CHAPTER II
LITERATURE REVIEW

2.1. OVERVIEW

The literature that is relevant to Digital Information Literacy assessment and influencing factors of DIL assessment is reviewed in this chapter. The survey of related literature also enabled the investigator to get a better insight into the Digital Information Literacy and Social Media Practices. The review includes studies carried out in foreign countries and India. The literature reviewed is presented under different sections as follows:

1. Digital Information Literacy
2. Digital Information Literacy models
3. Digital Information Literacy assessments
4. Digital Information Literacy assessment of students
5. Factors influencing Digital Information Literacy

First section will discuss the various definitions available for the term Digital Information Literacy. Investigator aimed at defining the DIL -Digital Information Literacy in the Indian context. Second section deals with the existing information literacy models available worldwide. Investigator will have a critical look into those models available and examined the models. Third section will discuss about the already existing Digital Information Literacy assessment. Fourth section will discuss the studies conducted so far in regard to digital information literacy assessment of students. Fifth section will discuss about the studies conducted on ‘Factors’ which influence the digital information literacy of a student. In all these sections, the collected research studies were made mainly on
Information Literacy. Information Literacy is related to library skills which were not collected much. Investigator has collected the Information literacy literature only which is mainly related to digital context.

2.2 DIGITAL INFORMATION LITERACY

When a literature review was made related to the topic of digital information literacy it was obvious that old definitions were often found to be irrelevant out of date with current digital technologies. Investigator went through all the definitions and redefined the digital information literacy. The majority of Information literacy definitions are defined in terms of what an information literate person can do. In that way digital information literacy will also tell what the digital information literate people should do. This section will discuss some of the author’s definition for the term ‘Information Literacy’.

Andretta, Susie (2005) noted how information literacy evolved from library education practices. Information was developed to address the requirements generated by phenomena such as information overload caused by the rapid developments in digital technologies.

The Norwegian scholars, Audunson & Nordlie (2003) also highlight three main categories of information literacy: they describe technical capabilities or what one might call computer literacy; intellectual capabilities related to traditional literacy; and communicative competency that presupposes technical as well as intellectual capabilities and at the same time transcends them. For each dimension they also distinguish several levels of competence, from basic competence to super-user competence to in-depth competence and consider information literacy as the sum of different 'literacies' (Virkus, 2003).
Breivik (1985) stated that "Information literacy is the ability to effectively access and evaluate information for a given need" (p. 723). It is not synonymous with information technology literacy, as technology never gives a person the ability to become information literate (Bundy, 2004).

Buckingham (1993) stated “New illiteracies are new forms of literacy where emerged after the digital technologies”. Leu 2004 argued that new literacy is deictic, and it will change as new technologies emerge.

Bawden & Robinson (2002) quoted Kuhlthau (1987): “What does it mean to be literate in an information society? Information literacy is closely tied to functional literacy. It involves the ability to read and use information essential for everyday life” (p. 297). Thus, these two terms ‘read and use’ together have taken a distinct meaning as Information Literacy’.

Bruce & Lampson, 2002; Harding, 2008; Hall, 2010) that public libraries have an important role to play in raising the information literacy levels within their communities. Bruce & Lampson (2002) found that public librarians had difficulty articulating the difference between information literacy and information technology literacy.

Harding (2008, p. 275) indicates that “information literacy” is often interchangeable with “lifelong learning” and “user education” in the literature. Harding argues that these three concepts are inherently distinct, although related (Hall, 2010, p. 172). People who are information literate are people who are prepared for lifelong learning, because they can always find the information needed for any task or decision at hand.
Illinois Mathematics and Science Academy (2006) has defined the term as digital information fluency and stated that it involves “knowing how digital information is different from print information; having the skills to use specialized tools for finding digital information; and developing the dispositions needed in the digital information environment” (p. 2).

Martin (2006) expressed digital information literacy as the “awareness, attitude and ability of individuals to appropriately use digital tools and facilities to identify, access, manage, integrate, evaluate, analyze and synthesize digital resources” (p. 19).

Hegarty et al. (2010) described digital information literacy as a subset of information literacy and defined it as: “the ability to recognize the need for, access, and evaluate electronic information. The digitally literate can confidently use, manage, create, quote and share sources of digital information in an effective way” (p. 7).

ETS-ICT literacy (2008) assessment defines ICT literacy as the ability to use digital technology, communication tools, and/or networks to define access, manage, integrate, evaluate, create, and communicate information ethically and legally in order to function in a knowledge society.

Morrison & Garcia (2011) described digital information literacy as tools and skills needed to conduct library research to introduce information resources which are relevant for personal and professional lives as well as for lifelong learning.
According to WikiEducator, (2009), “The use of digital information becomes essential to almost every aspect of modern life which means that there is a need for it as never before, especially for learners and teachers who should be information literate in a digital context”. The arrival of the Internet in the 1990s resolved that information literacy is more than a library issue. Information literacy became a central component of discussion after the technological advancement forced these forms of universities general education programs in the early 1990s.

Illinois Mathematics and Science Academy (2006) has defined the term as digital information fluency and stated that it involves “knowing how digital information is different from print information; having the skills to use specialized tools for finding digital information; and developing the dispositions needed in the digital information environment”.

Jeffrey et al., (2011) pointed out that “digital information literacy involves recognizing the need for, and being able to access and evaluate electronic information. The digitally literate can confidently use, manage, create, quote, and share sources of digital information in an effective way that demonstrates an understanding an acknowledgement of the cultural, ethical, economic, legal, and social aspects of information” (p.385).

Muir et al (2001, p.175-176) notes that the definition of information literacy by the Japanese Ministry of Education is composed of four elements: Capability of judgement (evaluation), selection, organisation, and processing of information as well as of information creation and communication; Understanding of characteristics of information society, effects of information over society and human beings; Recognition of importance of, and responsibility for information; Understanding of foundation of information sciences, learning
of basic operation skills of information and information devices (particularly computer) (Muir et al, 2001, p.175-176).

**Bawden & Robinson (2002)** quoted Kuhlthau (1987): “What does it mean to be literate in an information society? Information literacy is closely tied to functional literacy. It involves the ability to read and use information essential for everyday life” (p.297). Thus, these two terms’ read and use’ together have taken a distinct meaning as ‘Information Literacy’. Breivik (1985) stated "Information literacy is the ability to effectively access and evaluate information for a given need" (p.723). It is not synonymous with information technology literacy, as technology never gives a person the ability to become information literate (Bundy, 2004).

**Zurkowski (1974)** says that information literate is anyone who is using the techniques and skills to utilize a wide range of information sources to solve the problems in their work or daily life. He also differentiated the literates and information literates.

**Discussion**

From the review, it was evident that the term information literacy has got its origin in library education. The term information literacy is only redefined as digital information literacy due to the changes in technology. Earlier Information literacy is mostly defined as library term and it was identified as a skill required for librarians. The later research studies redefined the information literacy as a skill required for everyone to access information. Further research discusses the importance of IL skill required for the college students. The literature review dwells on how Digital Information Literacy DIL accepts the technicalities like computer literacy, digital literacy, Information and Communication Technology
Literacy and Information Literacy. Earlier definitions on information literacy were focused on IL skills required for efficient library usage of a person. International Educational Institutions are conducting IL programs in their college libraries. The curriculum instructs the students how to locate information in books and web sources. In India, Delhi universities are conducting Information Literacy Programs for their investigators in order to educate their scholars and students. A survey study conducted on Information literacy programs (ILP) offered at university libraries in Delhi revealed that, the ILP program did not give much emphasis on skills such as using digital technologies, CD-ROM databases and Plagiarism. It has been criticized for not covering web 2.0 tools in ILP. It also suggests that the universities should incorporate web 2.0 tools in Information Literacy Program (Madhusudhan, 2012). Hence there is an urge to reconstruct the concept of information literacy.

