√	---
7	EWUL	---	√
8	BRACUL	√	---
9	IUBL	√	---
10	AIUBL	√	---

Head of the selected university libraries were asked about the practice of collaboration among library staff, teachers and other departments for teaching information literacy program. Table – 5.1.17 indicates that, out of ten universities, 70% of the librarians responded that they arrange information literacy programs in collaboration with teachers and other departments. 30% of the librarians responded that they have no collaboration with other departments and teachers. Figure-22 below shows the percentage of collaboration visually:

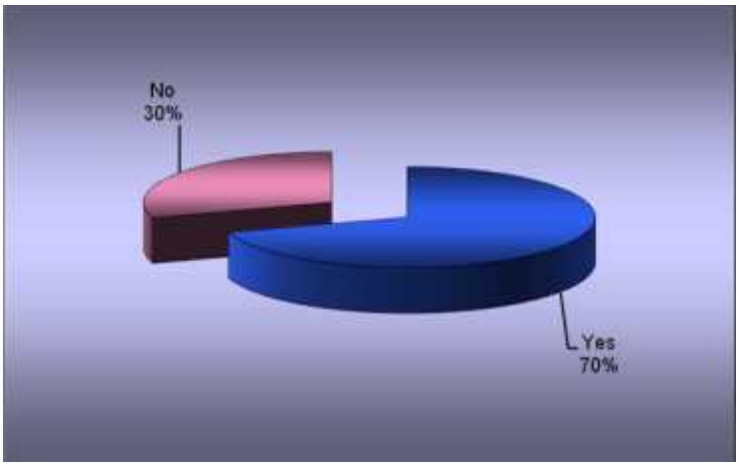

Figure – 22: Pie chart showing the practice of collaboration among Library staff, teachers and other departments to conduct IL Program in University libraries

Table – 5.1.18: Problems of collaboration among library staff, teachers and other departments

Sl.	Name of University	Yes	No	No Comments
1	DUL	----	√	----
2	BSMMUL	----	√	----
3	BUETL	√	----	----
4	SAUL	----	----	√
5	JUL	----	----	√
6	NSUL	----	√	----
7	EWUL	----	√	----
8	BRACUL	----	√	----
9	IUBL	----	√	----
10	AIUBL	----	√	----

Librarians were asked if they face any problems in case of collaboration among library staff, teachers and other departments. Table – 5.1.18 shows that out of the ten university libraries, only 10% of the librarian responded that they face some problems, 70% of the librarians responded that they do not face any problems in case of collaboration among library staff, teachers and other departments to arrange information literacy program. Figure – 23 below illustrates the problems faced by the librarians in case of collaboration to organize information literacy programs:

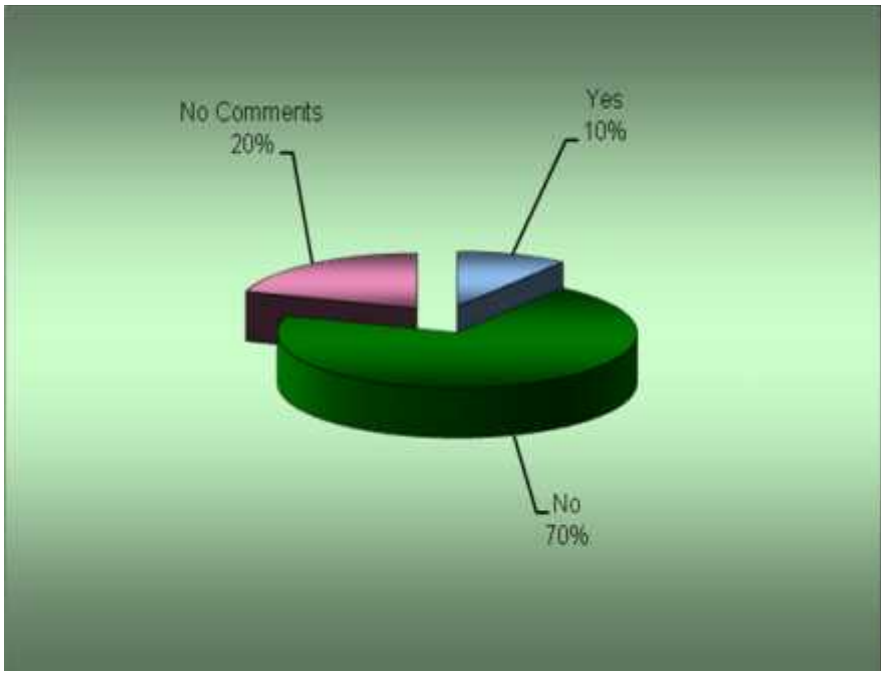

Figure – 23: Problems of collaboration faced by the librarians

Table – 5.1.19: Librarians' opinion on problems of arranging IL Program in libraries

Sl	Name of University	Yes	No
1	DUL	---	√
2	BSMMUL	---	√
3	BUETL	√	---
4	SAUL	√	---
5	JUL	√	---
6	NSUL	---	√
7	EWUL	---	√
8	BRACUL	---	√
9	IUBL	---	√
10	AIUBL	---	√

Table – 5.1.19 was designed to ask the librarians about facing problems in case of teaching or arranging information literacy programs in the libraries. The Table illustrates that out of ten university libraries 30% of the librarians faced various problems in case of teaching or arranging information literacy programs and rest of the 70% librarians didn't face any problems. Figure -24 shows the scenario visually:

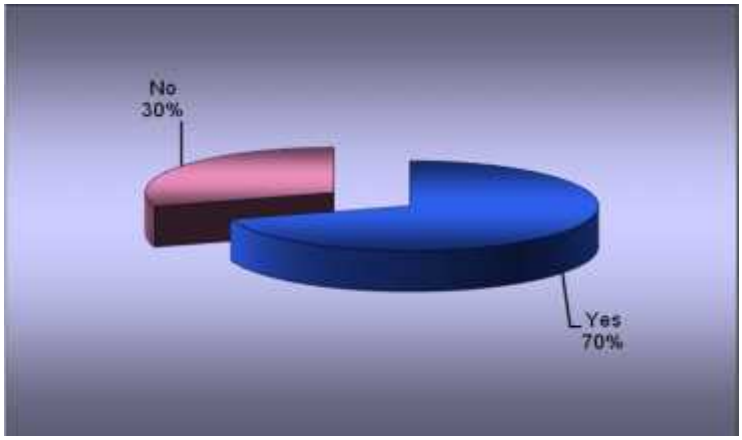

Figure – 24: Problems faced by the libraries in case of arranging Information Literacy Program

Table – 5.1.20: Patterns of problems faced by the librarians to conduct IL program

N = 3

Indicators	Frequency	Percentage
Students are not interested to attend in the class	0	0%
Library staffs are not always cooperative	1	10%
Faculty members are not cooperative	0	0%
Higher authority discourage sometimes	0	0%
All of the above	2	20%

Librarians were asked to mention the types of problems faced in case of teaching or arranging information literacy programs. Table -5.1.19 shows that 30% of the librarians

responded that they faced problems. From this Table it is observed that, out of the 30% libraries, 10% indicated their problem as "library staff are not always cooperative" and rest of the 20% libraries faced "all of the mentioned problems" i.e. "Students are not interested to attend in the class", "Library staffs are not always cooperative", "Faculty members are not cooperative" and "Higher authority discourage sometimes". Figure – 25 illustrates the types of problems faced by the libraries graphically:

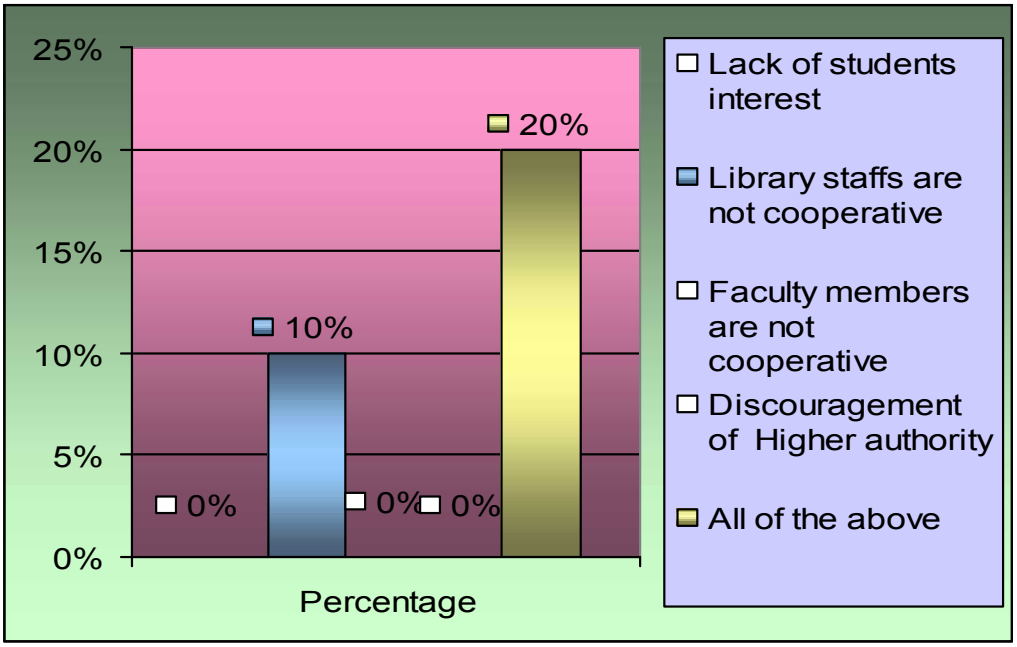

Figure – 25: Patterns of problems faced by the librarians in case of arranging IL Program

Table – 5.1.21: Librarians' opinion on most effective methods of IL Program

N= 10

Indicators	Frequency	Percentage
Computer assisted instruction (i.e. web based tutorials)	6	60%
Traditional literacy methods (i.e. lectures, demonstrations etc.)	4	40%
Self directed independent learning (i.e. workbooks)	1	10%
All of the above	0	0%

At the last portion of the questionnaire, respondents were asked to identify the most effective methods for teaching information literacy programs based on their experience. Table – 5.1.21 indicates that, 60% of the librarians suggested that "Computer assisted instruction" (i.e. web based tutorials) is the most effective method for teaching information literacy programs. "Traditional literacy methods" (i.e. lectures, demonstrations etc.) have been suggested by 40% of the librarians to conduct

information literacy programs. "Self directed independent learning method" (i.e. workbooks) has been suggested by 10% of the librarian as an effective method for teaching or arranging information literacy programs. Figure – 26 illustrates the librarians' opinion about effective methods of teaching information literacy programs graphically:

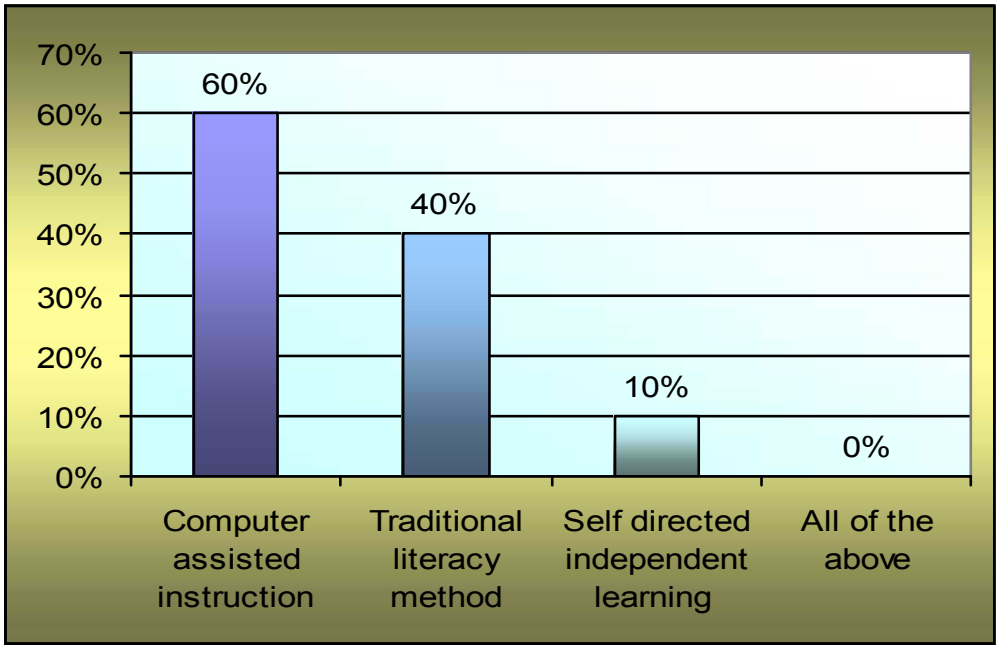

Figure - 26: Effective methods of teaching Information literacy program

Section 2

Survey of the Library Users

5.2: Analysis of the Library User's Questionnaire

The findings from the questionnaire survey conducted from the library users selected purposively from 10 universities are presented here. Data has been collected through sending questionnaires to the university libraries and library staff distributed them to the students randomly. Students' data were analyzed according to Students demographic and academic information, students' perception about the information literacy programs, measurement of their information literacy and competency level, etc. After collecting the data, findings were tabulated and results matched with the aims and objectives of the study.

