CHAPTER 2

INFORMATION LITERACY

2.1 INTRODUCTION:

Information literacy is the ability to search and use information effectively. This is a very broad meaning of information literacy. Many experts have explained meaning of information literacy through various definitions. In addition, various standards identify need of information literacy and prescribed methods to impart information literacy. Various agencies have developed and tested information literacy programmes. This chapter elaborates definitions, needs, dimensions and standards of information literacy. It also focuses on concept and need of information literacy programme.

2.2 CONCEPTUAL DEVELOPMENT OF INFORMATION LITERACY:

The concept of information literacy was first introduced by Paul Zurkowski, the president of the US Information Industry Association, in his proposal submitted to the National Commission on Libraries and Information Science. He recommended that a national programme should be established to achieve universal information literacy within the next decade. According to Zurkowski (1974) people trained in the application of information resources to their work can be called information literates. They have learned techniques and skills for utilizing the wide range of information tools as well as primary sources in molding information solutions to their problems.

Burchinal (1976) redefined information literacy in terms of skills for locating and using information for problem solving and decision-making. Hemlink (1976), a consultant for mass communication research linked information literacy with public media. Owens (1976) linked information literacy with the active citizenship. In 1979, Information Industry
Association defined information literacy contradicting with Zurkowski’s linkage of information literacy with workplace. Garfield (1979, 210) quoted this definition as information literate is the person who knows the techniques and skills for using information tools in molding solutions to problems. Taylor (1979) linked the library profession with information literacy, and noted that the concept suggested that many problems could be solved with information, that knowledge of information resources is necessary, and that there are strategies for the acquisition of information. According to Behrens (1994), the definitions of the 1970s highlighted a number of requirements for information literacy, but did not reach the point where they indentified the actual skills and knowledge required for information handling at that time.

By the start of 1980s, new information technologies had begun to permeate society. (Horton, 1982, 14) reported the survey of the information infrastructure of the United States carried out by the Information Industry Association. This survey referred to information literacy as a gap which divides the information sophisticate who knows how and when to use the technology and does so easily and efficiently from the information naïve who cannot use the technologies and hence has limited access to knowledge resources.

Horton (1982, 14) introduced the phrase ‘computer literacy’ that has to do with increasing our understanding of what the machine can and cannot do. Oslen and Coons (1989) differentiated these two phrases i.e. information literacy and computer literacy. They suggested that information literacy, then, as opposed to computer literacy, means raising the level of a awareness of individuals and enterprises to the knowledge explosion, and how machine-aided handling systems can help to identify, access, and obtain data, documents and literature needed to problem-solving and decision making. Demo (1986) also emphasized on use of technology in processing, storing, retrieve and transmitting vast information. He suggested that in order to master these technologies new intellectual skills i.e. information
literacy skills were needed. According to Demo, only people who possess the necessary skills would be able to benefit fully from the information age.

Kulthau (1987) considered information literacy within literacy spectrum and pointed that information literacy is closely tied to functional literacy. It involves the ability to read and use information essential for everyday life. It also involves recognizing an information need and seeking information to make informed decisions. Information literacy requires the abilities to manage complex masses of information generated by computers and mass media, and to learn throughout life as technical and social changes demand new skills and knowledge.

Oslen and Coons (1989, 8) also considered information literacy within the literacy spectrum. They defined information literacy as understanding the role and power of information, having the ability to generate and manipulate it using electronic processes. In short information literacy is a necessary expansion of the traditional notion of literacy, a response to the revolution in which we are living.

In the middle of 1980, due to advent of information technology, information handling started to become technology centered. According to Demo (1986), along with traditional literacy skills, information literacy forms the common prerequisite for lifelong learning. Demo highlighted the definition of information literacy made by Aurora College Library that was developed by Martin Tessmer, in 1985 as, information literacy is the ability to effectively access and evaluate information for a given need.

Breivik (1987, 46) reported that in order to improve undergraduate education, it would become vital for libraries to integrate fully with the learning process. In the same report, Breivik also tied the information literacy skills with lifelong learning. Behrens (1994, 314) agreed with Breivik and quoted her explanation about it:
To accomplish lifelong learning, students need to become information literate whereby they:

- Understand and processes for acquiring information, including systems for information identification and delivery;
- Can evaluate the effectiveness of various information channels, including libraries, for different kinds of needs;
- Master basic skills in acquiring and storing their own information;
- Articulate, responsible citizens in considering public policy issues relating to information.