Bawden and Robinson urged the importance of being an information literate in the information society. The definition highlights, that information technology skills alone will not be sufficient to describe a person are information literate. Therefore, technical and cognitive skills are also essential. From the above definitions, it is understood that, Information literacy is the ability to access, evaluate and store information; Computer Literacy means the technical ability in using a computer; Digital literacy means the technical ability in using a digital technologies. ICT literacy covers the acquisition of intellectual competencies that also involves solving problems and being critical. Jeffrey (2011) defines digital information literacy as the ability to collect, evaluate and manage digital information. In addition it gives weightage to the ethical aspects of information.
The authors who defined DIL see the Digital Information Literacy as a combination of Digital Literacy and Information Literacy.

From the above definitions ICT literacy and Digital Information Literacy (DIL) have lot of similarities. DIL, also deals with the nature of information gathered whereas in ICT literacy it is not stressed much. All these terms have different definitions as far as the technicalities are concerned, but the basis remains coherently same: they all do an overarching work on the technical ability and knowledge of a person in using a computer and internet. Digital Literacy, New Media Literacy, Multiliteracies, Information Literacy, ICT Literacy and Computer Literacy are categorised broadly under the new literacies umbrella (Coiro, Knobel, Lankshear, and Leu,2008). Hence the Digital Information Literacy can be also identified as a new literacy, since it has same characteristics. These literacies are a must in this knowledge-based society so that an individual can keep pace with the rest of this world. Digital Information Literacy has its base on Information Literacy. If we closely examine the collected review, the definitions given for Information literacy after the year 2000 are defined as Digital Information Literacy. Information literacy was earlier associated with library, after the emergence of web 2.0 there was a need to redefine the concept of information literacy. Above authors, borrowed the definitions for digital information literacy from ALA (American Library Associations), ACRL(Association of College & Research Libraries) and other international information literacy standards. The above discussion indicates that the authors perceive that digital information literacy is a subset of information literacy. Information surrounds the individual and is available not only in paper format but also in many digital formats. Users need to handle such information with the same efficiency as an information
literate person does. For the purpose of this study, the term digital information literacy needs to be redefined. The investigator finds a huge gap in defining the digital information literacy in the Indian context. Their needs a clarity on what is digital information literacy in India. Hence the investigator formulated a research question ‘What is Digital Information Literacy in Indian Context’?

2.3 DIGITAL INFORMATION LITERACY MODELS

Apart from the author’s definition to Information literacy, there are some models of International acclaimed institutions and libraries which have defined Information literacy. As many of the models were relevant to Information literacy, investigator reviewed the existing models and selected the suitable model for the term digital information literacy.

For the Big Blue project (2002) taxonomy of information literacy is a mixture of several information literacy models in use around the world; it included SCONUL, ACRL and CAUL models. It draws together the main characteristics of the sein to a new framework which was both iterative and cyclical. For this reason, the model be ars many similarities to the other information literacy models (Walton,2009). United States National Forum on Information Literacy defines information literacy as "... the ability to know when there is a need for information, to be able to identify, locate, evaluate, and effectively use that information for the issue or problem at hand.

According to 21st Century Digital Information Fluency (DIF) project and model, Digital Information Literacy is defined as “Digital Information Fluency (DIF), the ability to find, evaluate and use digital information effectively, efficiently and ethically. DIF involves knowing how digital information is different from print information; having the skills to use
specialized tools for finding digital information; and developing the dispositions
needed in the digital information environment.”

(ALA) (American Library Association) model recommendations are
made towards the assessment of information literacy skills. Information literacy
as a set of abilities requiring individuals to “recognize when information is
needed and have the ability to locate, evaluate, and use effectively the needed
information”. It strongly suggested that “assessment methods appropriate to the
thinking skills associated with each outcome to be identified as an integral part of
the institution's implementation plan”(ACRL,2000,p.6).

Walton (2009) believes that ALA model can be seen as embracing the
notion of lifelong learning that enables learners to assume greater control over
their own learning.

Lowe & Eisenberg (2005). This ALA model echoes some features
displayed by other models; for example, the information seeking strategies,
location and access steps are quite similar to Bruce, and SCONUL models, where
synthesis, evaluation steps are quite similar with ACRL, and CLIP models.

Bruce's (1997)‘Seven faces of information literacy' model emphasizes
the individual's experience of information literacy and how people make sense of
the information world. In her review article, He argues that the model allows
learners to evaluate web pages such as authority, relevance and reliability to
more deep and critical thinking, as the ideas, opinions and perspective apparent
in the source and the quality, style and tone of the writing are examined. Bruce's
ideas (1997) have heavily influenced the ANZIIL model (Bundy,2004).
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Australian & New Zealand Institute for Information Literacy (ANZIIL) model was originally developed in 2001 (revised in 2004) by the Council of Australian Librarians (CAUL) as reported by Bundy (2004). It is based on the ACRL model and contains one extra standard to the original and reflects much of its rational in terms of information literacy and learning. The ANZIIL model makes distinctions between higher and lower order thinking to cover the learning needs of students at all levels (Andretta, 2005). ANZIL adopted the framework of ALA and incorporated principles of independent learning, personal fulfillment, using information for decision making, and lifelong learning.

**SCONUL**

In UK, the Standing Committee for National and University Libraries (SCONUL) first proposed the Seven Pillars of Information Skills, at a meeting convened in December 1998. This model checks the student ability to recognize a need for information, ability to identify information gap, ability to construct strategies for locating information, locate and access information, ability to compare and evaluate information obtained from different sources, ability to organize, apply, and communicate information to others in ways appropriate, ability to synthesize and build upon existing information, contributing to the creation of new knowledge. SCONUL model mainly focuses on information management skills. It discusses the ability to organize and locate information. This model did not discuss the technical skills required to collect the information. Investigator found this model is more suitable for librarians. SCONUL’s (Society of College, National and University Libraries)’ Seven pillars' model argued to equate computers with information which leads to the mistaken assumption that computer literacy and information literacy are the same thing.
argues that the assumption that information is storable and usable only via a computer to be a dangerous myth, SCONUL places a false distinction between technical and information literacy skills that is difficult to sustain in practice.

**Big 6 Model**

The Big6 model developed by Eisenberg and Berkowitz (2006) to help solve problems or making decisions using Information literacy skills. It is a six stage model which includes: task definition, information seeking strategies, location and access, use of information, synthesis and evaluation. Big 6 model was designed with k-12 students in mind. The Big 6 model focuses almost exclusively on IL as an information problem solving approach not giving much importance on technical skills.

**The UNESCO model**

According to UNESCO model, detailed by Horton it describes eleven stages of information literacy (Horton, 2007). This model tells information literate must be able to realize a need or problem that requires information, to make the decision. Information literate should also know how to determine whether the needed information exists or not, and if it does not exist creating new information is another aspect, to know how to fully understand found information in any way, to know how to organize, analyze, interpret and evaluate information, to know how to communicate and present the information to different formats and in media ,to know how to utilize the information to solve a problem, make a decision or meet a need, know how to preserve, store, reuse, record and archive information for future use and to know how to dispose of information no longer needed, and safeguard information that should be protected. UNESCO model is designed for government
officials and institutional decision makers. (Horton, 2007). UNESCO model discusses the information management skills rather than the digital skills required collect the information. UNESCO standard discusses the need for awareness based literacy, the stages of its model does not mention them specifically.