Table – 5.2.1: Questionnaire distribution and response rate

Name of University	Distribution of questionnaire	Questionnaire received	Response rate
DUL	200	176	88%
BSMMUL	150	128	85.34%
BUETL	150	140	93.34%
SAUL	100	79	79%
JUL	100	89	89%
NSUL	150	137	91.34%
EWUL	100	95	95%
BRACUL	100	77	77%
IUBL	100	90	90%
AIUBL	100	85	85%
Total	1250	1096	87.68%

A total of 1250 questionnaires were distributed to 10 university libraries to obtain feedback from the library users and determine their information literacy and competency levels. The Table shows that, out of 1250 distributed questionnaires among the 10 university libraries, 1096 were received from the library users. The response rate is about 87.68%. The above Table also indicates that 200 were sent to DU library and

176 received with a response rate of 88%. 150 questionnaires were sent to each BSMMU, BUET and NSU libraries respectively and 128, 140 and 137 have been received in that order. The response rates are 85.34%, 93.34% and 91.34%. 100 questionnaires each were sent to SAU, JU, EWU, BRACU, IUB and AIUB libraries, and 79, 89, 95, 77, 90 and 85 were received in this. The response rate from these universities are 79%, 89%, 95%, 77%, 90% and 85% respectively. Figure – 27 illustrates the response rate of the distributed and received questionnaires:

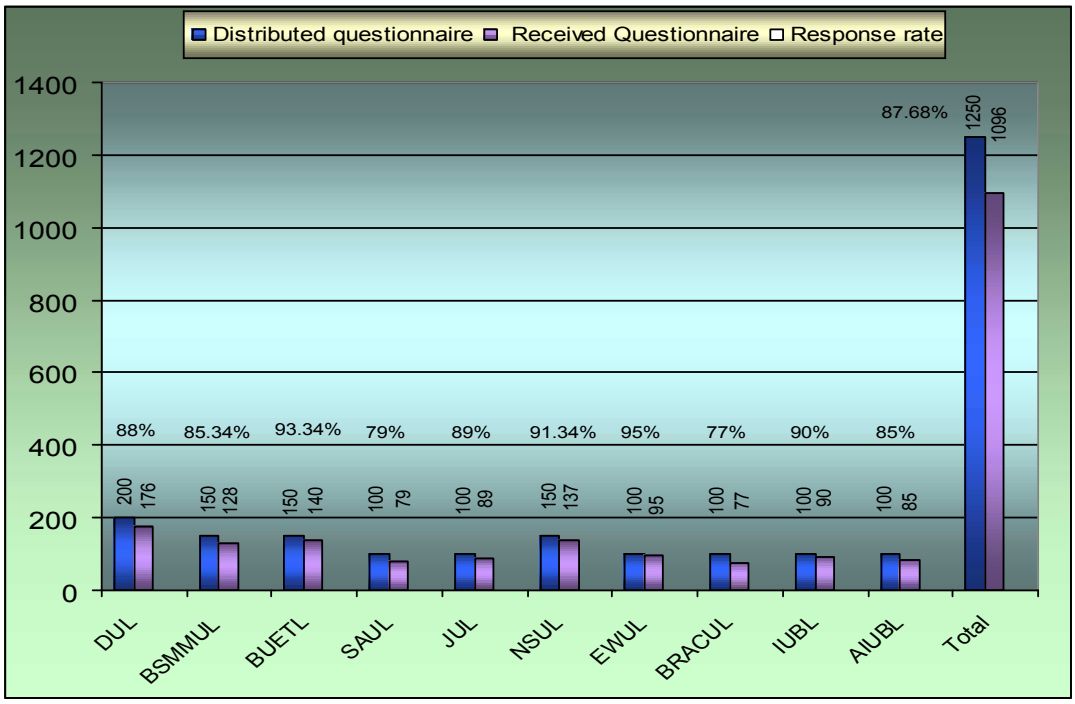

Figure – 27: Response rate of distributed and received questionnaire

Table – 5.2.2: Respondents academic year

N = 1096

Academic year of respondents	Frequency	Percentage
1st year	337	30.75%
2nd year	409	37.32%
3rd year	168	15.33%
4th year	113	10.32%
M.A / MBA / M.Sc	69	6.30%

Table – 5.2.2 indicates that out of 1096 respondents of this survey, 337 (30.75%) students were studying in their 1st year, 409 (37.32%) were studying in the 2nd year, 168 (15.33%) were studying in the 3rd year, 113 (10.32%) were studying in the 4th year and

69 (6.30%) were studying at the Masters Level. Figure 28 illustrates academic year of the students.

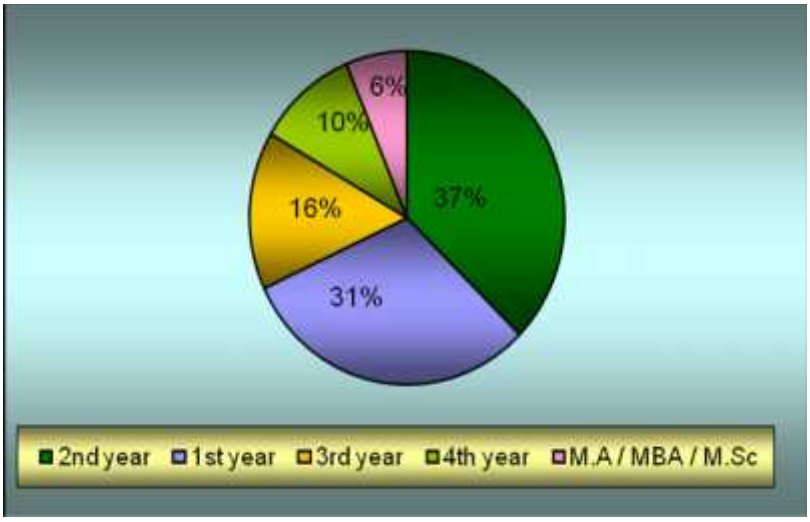

Figure: 28 – Percentage of respondents' academic year

Table – 5.2.3: Students' age group and sex

N = 1096

Age group & sex		Frequency	Percentage
Age group	15 – 20	558	50.92%
	21 – 25	349	31.85%
	26 – 30	189	17.25%
Sex	Male	691	63.1%
	Female	405	36.96%

Table 5.2.3 is designed to identify the frequency and percentage of students' age group and sex. Figure 30 shows that the largest group of students 558 (50.92%) was aged between 15–20. The smallest group of 189 (17.25%) respondents was aged between 26-30 years. Figure 29 shows the students' age group visually:

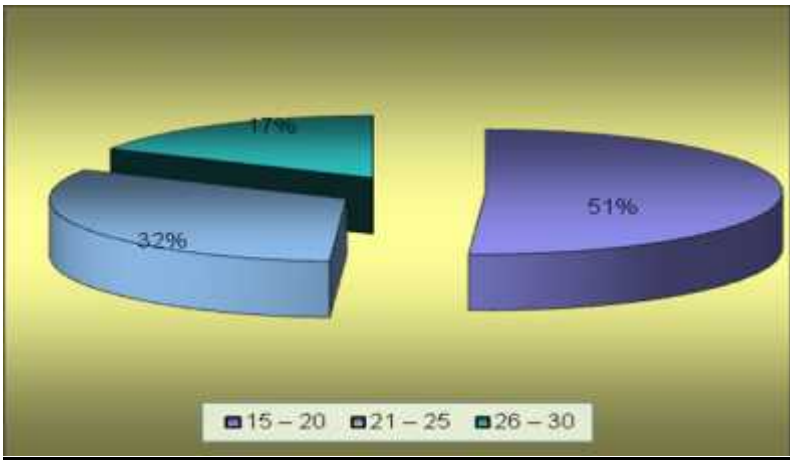

Figure – 29: Students' age group

Table 5.2.3 also indicates that, among the 1096 respondents, 691(63.1%) were male and the rest 405 (36.96%) were female. Figure 30 shows the gender rate of the respondents:

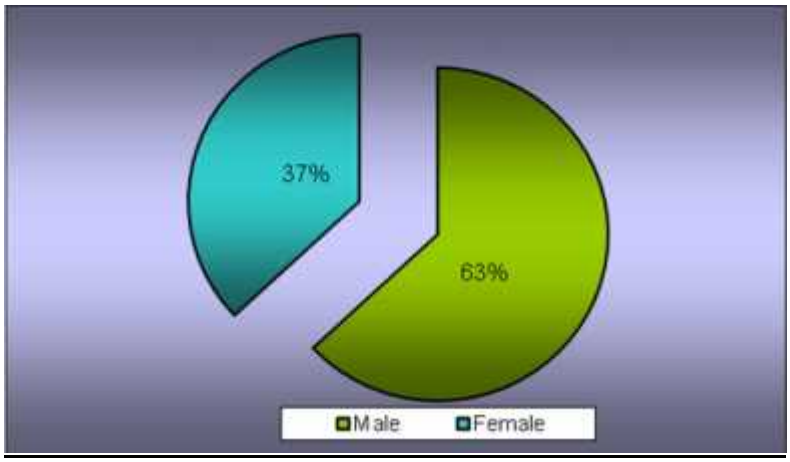

Figure: 30 – Students' Gender group Distribution

Table – 5.2.4: Students' Concept of Information Literacy

N = 1096

Indicators	Frequency	Percentage
Have vague concept	493	44.98%
Have heard, read but do not understand	259	23.63%
Do not know the actual meaning of IL	175	15.97%
Have clear concept	169	15.42%

Students were asked to mention their concept about information literacy. A large number of students 493 (44.98%) replied that they have vague concept. 259 (23.63%) students replied that they have heard, read but do not understand, 175 (15.97%) students do not know the actual meaning of Information Literacy and only 169 (15.42%) students have clear concept about information literacy. Figure 31 shows the students' concept about information literacy:

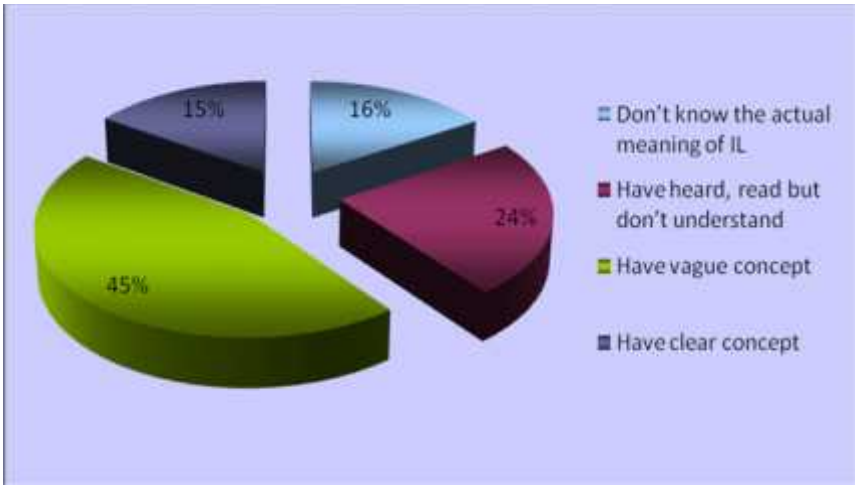

Figure: 31 – Students' concept of information literacy

Table – 5.2.5: Related areas of Information Literacy

N=1096

Ranking	Indicator	N	Mean	Std. Deviation
1	All of the above	382	4.33	.75
2	User education	662	4.26	.68
3	Library Orientation Program	662	4.18	.80
4	Online Searching Techniques	662	4.16	.81
5	Information Retrieval Techniques	662	4.15	.79
6	OPAC Searching Techniques	662	4.15	.87
7	Do not know	52	4.02	.92
8	Bibliographic Instruction	662	3.80	.98

Strongly Agree=5, Agree=4, Fairly Agree=3, Disagree=2, Strongly Disagree=1

To know about the students' concept on information literacy they were asked questions on different indicators. A five-point Likert Scale was used to quantify the students' notion about information literacy. Table 5.2.5 shows that out of 1096 respondents, 382 students knew that information literacy is related to all the mentioned indicators (i.e. user education, library orientation program, online searching techniques, information retrieval techniques, OPAC searching techniques and bibliographic instruction). The Table shows that User Education is 2nd in rank with a mean score of 4.26, Library Orientation Program ranked 3rd with a mean score of 4.18, Online Searching Techniques ranked 4th with a mean score of 4.16, Information Retrieval Techniques and OPAC Searching Techniques 5th & 6th with a mean score of 4.15, Bibliographic Instruction ranked 8th with a mean score of 3.80. The table also shows that out of 1096 respondents, 52 students replied that they didn't know about information literacy ranked 7th with a mean score of 4.02.

