Chapter II

REVIEW OF LITERATURE

2.1 Introduction 12
2.2 Information Search 13
2.3 Information Literacy Skills and Competency 15
2.4 Conclusion 35
Reference 36
Chapter - 2
REVIEW OF LITERATURE

2.1. Introduction

In the present knowledge society there is availability of abundant information which leads to information explosion, no one knows exactly how much authentic and reliable is the information which is freely available to use in the internet. To overcome these confused state of mind, user of information has to get update his/her skills of using information every day that means user has to become lifelong learner, to become lifelong learner, he/she must acquire information literacy skill which is very much essential to survive in the present technology based knowledge world.

The present world is world of information everything is based on knowledge and technology, there is no doubt that the internet and other web technologies have improved access to information. As more information is available on the web people need the skills and competencies to find, evaluate access and use it in an effective manner. As a result, information literacy skills are becoming necessary skills to survive in the technology based information world. Information literate is recognized as life long learners and has its route in educational system.

The investigator carried out extensive literature search on the topic by scanning abstracting and full test journals and databases like Library and Information Science Abstract (LISA), Library, Information Science & Technology Abstracts (LISTA), Information Science Abstract, conference proceedings, emerald and internet from 1970 to till date. There were many studies related to the different issues concerning information literacy skills of different areas. The concept appeared in the literature since 1974 onwards. Some of the studies related to information literacy are all around the world. Literature published in related topic were selected and presented below in two Main headings, they are :

1. Information Search
2. Information Literacy Skills and Competency
2.2. Information Search

Taylor (2012) conducted a study on User relevance criteria choices and the information search process. The study shows the relevance judgments occur within an information search process, where time, context and situation can impact the judgments. The determination of relevance is dependent on a number of factors and variables which includes the criteria used to determine relevance. The relevance judgment process and the criteria used to make those judgments are manifestations of the cognitive changes which occur during the information search process. Understanding why these relevance criteria choices are made, and how they vary over the information search process can provide important information about the dynamic relevance judgment process. This information can be used to guide the development of more adaptive information retrieval systems which respond to the cognitive changes of users during the information search process. The research data analyzed here was collected in two separate studies which examined a subject’s relevance judgment over an information search process. Statistical analysis was used to examine these results and determine if there were relationships between criteria selections, relevance judgments, and the subject’s progression through the information search process. Findings confirm and extend findings of previous studies, providing strong statistical evidence of an association between the information search process and the choices of relevance criteria by users, and identifying specific changes in the user preferences for specific criteria over the course of the information search process.

Kim, Park & Ingrid (2011) examined Online health information search and evaluation: observations and semi-structured interviews with college students and maternal health experts. The study revealed familiarity with health websites and confidence in search strategies were major factors affecting search and evaluation behaviours. Website quality was mostly judged by aesthetics and peripheral cues of source credibility and message credibility. In contrast to users' favourable website evaluation, the experts judged the websites to be inappropriate and untrustworthy. Our results highlight a critical need to provide young health seekers with resources and training that are specifically geared toward health information search and appraisal. The role of health seekers' knowledge and involvement with the health issue in search effort and success warrants future research.
**Uma (2011)** conducted a research on The Information Search. In this research we see Kuhlthau's information search process: initiation, selection, exploration, formulation, collection, and presentation. Katie is a student who goes in search of information for her class research paper. Katie's class readings, her interest and reflection on the topic, and the instructor's guidance really help her to focus on the topic of her research. The librarian's service is also quite helpful by providing needed and timely service. When we compare the service to Grover's model of service, we see that the problem was diagnosed by two people—the instructor and the librarian. The course instructor had already provided the student feedback about narrowing the topic and the advice to refer to primary sources as well. So it was an easy diagnosis for the librarian when the student seeks the librarian's help in finding primary sources. Here the librarian seemed very caring and helpful, which made the student to go back to the librarian for help.

**Bowler (2010)** examined self-regulation of curiosity and interest during the information search process of adolescent students. In the opinion of investigator world of increasing information and communications possibilities, the difficulty for users of information systems and services may not lie in finding information but in filtering and integrating it into a cohesive whole. To do this, information seekers must know when and how to effectively use cognitive strategies to regulate their own thinking, motivation, and actions. Sometimes this is difficult when the topic is interesting and one is driven to explore it in great depth. This article reports on a qualitative study that, in the course of exploring the thinking and emotions of 10 adolescents during the information search process, uncovered patterns of behaviour that are related to curiosity and interest. The larger purpose of the study was to investigate the Meta cognitive knowledge of adolescents, ages 16–18, as they searched for, selected, and used information to complete a school-based information task. The study found that the curiosity experienced by adolescents during the search process was accompanied by feelings of both pleasure and pain and that both feelings needed to be managed in order to navigate a pathway through the search process. The self-regulation of curiosity and interest was a clear and distinct meta cognitive strategy fuelled by meta cognitive knowledge related to understanding one's own curiosity and the emotions attached to it.
Sangwon, Kim & Young. (2010) examined a comparison of different approaches to segment information search behaviour of spring break travellers in the USA: experience, knowledge, and involvement and specialisation concept. The purpose of this research is to compare salient approaches for identifying the patterns of college students' information search behaviours while preparing for their spring break trips. Comparing four different prominent constructs (i.e. past experience, prior knowledge, involvement and a concept of specialisation combining those three variables), the results of the study indicate that involvement and the specialisation concept have more distinctive results than the others in terms of measurement of travellers' perceived usefulness of information sources and the importance of information content. In addition, the different groups assigned different priorities for usage of main information sources. As a result, involvement and the specialisation concept appear to provide more distinctive clarification for identifying the information search behaviours of spring break travellers.