**Hughes- Shapiro Model**

The Hughes-Shapiro (1996) model is the meta-model. This model defines Information literacy as multi-literacy centric approach which includes technological, social, research, and ethical concepts. It talks about the tool literacy, in which an information literate should be able to use specific applications for information acquisition and resource literacy- ability to understand the content, format, and location of information resources, social-structural literacy - an ability to understand the social construct of a information, research literacy-an ability to use tools to conduct research and publishing literacy- an ability to publish the information for presentation or distribution and emerging technology literacy an ability to adapt to new technologies and use them appropriately and critical literacy, an ability to evaluate information resources critically. Hughes-Shapiro model is redefined Information literacy in digital context.

**SUMMARY**

The investigator aimed at collecting the existing digital information literacy models, but there was abundant literature available on Information literacy models. Hence investigator collected IL models which are explained in digital context. There were plenty of definitions of information literacy but very few of them included digital aspects. “There was also very little information available about the way to develop digital information literacy.” (Starkey, 2010)
Some of the information literacy models are based on assessing the library skills. Few models are focusing only on the information access skills and not much importance is given to the digital skills (Big 6 Model). Few models do not discuss the technical skills required to access the information. SCONUL model says that information literacy and computer literacy are the same. No proper IL or DIL models of India was identified. Also investigator could not identify any defined IL models for India. Hence the investigator identified a gap to propose a new (Digital Information Literacy) DIL model for this study.

2.4. DIGITAL INFORMATION LITERACY ASSESSMENTS

Many universities and colleges conduct online IL skills assessment tests worldwide, by which they provide an opportunity to screen Information Literacy skill of the students. These various tests are assessment tools developed by educational institutions or private organizations.

TRAILS (Tools for Real-time Assessment of Information Literacy Skills) – an indigenous method from Kent State University adopts the method which has two general assessments of 30 items each and also two assessments of 10 items in each of the five categories like arriving at a topic; identifying potential sources; developing, using, and revising searching strategies; evaluating sources and information; and recognizing how to use information responsibly, ethically, and legally. This test includes multiple choice questions, in which a topic is given where the student has to find the answer. This kind of IL assessment is pen-paper based. Investigator finds that this questionnaire based test is not suitable to assess the Digital information literacy.
Rubric Assessment of Information Literacy Skills (RAILS)

IMLS (Institute of Museum and Library and 21st Century Skills)- funded research has come out with an innovative project, Rubric Assessment of Information Literacy Skills (RAILS), which has been designed to explore the possibilities of the analytic rubric approach to assess the information literacy at higher education. Academic librarians and disciplinary faculty will get to find it helpful as they can assess the output of information literacy. A set of rubrics will be framed and the same can be utilized by concerned people to assess the outputs of information literacy. Apart from the rubrics, a pliable format of model for examining and checking out the scores; training materials for the librarians, faculty, and LIS students who seek to use rubrics for information literacy assessment; grading of expert level in the scoring achieved are the factors which will be zoomed in by the project. The special feature of RAILS is being a sort of a clearinghouse for librarians and faculty to share the variety of adaptations of IL rubrics, and assessment results. The clearinghouse of RAILS also shares the ways of improvisation of instructional strategies and services made on the basis of those results. They also share the examples of a rise in student learning happening due to instructional improvements. Rubrics are powerful tools for assessment. The RAILS project is intended to help librarians create and use rubrics for information literacy assessment. RAILS serves as clearing house for information literacy rubrics. SAILS assessment test by Kent state university, Stanford University iSkills Assessment Test, James Madison University IL test, Student Information Literacy Survey from Texas Lutheran University, Madonna University Library, Bellevue Community College has Information Literacy Quiz Beile Test of Information Literacy developed by Penny Beile are some of the other Information
Literacy Assessment tests by Educational Institution in order to check the skills of their Student. Lot of private institutions in western countries develop IL skill assessment test according to their own context. All the above mentioned tests such as TRAILS, SAILS, RAILS included multiple choice questions. iSkills and Northstar are other digital literacy assessment test which are completely differed from the previous question answer based test. i**Skills**: iSkills TM is a combined effort from the University of California, Los Angeles (UCLA) and the ETS (Educational Testing Service). iSkills is an outcomes assessment that measures applied information and communication technology (ICT) literacy skills. The test evaluates candidates’ ability to perform several scenario-based tasks that also assess their ability to: define; access; manage; integrate; evaluate; create; and communicate digital information. iSkills do not include any choice based questions like TRAILS and SAILS. “ The iSkills TM assessment tool has ‘real-world’ simulated scenarios that test on topics and examinees’ ability to manipulate technology needed to complete tasks such as extracting information from a database, developing a spreadsheet, or composing an email.” (ETS, 2008). The positive aspect of this tool is that, instead of giving step-by-step instructions of what to do next, Skills TM describes the tasks that a candidate needs to accomplish and it is up to the candidate how to perform the tasks. The only drawback of this evaluation tool is that the tasks in the test are too general and not tailored to assess the Digital Information Literacy of students in India. **Northstar Literacy Assessment Test**: The North star Digital Literacy Project defines basic skills needed to perform tasks on computers and online. The ability of adults to perform these tasks can be assessed through online, self-guided modules. Included are basic computer digital literacy standards and modules in ten main areas: Basic Computer
Use, Internet, Windows Operating System, Mac OS, Email, Microsoft Word, Social Media, Microsoft Excel, Microsoft PowerPoint, and Information Literacy.

When individuals pass the assessments at approved sites, they can obtain the Northstar Digital Literacy Certificate. This test is different from TRAILS, RAILS, SAILS and is skills assessment test mentioned earlier. It is neither choice based questions nor a task based assessment. Majority of the model did not discuss the students Information literacy skill. This is an icons – based test. Instead of asking questions it will ask an individual to click the icon whether they know how to operate the word document. The Screenshot of word document will be given as the icon (Refer Appendix 3.1). For example, the test taker will be asked to click the bold button in that icon, to test whether a student knows word processing software. If he/she correctly clicks the icon he/she will be given score 1. Then the overall scores will be calculated. It is not directly working with the word document. The investigator felt that this Northstar Assessment test was not a convenient method to assess the digital skills of the students.

**Discussion**

Some of the Information literacy assessments were theoretically framed. Some of them are practical. So, the investigator found that the above mentioned tests were not suitable for the DIL skill assessment of students.

The gaps arising between the theory and practical application veritably validate the need for this study on an enhanced DIL-TBA instrument which is really flexible; an instrument that is not based on self-assessment but on something that tests the cognitive, technical as well as critical ability of the students through a set of tasks. The tasks for the DIL-TBA instrument should focus on familiar/normal, computer-based activities for a classroom environment to which
students are acclimatized in their colleges (Jessnor, 2012). Hence this research strongly puts forth a proposal on the urge and need for a DIL-TBA instrument so that it will allow the participants to involve independently in the task and in turn it will test the actual skills of the students.

2.5 DIGITAL INFORMATION LITERACY ASSESSMENT OF STUDENTS

Louis Leung (2010) Effects of Internet Connectedness and Information Literacy on Quality of Life (QOL): The goal of this research is to examine the association among Internet connectedness, information literacy, and quality of life. Results from a phone overview, in view of a likelihood test of 756 Internet clients, found that Internet connectedness is not identified with QOL Notwithstanding; there is a critical connection between Internet connectedness and information literacy, and a solid connection between information literacy and life quality. These discoveries support advance investigation of life quality that underlies the ideas of Internet connectedness and information literacy. The expectation is that extra revelations will help educational modules outline, both at the K-12 and college levels, and the future improvement of Internet applications and administrations in order to upgrade general life quality. Specifically, the aim of the investigation was to figure out what variables may have the best impact on quality of life.