Table – 5.2.6: Students opinion on arranging Information Literacy Program in Libraries

N = 1096

Indicators	Frequency	Percentage
Yes	348	31.75%
No	571	52.1%
Do not know	177	16.15%

Library users were asked about the presence of information literacy in the university library. Table 5.2.6 reveals that out of 1096 respondents, large number of students 571 (52.1%) replied that their university doesn't arrange such programs. Figure 32 shows the scenario below:

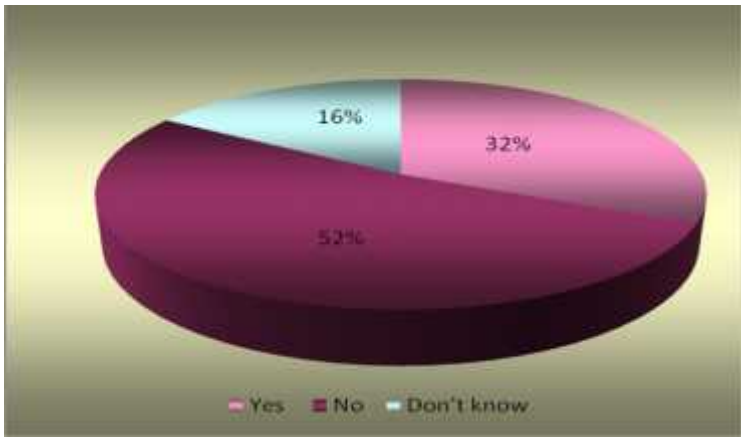

Figure – 32: Students opinion on Information literacy practices in university libraries

Table – 5.2.7: Frequency of arranging Information Literacy Program in libraries

N = 348

Indicators	Frequency	Percentage
Every semester	125	35.92%
Sometimes	101	29.1%
Quarterly	79	22.70%
Yearly	43	12.36%
Monthly	0	0%
Half yearly	0	0%

Students who responded "Yes" to the question "**Does your university library arrange Information Literacy Program regularly"** was asked another question in the next stage**,** how often does the library arrange this program? Among the respondents, 125 (35.92%) students replied that their university library arranges Information Literacy Program in every semester. The table also reveals that no university library arranges information literacy program on a monthly or half yearly basis. Figure 33 shows the scenario graphically:

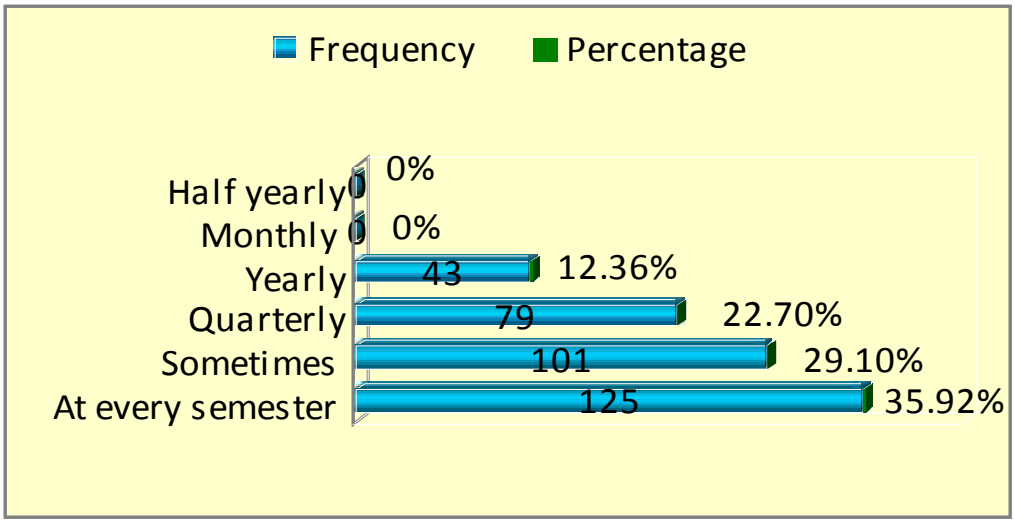

Figure – 33: Period of arranging Information Literacy program in university libraries

Table – 5.2.8: Students opinion on Library facilities for conducting IL Program

N=1096

Indicators	Frequency	Percentage
Have all facilities	245	22%
Some of facilities are available	194	18%
Need more facilities	340	31%
Have severe shortage of facilities	243	22%
Do not know	74	7%

Students were asked to provide their opinion about the present library facilities for conducting information literacy training programs. Table 5.2.8 indicates that 245(22%) students thought that all the facilities are available in their libraries to conduct such programs, while 340 (31%) of the students thought that more facilities are needed in their libraries. Figure 34 below shows the students' opinion graphically:

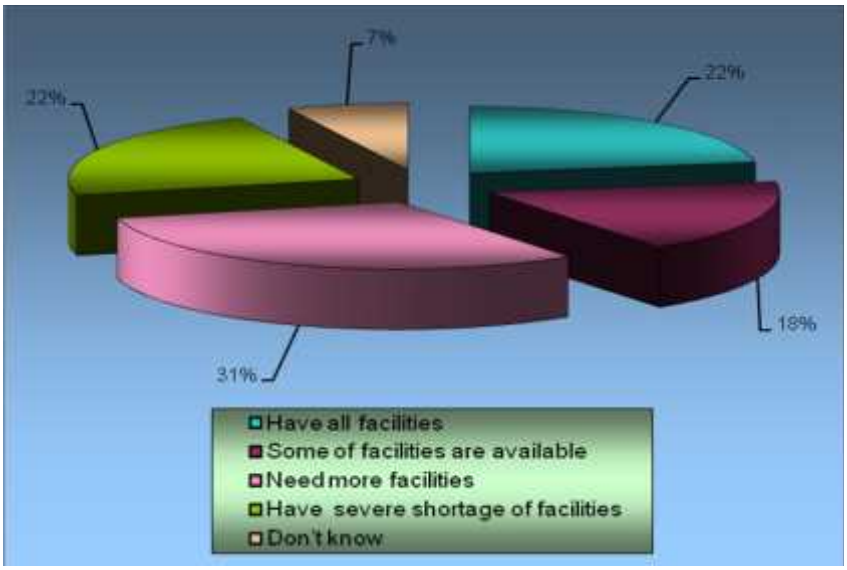

Figure – 34: Students' opinion on Library facilities for conducting Information Literacy Program

Table – 5.2.9: Students participation in Information Literacy programs

N = 1096

Indicators	Frequency	Percentage
Yes	321	29.28%
No	775	70.71%

Table 5.2.9 shows that out of 1096 respondents, 321 (29.28%) students participated in information literacy programs while majority of the respondents didn't take part in any information literacy program. Figure 35 shows information visually:

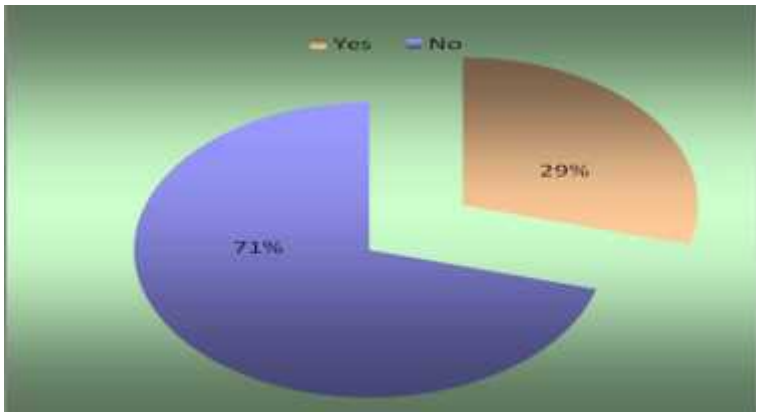

Figure - 35: Respondents participation in Information Literacy Program

Table – 5.2.10: Students presence in information literacy related programs

N = 1096

Indicators	Frequency	Percentage
Didn't participated in any program	448	40.87%
Library orientation program	340	31.1%
Online searching techniques	328	29.93%
OPAC training session	293	26.73%
User education program	123	11.22%
Hands on library workshop	105	9.58%
Bibliographic instruction program	0	0%

Table 5.2.10 shows that out of 1096 respondents, 448 (40.87%) students replied that they didn't participate in any of the information literacy related programs. The Table also shows that no students attended in Bibliographic instruction program. Figure 36 illustrates the students' presence in various information literacy programs graphically:

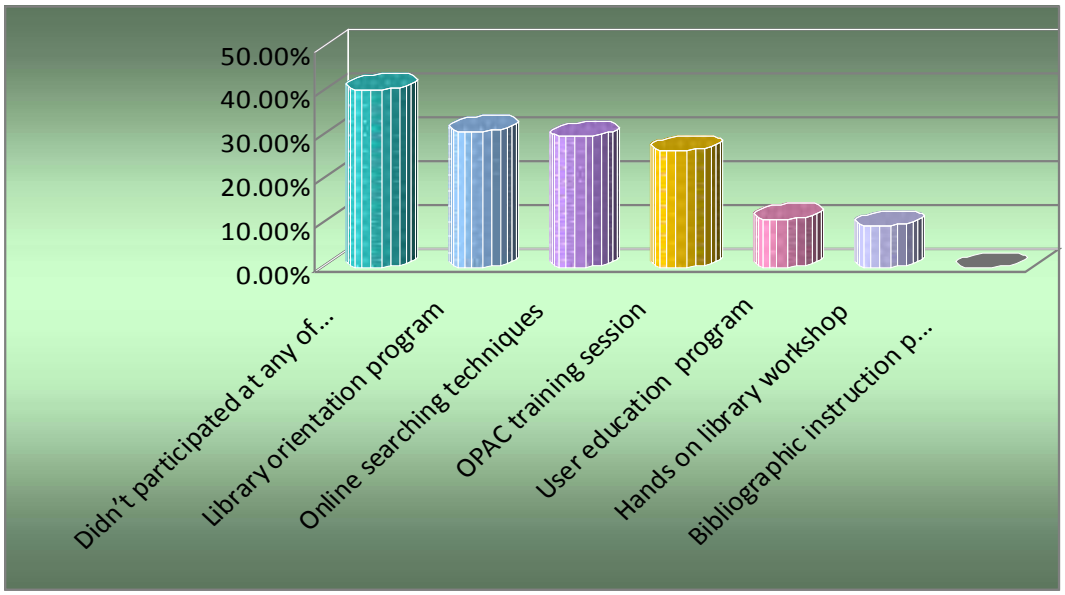

Figure – 36: Students attendance in information literacy related program

Table – 5.2.11: Students' opinion on including IL Program into the undergraduate curriculum

N = 1096

Indicators	Frequency	Percentage
Yes	928	84.67%
No	0	0%
Do not know	168	15.33%

Students were asked to provide their opinion on the issue of including information literacy programs into the undergraduate curriculum. Table 5.2.11 shows that 928 (84.67%) students agree to include Information Literacy Program into the undergraduate curriculum and only 168 (15.33%) students replied that they were unaware about this matter. Figure 37 shows the students opinions visually:

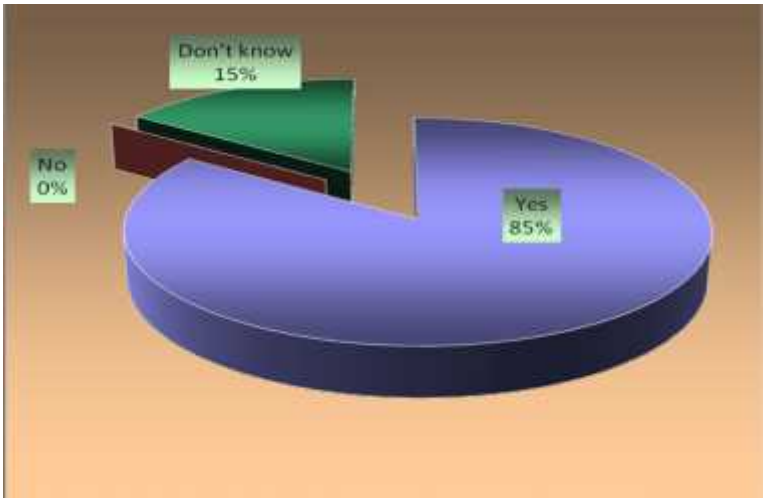

Figure – 37: Students opinion on including ILP into the graduate program

Table – 5.2.12: Students perception on challenges to conduct IL Program in the library

N = 1096

Indicators	Frequency	Percentage
Yes	793	72.36%
No	77	7.1%
Do not know	226	20.62%

Table 5.2.12 shows that 793 (72.36%) students thought that there are challenges to conducting information literacy program in university libraries while 77 (7.1%) students thought there are no challenges to conducting Information Literacy Program in university libraries. Figure 38 shows this scenario visually:

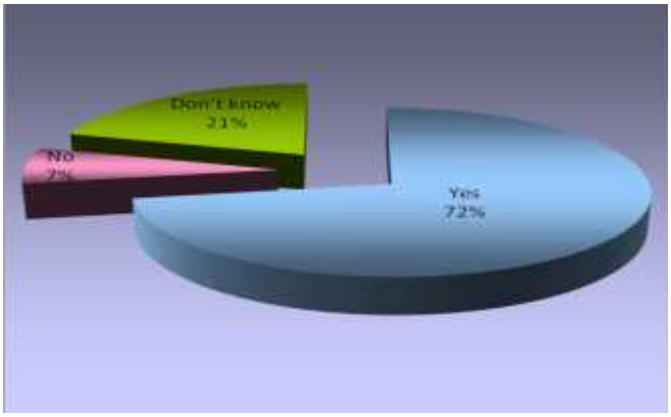

Figure – 38: Students opinion on challenges to conducting information literacy programs in university libraries

Table – 5.2.13: Students' perception on types of challenges to conduct IL Program in university libraries **N=1019**

Indicators	N	Minimum	Maximum	Mean	Std. Deviation
Do not know	226	3	5	4.73	.55
Lack of interest among library professionals	791	1	5	3.62	1.29
Lack of funding / financial support	782	1	5	3.34	1.38
Lack of interest among faculty members	793	1	5	3.26	1.27
Poor information and library infrastructure	771	1	5	3.06	1.43
Lack of interest among students	785	1	5	2.51	1.14

Weight: Strongly Agree = 5, Agree = 4, Fairly Agree = 3, Disagree = 2, Strongly Disagree = 1

Students were asked about the challenges for university libraries to conduct information literacy education and training programs. Figure 39 reveals that out of 1096 respondents, 77 students think there are no challenges for libraries to conduct Information Literacy Program and 226 students do not know about this matter. Rest of the 793 students who thought there are challenges for university libraries to conduct this program expressed their opinions which are shown in Table 5.2.13 using Five-point Likert Scale. Table 5.2.13 indicates that students, who replied "Do not know" in table 5.2.12, also provided the same answer in table 5.2.13 (with a mean score of 4.73). *Lack of interest among library professionals* is stated to be the main challenge with a mean score of 3.62, *Lack of funding / financial support* is listed as the 2nd highest challenge with a mean score of 3.34, *lack of interest among faculty members* is 3rd in rank with a mean score of 3.26, *poor information and library infrastructure* ranked 4th with a mean score of 3.06 and *lack of interest among students* ranked lowest with a mean score of 2.51.

Table – 5.2.14: Students perception of consulting about the most current information of any topics

N=1096

Indicators	N	Minimum	Maximum	Mean	Std. Deviation
E-resources	1052	2	5	4.31[1]	.93
Journals	1052	2	5	4.20[2]	.95
All of these	44	2	5	4.07[3]	.85
Periodical Articles	1052	2	5	3.85[4]	.82
Bibliographies	1052	1	5	3.54[5]	.89
Books	1052	1	5	2.71[6]	1.04
Encyclopedia Articles	1052	1	5	2.60[7]	.97

Weight: Strongly Agree = 5, Agree = 4, Fairly Agree = 3, Disagree = 2, Strongly Disagree = 1

To verify the students' information literacy and competency level, various questions were posed to them. Students were asked to mention the sources of information with which they consult first to get most current information of any topics, giving various options, using Five-point Likert Scale. Table 5.2.14 reveals that E-resources are 1st in rank with a mean score of 4.31, journals ranked in 2nd with a mean score of 4.20. All of the mentioned indicators are 3rd in rank with a mean score of 4.07, periodical articles are 4th in rank with a mean score of 3.85, bibliographies ranked 5th with a mean score of 3.54, books were 6th in rank with a mean score of 2.71, and encyclopedia articles ranked 7th with a mean score of 2.60.

Table – 5.2.15: Students preference on using research tools of finding research articles

N = 1096

Indicators	Frequency	Percentage
Journals	547	49.91%
Do not know	253	23.08%
World wide web	137	12.5%
Library catalogue	96	8.76%
Online database	63	5.75%

To verify the student's perception about the ability to independently identify, locate and retrieve information, they were asked which tool they would prefer. Table 5.2.15 shows that out of 1096 respondents, most of the students, 547 (49.91%) prefer journals for finding research articles.

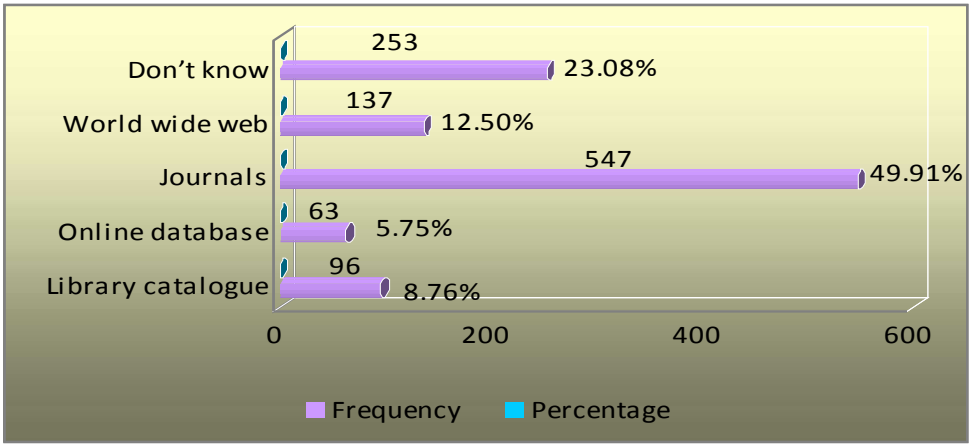

Figure – 39: Students preference on research tools for finding research articles

Table – 5.2.16: Students' preference on Google feature to find out research articles

N = 1096

Indicators	Frequency	Percentage
Google	39	3.56%
Google books	86	7.85%
Google scholar	651	59.39%
All of the above	173	15.78%
Do not know	147	13.41%

To verify the students' information literacy and competency levels they were asked to mention the favorite Google feature they used to find research articles. Table 5.2.16 reveals that only 39 (3.56%) students preferred General Google, 86 (7.58%) preferred Google books, while most of the students 651 (59.39%) preferred Google Scholar for finding research articles. Figure 40 illustrates the scenario graphically:

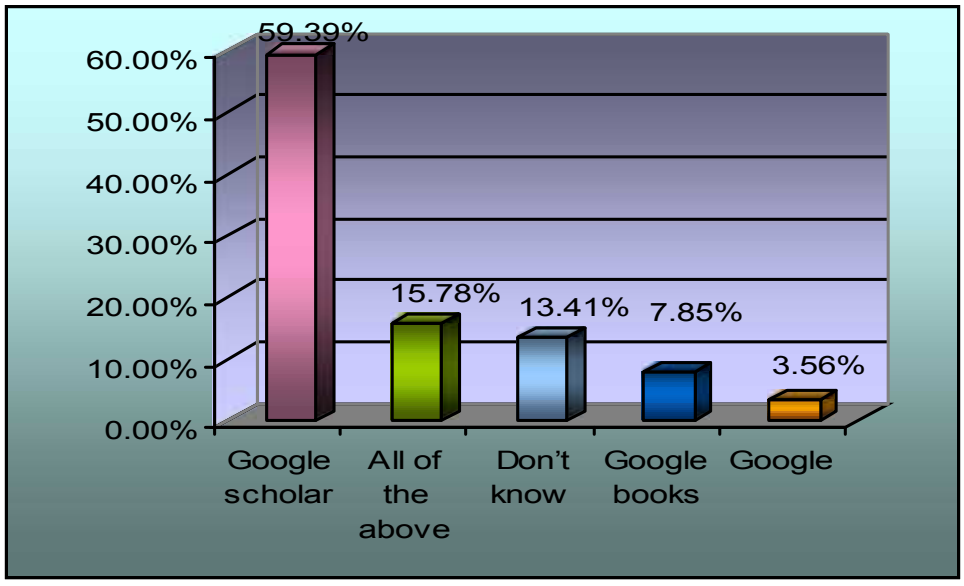

Figure – 40: Bar chart showing students' preference on Google feature for finding research articles

Table 5.2.17: Students' ability to independently identify and locate materials from library using the following aids or tools

N = 1096

Indicators	Frequency	Percentage
Online Public Access Catalogue	625	57%
Indexes	197	18%
Abstracting Journals	274	25%

Table 5.2.17 shows the aids and tools used by the students to independently identify and locate materials from library. The result shows that 625 (57%) students are able to use Online Public Access Catalogue to locate library materials, 197 (18%) students are able to use Indexes and 274 (25%) students are able to use Abstracting Journals to identify and locate materials from their university library. Figure 41 shows the students' ability to independently identify and locate materials from library through the chart:

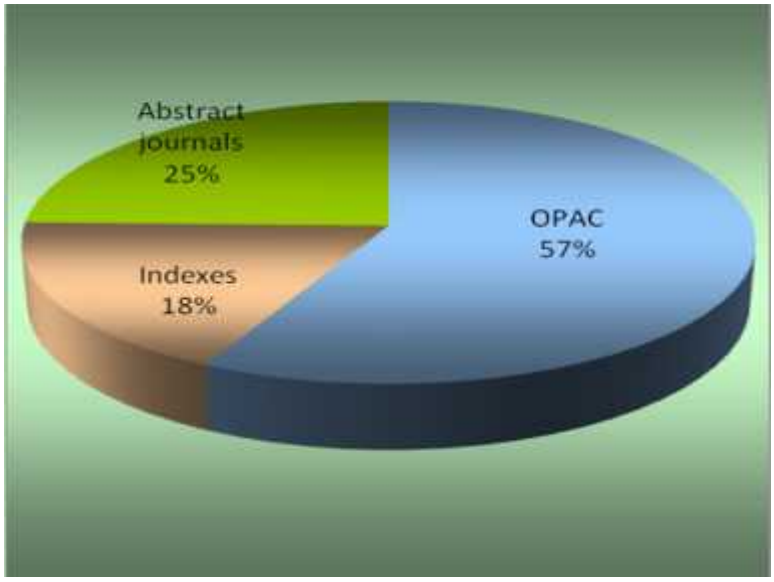

Figure – 41: Students ability to find out library materials using supporting tools

Table – 5.2.18: Students ability to search for information in online

N = 1096

Indicators	Frequency	Percentage
Using search engine	394	35.95%
Using subject portal	109	9.95%
Browsing website	289	26.37%
Taking helps from others	148	13.50%
All of the above	56	5.11%
Do not know	100	9.12%

Students were asked to mention the sources by which they look for information in online. Table 5.2.18 shows that 394 (35.95%) students look for information using search engine, 109 (9.95%) use subject portal, 289 (26.37%) look for information browsing websites, 148 (13.50%) look for information taking helps from others and 56 (5.11%) use all of the above mentioned tools. Figure 42 shows the scenario graphically:

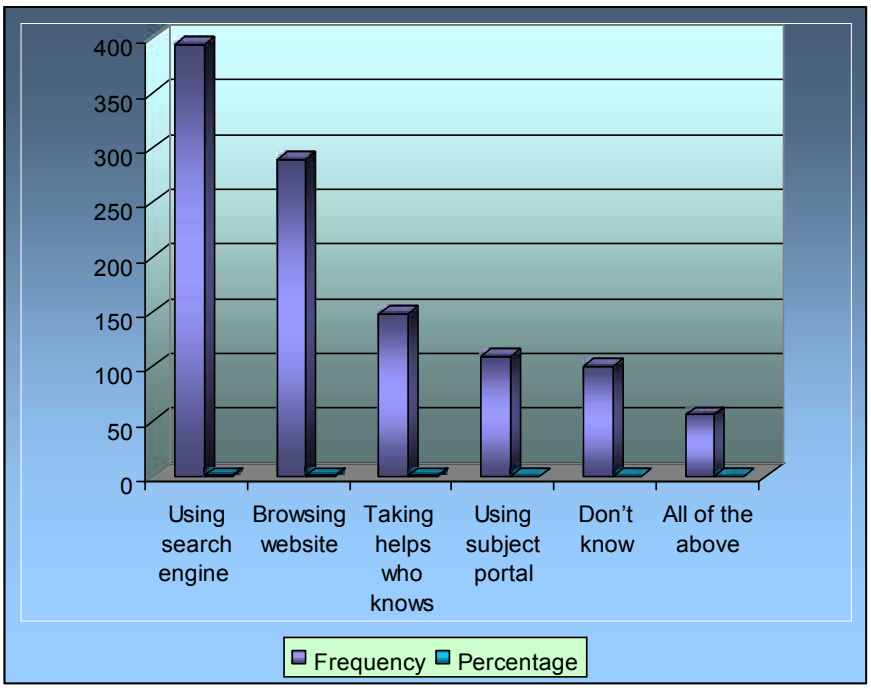

Figure – 42: Bar chart showing students' ability to look for information in online

Table – 5.2.19: Students opinion on using a search engine i.e. Google or Yahoo, they would not be able to find:

N = 1096

Indicators	Frequency	Percentage
Biographical information about famous people	65	5.93%
Merchandise catalogue	0	0%
The books available in the library	778	70.98%
Information about company	0	0%
All of the above	37	3.37%
Do not know	216	19.71%

Table 5.2.19 shows that, 65 (5.93%) students did not find biographical information about famous people using Google or Yahoo. Most of the students 778 (70.98%) replied

that they didn't find books related information available in their university library, using search engines i.e. Google or Yahoo. Figure 43 shows the information visually:

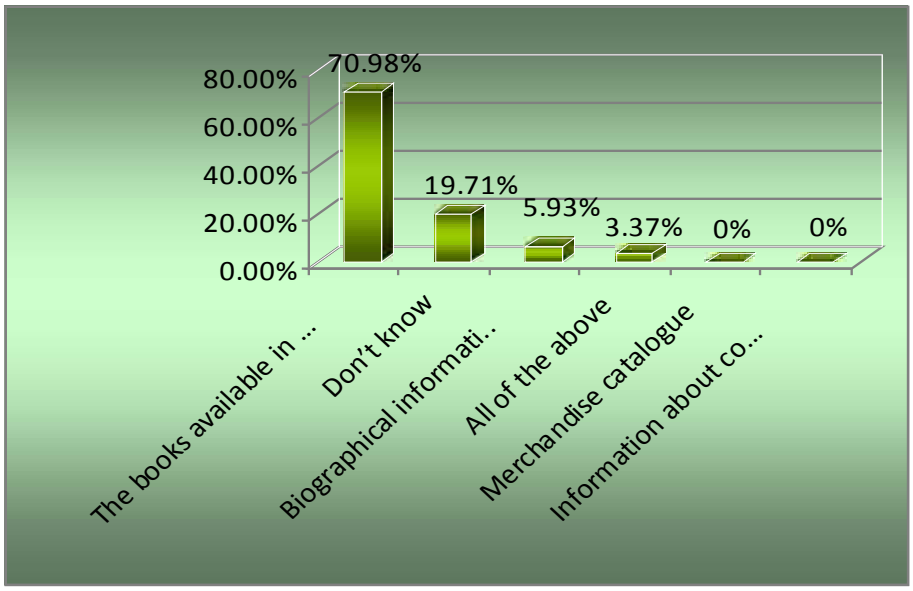

Figure –43: Bar chart showing Students ability to use search engine

Table – 5.2.20: Students opinion on shelving their library materials

N = 1096

Indicators	Frequency	Percentage
Author	0	0%
Title	0	0%
Subject	118	10.76%
Call number	872	79.56%
Do not know	106	9.67%

Students were asked a question to evaluate their ability to search reading materials using library catalogue. Table 5.2.20 shows that a large number of students 872 (79.56%) replied that their library materials are arranged according to Call Number, 118 (10.76%) replied their library materials are arranged according to Subject and 106 (9.67%) didn't know about this matter. Figure 44 illustrates the scenario graphically:

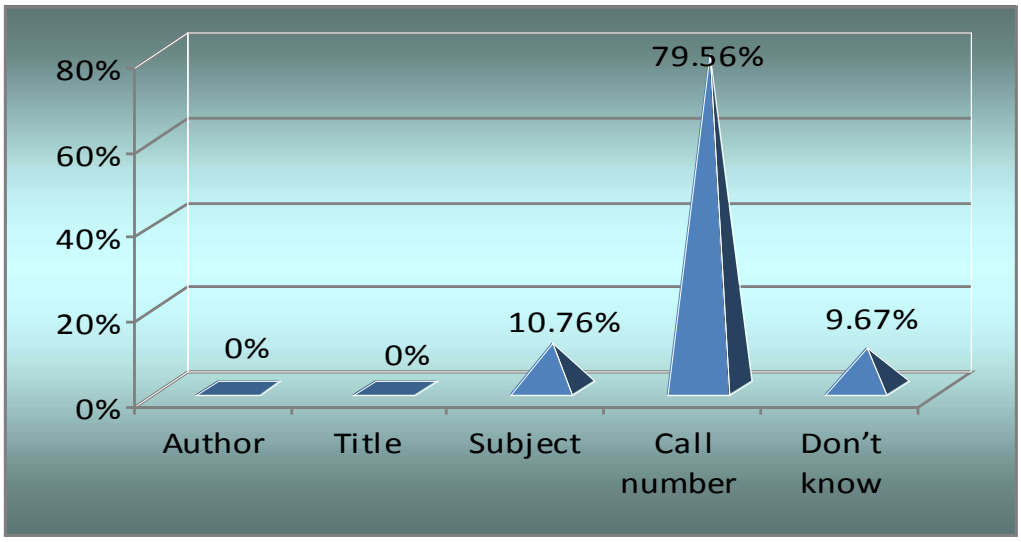

Figure – 44: Bar chart showing students' opinion on shelving their library materials

Table – 5.2.21: Students' ability to search books from the library collection

N = 1096

Indicators	Frequency	Percentage
Library catalogue	925	84.39%
Bibliography	0	0%
Search engine	0	0%
Books in print	0	0%
Do not know	171	15.61%

Students were asked to mention the tools for identifying books from the library. Table 5.2.21 shows that out of 1096 respondents, most of the students (84.39%) searched the library catalogue to find books from the library. The graphical presentation of this Table is shown below:

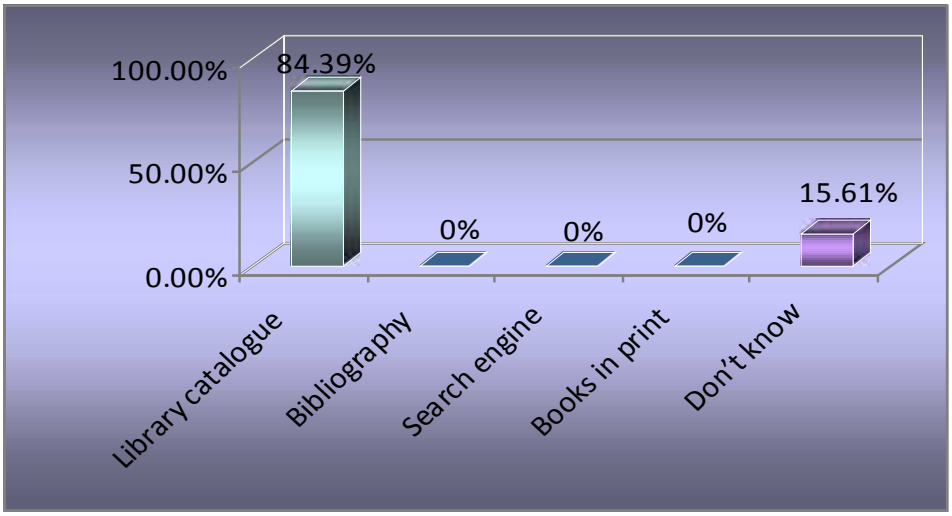

Figure – 45: Bar chart showing students' ability to search books from the library collection

Table – 5.2.22: Students' concept on locating books from the library shelves

N = 1096

Indicators	Frequency	Percentage
Call number	824	75.18%
Author's name	47	4.29%
Title of the books	93	8.48%
ISBN number	0	0%
Do not know	132	12.05%

Students were asked about the tools they used to locate books on the shelves from the library. Table 5.2.22 reveals that, most of the students 75.18% use Call Number to locate books on the shelves from the library, 4.29% students use Authors name, 8.48% students use Title of the Books to locate books from the shelf of the library. Figure 46 shows figures graphically:

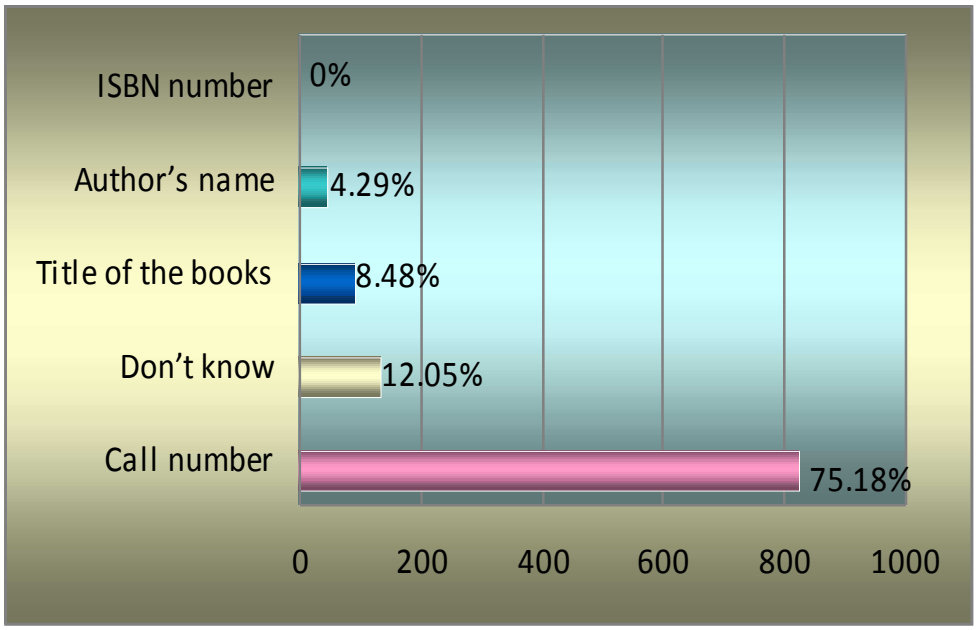

Figure – 46: Students' ability to find out books from the shelves of the library

Table – 5.2.23: Students' ability to find any documents about *Margaret Atwood* using Library Catalogue

N = 1096

Indicators	Frequency	Percentage
By author	429	39.15%
By title	33	3.01%
By subject	567	51.73%
By publisher	0	0%
Do not know	67	6.11%

In the case of finding documents about ***Margaret Atwood*** from the library catalogue, students were asked to respond how they would search for this document. Table 5.2.23 indicates that, 429 students searched By Author, 33 searched By Title, and 567 searched By Subjects. Figure 47 indicates the graphical presentation of this scenario:

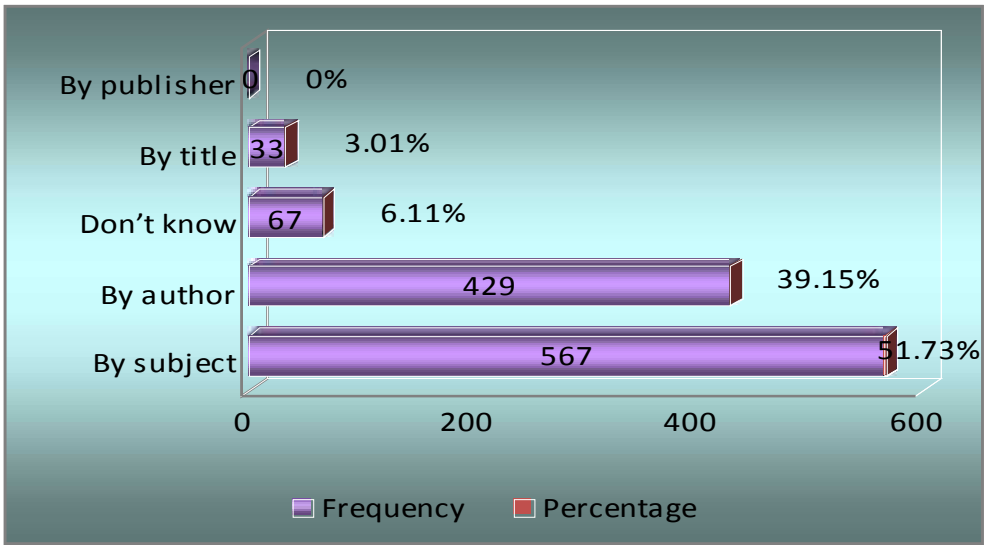

Figure – 47: Students ability to find documents about *Margaret Atwood* using library catalogue

Table – 5.2.24: Students' perception on usage of sources of information to become familiar with an unknown subject

N = 1096

Indicators	Frequency	Percentage
A journal	55	5.01%
An encyclopedia	96	8.76%
A database	367	33.48%
A book	206	18.79%
All of these	178	16.24%
Do not know	194	17.71%

In order to become familiar with an unknown subject, students were asked to mention the source with which they consult first. Table 5.2.24 shows that 367 (33.48%) students' consult with the database and 178 (16.24%) consult with all of the mentioned sources. Figure 48 illustrates the scenario graphically:

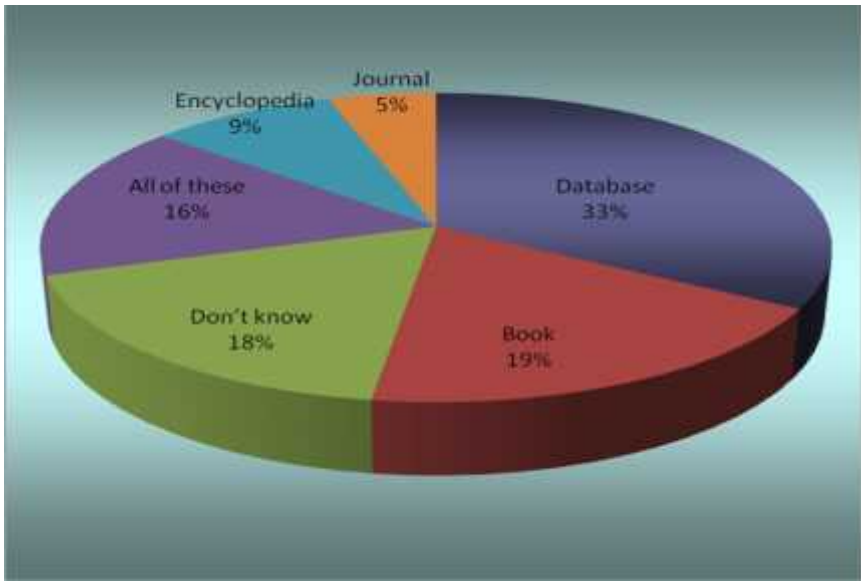

Figure – 48: Students' perception on usage of sources of information to become familiar with an unknown subject

Table – 5.2.25: Students' opinion on continuing of Information Literacy Program on a regular basis

N = 1096

Indicators	Frequency	Percentage
Yes	987	90.05%
No	0	0%
Do not know	109	9.95%

Table 5.2.25 shows that out of 1096 respondent, large number of students i.e. 987 (90.05%) responded with a positive attitude about continuing information literacy programs in university libraries on a regular basis. Figure 49 shows the graphical presentation of the students' opinion:

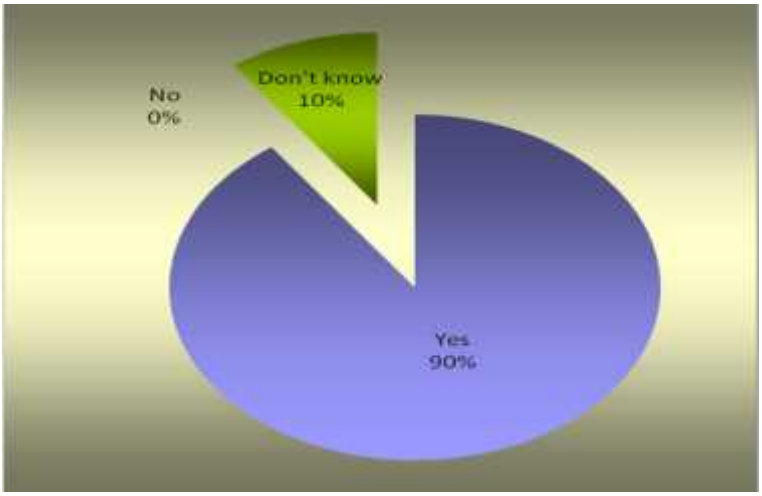

Figure – 49: Pie Chart showing students' opinion on continuation of ILP on a regular basis

Table – 5.2.26: Students' opinion on Librarians' ability to conduct IL Program

N = 1096

Indicators	Frequency	Percentage
Yes	167	15.24%
No	778	70.98%
Do not know	151	13.77%

Students were asked about the capability of existing library staff to conduct information literacy programs in university libraries. Table 5.2.26 shows that only 167 (15.24%) students thought that existing library staff are capable of conducting information literacy programs in their university libraries. The Table also indicates that large number of students i.e. 778 (70.98%) thought existing university library employees are not capable of conducting such kinds of programs. Figure 50 shows the students' opinion visually:

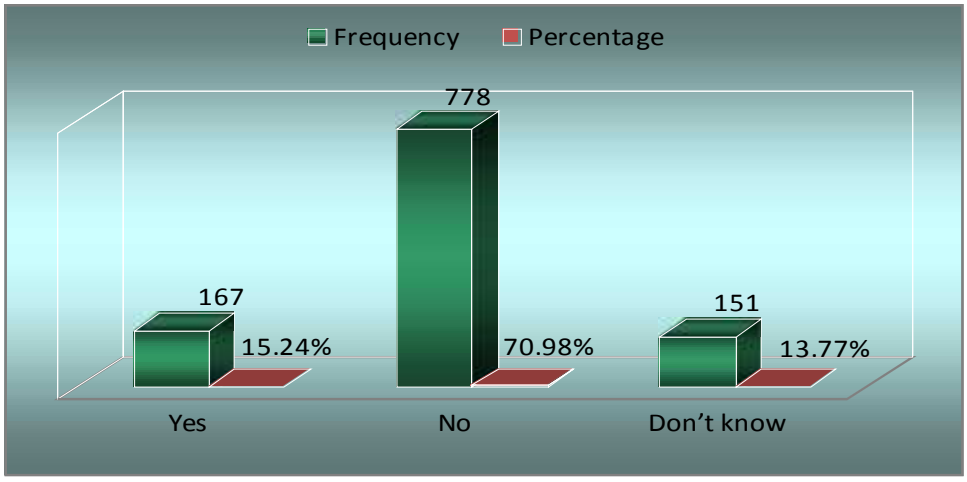

Figure – 50: students' opinion on library employees' capability to conduct ILP

Table – 5.2.27: Students' opinion about their information literacy skills

Indicators	Frequency	Percentage
Excellent	187	17.06%
Very Good	368	33.57%
Good	372	33.94%
Average	118	10.77%
Poor	51	4.65%

N = 1096

Students were asked to evaluate themselves about their information literacy and competency level. Out of 1096 respondents, only 187 (17.06%) rated their information literacy and competency level as excellent. Highest number of students, 372 (33.94%)

evaluated themselves as Good. Figure 51 illustrates the students' evaluation of their information literacy and competency levels showing graphically:

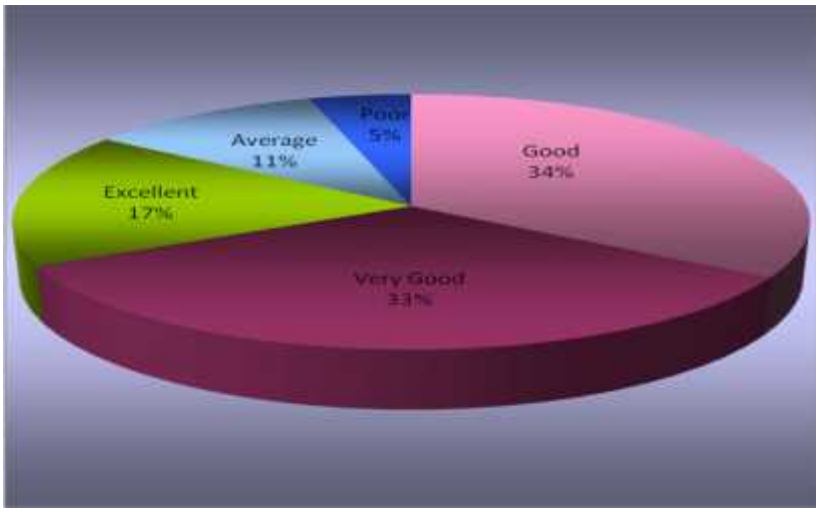

Figure – 51: Students' evaluation about their own information literacy and competency level

Table – 5.2.28: Students' recommendation to improve ILP in university libraries

N= 1096

Indicators	N	Minimum	Maximum	Mean	Std. Deviation
The library should immediately start ILP	672	1	5	4.00	1.15
Need to start user education training program	672	1	5	3.89	1.11
Need more skilled library personnel	675	1	5	4.08	.86
Need more IL guidelines for students	675	2	5	4.31	.78
All of the above	398	2	5	4.70*	.53
No comments	23	1	5	3.78	1.24

Here, (*) means highest score

Weight: Strongly Agree = 5, Agree = 4, Fairly Agree = 3, Disagree = 2, Strongly Disagree = 1

On the last question of the questionnaire, students were asked to recommend for improvement of information literacy education and training program in university libraries choosing multiple indicators through a Five-point Likert Scale. Table 5.2.28 shows that 398 students recommended all of the mentioned indicators (i.e. the library should immediately start ILP, Need to start user education training program, Need more skilled library personnel, Need more IL guidelines for students) with a mean score of 4.70 which is the highest in the Table. 23 students didn't express their opinion about any recommendation which is the lowest in this table with a mean score of 3.78.

Chapter – Six

Summary of findings

6.1 - Introduction:

The purpose of this chapter is to summarize the research findings that was analyzed and presented in light of the responses of university librarians and library users, under the study of the present status of information literacy programs in university libraries in Dhaka city. To this end, the chapter is divided into introduction, summary and conclusions.

The aim of the study was to investigate the present status of the practice of information literacy program and information competency of the students and library professionals of selected university libraries in Dhaka city. In order to accomplish the aim of the study, some of the objectives were generated and the findings of the research were arranged according to the objectives of the study.

6.2 – Summary:

This section summarizes the research findings based on the six research objectives as outlined above.

6.2.1: To find out the information literacy and competency level of library staff and university students.

Findings: Librarians' information literacy knowledge - The study revealed that, 90% of the librarians have concept about information literacy program, among them 60% of the librarian acquired knowledge by reading journal article, 40% gained from everyday library practices and 40% of the librarian gained knowledge from professional challenges. The study also shows that 50% of the librarian thought that information literacy is related to the user education, bibliographic instruction, library orientation program, online searching techniques and OPAC searching techniques etc. Fifty percent

of the librarian mentioned the quality of information literate person as – he / she is able to identify, retrieve and locate information in the most advanced and appropriate way.

Librarians were rated their information literacy competency level using various indicators regarding four sections of information management activities. The result shows that, in case of constructing strategies for locating information most of the librarians rated themselves as very competent in literature searching with a mean score of 3.80 and std. deviation .79 rather than "using specific subject database" and "appropriate search engines". To locate and access the information from the library, librarians rated themselves as very competent in finding research materials in the library with a mean score of 4.40 and std. deviation .70 . To compare and evaluate the information, librarians are very competent to use electronic repositories in research with a mean score of 3.40 and std. deviation 1.26 rather than "using subject based electronic portals and gateways", "using wikis and blogs" and "evaluating published research papers". In case of organizing, applying and communicating the information librarians are very competent in writing research reports and journal articles with a mean score of 3.20 and std. deviation .79.