Breivik and Gee (1989) published a book, which focused on the role of libraries in attaining improvements in higher education and lifelong learning. In this book, they stated that in an information society, the ultimate measurement of the quality of undergraduate education is whether students are self directed, independent learners. They believed that the library has a pivotal role in education. They emphasized the importance of partnership in starving for information literate graduates.

In the same year i.e. in 1989, ALA published its Presidential Committee Report on Information Literacy. The report emphasized the importance of achieving information literacy and stressed that it could be achieved only by means of a new model of resource-based learning. In the same report, ALA defined information literacy as 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, 1). The report incorporated all the foremost issues that appeared in definitions of information literacy throughout 1980s and most importantly, identifies the actual information handling skills required for information literacy. As a result of this report, the National Forum on
information literacy was established to continue promoting the concept of information literacy in the United States (Breivik, 1990).

By the end of 1980s, the definition of information literacy became distinct and consisted clear set of skills in information handling.

The above definitions during 1980s focused on following issues:

- Library literacy or computer literacy is not enough.
- Emphasize should be given on skills to handle information by using information technology.
- Libraries should be seen beyond the repositories of information.
- Development of critical thinking skills required for evaluating the information.
- Information literacy is essential for lifelong learning.
- Teaching of information literacy is the joint responsibility of library and education discipline.

By the start of 1990s, ALA’s definition of information literacy was generally accepted. Information literacy was being considered as a part of the wider literacy continuum. Many higher education institutions formed campus wide committees to work towards including information literacy as a graduation outcome (Behrens, 1994). As like Demo and Breivik, Rader (1990) also thought information literacy as an important mean for lifelong learning. Author extended the definition of information literacy adding that information-literate people know how to be lifelong learners in an information society and becoming information literate is essential for survival in the future. He stressed that information literate citizens will be prepared to acquire and use information appropriate for any situation, within or beyond the library and globally. Apart from these definitions, Doyle (1992) defined information literacy much clearly and distinctly. Through his Delphi study, Doyle defined information literacy as
the ability to access, evaluate, and use of information from a variety of sources. He also defined information literacy in terms of attributes of a person. An information literate person:

a. Recognizes that the accurate and complete information is the basis for intelligent decision making.
b. Recognizes the need for information.
c. Formulates questions based on information needs.
d. Identifies potential sources of information.
e. Develops successful search strategies.
f. Accesses sources of information including computer-based and other technologies.
g. Evaluates information.
h. Organizes information for practical application.
i. Uses information in critical thinking and problem solving.

This was the first detailed definition from an information literate person point of view. Doyle clearly mentioned the set of skills required to be information literate.

Shapiro and Hughes (1996) defined information literacy comprehensively as 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. This definition was made after advent and stabilization of information technology and its usage in information handling. Obviously this dimension was reflected in their definition as “knowing how to use computer and access critical information”. They also mentioned other dimensions of information i.e. social, cultural and philosophical which could be important regarding application of information.
Bruce (1997) offered a phenomenographical approach for researching and defining information literacy. She suggested a relational model for information literacy. She developed seven conceptions of information literacy among her sample of higher educators. According to her definition information literacy is: 1. Use of information technology; 2. Use of information sources; 3. Executing a process; 4. Controlling information for retrieval; 5. Gaining knowledge; 6. Extending knowledge; and 7. Gaining wisdom.

By the end of 1990, various dimensions other than technology and lifelong learning were linked with information literacy. These dimensions were artistic view, critical thinking social, cultural and philosophical perspectives in information handling. Doyle’s definition during 1990s was the clear definition of information literacy stating attributes of information literate person.