C.Sasikala and V.Dhanraju (2010) Assessment of Information Literacy skills among the Science students of Andhra University: A survey on Information literacy (IL) skills among students says that IL plays a prominent role in the knowledge based society; particularly compelling utilization of IT based administrations and community oriented learning in the different levels of the
educational system. This paper introduces the discoveries of a study on the level of
information skills among the students of higher education. The scope of the study covers different viewpoints like mindfulness about the utilization of library assets, both print and electronic; knowledge about using various sources of information including Web 2.0; familiarity with use of information communication technologies and copyright and fair use of information etc.

**Lynn Jeffrey (2011) Developing Digital Information Literacy in Higher Education:** The advancement of digital information literacy (DIL) skill has been slow in comparison to changes that occur in information communication technologies, and this remains an concern for the higher education sector. Competency in such abilities is basic to fuller participation in society and workplace. What's more, these aptitudes are viewed as supporting the capacity to keep up long lasting learning. Evidence suggests that simple exposure to technology alone is not sufficient to promote levels of literacy. There is a need to answer for the questions : Why has DIL development been so slow? How can we speed the process up? The purpose of this study was to identify obstacles and supports to fostering the development of DIL to staff and students at higher education. The literature identified a range of obstacles that hindered students’ ability to develop their technology related skills. The issue of access and the digital divide that has been of interest to those concerned with social equity continues to generate lively discussion. The study reveals that students’ own beliefs and attitudes to learning new technology can also become barriers to the students’ learning progress when they experience low self-efficacy or anxiety about their ability to develop digital skills. Conversely, students who are over-
confident in their technical proficiency can also be hindered in their ability to develop good digital information skills.

Jessnor Elmy Mat Jizat (2012) Investigating ICT-literacy assessment tools: Developing and validating a new assessment instrument for trainee teachers in Malaysia: The main focus of this examination is to build up an ICT-literacy task based instrument that might be utilized to assess instructors' level of ICT-literacy. The current literature recognizes the requirement for an estimation instrument that assesses ICT-education levels. This kind of assessment instrument is utilized as a entry level testing apparatus for college and job arrangements. However, this study finds that existing ICT-literacy assessment instruments are expensive to be implemented or too rigid with their expected answers; moreover, they are not made to a teacher’s ICT needs. The existing assessment test either uses self-efficacy questionnaire methods or step by-step task/instructions whereby there is no flexibility and creativity in completing the task. Rather, using a task-based assessment method allows the participants the freedom to complete the task in the way the test taker wish. Meaning that if the task asks for an appropriate learning aid to be created which incorporate an image and a video, the participant should feel free to choose whatever computer applications is comfortable to edit the pictures, create videos and other digital learning aids, which is not possible in tests like iSkills assessment. As long as the task requirement is fulfilled, the task is considered complete. Task-based assessment also allows the participants to show what they know, instead of just telling what they think they know. It is considered the best method for this new ICT-literacy assessment instrument as it shows the participant’s actual ICT ability. This examination was led in three stages: Phase-1 preliminary audit; Phase-2 expert judgment on ICT-education markers; and Phase-
instrument approval and testing. In Phase-1, a literature survey was led that included drawing on the current writing on ICT-literacy standard; existing ICT-literacy appraisal instruments and the Malaysian Smart School (MSS) requirements. Twelve ICT-indicators were distinguished in this initially inquire about stage. In Phase-2, the recognized ICT-indicators were assessed by a uniquely picked board of specialists (PoE). Two Delphi collaborations were then led where the first was to assess the ICT indicators, and the second was to approve the draft ICT-literacy instrument. In Phase-3, the draft ICT literacy instrument was approved and tried through two pilot tests, lastly the instrument was tried on a bigger number of members for its final instrument trial. The approval and testing process demonstrated that the ICT-education TBA instrument is legitimate and reliable when tried on its planned members, and the instrument is prepared. The instrument provides data with respect to every member's region of shortcoming in ICT. This instrument can turn into an imperative device for schools and instructor preparing organizations as it identifies educators/learner educators' qualities and shortcomings in ICT information and aptitudes. This knowledge might be utilized by the school/instructor preparing organizations to tailor their educational module to support their ICT quality and shortcomings, to guarantee that their educators/learner educators possess the vital ICT knowledge and abilities.

Dianna E. Sachs (2013) *Assessing the Effectiveness of Online Information Literacy Tutorials for Millennial Undergraduates*: This article provides details regarding the discoveries of an examination that assessed the adequacy of redesigning online information literacy tutorials so as to meet the adapting needs and inclinations of Millennial students. Utilizing both quantitative and qualitative measures, this examination compared two distinctive online
tutorials – a static, HTML-based tutorial and a dynamic, interactive, audio/video tutorial. This investigation found that, in opposition to speculations made in the library and education literature, Millennial students gained similarly well from both tutorials. However, students communicated a considerably more elevated amount of fulfillment from the tutorial intended to be "Millennial friendly.

Shabana Tabusum S.Z (2014) Digital Literacy Awareness among Arts and Science College Students in Thiruvallur District: A Study imparting training to the user community of academics to retrieve right information at right time. he present examination was embraced in the Thiruvallur District of Tamil Nadu to comprehend the digital competency of Arts and Science Students with special reference to three colleges. The polls were conveyed among an example of 300 Arts and Science Students chosen aimlessly from three universities in and Tiruvallur District, of which 224 surveys were chosen for further statistical process. Data was accumulated at the level of utilization of digital resources and the capability in the utilizing of digital data.

Iqbal Singh Brar (2015) Digital Information Literacy among Health Sciences Professionals: A Case Study of GGS Medical College, Faridkot, Punjab, India This paper is basically a case study and an attempt has been made to highlight the information literacy skills among the health science professionals i.e. teachers and postgraduate students of Guru Gobind Singh Medical College (constitute college of Baba Farid University of Health Sciences), Faridkot. The information literacy has different parts such as Computer Literacy, Library Literacy, Media Literacy, Network Literacy and Digital Literacy. The present study is only focused on the assessment of digital information literacy among the health sciences professionals within the scope of the study. The assessment of DIL
skill was done using a questionnaire and interviews to fill up the gap of the area in health domain special reference to Baba Farid University of Health Sciences, Faridkot.

**Jesse R. Sparks,1 Irvin R. Katz,1 & Penny M. Beile**

Assessing Digital Information Literacy in Higher Education: A Review of Existing Frameworks and Assessments With Recommendations for Next-Generation Assessment

1 Educational Testing Service, Princeton, NJ 2 University of Central Florida, Orlando, FL: Digital Information Literacy (DIL) generally characterized as the capacity to acquire, comprehend, assess, and utilize data in an assortment of digital technologies critical skills are needed for accomplishment in higher education and in addition in the worldwide arranged economy. To decide if school graduates have the imperative information and abilities in DIL, higher education organizations must have the capacity to regulate and utilize results comes about of assessment of DIL. This paper gives a thorough audit of existing meanings of this construct in major frameworks from higher education and the workforce and proposes an operational meaning of DIL. Finally, the paper discusses challenges and considerations surrounding the design, implementation, and use of next-generation assessments of DIL.