Taneichi, Terai & Hiroshi (2010) examine An Experimental Study of the Information Search Process at a College Library. This study empirically analyzes how users access information resources and evaluate and use information, in the information environment of a college library where physical information resources and digital information resources are mixed. In searching such resources, it is important to clarify the conditions that affect the search performance. We focus on whether clarifying the conditions before searching influences the search behaviour or not. The study shows a comparison of the behaviour between the two groups revealed that clarifying "keywords" beforehand affects the searching behaviour. The group assigned the task of investigating keywords executed searches using more keywords and accessed more web pages in the same amount of time, compared with the group not assigned the task. As for the behaviour of using information resources, a bias towards using either digital information resources or physical information resources was observed, and some regular patterns in behaviour of changing the search target were found.

2.3. Information Literacy Skills and Competency

Abdul, Babawale & Olarongbe (2015) have made an attempt to study on an assessment of the Information Literacy competence of undergraduate students at the
university of Ilorin, Kwara State. The study identified their information needs and ability to satisfy such needs, exposure to information literacy programme, strategies employed and the challenges faced. The survey research design was adopted. From a study population of 5867, a sample size of 1205(20.58%) was drawn, using purposive sampling technique, questionnaire was the instrument used for data collection which had 6 sections. The study found that majority of the respondents had information needs on their academic engagements like class assignments and project writing, strategies employed in meeting their information needs revealed their limited information literacy skills even as they only have little exposure to available information literacy programme. Thus majority expressed dissatisfaction with their present status of information availability, accessibility and usage. Many considered difficulty in identifying their needs, cost of internet browsing, subscription requirement, as challenges: hence their low level information literacy competence, constituting hindrance against the full exploration of information resources that may be available for their use. The study recommended that the university authorities should consider the teaching of information literacy as a course to fresh students with credits attached.

**Aktas, Kaffash & Sepideh (2015)** examined Information Literacy Skills of Students from a UK Business School and found that students have lower confidence in performing some tasks related to identifying the need for information, planning the search strategy, gathering information, using data management tools and developing a personal profile as part of presenting their synthesis of information found, accessed and used for specific purpose. There are also differences between Level 1, Level 2 and Level 3 students in terms of their confidence in performing the specified task under a particular information literacy skill. Moreover, lecturers are aware of the difficulties faced by students in relation to information literacy, in areas similar to those identified via literature review and the survey. The results of this research are beneficial in designing information literacy skill development activities in the future.

**Donahue, Elizabeth (2015)** examined “Charting Success: Using Practical Measures to Assess Information Literacy Skills in the First-Year Writing Course” The study indicated a positive progression towards increased learning for the three information
literacy skills targeted: 1) using library resources correctly, 2) building effective search strategies, and 3) evaluating sources appropriately. Students scored higher in the fixed-choice questions than the open-ended ones, demonstrating their ability to more effectively identify the applicable information literacy skill than use the language of information literacy to describe their own research behavior. Based the findings the investigator conclude The assessment methodology used was an assortment of low-key, locally-developed instruments that provided timely data to measure students understanding of concepts taught and to apply those concepts correctly. Although the conclusions are not generalizable to other institutions, the findings were a valuable component of an ongoing program evaluation. Further assessment measuring student performance would strengthen the conclusions attained in this study.

Ferdows & Ahmed (2015) examined an empirical investigation of information skills among undergraduate students at Dhaka University. For the study a questionnaire-based survey was administered to obtain data about undergraduates’ information skills. The questionnaire consisted of demographic information, computer and Internet experiences, and a set of ten questions relating to information skills. A total of 199 undergraduate students responded to the survey. The results indicate that undergraduates’ information skills were poor. Only a few of them were successful in answering some of the questions correctly. There are significant differences in information skills among respondents in terms of gender, age, possession of personal computers and computer and Internet experience. The main reasons for these differences and the general failure in answering the task questions correctly are mostly attributed to the absence of information literacy instruction within the university, lack of online information resources and inadequate information and communication technology facilities.

Flora (2015) conducted a study on Breathing Life into Information Literacy Skills: Results of a Faculty- Librarian Collaboration. The study reveals that When an education professor and a reference librarian sought to improve the quality of undergraduate student research, their partnership led to a new focus on assessing the research process in addition to the product. In this study, we reflect on our
collaborative experience introducing information literacy as the foundation for undergraduate teacher education research. We examine the outcomes of this collaboration, focusing on the assessment of the process. Using a mixed methods approach, we found that direct instruction supporting effective research strategies positively impacted student projects. Our data also suggests that undergraduate students benefit from not only sound research strategies, but also organization strategies.