There is a considerable discussion on the terms: information literacy and information skills. Majority of the research and initiative in the field of information literacy was taken in United States, but in United Kingdom, relation between these two terms was debated. There were different approaches in using terms ‘information literacy’ and ‘information skills’ and many definitions have been suggested by several organizations, institutions and authors (Virkus, 2003). One of these definitions was suggested by Standing Conference of National and University Libraries (SCONUL) Information Skills Task Force and quoted by Bainton (2001). It reflected the twin dimensions of the ‘competent information user’ at the base level and ‘information-literate person’. For the latter level of information skills, the term information literacy was used. Therefore, according to SCONUL, both information skills and information technology skills were seen as essential parts of the wider concept of information literacy. For the development of the information literate person SCONUL (1999) proposed seven sets of skills which are known as Seven Pillars Model. The pillars show an interactive
The Chartered Institute of Library and Information Professional (CILIP) Policy Advisory Groups (PAGs) described information literacy as: we have adopted the commonly accepted distinction between information literacy and skills. Information literacy is about providing all members of society with the information competences necessary to function effectively within society - it might be termed functional information literacy. The debate over information skills relates to the higher level of competence of information specialists (CILIP, 2005).

The Big Blue Project funded by Joint Information Systems Committee (JISC), UK reported both the terms as synonyms (JISC, 2002). The Glossary of Information Terms at the British Open University (OU) also supported the same by defining Information literacy as: as skill that involves being able to use information successfully, including finding information, searching using various tools (e.g. internet, database) and being able to critically evaluate the results (OU, 2003).

On the basis of deep study of definitions of information literacy made by SCONUL, CILIP and OU it would be said that information literacy is a set of (information) skills. In other words information literacy is an umbrella term under which information skills and information technology skills are covered.

Association of College and Research Libraries (ACRL) (2000) defined information literacy as a set of abilities requiring individuals to recognize when information is needed and the ability to locate evaluate and use effectively the needed information and also developed information standards for higher education.
According to Bruce (2002) the idea of information literacy, emerging with the advent of information technologies in the early 1970s, has grown, taken shape and strengthened to become recognized as the critical literacy for the twenty-first century. Today, information literacy is inextricably associated with information practices and critical thinking in the information and communication technology environment.

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

UNESCO (2003) defined information literacy in Prague declaration as it 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 a part of the basic human right of lifelong learning.

As quoted by Virkus (2004), Boekhorst claimed that all definitions and description of information literacy presented over the years can be summarized in three concepts:

- The ICT concept: information literacy refers to the competence to use ICT to retrieve and disseminate information.
- The information sources concept: information literacy refers to the competence to find and use information independently or with the aid of intermediaries.
- The information process concept: information literacy refers to the process of recognizing information need, retrieving, evaluating, using and disseminating of information to acquire or extend knowledge. This concept includes both the
ICT and the information (re)sources concept and persons are considered as information systems that retrieve, evaluate, process and disseminate information to make decisions to survive, for self-actualization and development.

There is also a discussion on all the available definitions of information literacy i.e. what information literacy exactly means? Hepworth (2002, 23) stated that “gradually we are seeing increasingly detailed descriptions and greater consensus about what is meant by information literacy; however different communities tend to describe the phenomenon in slightly different ways with varying degrees of comprehensiveness”.

As defined by US-National Commission on Library and Information Science (2003) and quoted by Web and Powels (2004), information literacy 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.

Information literacy elements were defined by Bundy (2004) under three main headings:

1. Generic skills: problem solving, collaboration, teamwork, communication, critical thinking.
2. Information skills: information seeking, information use, information technology fluency.
3. Values and Beliefs: using information wisely and ethically, social responsibility and community participation.
The International Federation of Library Associations and Institutions (IFLA) (2005) published the Alexandria Proclamation on information literacy and lifelong learning which proclaimed that 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.

The Research Information Network (RIN) (2010) defined information literacy as it is important to adopt a broader interpretation of information literacy, which (i) recognizes that 'information' must be taken to include research data; and (ii) clearly also encompasses the ability to manage, and where appropriate preserve and curate one's own information and data.

Bawden (2001) argued that the term information literacy has been widely and confusingly used in the literature. A number of other related terms have also been used for the same, or similar, concepts including computer literacy, library literacy, media literacy, network literacy, digital literacy and informacy.

Muir & Oppenhein (2001, 172) surveyed the world-wide developments on national information policy and concluded that “information literacy has no agreed definition” and “a number of people have offered their views on what they think information literacy is.

Several other terms and combinations of terms have been also used by different authors: ‘info literacy’, ‘informacy’, ‘information empowerment’, ‘information competency’, ‘information literacy skills’, ‘information literacy and skills’, ‘information handling skills’, ‘information problem solving skills’, ‘information fluency’, ‘information mastery’ etc.