Students' information literacy knowledge: The study revealed that, most of the students do not have a holistic / comprehensive concept about information literacy. Their concept / idea of IL are rather partial. Most of them have vague concept on IL. The study shows that, a number of students with a mean score of 4.33 and std. deviation .75 mentioned that all of the mentioned indicators such as user education, library orientation program, online searching techniques, information retrieval techniques, OPAC searching techniques and bibliographic instructions are of the part of information literacy program. *User education* is the 2nd highest part of IL program with a mean score of 4.26 and std. deviation .68. Finally the study revealed that, students who responded to the questionnaire, their information literacy is not so good. Only 34% of them rated themselves as *good* in information literacy skills whereas a few students rated as excellent.

6.2.2: To investigate the practice of information literacy in selected university libraries in Dhaka city.

Findings: Most of the university libraries have practice of information literacy and 40% of the libraries arrange this program at every semester. Only 40% of the libraries organize the IL program for students, faculty members and other officials and 20% of the libraries organize only for teachers. The study also revealed that, most of the university libraries arrange *bibliographic instruction* very often with a mean score of 3.30 and std. deviation .67 rather than user education, OPAC Searching techniques, online searching techniques, card catalogue searching techniques, web based literacy and library orientation program, etc. but most of the students presented at library orientation program rather than others. Seventy percent of the libraries arrange the program in collaboration with faculty members and other responsible departments such as administration, accounts and finance, planning and developments, etc. and they do not face any problems in this regards.

6.2.3: To identify the major barriers to providing information literacy services to the users.

Findings: Both librarians and students mentioned some of the common problems they encountered as inadequate facilities and resources for example space, efficient staff and information retrieval tools, trained information professionals and negligence of the authority are the barriers to continue information literacy program in university libraries regularly.

6.2.4: To ascertain the significance of information literacy education and training program among students and librarians.

Findings: Both group of stakeholders highly expressed their opinion on the significance of information literacy education and training program in university curriculum. More than 90% students expressed their opinion on continuing of IL

program on a regular basis and the entire librarians expressed their opinion in this regard. All of them also mentioned that, information literacy program must be embedded into the graduate curriculum.

6.2.5: To identify the critical and analytical skills of students in order to use information appropriately and judiciously.

Findings: Information literacy is important whether it is delivered in class or in the library during the orientation program because it helps the students to develop critical and analytical skill to independently search and retrieve information as well as use information appropriately and judiciously. Pertaining to the research work, the study found that a good number of students consult with *e-resources* to gain knowledge about the most current information rather than other sources. Almost 50% students prefer *journals* for finding research articles rather than World Wide Web, library catalogue and online database. About 60% of the students prefer *google scholar* to find research articles. Fifty seven percent of the students are able to independently identify and locate materials from library using online public access catalogue. Thirty six percent of the students have ability to look for information in online using search engine. The study also found that, most of the students are able to use internet and find information using search engines and World Wide Web. Most of them have clear concept about library catalogue to locate and find books on shelves from the library. Eighty percent of the students find books from shelves by call number. To become familiar with an unknown subject, most of the students use database.

6.2.6: To seek suggestions from librarian and library users on the most effective method for teaching and improvement of information literacy program.

Findings: The study found that most of the librarians prefer computer assisted instruction as the best effective method for teaching information literacy program. Students who had not received formal information literacy training, most of them recommended starting information literacy program and user education program in the library immediately. Among participants, a good number of students recommended

to include more skilled library personnel and more information literacy guidelines for students to improve information literacy program in university libraries.

6.3 - Conclusion: The study found that, information literacy is very much important for university students and must be included into the graduate program. Although most of the university librarians mentioned that, their libraries have practice of information literacy program, but a number of students are not aware about that. They urged that the library authority should immediately start IL program and continue regularly. There is a significant information gap exists between two group of stakeholders that can be reduced / eliminated through various awareness programs arranged by the university authority. Several problems were enumerated to continue information literacy program regularly in university libraries among them lack of efficient and professional library staff is major problem in most of the universities.

Furthermore, the study shows that the majority of respondents, both those that had received formal information literacy training and those that had not received formal information literacy training, were able to identify, locate, retrieve and use information appropriately from the library. Hence, information literacy is important whether it is delivered in class or in the library during the orientation program because it helps the students to develop critical and analytical skill to independently search and retrieve information as well as use information appropriately and judiciously.

Chapter – Seven

Problems, Recommendations and Conclusion

7.1 - Introduction: The purpose of this chapter is to find out the main problems of practice of information literacy in selected university libraries in Dhaka city and to propose some recommendations to overcome the problems. This chapter is prepared completely based on the analysis of findings of the research and some informal interview or conversation with librarians and other library professionals related to this research. Depending on the two mentioned sources, the present study tried to find out the major problems of practicing information literacy program in selected university libraries in Dhaka. In this chapter, the researcher discussed about the problems and recommendations with conclusion which were find out from the research.

7.2 - Problems of practicing IL program in university libraries:

7.2.1: Conceptual Problems: Actually, information literacy is related with some areas, for example, user education, bibliographic instruction, information retrieval techniques, library orientation program, online searching techniques, OPAC searching techniques, reference writing techniques and so on. But most of the library professionals have no clear concept about IL program. Someone thinks that information literacy is related with only library orientation program, or user education program. Others think that training on OPAC searching techniques is the information literacy program. Different people have different ways of thinking. There is a clear conceptual problems exists among librarians. Most of the students have also not a holistic concept on this term. As a result, they responded to the questionnaire randomly. To conduct information literacy program in university libraries, librarian or information professionals must have a holistic or comprehensive knowledge about information literacy program and related areas associated with it.

7.2.2: Lack of skilled information professionals: Skilled and professional library staff members must be needed in university libraries to anchor information literacy program continuously. Insufficiency of skilled and professional library staff members is a great problem to conduct information literacy program in most of the university libraries. Although some private universities recruit fully professional librarians and other library staff members in most cases, but the scenario in public university libraries is quite different. A few professional staff members are working in most of the public university libraries. Unskilled and non-professional library staff members are not capable to provide modern information services to the users.

7.2.3: Lack of awareness of IL program among library professionals: Most of the library professionals are not aware about information literacy program. Although some of the university libraries continue user education, library orientation program, etc. but in total they are not aware about information literacy program.

7.2.4: Lack of awareness among students: In most of the cases, students are not aware about knowledge based program organized by the university authority. Their disinclination to present at knowledge based activities makes disappointed the authority to conduct such kind of program.

7.2.5: Absence of IL curriculum in graduate programs: Very recently, the department of information Science & Library Management, University of Dhaka has been introduced information literacy program in graduate curriculum but it is totally absence among other universities in Dhaka city. There is an acute scarcity of IL courses in the graduate curriculum that make an information gap to the students.

7.2.6: Lack of training program for library professionals: In most of the university libraries, librarian or other information professionals are not well trained on information literacy. This is the most common problem in conducting IL program in university libraries. It is also true that, training on IL program in Bangladesh is very rare. Although a few university libraries started information literacy training program for library professionals, but these could not be continued regularly.

7.2.7: Insufficient ICT facilities in Libraries: To conduct information literacy program in libraries ICT support for example internet, computer lab, projector etc. is must. Insufficiency of ICT facilities in libraries create impediment to continue IL program. Some university libraries are facing this problem for a long time.

7.2.8: Lack of sufficient budget: Insufficient budget is a big factor to continue information literacy program in university libraries. While some of the university libraries never get extra financial facilities and sufficient support to continue regular program, they cannot imagine about such kind of program. In term of human resources, the IL program is threatened by the poverty, low level of development, low literacy rates, high cost of education and books, inadequate infrastructures and poor reading habits were also perceived as threats to IL programs implementation in some of the universities in Dhaka city.

7.2.9: Lack of willingness of higher authority: In most of the cases, higher authority of the university do not show positive attitude or make obstacle to provide continuous logistic support to develop library systems and services. They somehow reveal reluctant to the library in case of introducing any kind of new systems and services. As a result, librarians are being discouraged to continue information literacy program.

7.3 – Recommendations:

In the light of the above mentioned problems following recommendations are made to ensure and improve information literacy program in university libraries.

7.3.1: Introducing of IL program in different disciplines: Information literacy topics must be introduced in every disciplines of university education. This approach is the most effective way for enabling students to introduce with the primary concept of information literacy and develop their information literacy skills. It also allows the use of information to become part of the learning process and prepares them for the challenges of research, problem solving and continuous learning.

7.3.2: Recruitment of skilled professionals: The present scenario of skilled library professionals among selected university libraries in Dhaka city is very frustrating. To conduct information literacy program in university libraries, skilled and fully professional library staff must be recruited.

7.3.3: Creating awareness among library professionals: In most of the cases, library staffs are not aware about new systems and services and current trends in library sector due to the absence of skilled professionals. As a result, students are being deprived getting of standard library services and library systems and services are not being up-to-date and developed. In this regard, university authority should take necessary steps towards creating awareness among library professionals by organizing various training programs and workshops for library staff.

7.3.4: Creating awareness among students: In most of the cases, students are unaware or not conscious about various kinds of seminar, symposium, lecture series program, workshop and training programs held at university premises or at the library. It may occur due to the lack of proper publicity of the program. It is also true that some of students are not interested to attend at any education related or information literacy programs because of their failure to realize the importance of information literacy program. Teachers should inspire students at class to attend any kind of education related programs and make realize the importance of such kind of programs. Librarians

may notify and publicize properly to create awareness among students about information literacy program.

7.3.5: Inclusion of IL education into graduate curriculum: Information literacy education must be embedded into graduate curriculum. Information literacy should be introduced into various modules or courses published and presented online and delivered lectures modes with the help of tutorials and workshops. Topics to be taught should be encompass the various information literacy standards such as seven pillars of IL, the big six skills, information search process, research process model and pathways to knowledge.

7.3.6: Introducing of IL training program for library professionals: The university authority should immediately arrange training program on introducing information literacy education for library professionals, faculty members, administrative staff and students. Two main professional organizations in Bangladesh such as Library Association of Bangladesh (LAB) and Bangladesh Association of Librarians, Information Scientists and Documentalists (BALID) should arrange the training program and workshop for library professionals, to develop their IL skills and make them as information literate.

7.3.7: Establishment of ICT facilities in Libraries: Although some of the private university libraries possess sufficient ICT facilities, but it is very rare in most of the public university libraries. Teaching of information literacy education is not possible without sufficient ICT support. To develop library systems and services, to provide standard library facilities to the students and enable them to become information literate and to introduce students with up to date and standard education systems, library must have sufficient ICT facilities such as, broadband internet connections, computer lab, projector, digital screen, information retrieval tools, and so on. In this regard university authority should give more concentration to the establishment of ICT facilities in libraries.

7.3.8: Allotment of sufficient budget: Funding is the major barriers in the socio- economic conditions of Bangladesh to conduct any development project. However, this problem occurs more extensively in case of libraries. Generally, most of the university authorities have no intension to allot sufficient budget for the library development because of they are not aware about the modernization of library activities. Librarians are also failure to convince the authority to get sufficient allotment for the development of the library in most cases. As a result, library systems and services are not being modified. To conduct information literacy education and training program in university libraries regularly, sufficient financial facilities must be allotted. Authority should give more attention on this issue.

7.3.9: Consciousness of higher authority: Sincerity and consciousness of higher authority is the main factor to modernize the education systems in any institutions. Some of the university authority has realized this matter from the very beginning of the establishment of the university. As a result, these universities are developing day after day. The libraries of these universities are also being modified and developed regularly. To conduct information literacy program for students, faculties and other administrative staff in libraries, consciousness of the university authority must be presented.

7.4 – Conclusions: This study has explored the present status of practice of information literacy and competency in selected university libraries in Dhaka city. The findings present the original insights concerning the practice of IL program in university libraries, librarians IL knowledge, students IL skills and problems of providing IL program in libraries and so on. The goal of an educational institution is to create a community of learners; librarians, teachers and other administrative staffs can help foster the atmosphere that supports the goal. Information literacy is becoming an important part of collaborative efforts on campus. Library professionals should be ready to participate in the process of generating and distributing information and knowledge for quality of life long education for all. In short, library professionals must unite to with stand the resolutions that will occur in the information and communication fields. Technology alone cannot help bring about the required changes. Attitudes, practices, and policies need to change. There is a clear need for discussion of information literacy instruction outside of the library field. A more multi-disciplinary approach to information literacy research and instruction will create opportunities for more substantial, curriculum-integrated and long-lasting instructional experiences that will benefit students throughout and beyond their academic careers.