**Gallagher, et.al. (2015)** made an attempt to study on Assessing and Improving the Information literacy skills of WPI students in the Humanities and Arts Project Seminar. The study found through the collection of surveys, an ethnographic study, and a final bibliographical assessment, we gathered evidence in support of incorporating library instruction into HU3900 courses. Library sessions were shown to have an immediate positive impact on the way students carried out searches. Students were also more likely to correctly cite the sources they used following library instruction. Based on our results, we further encourage faculty to consistently reinforce information literacy concepts to students throughout the course of their seminar. Future projects should focus on utilizing and improving upon our methodology to further assess and improve information literacy among HU3900 students.

**Hani & Kaur (2015)** conducted a study on Information Literacy Assessment: Rasch Analysis Approach. This study aimed to investigate the psychometric properties of adopted and modified the Tool for Real-time Assessment of Information Literacy Skills (TRAILS) using Research analysis. The TRAILS assessment is a 25 multiple choice items and was administered to the upper secondary school students. The analysis showed that all items are well-targeted for Malaysian students although some changes need to be done as to include some easier TRAILS. Analysis showed that majority of the students scored over 40% on the IL Assessment. The findings are useful to lead to a new paradigm in assessing competency of IL skills among students using Research analysis. The study is hoped to bring a new direction to the process of data analysis in library science research.
Kazerani & Jambarsang (2015) conducted a research on “Identifying and Analysing the prerequisites of access to Information Literacy skills among the students of paramedical sciences faculty and compare their information literacy level.” They opine that Information literacy is a set of individual skills and abilities to accurate identifying, accessing, using, evaluating and reviewing of information resources. Since this skills improved the student capabilities to retrieval, management and use of information; nowadays, it is considered as one of the most important criterion for the evaluation of students by forums. This study is a descriptive and analytical applied survey. The systematized samples were 103 students in paramedical sciences faculty Shahid Beheshti University of medical sciences in 3 level: undergraduate (BA), master (MA) and PhD students who were studying during 2011-2012. The data collection tool is the questionnaire which published by ACRL and based on information literacy standards. This questionnaire has 55 items arranged in Likert scale. Results show that the information literacy level in all student was 50 % lower than the level expected of ACRL standards except Ph.D. students in basic science and MA students in medical library and information science. The level of information literacy in PhD and MA students was significantly higher than BA students while the graduate students level was not significantly different.

Kousar & Khalid (2015) made a study on Perceptions of Faculty about Information Literacy Skills of Postgraduate Engineering Students. The study used ACRL Information Literacy Competency Standards for Science and Engineering/Technology as the basis to assess these perceptions. Teachers of the National University of Science & Technology (NUST), who were teaching engineering students of postgraduate level, were selected as population. A structured questionnaire was sent to 113 faculty members and the response remained 80 percent. Paired samples t-test was used for data analysis through Statistical Package for Social Sciences (SPSS). Research indicates that faculty perceived IL skills of their PhD level students higher than those of MS level students. The term “Information Literacy” is yet new on the Pakistani library scene. Regarding perceptions of faculty about information literacy skills of their students so far no study has been carried out in Pakistan. This study will help to identify existing IL skills of Pakistani students at university level, their requirements and how these requirements can be best fulfilled.
Njoki, Muhora (2015) investigated on Assessment of Information Literacy Skills at Africa Nazarene University, Grace Roles Library. The study revealed that the level of information literacy to first year students was low. Some of the major challenges encountered were inadequate orientation since it is done on the first day when the students are very new and thus unable to understand fully what is happening, information overload and inadequate computer skill. The study recommended library orientation to be done to all freshmen and ample time be allocated, Information Literacy skills training be pitched at a level which is appropriate to the individual needs of the users, librarian should be empowered through regular workshops and training so as to update their skills in order to be efficient in training user.

Ramamurthy, Siridevi, & Ramu (2015) conducted research on Information Literacy Search Skills of Students in Five Selected Engineering Colleges in Chittoor District, Andhra Pradesh: A Perspective study examined students’ ability to distinguish diverse information sources as well as assess the effectiveness of information literacy programmes of engineering colleges. The sample consists of 275 respondents drawn proportionately from a population of 300 from the selected Engineering colleges. Descriptive survey method was used to elicit data through Questionnaire on Information Literacy in this study. The data collected were analyzed using simple percentages. It was found that preponderance of respondents have low knowledge of information literacy skills, showed high deficiency in identifying diverse information sources and the various information literacy programmes of the respondents’ institutions lacked hands-on. Thus, the need for an enhanced and continuous library user education geared towards empowering students to be sufficiently familiar with information sources, mutual collaboration between teachers and librarians to ensure integrated mode of lecture delivery, constant advocacy and sensitization outreaches.