In the current decade some authors expressed the need of redefining the information literacy so as to keep pace with changing education environment. Wilder in his chronicle
“Information literacy makes all the wrong assumptions” in 2005, raised some objections on the established concept of information literacy. His observations were as follows:

- Information literacy remains the wrong solution to the wrong problem facing librarianship. It mistakes the nature of the internet threat, and it offers a response at odds with higher education’s traditional mission. Information literacy does nothing to help libraries compete with the internet and it should be discarded.

- Librarian should not assume that college students welcome their help in doing research online. He suggested that as information literacy instead segregates those skills from disciplinary knowledge by creating separate classes and curricula form them. There is no better way to marginalize academic librarianship.

- Information literacy is also harmful because it encourages librarians to teach ways to deal with the complexity of information retrieval, rather than to try to reduce that complexity. He suggested the solution that the library creates system that eliminates the need for instruction.

- It is not possible to teach information literacy to all students. He suggested that to do so would require enormous and coordinated shifts emphases and resources allocation, none of which is either practical or politically realistic.

In conclusion, Wilder (2005) suggested that the most important thing libraries can do to educate students is not technological in nature. We must change the way we think of students and of librarians. Students are apprentices in the reading and writing of their chosen disciplines, and librarians are experts who can help them master those tasks. Here is an educational function that creates real value within our institutions.
In other study in order to give answers to questions raised on his chronicle, Wilder (2013, 151) stated that for my purpose information literacy is not a synonym for the academic library’s instruction function. It refers instead to an approach to instruction as codified in ACRL’s Information Literacy Competency Standards for Higher Education, as well as standardized tests such as those produced by Standardized Assessment of Information Literacy Skills (SAILS) and the Educational Testing Service and as prescribed in requirements for the regional accrediting bodies. The word codified is the key here, as information literacy is designed in part so as to allow for quantitative assessment, as, for example in measuring the library’s impact on student learning.

Bruce, Hughes and Somerville (2012, 524) stated that the ‘nuances in information literacy need to be differentiated between 1) the skills associated with using information in an ever expanding range of contexts, representing a functional view of information and information literacy; and 2) the process of using information to learn, including communicating and creating in these contexts, representing transformative interpretations of information and information literacy.

Kutner and Armstrong (2012, 25) expressed the need of reconsideration of information literacy definition and standards in order to remain relevant within global learning context. They concluded that “the predominantly skill-based approach facilitated particularly by the information literacy standards which are most familiar with the ACRL’s Information Literacy Competency Standards for Higher Education, is not sufficient to facilitate teaching of twenty-first century ‘deep Information Literacy’, which we feel encompasses additional content-based engagement with the social, cultural, economic and political contexts of information access, retrieval, use and creation”. The researcher is not agreed with this conclusions as ACRL has developed these standards in 2000, but in recent years by considering the global and changing education, ACRL has developed specific
standards for specific disciplines like, IL standards for Teacher Education, Science and Engineering, Nursing, Journalism, anthropology and sociology etc in which above expectations are seems to be reflected.

Martin (2013) conducted a study of four British information literacy models in order to refresh the concept of information literacy. He tied information literacy with learning. In results, he reported that critical thinking, lifelong learning and empowerment, transformational, holistic, and flexible are reoccurring words and phrases that model authors use to express their visions for refreshing information literacy. These value-laden terms help to express an overarching theme in all four models: to articulate information literacy as integral to learning. In a report to ACRL about these four models, Martin (2013, 6) noted that “rather than assuming information literacy is attained through brief, one time experiences, it needs lifelong and continuous refinement best realizes by becoming an explicit part of the learning experience”. From above discussion it is understood that information literacy cannot be achieved through one time course, rather, it is to be considered as lifelong learning concept and needs continuous and timely refinement.

After going through all the developmental process of information literacy, its definitions and contradictions, following points have been observed:

1. All the definitions have been made by foreign researchers.
2. There is no authorized definition which is unanimously accepted, however, ALA definition of information literacy is widely used.
3. Recent definitions focus on skills regarding handling of electronic information and less attention is given to library skills which are essential in Indian Education scenario. Because, even in these days, library seems to be an inactive entity in most of the Indian institutions where main library activity is book circulation.
Therefore in Indian scenario, we need to modify the definition of information literacy and basic library skills must be included in the set of required skills.