**P. Ramamurthy**

Information Literacy Search Skills of Students in Five Selected Engineering Colleges in Chittoor District, Andhra Pradesh: A Perspective

The study investigated the knowledge of information literacy and search skills of students in five selected Engineering Colleges in chittoor district, Andhra pradesh. It also examined students’ ability to distinguish diverse information sources as well as assess the effectiveness of information literacy programmes of engineering colleges. The sample comprises of 275 respondents
drawn proportionately from a populace of 300 from the chose Engineering schools. Descriptive survey method was utilized to inspire information through Questionnaire on Information Literacy in this investigation. The information gathered were broke down utilizing straightforward rates. It was discovered that dominance of respondents have low learning of IL aptitudes, indicated high insufficiency in recognizing assorted data sources and the different IL programmes of the respondents institution lacked hands-on. In this way, the requirement for an improved and nonstop library client training equipped towards enabling students to be adequately acquainted with data sources, collaboration amongst teachers and librarians to guarantee integrated method of delivery, consistent support and sensitization out reaches.

Maulik Kamdar Review of Literature Socio-economic Impact of Digital Literacy: The following paper presents a brief review on the literature which have contemplated the socio-economic impacts as well as factors of digital literacy and e-learning. The examination completed with the utilization of different models and structures have been clarified in short and the outcomes have been counted giving a concise understanding into the positive focuses and the confinements of each arrangement. Digital Divide, a standout amongst the most squeezing social liberties issues of the neo Millennium has been discussed.

Maharana and Mishra (2007) conducted a survey of digital information literacy of faculty at Sambalpur University. The reaction rate was 66.7%. The investigation uncovered that interest for e-sources primarily e-journals are on the top with 82.86% responses. A greater part of the respondents i.e. 92.8% utilized the e-resources to stay up with the latest. The examination likewise uncovered that realness and dependability are the most critical parameters for assessment of online
information and every one of the respondents communicated the desire that the library should step up with regards to advancing Information Literacy at the university level.

Nikos Koutras (2014) *Information access, information literacy and digital divide*: It is clear that information access has significant meaning, since 1995 and the ‘genesis’ of Internet. Amid the most recent decades Digital Divide has enduring development and its importance making strides towards to the worldwide economy and social improvement. It is comprehended, that there are contrasts with respect to Information and Communication Technologies (ICT) abilities among eras that ought to be crossed over. As in our century there are a few methods for conveying, for example, by means of email messages, sms, fax messages and so forth. To sum up, this paper indicates the importance of digital divide and its reaction with information and information literacy. In any case, Digital Divide as an associated phenomenon with information access can be dispersed into various classes as it has an overall spread and host multiculturalism. Moreover, it ought to be specified that there have been bounty conferences, classes and commissions for the digital divide issue and access to online information (such as: the conference of International Association for Media and Communication Research-2012, the 5th Annual Conference on Library-2012 and Conference on Educational Leadership Technology-forthcoming November of 2013). It is clear that this fact indicates an imperative meaning regarding access to information. Yet, the role of educational and training methods concerning information literacy should assist trainees in order to gain much more access opportunities towards to digital reality. To sum up, viable utilization of Information and Communication Technologies (ICT) can be received as an
alternate approach to offer solutions. Furthermore, this utilization consolidated with additionally access to data and reception of appropriate educational methods in other words effective means concerning information literacy will incorporate new innovations as an everyday and social habit.

Dr. Rani Syamalamba Information Literacy Programmes for Undergraduate Students In recent years: Information Literacy has turned into a worldwide issue and numerous IL activities have been reported all through the world especially in the field of HE. Under graduate students lack the skills to prevail in this quickly changing technological ambience, and faculty require preparing and support to make utilization of new advances for effective teaching and learning. This article examines the idea of IL and the part of college librarians in creating IL skills in libraries

Neena Singh\(^1\)(in collaboration with Andreas Klingenberg\(^2\)) Information literacy in India and Germany – university libraries as activators of lifelong learning. The paper highlights the part of academic libraries in advancing and developing data abilities of students in present day automated and hybrid libraries and their part in building up an information society. It characterizes IL and the real IL abilities required by students. The paper clarifies IL activities in India especially the part of horticultural colleges in bestowing IL courses implanted into course educational programs. It talks about the IL projects of German colleges and fundamental models of showing data aptitudes by academic libraries at some German colleges. The article likewise says challenges into consolidating IL over the educational programs.
Discussion

The reviewed literature shows that students information literacy was assessed using the questionnaire in majority of the IL assessment studies. The questionnaire contains the questions relating to the information literacy and library practices. Only Jessnor (2012) used Task Based Assessment to assess the ICT literacy of the trainee teachers. The other studies discussed above assessed the IL skill of the students through questionnaire. Jessnor(2012) used Delphi technique to construct a new task based assessment tool. Delphi is considered as an efficient way to develop a new instrument; hence it involves the suggestion of experts. Research studies also insist on the construction of new tool to assess the IL skills of the students in different culture and social background. Nikos (2014) discusses the digital divide which acts as a barrier to their information literacy skill. It also discusses the socio economic impact on the information literacy. Neena Singh insists on the importance of conducting digital information literacy programs in schools and colleges of India in order to widen the digital divide.

2.6 FACTORS INFLUENCING DIGITAL INFORMATION LITERACY

2.6.1 Social Media and Digital Information Literacy

Miller (2009) Developing 21st Century Skills Through the Use of Student Personal Learning Networks: This study discusses the development of 21st century communication, collaboration, and digital literacy skills of students at the high school level with the help of online social network tools. Qualitative research was used to conduct this study. Findings of the study revealed that how the continued use of social network tools have a positive impact on students 21st century communication, collaboration and digital literacy skills. It also confirmed how the social networking websites act as a learning tool for the students.
Emily M. Wilson (2012) from fountain pen to facebook post: networking literacy as the intersection of digital and epistolary illiteracies. This thesis examines the connections between 18th century epistolary literacy and 21st century digital literacy. A networking literacy is literacy created in a dialogic domain between at least two individuals who are excessively removed in nearness, making it impossible to convey verbally and strongly informed by audience, is typically discursive, and focuses on topics that are more in personal angle. Networking literacies goes beyond geographical location, historical moment, and technology. While the tools of emerging technology change, the need writers have to engage in networking literacy and the impact it can potentially have upon their motivation to write and comfort with writing, writing with a pen or a light pen using computer or smart phone in their hands. However, whether it’s via Post, Tweet, or status update, networking literacies will find a way into our new technologies. Although networking literacy will certainly shape and be shaped by technology, an essential set of principles about the writer and writing process will remain the same regardless of the writing tools used.

Ito et al (2010) Hanging Out, Messing Around, Geeking Out: Living and Learning with New Media: an ethnographic study conducted among the US teenagers revealed the learning and innovation that accompany young people’s everyday engagements with new media in informal settings.

Atari Metcalf, Michelle Blanchard, Trent McCarthy and Jane Burns (2008) Bridging the Digital Divide: Utilizing technology to promote social connectedness and civic engagement amongst marginalized young people: The development of the web and related advancements, for example, cell phones, digital film and photography in the most recent decade has seen a
considerable move in the way youngsters communicate and share data. The role that information and communication technologies (ICT) may play and the effect they may have on the psychological well-being and prosperity of youngsters is not surely knew and there are crevices in the evidence base surrounding the efficacy of emotional well-being promotion and prevention initiatives that utilize technology. The Bridging the Digital Divide Project examines the potential use of ICT to promote social connectedness and civic engagement in young people experiencing marginalization a social exclusion in the society. This paper discussed the barriers in implementing the ICT based projects which are designed to promote civic engagement and social connectedness with young people those who are experiencing social exclusion.