Robertson & Felicida (2015) investigated on Evaluation of graduate nursing students information literacy self efficacy and applied skills. Based on Bandura's social cognitive theory, this cross-sectional descriptive correlational study assessed the perceived and applied IL skills of graduate nursing students from two family nurse practitioner (FNP) programs in the mid-western United States. Results showed that
although the 26 newly admitted FNP students demonstrated a high level of confidence in their IL skills, the students did not perform well in the actual IL skills test. According to Bandura, the students' confidence in their IL knowledge should allow students to be engaged in course activities requiring IL skills. Nurse educators teaching in undergraduate or graduate programs are in key positions to incorporate IL experiences into class activities to allow for skill assessment and further practice. Further research is needed on nursing students' IL self-efficacy and performance.

**Ukachi (2015)** conducted a study on Exploration of information literacy skills status and impacts on the quality of life of artisans in Lagos, Nigeria. The outcome of the study revealed that the artisans’ level of information literacy skills increased following their exploration of technological gadgets such as android and smart-phones which the study had established to be the main means through which they acquire their information literacy skills. Other sources such as the library and training organized by the State Government have not benefitted them. The result established that the increase in their information literacy skills status has enhanced their quality of life.

**Aristarik & Maro (2014)** examined Information Literacy skills for electronic resources: a study of students of the Open University of Tanzania. The study adopted Big6 framework which guided the collection of data. Data was collected through both qualitative and quantitative, questionnaires, observation, interview guides and discussions. Random and purposive samplings were used to identify population to the study. Data were analyzed using SPSS, MS word, MS excel and manually. The study revealed that, OUT management and the library were responsible in training students in IL skills so it could deploy the available e-resources on the Internet. The study also found the imbalance in the distribution of ICT facilities within the centers that forced learners to train outside the university. Both lecturers and students lacked adequate facilities to access e-resources. Furthermore the study found that, distance learners IL skills were very low. The study concluded that, the incorporation of IL skills courses in the curriculum as a compulsory course unit to all distance learners would make students able to acquire IL skills that would help them supplement their print materials with electronic resources.
Asadullah, B (2014) conducted research on Digital Information Literacy: A Survey Among Research Scholars of Vellore District the outcome of the study describes the survey of Digital Information Literacy among research scholars of the Arts & Science Research Scholars residing in Vellore District. A detailed analysis and discussion of the data obtained through questionnaires. The survey reveals that scholars feel that library has a greater role to play for the promotion of digital information literacy among its user community. The survey suggests that the University should start interdisciplinary initiatives to promote digital information literacy, with active collaboration from the Departments of Computer Applications, Library and information Science, and the other core areas of study, actively engaged with research activities. This joint venture will help to orient the research scholars about the available accessibility, and use of digital resources in their area of research. The findings of this study are helpful for administration of the concerned regional body for policy formulation.

Azami, Salehiniya & Hamid (2014) made an attempt to study on A Survey of Information Literacy among Students of Faculty of Management and Information Science in Tehran University of Medical Sciences a cross-sectional study was conducted on 338 students of management and Information Science faculty of Tehran University of medical sciences in 2014. The information literacy was measured through a valid and reliable questionnaire of information literacy. The collected data were analyzed using descriptive statistics tests, t-test and ANOVA. Results: The Information Literacy among students was at average level. The mean score of information literacy in male students was 44.13±8.77 and was 45.27±9.17 in female students of a total 110; no significant difference was observed between the two genders (p=0.302, t=1.03). The mean score of information literacy showed significant differences in terms of the field of study. The highest score of information literacy was observed in health economics students (51±6.23) and then health information management (50.26±4.92) (F=2.85, P=0.01). The mean score of information literacy also showed significant differences in terms of educational attainment; it was 43.76±7.97 for BS students, 46.48±11.58 for MSc students and it was 52±2.82 for PhD students (F=6.58, P=0.003). Based on the study the investigator had opined that the average level of information literacy among students, and the importance of
information skills in scientific advancements and efficiency of people in their jobs, it seems necessary to teach skills for increasing students’ information literacy.

Kuppugari (2014) has investigated on “Faculty Information Literacy Skills at Vikrama Simhapuri University, Nellore.” The purpose of the study was to examine and assess the Faculty’s Information Literacy skills. To collect the data from the respondents a structured questionnaire was designed based on the objectives of the study and was distributed among the entire faculty members in the V.S University, Nellore, and received responses from sixty one only. It was found that majority of the faculty visit the university library to consult reference books, and they were seeking information to update their knowledge. The study reveals that majority of the faculty were not aware of online databases, institutional repositories and evaluation of web sites information. The awareness of plagiarism, and citations also below average level. The findings of the study made necessary to recommend the university and library authorities to organize an information literacy awareness program for the faculty members of V.S University

Rafique (2014) conducted a study on “Information Literacy Skills of faculty members: A study of the University of Lahore, Pakistan.” The objective of this study is to gauge the level of information literacy skills of faculty members of the University of Lahore. To collect required data from population, survey method was used. The participants consisted of the faculty members currently working in the University of Lahore, which reflected the conditions and environment of all campuses of the University of Lahore. A simple random sampling technique was used to select the sample from population of 650 faculty members of the university. The sample size consisted of 84 faculty members in randomly selection. A questionnaire was formulated and personally managed. Therefore collected data were evaluated. It was found that a majority of faculty members were deficient in searching catalogue and its use, choice of information sources, election of relevant sources and formulation of search strategies. Likewise, many faculty members were not successful users of the university libraries.