4. It is agreed that information literacy is related to skills required for efficient handling of information; however, by the need of time, the ‘security’ is the missing dimensions in all these definitions. Secure accessing; storing and communicating information is also the important dimension of information literacy. This issue has been considered in the present research while developing and implementing the programme.

5. Information literacy is not a concept of only teaching, rather, it is to be learned and needs the base of psychology and learning theories.

6. There should be a continuous and timely refinement in the definition and concept of information literacy so as to keep pace with changing global education system.

By considering, all the above definitions and contradictions on it, researcher defines information literacy for teacher education in terms of attributes of an information literate teacher as follows:

- Information literacy is a set of abilities through which a teacher is able to:-
  
  - Identify the exact need of information by considering the understanding level and previous knowledge of students.
  
  - Select appropriate source of information from library and other sources.
  
  - Access appropriate and adequate information securely from selected source.
  
  - Evaluate the information and information sources.
  
  - Process the accessed information.
– Apply information ethically and effectively in teaching-learning process.

### 2.3 DIMENSION OF INFORMATION LITERACY:

According to Shapiro and Hughes (1996), there are seven dimensions of information literacy i.e. tool literacy, resource literacy, socio-structural literacy, research literacy, publishing literacy, emerging technology literacy and critical literacy.

**Figure 2.1**

**Dimensions of Information Literacy**

**Tool literacy**, or the ability to understand and use the practical and conceptual tools of current information technology, including software, hardware and multimedia, that are relevant to education and the areas of work and professional life that the individual expects to inhabit. This can be taken to include the basics of computer and network applications as well as fundamental concepts of algorithms, data structures, and network topologies and protocols.
Resource literacy is the ability to understand the form, format, location and access methods of information resources, especially daily expanding networked information resources. This is practically identical with librarians' conceptions of information literacy, and includes concepts of the classification and organization of such resources.

Social-structural literacy knows that and how information is socially situated and produced. This means knowing about how information fits into the life of groups: about the institutions and social networks -- such as the universities, libraries, researcher communities, corporations, government agencies, community groups -- that create and organize information and knowledge; and the social processes through which it is generated -- such as the trajectory of publication of scholarly articles (peer review, etc.), the relationship between a Listserv and a shared interest group, or the audience served by a specialized library or Website.

Research literacy is the ability to understand and use the IT-based tools relevant to the work of today's researcher and scholar. For those in graduate education, this would include discipline-related computer software for quantitative analysis, qualitative analysis and simulation, as well as an understanding of the conceptual and analytical limitations of such software.

Publishing literacy is 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), to introduce them into the electronic public realm and the electronic community of scholars. Writing is always shaped by its tools and its audience. Computer tools and network audiences represent genuine changes in writing itself.

Emerging technology literacy is the ability to ongoing 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. Clearly this includes understanding of the human, organizational and social context of technologies as well as criteria for their evaluation.

**Critical literacy** is the ability to evaluate critically the intellectual, human and social strengths and weaknesses, potentials and limits, benefits and costs of information technologies. This would need to include a historical perspective, a philosophical perspective, a sociopolitical perspective and a cultural perspective.

### 2.4 NEED OF INFORMATION LITERACY:

The definition of information literacy is not only limited up to benefits in education but is also important to effective and enlightened citizenry, and has implications that can impact the lives of many people around the globe. We live in the Information Age, and "information" is increasing at a rapid pace. We have the internet, television, radio, and other information resources available to us 24 hours a day, 7 days a week. However, just because so much information is so easily and quickly available does not mean that all of it is worthwhile or even true. It requires special skills like information literacy so as to access required, true and worthy information that meets our requirements.

The twenty-first century has been named the information era owing to the explosion of information, and the information sources. In this information era, one cannot overcome the problems like information overload, information poverty etc. Information literacy skills empower the people with the critical skills which will help them to become independent lifelong learners. These skills will enable people to apply their knowledge from the familiar environment to the unfamiliar. Due to information explosion it has become increasingly clear that students cannot learn everything they need to know in their field of study, within a few
years, at school or the university. Information literacy equips them with the critical skills necessary to become independent lifelong learners.