Bangladesh is in urgent need of the National Information Literacy Forum where issues related to Information literacy can be discussed at National level. University libraries may take steps towards starting a strong movement of information literacy. The network of organizations and professional associations engaged on the Information literacy promotion and implementation are to be established. There should be well-developed library and information systems and networks. Educational institutions should understand the importance of information literacy and lifelong learning skills and educate their students how to find, evaluate and effectively use information. Each educational setup should have well-trained information and library processionals because they are the one who will be collecting, organizing and disseminating the information for productive use and development.

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Appendix - 1

Administrative Questionnaire

On

Information Literacy and Competency in Some University Libraries in Dhaka City

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[Please mark your answer with (√) in the appropriate box]

Section – 1: Organizational Information

1.1 Name of the University……
1.2 Year of Establishment……
1.3 Type of the University □ Private □ Public
1.4 Total students of the university ……
1.5 Total teachers of the university……
1.6 Total number of departments……
1.7 Address of the University……
1.8 Telephone……
1.9 Websites……

Section – 2: Library related Information

2.1 Name of the Library: ……
2.2 Year of Establishment: ……
2.4 Please write down about the number of staff of the library

Professional: ☐
Semi-Professional : ☐
Non-professional: ☐
Others Guards/Housekeepers/Cleaners: ☐

Section – 3: Librarians' perception about the Information Literacy Program

Instruction: Please read before you answer the questions.
Information literacy is a program offered to teach and equip students with the skills to independently search, identify, locate, evaluate, retrieve and use information sources such as books, journals, online databases, newspapers, encyclopaedias and handbooks and directories for various purposes. In addition, the programme is also teaches students about citing sources of information and making a list of references in assignments, research and other academic works. It is also known as User education programme or Library Orientation Programme.

3.1 Do you have any concept about 'Information Literacy'?

□ **Yes** □ **No**

3.2 If Yes, How do you know about Information Literacy?

□ From everyday library practice
□ From Professional Challenges
□ From reading journal articles
□ Others (please, specify)…….

3.3 Information Literacy is related to the following concept:

□ User Education
□ Bibliographic Instruction
□ Iformation retrieval techniques
□ Library Orientation Programme
□ Online searching techniques
□ OPAC searching techniques
□ All of the above
□ Don't know

3.4 What is your opinion about Information Literate Person?

□ He is able to identify, retrieve and information in the most advanced and appropriate way.
□ He knows al the Information Retrieval Techniques
□ He always deals with information and evolves
□ All of the above
□ I don't know

3.5 Could you rate your skill level regarding the following skills:

[Please (√) in the appropriate box]

	Indicators	**1**	**2**	**3**	**4**	**5**
Construct strategies for locating information	How to do literature searches					
	How to use specific subject databases					
	How to use appropriate search engines(moving beyond Goggle)					
Locate and access the Information	How to find research material in the Library					
	How to find and obtain research evidence from outside the university					
	How to obtain published research papers					
Compare & evaluate the information	How to use subject based electronic portals and gateways					
	How to use Wikis and blogs in your research					
	How to use electronic repositories in your research					
	How to evaluate published research papers					
Organise, apply and communicate the information	How to manage the information generated through your research					
	How to retain and preserve the information generated through your research					
	How to cite journal articles, books and reports to demonstrate that you have covered the ground					
	How to cite information on websites					
	How to write research reports and journal articles					
	How to prepare and submit conference papers					

Weight: Very Competent = 1, Competent = 2, Fairly Competent = 3, Less Competent = 4, Not Competent = 5

Section – 4: Practice of Information Literacy Program in the university libraries

4.1 Does the Library department arrange Information Literacy program regularly?

□ Yes □ No **(If your answer is No, please proceed to Question 4.5)**

4.2 To whom information literacy program is offered or taught?

□ Students □ Teachers / Faculty □ Officials / staff
□ Researchers □ All of the above

4.3 How do you rate the following Information Literacy and Competency programme arranges by your library? [Please (√) in the appropriate box]

Indicators	1	2	3	4	5
Bibliographic instructions					
User education					
Online searching techniques					
OPAC searching techniques					
Card Catalogue searching techniques					
Library orientation programme					
Web based literacy					

Never = 1, Rarely = 2, Sometimes = 3, Often = 4, Very often = 5

4.4 How often does the library arrange it?

□ Monthly □ Quarterly
□ Half Yearly □ Yearly
□ At every semester □ Sometimes

4.5 Does the library have the sufficient facilities and resources (I.e. space, efficient staff and retrieval tools) required to run effective Information Literacy program?

Indicators	1	2	3	4	5
Have all facilities					
Some of the facilities are available					
Need more facilities					
Have severe shortage of all facilities					
No Comments					

Never = 1, Rarely = 2, Sometimes = 3, Often = 4, Very often = 5

4.6 In case of Library personnel, what do you think about Information Literacy Activities?

Indicators	1	2	3	4	5
Need more training on Information Literacy program					
Need to adopt with OPAC					
Need modern facilities to retrieve information more easily					
Need more Orientation classes					

Never = 1, Rarely = 2, Sometimes = 3, Often = 4, Very often = 5

4.7 What are the problems for not arranging Information Literacy Program regularly?

Indicators	1	2	3	4	5
Lack of trained Information professionals					
Lack of Sufficient Space					
Lack of well equipped Information Retrieval tools.					
Library staffs are not aware about Information Literacy.					
University Authority has no intension to arrange such kind of program.					
All of the above					

Never = 1, Rarely = 2, Sometimes = 3, Often = 4, Very often = 5

4.8 Do you think that Information Literacy Education and training courses should be included in Graduate programs?

□ Yes □ No □ No comments

Section – 5: Existence of Collaboration between library staff and the department s, responsible for teaching information literacy.

5.1 Do you collaborate with other departments in case of arranging information literacy program?

□ Yes □ No

(If your answer is YES, Proceed to the next question. And if it is NO, jump to the question)

5.2 Do you face any Problem in case of collaboration among library staffs, teachers and others?

□ Yes □ No □ No comments

5.3 If yes, please mention the nature of problems which you are facing in case of Collaboration?

……

Section - 6: Problems faced in the teaching or arranging Information literacy program

6.1 Did you face any problems in case of teaching or arranging information literacy program?

□ Yes □ No

6.2 If the answer is YES, state the problems being faced.

□ Students are not interested to attend in the class
□ Library staffs are not always cooperative
□ Faculty members are not cooperative
□ Higher Authority discourages sometimes.
□ All of the above

Section - 7: Suggestions from library staff on the most effective method for teaching Information Literacy program.

7.1 Suggest solutions to the problems mentioned in above.

……
……

7.2 Based on your experience which method(s) is or are the most effective for teaching library orientation programme or information literacy to the students?

□ Traditional Literacy Methods (i.e. Lectures, Demonstrations etc.)
□ Computer assisted Instruction (i.e. Web based tutorials)
□ Self-directed Independent Learning (i.e. workbooks)
□ Any other (Please,
specify)……

Thank you very much for your kind participation

Appendix - 2

Students' Questionnaire
On
Information Literacy and Competency in Some University Libraries in Dhaka City

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[Please mark your answer with (√) in the appropriate box]

Section – 1: Demographic and Academic Information

1.1 Name of the Institutions: .....
1.2 Name of the Department:.....
1.3 Academic year: □ 1st year □ 2nd year □ 3rd year
□ 4th year □ M.A / MBA / M.Sc
1.4 Age group: □ 15 – 20 □21 – 25 □26 – 30
1.5 Gender : □ Male □ Female

Section – 2: Students' perception about the Information Literacy Program

Instruction: Please read before you answer the questions.
Information literacy is a course or module offered to teach and equip students with the skills to independently search, identify, locate, evaluate, retrieve and use information sources such as books, journals, online databases, newspapers, encyclopedias and handbooks and directories for various purposes. In addition, the course or module also teaches students about citing sources of information and making a list of references in assignments, research and other academic works.

2.1 Do you have any concept about 'Information Literacy'?

□ Don't know the actual meaning of Information Literacy
□ Have heard, read but don't understand
□ Have vague concept
□ Have clear concept

2.2 Information Literacy is related to the following area:

Indicators	5	4	3	2	1
User education					
Bibliographic instruction					
Information retrieval techniques					
Library orientation program					
Online searching techniques					
OPAC searching techniques					
All of the above					
Don't know					

Weight: Strongly agree = 5, Agree = 4, Fairly agree = 3, Disagree = 2, Strongly disagree = 1

Section – 3: Presence of Information Literacy Program in Universities

3.1 Does your university Library arrange Information Literacy Program regularly?

□ Yes □ No

3.2 How often does the Library arrange it?

□ Monthly □ Quarterly □ Half Yearly
□ Yearly □ At every semester □ Sometimes

3.3 Do you think the library has all facilities to conduct Information Literacy Program?

Indicators	Yes	No
Have all facilities		
Some of facilities are available		
Need more facilities		
Have severe shortage of facilities		
Don't know		

3.4 Did you take part any information literacy program arranges by the library?

□ Yes □ No

3.5 Have you ever attended any of the following?

□ User Education program □ Bibliographic instruction program
□ online searching techniques □ OPAC training session
□ Library Orientation □ Hands on Library Workshop
□ Did not participated at any of the above

3.6 Do you think Information Literacy Education and training program should be included into the graduate programs?

□ Yes □ No □ Don't know

3.7 Do you think there are any challenges to conduct information literacy program?

□ Yes □ No □ Don't know

3.8 How do you rate the challenges of ILP in university libraries?

Indicators	5	4	3	2	1
Lack of interest among library professionals					
Lack of interest among faculty members					
Lack of interest among students					
Lack of funding / financial support					
Poor information and library infrastructure					
Don't know					

Weight: Strongly agree = 5, Agree = 4, Fairly agree = 3, Disagree = 2, Strongly disagree = 1

Section – 4: Student's perception about the ability to independently identify, locate and retrieve information.

4.1. For the most current information about a topic, you need to consult with:

Indicators	5	4	3	2	1
Books					
Periodical articles					
Encyclopedia articles					
Journals					
Bibliographies					
E-resources					
All of these					

Weight: Strongly agree = 5, Agree = 4, Fairly agree = 3, Disagree = 2, Strongly disagree = 1

4.2 In case of finding research article which tool will you prefer?

□ Library catalogue □ Online databases □ Journals
□ World Wide Web □ Don't know

4.3 In case of finding research article which Google feature will you prefer?

□ Google □ Google Books □ Google Scholar
□ All of the above □ Don't know

4.4 Are you able to independently identify and locate materials from the library using the following aids or tools?

Open Access Public Catalogue □ Yes □ No
Indexes □ Yes □ No
Abstract Journals □ Yes □ No

4.5 How do you look for Information in Online?

□ Using Search Engine □ Using Subject Portal
□ Browsing Website □ Take help who knows
□ All of these □ Don't know

4.6 Using a search engine i.e Google or Yahoo, which would you not find?

□ Biographical Information about famous people.
□ Merchandise Catalogue
□ The books available in the library
□ Information about companies
□ All of the above
□Don't know

Section – 5: Student's ability to search reading materials using Library catalogue

5.1 Books in your library are shelved by:

□ Author □ Title □ Subject
□ Call Number □ I Don't know

5.2 To identify books from the library collection you would search:

□ Library catalogue □ Bibliography □ Search engine
□ Books in Print □ I Don't know

5.3 To locate a book on the shelf in the library you need:

□ Call Number □ Author's name □ ISBN Number
□ Title of the book □ Don't know

5.4 To find any documents about *Margaret Atwood* from the library catalogue, you would search:

□ By Title □ By Author □ By Subject
□ By Publisher □ Don't know

5.5 In order to become familiar with any unknown subject, first you would consult with:

□ Journal □ Encyclopedia □ Database
□ Book □ All of these □ I don't know

Section – 6: Student's opinion about Information Literacy Program.

6.1 Do you think the ILP should be continued on a regular basis?

□ Yes □ No □ Don't know

6.2 Do you think the existing library staffs are capable to arrange the Information Literacy Program perfectly?

□ Yes □ No □ Don't know

6.3 How do you rate your Information Literacy skills?

□ Excellent □ Very Good □ Good
□ Average □ Poor

6.4 What is your recommendation to improve ILP in university libraries?

□ The library should immediately start information literacy program.
□ Need to start user education training program.
□ Need more trained and skilled library personnel in library
□ Need more information literacy guidelines for the students
□ All of the above
□ No Comments

Thank you very much for your participation