Takaoka & Eiko (2014) made an attempt to study on Assessment of Students’ Information Literacy and Information Fluency Competency: A Case Study in Japan
reveals that the assessment of the competency of students’ information literacy and information fluency in order to obtain the levels of university student competency in Japan. As a result, a significant difference occurred between pre- and post-tests for all courses. The difference indicates that the students’ skill improved through these courses. In addition, although year-to-year differences occurred, no overall trend was seen. For mixed-year courses, no difference occurred in the school year. The result of the investigation about difficult fields for students to understand revealed that students tend not to understand accurate definitions of technical terms and lack net manners regarding sending email. The results will contribute to the course design of an information fluency course in the future.

Waghmare & Shashank (2014) have made a study on Information Literacy of College Teachers: A Study finds that The Library has a leadership role in the development of information literate, the effective embedding of information literacy programmes within the mainstream of the learning process require close cooperation between all stakeholders. Information Literacy is increasingly important in the present contest of the information explosion and concomitant uncertainties about its authenticity, validity, and reliability.

Mahmood & Libri (2013) conducted a study on “Relationship of Students' Perceived Information Literacy Skills with Personal and Academic Variables” observed that a diagnostic assessment of Information Literacy (IL) skills of students is useful to design an effective IL instruction program for them. This paper reports results of a study conducted to investigate students' perceived IL skills in the University of the Punjab, Lahore, Pakistan. Using a locally developed 20-item scale, a cross-sectional survey was conducted on 1,414 conveniently selected students from all 73 academic units of the university. The findings indicate that the students were more comfortable in basic computing and internet related activities but less comfortable on specialized information searching tasks. The relationship of 'total score' of students' IL skills was explored with six personal and academic variables (i.e., gender, discipline of study, degree level, social background, English language proficiency, and access to computer at home). This baseline study may be helpful for designing and implementing IL instruction programs in universities.
Sajedi, Alireza & Moghaddam (2013) made an attempt to investigate on A Survey of Information Literacy on Ph.D. Students and Faculty of the Research Institute of Hawzeh and University in QOM. In order to evaluate the information literacy level of PhD students and faculty members of the Research Institute of Hawzeh and University in Qom, survey and analytical methods are conducted. The population of current research is 77 individual that included all PhD students and faculty members of the Research Institute of Hawzeh and University. Data collecting is based on two methods of field and library studies. A researcher-made questionnaire was used to gather information. The questionnaire consists 27 items. Of the 77 questionnaires distributed, a total of 67 completed questionnaires were returned. Cronbach's Alpha Coefficient was calculated to determine the reliability and obtained 0.83 that showed good reliability of the questionnaire. Findings of the study show that 60.9 percents of the statistical population are highly expert in recognition of information needs and identification of its nature and range. Also, 48.8 percent of researchers are completely familiar with information access and acquisition methods. According to the statistical results, in the 57.85 percent of the population, the level of familiarity with the information assessment methods is highly desirable. Also, 58.3 of the statistical populations get benefit in large.

Smith & Dailey (2013) conducted a research on “Improving and Assessing Information Literacy Skills through Faculty-Librarian Collaboration.” The outcome of the study indicates that academic libraries provide value to their institutions on many levels, one of which is Information Literacy (IL) instruction. Librarians have the opportunity to guide students through the research process, teach students how to think critically, evaluate resources, and use resources ethically. It is beneficial for librarians to assess student learning after these sessions to demonstrate how libraries support the academic mission of their institutions. The study address ways to assess the effectiveness of integrating information literacy into college courses by taking a close look at a partnership developed between a professor and two librarians at a small, private four-year institution.

Tang & Wei (2013) in their research on “Distance Learners' Self-efficacy and Information Literacy Skills.” using digital library resources and the factors (online learning and information manipulation) that correlate with learners' information
seeking self-efficacy. In addition, distance learners’ preferences with regard to digital resources selection and interests of developing information seeking skills were examined. 3517 students enrolled in one or more distance education courses were invited to participate in the online survey; 219 students completed the survey, for a response rate of 6.2%. The results revealed that distance learners who have higher self-efficacy for information seeking and proficiency in information manipulation exhibited higher self-efficacy for online learning. Moreover, students with high self-efficacy demonstrated superior knowledge of digital resources selection. Students who have low self-efficacy with regard to information seeking were more likely to express interest in learning how to use the library resources, although learning techniques for database searching was the exception.