Data Smog – another issue that refers to the idea that too much information can create a barrier in our lives. Especially students and the society require special skills to handle this fast increasing information, in order to use their educational and economical purposes more effectively. Information literacy is considered as the solution for the data smog. (ACRL, 2006)

Due to the information explosion and data smog all students and the society face many difficulties to locate, evaluate, use, and communicate information. Due to the expansion of internet services we receive a lot of information that is not always evaluated, unlike the printed sources. Hence the authenticity, validity, and reliability of this information are in doubt. Information literacy can definitely overcome these problems.

Information literate individuals improve the society's quality of life in general and academically. Information literacy helps us in our day to day life such as buying a house, choosing a school, making an investment, voting for the election, and many more. Information literacy skills are of prime importance in order to achieve everyone's academic goals. Truly information literacy is the foundation of the democratic society.

As a part of this information society, teachers cannot keep themselves away from these changes in an information environment. The teacher is said to be a friend, philosopher and guide of students. He is the person who always expected to look for new information, to process this information and to pass this information to his students as per their levels. In the present information society, the whole teaching-learning process is changing. The students are expected to learn beyond the classroom and teachers should play an important role as a facilitator. Teachers must be aware of all the resources available in the library and outside.
The teachers must be able to access the information from various sources of information and should teach the students by using this information. In knowledge transfer, teacher is the key person on whom all students trust. Therefore teachers should be knowledge oriented. He should keep himself always busy in acquiring new knowledge, information, innovations in their respective subjects. Therefore teachers should be information literate. Many researchers have shown that future teachers often enter into teaching profession without necessary information literacy skills and knowledge.

The development of information literacy tools and knowledge is fundamental to teacher education students’ abilities to evaluate and use diverse and continually changing information sources in their academic work and pre-service teaching. Information literacy competence enables pre-service teachers to develop a robust understanding of the role of information in their lives. To become information literate is not a thing to be happened in one night. It demands the development of the cognitive and analytical skills. These skills are incorporated in information literacy. To become information literate is a continuous process which requires a cognitive development and practicing analytical skills continuously.

Therefore a well structured, well planned and well developed information literacy programme is to be developed and implemented during their pre-service training through which teacher can be made aware of all the existing information sources and can inculcate the skills within them so as to deal with these information sources confidently. If a teacher is information literate, he can further pass this information literacy to his students and citizens of tomorrow. So the information literacy for teacher is the need of time.
2.5 INFORMATION LITERACY INITIATIVES AT GLOBAL LEVEL WITH
SPECIAL REFERENCE TO TEACHER EDUCATION:

The American Library Association Presidential Committee on Information Literacy recognized that the information age is divorced from most teaching styles (ALA, 1989). In this report, the ALA Presidential Committee called for a restructuring of the learning process in order to create new information-age schools characterized by interactive, self-initiated learning with the teacher as the guide to learning. The progress on this recommendation was ‘None’ as reported in 1998 (National Forum, 1998). As quoted by Thomas (1998) National Educational Technology Standard Project (NETs) began to effectively support use of technology for teaching-learning and administration. Their first set of standards focused on a technology foundation for students and includes the use of technology research tool “to locate, evaluate and collect information from a variety of sources” and to “evaluate and select information resources”. In June 1998, the American Association of School Librarians (AASL) and the Association for Educational Communications and Technology released “information literacy standards for student learning” which addressed issues in information literacy, independent learning, and social responsibility, as a guide for school library media specialists and other K-12 educators as they cultivate and refine their students’ information literacy skills in print, non print and electronic format (AASL, 1998). Carr (1998) stated that teachers cannot prepare their students to be information literate unless they themselves understand how to find and use information.

The Education and Behavioral Sciences Section (EBSS) of the Association of College and Research Libraries (a division of the American Library Association) developed guidelines and position statements on what information-literate teachers need to know. EBSS emphasized on conceptually based skills for searching, retrieving and evaluating information for learners who are undergraduate students, graduate students, practitioners and researchers.
The EBSS identified a sequence of skills that begins with understanding that the generation and communication of knowledge in education include recorded and unrecorded sources and formats that differs in publication cycles and authority, (ACRL,1995).

The AASL issued a position paper in 1995 on information competencies that stressed application instead of concepts. The paper emphasized on the different roles of the administrator and the teacher in providing the integration of information literacy into the curriculum, supporting collaboration in planning and teaching among teachers and school library media specialists and providing access to and using resource based learning experience.