Julia Davies (2011) *Facework on Facebook as a new literacy practice.*

This paper focuses on 25 UK teenagers’ language and literacy practices on Facebook; it draws on data from interviews and from their Facebook ‘walls’. The study examines whether Facebook provides a forum for gaining new literacy practices through text-making, the research considers how teenagers used the website to present their self and involve in friendship driven practices. From the results, it was found that Facebook and were found to reflect both ‘traditional’ and new ways of self presenting and making friendship.

Natalia Sinitskaya Ronda (2011) *Facing The Facebook Challenge: Designing Online Social Networking Environments For Literacy Development*

This research involved a group of teenagers learning within a Facebook environment. The purpose of the project was to facilitate literacy development with social media. To that end, an educational application, *My Writing Circle*, was designed on Facebook as a platform for a group of Grade 11 students to engage in
reading, writing, viewing, and making meaning digitally. The three environments that were featured in *MyWriting Circle* were a space for sharing individually produced artifacts, a video-posting environment, and a collaborative wiki space. The conceptual framework for the project explores the notion of digital literacies as an approach to meaning making which relies primarily on digital media. This study discuss three shifts in the conceptualization of literacies: from print-based to multimedia, from individual to collaborative, and from authoritative to social and contested. These three shifts are used to examine of digital literacies in this project.

The Facebook application aimed at creating a new *third space* of literacy for the participants. This space investigated the crossing points of social and academic conditions, and offered open doors for education engagements that would be unfathomable in either space. The students showed multiple ways of entering a third space. For the teacher, the conflict between social media uses and the need for classroom control was difficult to settle. This study urges the social media tools usage for academic purposes. Significantly, this project demonstrated that while bringing Facebook into a high school classroom is a difficult process. The unique learning experiences facilitated by the Facebook application highlight the importance of pursuing upcoming academic research in connection with social media tools.

**Chia-chen Yang • B. Bradford Brown (2012)**

*Motives for Using Facebook, Patterns of Facebook Activities, and Late Adolescents’ Social Adjustment to College:* Previous studies have confirmed that Facebook, the leading social networking site among young people, facilitates social connections. This study examined associations between patterns of Facebook activity, motives for using Facebook, and late adolescents’ social adjustment to the college
environment. A self-report survey data from 193 mostly European American students (M age = 20.32; 54% female) attending a major Midwestern university indicated that motives and activity patterns were associated directly with social adjustment, but the association between one activity, updating status, and social adjustment also was altered by the motive of relationship maintenance. Findings provide an overview of how Facebook use may foster or inhibit social adjustment in college.

**Selami Aydin (2012)** *A review of research on Facebook as an educational environment* The purpose of this study is to present a review of Facebook as an educational environment the studies conducted so far. The study is categorized into six sections: Facebook users; reasons people use Facebook; harmful effects of Facebook; Facebook as an educational environment; Facebook’s effects on culture, language, and education; and the relationship between Facebook and subject variables. Additionally, the study compares Facebook usage in Turkey to its use on a global scale. To conclude, there has been a serious lack of research on Facebook’s use as an educational resource, as current literature reflects how Facebook might be used as an educational environment. Finally, the study suggests practical recommendations for educators to use FB as an educational tool.

**Meredith Ringel Morris1, Jaime Teevan1, Katrina Panovich2**

*Comparison of Information Seeking Using Search Engines and Social Networks* : The Web has turned into a critical data vault; frequently it is the primary source a person turns to with an information need. One regular approach to seek the Web is with a search engine. Be that as it may, it is not generally simple for individuals to discover what they are searching for with keyword search, and on occasion the desired data may not be promptly accessible on the web. An option, encouraged by
the ascent of social media, is to conduct a search in own's social network profile. This paper explores the pros and cons of using a social networking tool to fill an information need, in comparison to a search engine. Results shows that 12 participants searched the web while simultaneously posing a question on the same topic to their social network, and compared the results they found by each method. Information seeking in search engine was more efficient way.

Lorretta J. Davis (2010) *Social Networking Sites as Virtual Communities of Practice* (VCoP)-A Mixed Methods Study: Membership in social networking sites are increasing rapidly. Social networking sites serve are known for networking, communication, job and sharing knowledge. As individuals begin to follow and participate in social networking sites of their own interest, is it possible that virtual communities of practice (VCoP) will form? In VCoP, knowledge sharing, learning, and problem-solving practices occur. Using the Trainers Network, a group on the social networking site LinkedIn, this mixed methods study quantitatively examined the relationship between connectedness and learning. Connectedness and learning are important factors in creating a sense of community. Learning and trust may develop when community exists and is essential in sustaining VCoPs. The study qualitatively explored the perceived transfer of informal learning from the social networking site to workplace practices and professional development. The implications for workplace learning and performance professionals are numerous for social networking sites that offer the benefits of VCoPs.
Uses of Facebook by Adults Social network sites (SNSs) are bundles of information and communication tools that can be used to support collaboration, among other uses. In a qualitative study of adult Facebook users (N=18), it is found that some users did turn to the site for information uses that are embedded in social activities, including organizing events, establishing online groups, and seeking information. The study also discusses the features of Facebook that respondents discussed as being important to these uses.

Discussion

Reviewed literature collected under this section discusses the relationship between the use of social media and its impact on literacy and learning. Research confirmed that social media practices end up in improving new literacy practices. Davies (2011) tells how Facebook provides a forum to gain new literacy practice by texting, presenting their profiles. Wilson (2012) says that students gain a new literacy practice called networking literacy while roam online. A study by Leung (2008), shows that being information literate with internet connectedness also improves the quality of one’s life. The finding of the study confirmed that social media helps to improve the social adjustment qualities, collaboration skills and strengthening the civic engagement. Miller (2009) in his study conducted among students also confirmed that social media also acts as an informative tool and it is used for collaborative learning. The researches show that social media practices, lead to a kind of informal learning happening among the digital youth. The research studies also confirmed how the social networking websites are affinity space for youth. Affinity spaces are locations where groups of people are drawn together because of a shared, strong interest or engagement in a common activity.
Hence the investigator tried to find out, how the influence of these social media practices are found on Digital Information Literacy skills of students.

2.6.2 Gender Difference

Adeyinka Tella and S.M.Mutula (2008) *Gender Differences In Computer Literacy Among Undergraduate Students At The University Of Botswana: Implications For Library Use*: This paper, presents discoveries of an examination that was done in January 2006 at the University of Botswana to decide gender difference among students over all disciplines with respect to computer literacy. Five hundred understudies were surveyed of which 300 were females while 200 were male. The extent of female to male students at the University of Botswana is 53% : 47%. Through purposive sampling researcher selected respondents from the six departments of the University; a survey questionnaire was administered to them and collected on its completion. Descriptive statistics and t-test were used for statistical analysis. The results show that gender differences exist between female and male undergraduate students at the University of Botswana with regard to computer literacy. The findings further revealed that students with higher computer literacy were more inclined to access and make use of library facilities. Moreover, differences existing the respondents’ computer usage and software application.