Gross & Latham (2012) conducted a study on “What's skill got to do with it?: Information Literacy skills and self-views of ability among first-year college students.” This study replicates a previous study based on work in psychology, which demonstrates that students who score as below proficient in Information Literacy (IL) skills have a miscalibrated self-view of their ability. Simply stated, these students tend to believe that they have above-average IL skills, when, in fact, an objective test of their ability indicates that they are below-proficient in terms of their actual skills. This investigation was part of an Institute of Museum and Library Services-funded project and includes demographic data about participants, their scores on an objective test of their information literacy skills, and self-estimates of their ability. Findings support previous research that indicates many students come to college without proficient IL skills, that students with below-proficient IL skills have inflated views of their ability, and that this miscalibration can also be expressed by students who test as proficient. Implications for research and practice are discussed.

Latham & Armstrong (2012) made a study on “Improving Below-Proficient Information Literacy Skills: Designing an Evidence-Based Educational Intervention.” The study describes the design and development of an educational intervention intended to improve information literacy skills based on research with first-year college students. The intervention was developed over the course of a three-year period, during which time grant funding was received from the Institute of Museum
and Library Services (IMLS), supporting the collection of research data on the learning needs of first-year college students who scored below proficient on a standardized information literacy test. A variety of empirical methods including tests, surveys, interviews, and focus groups were used to collect data. The resulting intervention is a modular session that can be used as a stand-alone presentation or incorporated into other information literacy interventions. The design of the intervention stresses three main research goals: orientation to information literacy as a skill set, improved ability to self-assess skills, and the acquisition of at least one skill that demonstrates the utility of instruction. At the heart of the intervention is the three-step Analyze, Search, Evaluate (ASE) process model of Information Literacy, which is easy to remember, easy to adapt to multiple instructional situations, and can provide a foundation for building additional information literacy skills.

**Baro & Ubogu (2011)** as per their research work on Information Literacy among medical students in the College of Health Sciences in Niger Delta University, found that the students mostly rely on textbooks, medical journals, internet, colleagues, and the Nigerian National University Commission's virtual library for information. They rarely use electronic resources such as MEDLINE, HINARI, the Cochrane Library, and EbscoHost. This could be because of the lack of awareness and skills necessary to search databases. Problems such as lack of time, the challenge of locating "good citable stuff", inability to use effectively the medical library, and poor skills in information searching were mentioned. The study recommends that Medical Librarians and faculty should collaborate in integrating information literacy skills into the medical school curriculum.

**Dabbour & Ballard (2011)** in their study they have made an attempt to find Information Literacy and US Latino College Students: a cross-cultural analysis, they found that more white students accessed the Internet from home than Latino students; however, both spent an equal amount of time searching the Internet and library databases. Latino students used the physical library more than white students. More Latino than white students had formal library instruction. Over two thirds of the respondents agreed or strongly agreed that their research skills contributed to their academic success. Latino students did not perform as well as white students on the test questions on information literacy knowledge.
Korobili & Christodoulou (2011) in their research on the level of Information Literacy Skills in High School teachers found that most of the teachers did not use any electronic sources, especially e-resources, and they were probably poor at helping children in attaining a level of information literacy. It was also found that men, teachers with a Masters or a PhD and teachers with less working experience were more likely to be frequent users of sources and especially e-resources. Therefore, they suggested that teachers should attend information literacy training seminars.

Alakpodia (2010) examined the Information Literacy Skills among librarians in Delta State University, Abraka. Questionnaire and observation techniques were used to gather data. A total of 30 librarians made up of professionals and para-professionals were used in the study. From the study it was revealed that personal characteristics of respondents, working experience, and qualifications of respondents, the way they access information, use of computer in workplace, Internet connectivity and the number of times they access to the Internet per week. The work also reveals the way the librarians evaluate the information gathered and the problem encountered. The study also found that the librarians are qualified professionals, they do not use computers for their daily duties at workplace and they are not connected to the Internet, they lack in-service training.

Catalano (2010) studied Information Literacy of graduate education students, including those in doctoral cohorts With respect to ACRL Standards A survey was sent to all graduate students in the School of Education; it asked a combination of questions measuring students perceptions of their information literacy skills and testing their knowledge of information literacy. The result of the study is that a total of 172 surveys were returned. The results indicated that while there is a heavy reliance on Internet sources, many students were able to determine which sources were reliable and which were not. After attending information instruction sessions, students were more familiar with library services and more inclined to use them. It was determined that a one-credit course or multiple sessions of library instruction would better serve graduate students completing capstone projects.
Abdulwahab & Daura (2009) have investigated the effects of Information Literacy skills on the use of e-library resources among students of the University of Ilorin, Kwara State, Nigeria. A survey was conducted to collect data from 72 students, and interviews were conducted with some library staff. The study reveals that although a majority (61.11%) claimed awareness of the availability of e-resources, only 25 (34.72%) make use of them. The study recommends that the university shall adopt information literacy standards.