Progress Report on information literacy by National Forum identified two specific courses of actions:

1. To encourage leaders in school reform movements to incorporate information literacy skills into their efforts.
2. To partner with national teacher education organization to get information literacy on their Agendas (National Forum, 1998)

In an Indian scenario, no noticeable initiative has been taken in the field of teacher education regarding information literacy. None of the organizations like NCTE, NCERT or UGC have thoughtfully developed or motivated for any information literacy programme for teacher education. None of the professional organization in the field of teacher education has organized workshops or seminars on the theme of “information literacy for Teachers or Teacher Education”.

Similarly no Indian University found that has taken initiative towards inclusion of information literacy in the curriculum of teacher education. However the field of library and
information science is emphasizing information literacy through conferences, workshops and publications. Research is being conducted in library and information science on information literacy. But information literacy is not a single entity; the equal emphasis should be given by other disciplines and should work with LIS field in collaboration.

2.6 INFORMATION LITERACY STANDARDS FOR TEACHER EDUCATION:

The Association of College and Research Libraries (ACRL) (2011) developed information literacy standards for teacher education that provides a bridge between the ACRL Information Literacy Competency Standards for Higher Education and the application of the Information Literacy standards for teacher education contexts. The main purposes of these information literacy standards for teacher education are to:


2. Enable the evaluation and assessment of such instructions and curricula through benchmarking outcomes.

These standards aim to communicate to teacher education students' expectations for information literacy knowledge and skills they need to develop and apply in their academic work and pre-service teaching. These standards also aim to lead teacher education students to consider how they might integrate information literacy into their future curriculum, instruction, and assessment activities. These standards are based upon the framework and foundation of the ACRL Information literacy Competency Standards for Higher Education (2000). The present research has used these ACRL's Information Literacy Competency Standards for Teacher Education. This set of standard contains six standards, their performance indicators and respective learning outcomes. The document describing these standards is enclosed in Appendix I.
2.7 CONCEPT OF INFORMATION LITERACY PROGRAMME:

An Information literacy programme is the programme that provides users with the knowledge and skill to use the various resources to access their required information. The role of the information literacy programme in an academic library is intended to encourage and facilitate lifelong learning. In order to empower students in the pursuit of knowledge, the library professional aim to teach the skills of identifying, locating, and evaluating information by developing and implementing information literacy programmes. Among many other things, information literate students are competent and independent learners.

2.8 PRESENT PRACTICES OF INFORMATION LITERACY PROGRAMME:

Mostly information literacy programmes are reduced to providing bibliographic instructions and are focused on developing skills for searching information using electronic resources.

Many institutions and universities in the world are offering the information literacy programmes. These programmes are designed on the basis of needs of the users of that university library. The structure, curriculum, duration of the programmes are different for each university. The scope of every university with respect to policy, objectives, standards, scope, design and implementation of information literacy program is different.

The information program in an institution may vary as per the student background, needs of the students, need of the faculty, institutional policy, institutional infrastructure and the faculty of the institution. Most of the information literacy programmes assume that the students have the minimum operational knowledge of computer and internet, they know the structure and operations of the library and they know the scope of their respective subjects. More over the medium of the instructions in worldwide is mostly English and the most of the
information produced and disseminated in English. Therefore while designing the programme in the India; following are the issues that need to be considered.

1. Most of the students admitted for pre-service teacher education in India are from rural areas.

2. Most of the students admitted are not aware about the use of library in teaching profession.

3. Most of the students admitted are not familiar with library except book circulation (Not even reference books, periodicals etc).

4. Most of the students admitted are not familiar with computer and internet as they have come from rural area.

5. Though the students are graduate, and even few of them are postgraduate; they cannot express their need of information in proper way.

6. Most of the students are not aware about the core resources of their subjects, even through, they have completed graduation or post graduation in that respective subject.

By considering all the above issues, one needs to develop the information literacy programme for pre-service teachers which should be need-based and implementable in our Indian education scenario. The Association of College and Research Libraries developed characteristics of information literacy programme that serves as a guideline to develop any information literacy programme. These characteristics were used as a guideline for developing information literacy programme in the present research.
2.9 CONCLUSION:

Information literacy has been defined by many individuals and institutions. Each definition focuses on some aspect of information literacy. Because of different points of view there is no unanimity about the definition of information literacy. Considering the unique features of Indian education scenario, unique programme need to be developed and implemented for pre-service teacher education students.