Shabir Ahmad *Gender Difference in Usage and Awareness of Digital Information Resources*: In Teacher Training Colleges: A Study Of Anantnag District-J&K (India): The study investigated the gender differences in usage and awareness of digital information resources in teacher training colleges in Anantnag district of J&K state of India. Present age is the time of Information Communication Technology (ICT) where every single part of our life is being affected and changed by it. Regardless of whether it is economic sector, health, politics, education,
research, every division is presently ICT based. Be that as it may, among every other division the most critical one is the education. ICT has enormous scope in education. In this respects, this examination was attempted to decide whether there are gender difference in the utilization and familiarity with these ICT based technologies among the B.Ed. students of the colleges under investigation. The study evaluated the use of ICT by assessing the differences in internet access, frequencies in digital resources utilization, reasons for utilization and problems faced when using the digital resources. The study was a descriptive cross sectional survey involving the use of a self structured/pretested questionnaire. 300 students were inspected including 129 male and 171 female students utilizing appropriate statistical test. The results showed male students have better computer experience than female students, as 33.33% males and only 12.28% females have more than 4 years of computer experience. Both male and female students prefer search engines like Google for fulfilling their information need 40.31% and 44.45% being the ratio in males and females respectively. 37.99% male and 42.69% female students lack proper IT training to go for the digital information resource as only 10.85% male and 10.53% female students have gone for a proper course for using IT sources and search strategies involved there.

**Samson Oyeniyi (2013) Gender differences in information retrieval skills and use of electronic resources among information professionals in South–western Nigeria:** The study investigated the gender differences in information retrieval skills and use of electronic resources based on a sample of 175 information professionals surveyed in academic libraries in South-western Nigeria. A simple random sampling technique was used to select the information professionals. They call librarians as information professional. 250 samples were collected using
structured questionnaire. Frequency counts, simple percentages and inferential statistics of t-test and correlation analysis were used for SPSS analysis. The findings did not reveal that gender differences exist between male and female information professionals on the basis of acquisition of information retrieval skills. Similarly, there was no statistically significant difference in respondents’ with regard to use of electronic resources. However, the study revealed that male professionals revealed a slightly higher mean score on their use of electronic resources. The paper provided suggestions on staff’s development and capacity building in library and information centres with respect to ICT skills acquisition especially in a gender-sensitive environment.

JiHyun Park1, Soojin Kim2, Eunkyoung Lee3 Proficiency level and Gender Difference in Computer and Information Literacy

Background/Objectives: In the digital era, the importance of computer and information literacy is increasingly emphasized. The study aims to analyze the achievement characteristics of Korean students based on proficiency level and gender. This study calculated the percentage of each student groups and the difference between groups to each assessment aspects of ICILS 2013 using Republic of Korea data.: The result showed that there was big differences both in ‘Creating information’ and ‘Sharing information’ compared with other aspects between proficiency levels and between genders in Korea. In particular, the highest level (Level 4) showed the big difference in percent correct between gender in ‘Creating information’ and the lowest level (Below level 1) showed the great difference in ‘Sharing information’. Application/Improvements: The results suggest conducting remedial education for Korean students based on proficiency level and gender ICILS.
Gender differences in computer and information literacy: An exploration of the performances of females and males in ICILS 2013IEA’s International Computer and Information Literacy Study (ICILS) 2013 showed that in the majority of the participating countries, 14-year-old females outperformed males in computer and information literacy (CIL): results that seem to break the common view of males having better computer skills. This study used the ICILS data to explore whether the achievement test used in this study addressed specific dimensions of CIL and, if so, whether the performances of females and males on these subscales may differ. The study investigated the hypothesis that gender differences in performance on computer literacy items would be slightly in favour of males, whereas gender differences in performance on information literacy items would be slightly in favour of Females. Furthermore, it was examined whether such differences varied across European countries and if item bias was present. Data was analyzed using a confirmative factor analysis model, i.e. a multidimensional item response theory model, for the identification of the subscales, the explorations of gender and national differences, and possible item bias.

Ting-ting LIU, Hai-bin SUN Gender Differences on Information Literacy of Science and Engineering Undergraduates: Information literacy (IL) forms the basis of lifelong learning and plays prominent role for students majoring in science and engineering. As far as higher education concerned, gender differences may influence students’ academic achievements. In order to evaluate the gender differences on information literacy of undergraduates, certain undergraduates were surveyed using a questionnaire tool. The data of the survey was analyzed by using SPSS. The findings of the study indicate that there is a gender difference does exist.
in information literacy. t-test for two groups of male and female students were used. The results shows difference in terms of mean scores obtained in information consciousness, information competency and information ethics.

**Discussion**

Research studies collected on gender difference among the students with regard to their information literacy. Majority of the studies collected confirmed the gender difference persists. Punter et al (2013) confirmed that gender difference exists in computer literacy. The study also says that female lacks proper IT learning skills. Akande (2013) shows gender difference occurs on the basis of acquisition of information retrieval skills. Male professional scored high on the use of electronic resources. Investigator wants to identify the gender difference exist among the male and female students.

**2.7 RESEARCH GAP**

Gaps in research on this topic are evident and provided more focused direction on what has to be researched and why. From the reviewed literature, there is an abundant of Information Literacy Projects, Digital Literacy Projects and Models are available in International arena in order to develop their ICT Skills. Following that a lot of assessments tests were performed online. In western countries, being a Digital Information Literate is insisted among the digital youth and also that Digital Literacy assessment tests scores have been widely used for employment. In India, slowly the scenario of being digital information literate is becoming important. In India, lots of e-Literacy programmes are introduced to improve the Digital literacy. But there is not a proper definition or models for the term Digital Information Literacy. There are only few assessment tools to check
the Digital Information Literacy of the student that too through paper and pen based efficacy assessment. Here in the Indian Context there is not a proper tool to assess the Digital Information Literacy skills. Particularly, Digital Information Literacy skills of students in the rural areas were not studied properly. Hence the investigator identified that there is a need to develop a model to define what digital information literacy in the Indian Context is. Investigator also aimed to develop a tool for assessing the Digital Information Literacy skills of a student. The present study is an attempt to assess the DIL skills of a student using task based evaluation. Besides the assessment of DIL skills, study also tries to find the influence of social media practices, gender, and socio economic status and some other demographic factors on Digital Information Literacy skills of a student. From the reviewed literature, the investigator also identified a gap that many studies did not discuss factors like language, nativity and year of birth which may also have influence on Digital Information Literacy skills. Hence, this study also strives to search for any semblance in the pattern depending on other factors such as the college which they study, year of birth, medium of their instruction in school and the device they use to access social media and the stream they study in (Arts or Science Stream) and evaluates also whether these factors have influence on digital information literacy.
2.8 CONCEPTUAL RESEARCH FRAMEWORK

In this section, the investigator attempts to discuss and justify the choices of the strategy and design used for the research. This section also emphasizes the requirement for an improved Digital Information Literacy assessment tool for students, with valid reasons on why another instrument is needed. It argues on the need for a task-based assessment (TBA) tool and the reasons for the unsuitability of questionnaire method to assess ICT knowledge and Information Literacy skills. It also discusses the framework which has been adopted to develop the new assessment tool. This section also discusses the framework adopted to study and categorize the social media practices of a student.

2.8.1. Why Task-based assessment (TBA)

“Task-based assessments require a person performing an activity that simulates performance to engage in behavior outside the test ”(Robinson & Ross 1996). Rather than making the subject to answer the questions and testing the accuracy of responses, the scheme laid out is to do a demonstration of the scope of the knowledge that a subject has acquired through IL skills.