Rehman & Alfaresi (2009) conducted a survey on Information Literacy Skills among 263 Female Students in Kuwaiti High Schools. A cluster random sample was picked of 11th grade classes of girls' schools in the Governorate. A questionnaire was designed and personally administered. Data thus collected were analyzed. It was found that a majority of Kuwaiti high school students lacked skills in catalogue searching and use, selection of information sources, formulation of search strategies, and selection of pertinent sources. Similarly, a majority of them did not make effective use of their public or school libraries. Most of them had not borrowed a book for more than 13 weeks.

Shashi Singh (2009) examined and expressed his view on Catalytic Role of Information Literacy in Educational Change University of Delhi. It was found that instruction material was useful (94.90%), 88.47% respondents are now better prepared to use e-resources and WWW services, and 92.80% of respondents expressed the opinion that the presentations would be more useful if they were made available on the library web site. 92.90% of respondents agreed that the programs were suitable for their information needs. Regarding the post-program awareness of e-sources. 94.01% of respondents agreed that they are now more aware. Over 90% of participants were satisfied with the conduct of the IL program.

Emmett & Emde (2007) worked on assessing Information Literacy skills using the ACRL standards as a guide, found that the assessment results from all three years indicated marked improvements in the average student score from the pre- to the post-test. The assessment provided evidence of skill development over the course of the semester for specified outcomes.
Annmarie Singh (2005) examined the faculty perceptions of students' Information Literacy Competencies in Journalism and Mass Communication Programs. They reported that most of their graduate students met the ACRL criteria for information literacy, but only some of their undergraduate students could be considered information literate by these standards. Faculty also reported consistent improvement in their students' research process after receiving library instruction.

Webber & Johnston (2005) study reveals that academicians are of the opinion that Librarians are not competent to be a part of the course delivery exercise as they are not aware about the subject. They strongly argue that librarians cannot play a key role in ILP integration. Further, the critics opine that with regard to student participation, the information users should graduate to ‘Information Literates’ by their own personal interest, it cannot be externally induced.

Ramakrishnegowda & Walmiki (2004) evaluated the assessment of Information Literacy and Computer Literacy among postgraduate students of Kuvempu University library users. The study found that the majority of the respondents lack awareness regarding directories, encyclopedias, subject journals, yearbooks, etc. As many as (66%) of the students do not possess the ability to identify the key concepts in the given information environment. More than (44%) of the respondents are not able to use the computers and many of them do not possess the knowledge of software, hardware, storage devices, etc. Nearly 2/3 of the total respondents are not able to use the Internet. The majority (75.03%) of the students opine that the computer literacy and information literacy programmes are "very important" for them. The authors suggest the University to take steps to impart computer literacy and information literacy programmes to the students studying in the Constituent Colleges for the bachelor degrees. And, such training should be continued at the post-graduate level also to attain the advanced level skills and expertise.

Smith & Powell (2003) conducted research work on Information Literacy skills of occupational therapy graduates: a survey of learning outcomes. They found that a majority of the occupational therapy graduates who responded to the survey prefer to use information resources that are readily available to them, such as advice from their colleagues or supervisors (79%) and the Internet (69%), rather than the evidence
available in the journal literature. (26%) of the graduates have searched MEDLINE or CINAHL at least once since they graduated. Formal library instruction sessions were considered useful by (42%) of the graduates, and (22%) of the graduates found informal contacts with librarians to be useful. Librarians and Occupational therapy faculty must intensify their efforts to convey the importance of applying research information to patient care and inform students of ways to access this information after they graduate. In addition to teaching searching skills for MEDLINE and CINAHL, they must provide instruction on how to assess the quality of information they find on the Internet. Other findings suggest that occupational therapy practitioners need access to information systems in the clinical setting that synthesize the research in a way that is readily applicable to patient-care issues.

Lance & Hamilton (2000) study focused on Colorado student assessment program (CSAP) reading score, comparing these to characteristics of a school’s library media program. They found that improvement in a school’s library media program defined as increases in program development, information technology, teacher/library media specialist collaboration, and visits to the library media center aligned with improved scores on the CSAP. The study provides specific steps schools can implement to improve their library media programs.

Webber & Johnston (2000) studied Student’s conceptions of Information Literacy and compared them with Bruce’s seven faces of Information Literacy. They found that students identified information seeking and sources in their conception of information literacy and the role of information technology was emphasized. Thus Bruce’s three first categories, 1.Using information technology, 2.Finding information, and 3.Executing a process, were present in the conceptions. The students’ conceptions developed during the course in information literacy from information technology related conceptions towards a conception of information literacy that implies evaluation, application and organization of information. A transition was seen towards Bruce’s four later categories, 4.Controlling information, 5.Building up a personal knowledge base, 6.Working with information wisely for the benefit of others. Students also considered that active, constructivist methods of teaching and learning information literacy enhance understanding and learning compared to lecturing, although lectures are experience as earlier.
Bruce (1997) an Australia researcher offers a unique approach to researching and defining Information Literacy. Bruce emphasizes the importance of understanding the way the concept of information literacy is conceived by information users themselves. She suggests a “relational” model for information literacy to accompany the “behavioral” models, which she believes dominate this field of research. The approach that Bruce used for her research is phenomenography; a form of descriptive analysis that attempts to explain how people conceive of topics such as information literacy, rather than attempting to seek consensus, as Doyle did in her Delphi study, Bruce’s phenomenographic study strove to provide an explanation and description of the differences in the way people conceive of information literacy. Bruce in her study findings seven conceptions of information literacy, they are:

- The Information Technology conception – Information Literacy is seen as using information technology for information retrieval and communication.
- The information sources conception – information literacy is seen as finding information.
- The information process conception – information literacy is seen as executing a process.
- The information control conception – information literacy is seen as controlling information.
- The knowledge construction conception – information literacy is seen as building up a personal knowledge base in a new area of interest.
- The knowledge extension conception - information literacy is seen as working with knowledge and personal perspectives adopted in such a way that novel insights are gained.
- The wisdom conception – information literacy is seen as using information wisely for the benefit of others.

McGowen (1995) studied practicing physicians attitudes towards life-long learning, defined in the study as ability to identify a need, access and retrieve information, evaluate and use it appropriately. It was assumed that the graduates of problem-based learning curriculum and traditional curriculum should have different conceptions of
lifelong learning, the skills should be taught throughout the entire medical education, not only during the first two years.

**Pitts (1995)** examined the mental models of secondary students as they work through information problem also provides valuable insight into the ways students think about information problem solving. Pitts observed a class of eleventh and twelfth graders in a science class as they faced that task of producing a video documentary about marine Biology; she learnt that when the students began an information problem, they relied on their prior learning to help them solve it. In this situation, Pitts observed that the students used four domains of knowledge: subject matter, information seeking and use, life skills, and video production. When the students faced a problem as part of the assignment (such as not knowing how to locate information in the library), they first categorized the problem in terms of its domain, then checked for helpful prior learning, if they couldn’t find any helpful prior learning, they either “finessed” the problem by using knowledge form another domain or produced a substandard product using their own inadequate knowledge. In other words, a lack of knowledge in one domain limited learning in another.

**Todd’s (1995)** research reinforces Pitt’s conclusion that students lack in information seeking and use skills restrict their acquisition of subject matter understanding. Todd investigated the importance of associating instruction in library and information skills with students overall success in school. He found that when information and library skills are taught in the context of information problem solving, and within subject areas, a positive effect on the learning process and on students’ attitude is created. Todd’s result found evidence of improvement in test scores, recall, concentration and focus, and reflective thinking. These findings provide for a compelling argument for including library and information skills instruction both in the library and as part of school wide curricula.

**Goodin (1991)** examined the transferability of Information Literacy skills from High School to college in a study involving two groups of high school students. One group received instruction in library research skills in the context of information literacy, and the other group did not. The students were given pre and post-tests on college-
level library and information skills. The participants in the study wrote research papers that were subsequently evaluated by college level instructors. Goodin found that the students who received library skills instruction scored significantly higher on the post-test than students who did not receive instruction. She also found that the research papers produced by the high school students who received such instruction were at a level of performance acceptable for college freshmen.

Stripling & Pitts (1988) designed a model of Information Literacy from the perspective of the school library media field. Having observed that most students who attempted to research the same topic, used the same sources, and ended up with essentially the same products, Stripling and Pitts determined that students were not truly engaged in the research process. In response, they created a 10-step process (1988) that defined various points in the research process where students could stop and reflect. These reflection points emphasize research that is thinking process requiring the active engagement of the researcher.

Irving (1985) was one of the first researchers to highlight how important it is for students to have information skills when they complete classroom assignments. Irving noted that such skills are not just important for students when they are completing schoolwork, but are essential skills that can be used for all aspects of life: academic, professional and personal. Irving believes that the information retrieval and processing skills, practiced and acquired through the completion of classroom assignments, will transfer to other areas of a student’s life. Irving identifies nine essential steps for successfully solving an information problem: they are 1. Formulation and analysis of the information need. 2. Identification and appraisal of likely sources of information. 3. Tracing and locating individual resources. 4. Examining, selecting, and rejecting individual resources. 5. Interrogating, or using, individual resources. 6. Recoding and storing information. 7. Interpretation, analysis, synthesis, and evaluation of information. 8. Shape, presentation, and communication of information. 9. Evaluation of the assignment.
2.4. Conclusion

The review of literature on earlier studies shows that there are numbers of literature published on Information Search and Information Literacy skills reveal that there is assessment on information literacy skills; competency and information search is going on. In India these kind of literature available very meagerly due to the lack of standards and models related to Indian Education System. Further an attempt has been made in this study to formulate appropriate guidelines to promote the study on Information Literacy Skills.
REFERENCE


Maryam Kazerani, S. J. (2015). Identifying and analyzing the prerequisites of access to information literacy skills among the students of Paramedical sciences faculty and compare their information literacy level. *Journal of Paramedical Sciences (JPS), 6*(1), 85–90.