The task-based assessments are classified into performance-referenced, task-based and system-referenced task-based. This study uses a performance – referenced task based, which has no fixed definition, yet a common understanding to “emphasize testing complexity and higher order knowledge and skills in real-world contexts, accompanied by open ended tasks that require significant time to complete” (Swanson, Norman & Linn 1995). Drawing from the concepts of ACRL standards, Information Literacy Assessment and the TBA tool of performance-referenced type has been developed. The ACRL standards were taken to develop a tool in an Indian touch to fit into the context. Instead of the conventional
Questionnaire method where the student-subjects tell the investigator and fill the questionnaire with the questions related to digital information literacy to show whether they have appropriate skills, they demonstrate it through a series of computer based tasks. Tasks such as retrieving information online, presenting the collected information, adding hyperlinks and video links and so on are some that are given to them for the assessment purpose. Performances were evaluated on the basis of relevance of the information they have collected, how well they presented it in word or PowerPoint. This new instrument identifies areas in which a student’s knowledge of DIL is weak and in which area he/she is good; using the results of this test; students can also further improve the level of digital information literacy. Thus this tool enables to rate the caliber of student’s knowledge and their range of performance screening them where they are good or weak. Digital Information Literacy of the students can be assessing through a series of tasks performed in a computer. Tasks given were based on the ACRL standards. The base for this new TBA –DIL instrument will be derived using the ACRL standard.

2.8.2. ACRL Standards

To design a new TBA tool investigator used the ACRL standards. The United States National Forum on Information Literacy defines information literacy as "the ability to know when there is a need for information, to be able to identify, locate, evaluate, and effectively use that information for the issue or problem at hand". Being a pioneer in developing and implementing information literacy standards and programmes, the United States has set up a quality mark to spread these literacies to its common people, especially of its youth. The colleges and schools in the US have ushered with various policies and guidelines to make the students cope with the networking society. The American Library Association
(ALA) landmark publication “Information Power” and the Association of College and Research Libraries (ACRL) publication, “Information Literacy Standards for Higher Education” have both become actual standards for information literacy competencies from school level to college, not just across the United States but also in many nations throughout the world. In January 2000, the ACRL approved the final version of the standards which were developed by the ACRL Task Force on Information Literacy Competency Standards. The goal of the task force was to provide a complete framework for information literate individuals. The ACRL final product includes 5 standards, 22 performance indicators and more than 100 outcomes.

In a book, Information Literacy Assessment: Standards-based Tools and Assignments, there are suggestions provided for developing and writing IL assessment instruments. This book discusses the complete ACRL standards. In this book Neely, a top information literacy expert, frames these ACRL standards as benchmarks and provides a toolbox of assessment strategies to demonstrate students' learning. ACRL Information Literacy Competency Standards (ACRL 2000) for Higher Education were designed to assess the information literacy of an individual.

“Standard : 1 The information literate student determines the nature and extent of the information needed. Standard : 2 The information literate student accesses needed information effectively and efficiently. Standard : 3 The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system. Standard : 4 The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose. Standard : 5
The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information legally and ethically.”(ACRL,2009). ACRL book gives methodologies to produce tools for IL assessment in digital context. A list of performance indicators were generated from this ACRL framework. Indicators were selected by keeping the rural students in mind. A final list of performance indicators, were shortlisted using the statistical methods.

Rubric

According to Heidi Goodrich Andrade, rubric is a simple way to set up a grading criteria for the tasks they are performing assignments. Rubric is needed for Task Based Assessment in order to say in what level they are able to do the task, which level they get struck. It will also help to find whether the test takers are beginner or expert and Weak or Strong. Suitable rubric for this TBA tool will also need to be developed.

Summary

The investigator finds ACRL framework for information literacy as appropriate method in the Indian context. Drawing the concepts from ACRL standards, the investigator had planned to develop a tool to assess the Information Literacy in a digital context. A proper rubric will be also developed to assess the skill of the test taker.

2.8.3. Social Media Practices

For the youth in the United States, digital media and online communication are an inevitable component of their everyday lives. Diversified forms of technology are conspicuous and the endorsement rate is also very high. An entire generation finds themselves in a milieu where the whole gamut of social and
cultural fabric of learning, playing, and social communication and everything become the part of the digital media. “In an effort to understand how digital media are changing the way young people learn, the Digital Youth Project conducted an extensive ethnographic study of young people living in the United States” (Ito et al., 2010).

An ethnographic study was conducted for duration of three years among US teenagers and kids about their new social media practice. The Study ‘Hanging out, Messing Around and Geeking Out’ by Mac Arthur foundation how using new digital tools and networks are engaged in an unprecedented exploration of language, games, social interaction, problem solving, and self-directed activity that leads to diverse forms of learning. These diverse forms of learning showcase in their way they express their identity, independence and creativity. Their ability to learn, discern and exercise judgment and focus systematically also prompted by their usage of these digital tools. Among the practices and agendas framed in their own world, how are new media being taken up by the youth? And how do these practices change the dynamics of youth-adult discussions over literacy, learning, and authoritative knowledge? How does engaging in new media get a link with sections of youth culture and identity? Do new media define or disrupt the youth identity of a complete generation? To what extent? How do new media practices get a profile in the negotiations that appear between youth and adults? Particularly how are the practices mobilized in issues between them over learning and socialization?. The ideas of Henry Jenkins have been sourced for the authenticity of conceptual framework. He had come out with the concept of “participatory media cultures,” that he used to define the fan communities in the 1970s and 1980s. From the findings of the Digital Youth Project three primary genres of
participation or modes of engagement emerged those are Hanging Out, Messing Around and Geeking Out. These three genres of participation will describe different degrees of commitment with media. “Genres of participation allow us to identify the sources of diversity in how youth engage with new media in a way that does not rely on a simple notion of divides or a ranking of more or less sophisticated media expertise” (Ito et al, 2010).

**Hanging Out**

Hanging out, youth spends more time and energy in making friends online, they chat with existing friends and form friendship-centered social groups. Flirting and Online Dating are also described as hanging out practices. Geeking out is an interest-driven practice, where the students use social media for to connect with their interest based groups. Through interest-driven engagements, interest comes first and they form a friend network based on their interests.

**Messing Around**

Unlike hanging out, in which a youth spends great deal of time to connect with friends, messing around represents the intense engagement with media content. During messing around, young people work on the content of the technology and media, they tinker and explore with the media. “Messing around activities include looking around, searching for information online, and experimentation and play with gaming and digital media production”.(Ito et al,2010)
**Geeking Out**

Geeking out is described as more intense engagement to or engagement with media or technology. Geeking out involves learning to navigating into the domains of knowledge and practice. Youth find online relationship that center on their interests, hobbies, and career aspirations. (Ito et al., 2010)

**Friendship and Interest Driven practices**

The study ‘Hanging Out, Messing Around and Geeking Out’ categorically places two segments in new media practices - Friendship driven and Interest driven. Friendship driven practices are purely a form of Hanging Out participation, as it involves virtual hanging out with friends. Typical examples for these hanging out friendship driven practices are updating social network profile, chatting with friends. Also the more friendship- driven practices of creating profiles on social network sites or taking photos with friends can lead to “messing around” in the more interest-driven modes of digital media production. The two modes can possibly be overlapped. More friendship-driven modes of “hanging out” with friends while gaming can change its course to more interest-driven genres of recreational gaming. Classifying a distinct genre of participation of “messing around” with new media, in some cases mediate between genres of “geeking out” and “hanging out.” Certain aspects of interest-driven engagements can have the consequence of resulting in a deep and abiding friendship. “Transitioning between hanging out, messing around, and geeking out represents certain trajectories of participation that young people can navigate, where their modes of learning and their social networks and focus begin to shift” (Ito et al., 2010).
This framework has been adopted by the investigator in order to study the social media practices of college students. Social Media Practices of college students in this study context is defined, as student’s engagement with social medium such as social networking websites, online discussion forums, photo and video sharing websites, blogs and Instant Messengers.

2.9. CONCEPTUAL DIAGRAM FOR DIL ASSESSMENT TOOL

![Conceptual Diagram](image-url)

Conceptual Diagram for DIL assessment and influencing factors