Information Literacy Competency Levels of Research Scholars in History: Assessment and Mapping

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Received: 27-7-2018; Accepted: 19-11-2018

ABSTRACT

The study is an attempt to assess the Information Literacy Competency (ILC) levels of History researchers with respect to 'Information Need', 'Information Access', 'Information Evaluation', 'Information Use' and 'Information Ethics'. It is an empirical study based on ACRL's five standards. A reasonably good level of ILC for researchers is essential to successfully operate in the new information environment and for survival in academics and research. The findings indicate that the maximum 62.8% of researchers were IL competent for 'Information Access', followed by 55.8% of researchers having IL competency to determine and express 'Information Need' and 53.5% of researchers have shown IL skill competency in 'Information Use Ethics'. Only 39.5% of researchers were found having IL skill for 'Information Evaluation' and the lowest of 34.9% of researchers have shown IL competency on 'Information Access'. The study identifies the areas for improvement and suggests multiple measures.

Keywords: ACRL standards, Competency levels, Information literacy, Information literacy competency, Information literacy competency mapping

INTRODUCTION

Information Literacy (IL) is a set of techniques, skills and capabilities essential for survival in new information age and has become a basic human right. It is information about information and the sources of information. It encompasses a good understanding of all aspects of information in a specific discipline ranging from the awareness of various forms and formats of information; the underlying differences among them; expertise to locate and access various information formats and retrieve the required information; establish the reliability and validity of information; and use the identified information ethically and communicate with rest of the world. It enables the users of information sources to interpret and make informed judgments as well as to become producers of information in their own right.

The term ‘Information Literacy’ has multiple conceptions and different scholars and institutions have defined it accordingly. Shapiro and Hughes (1996) defined IL as

a new liberal art that extends from knowing how to use computers and access information to critical reflection on the nature of information itself, its technical infrastructure and its social, cultural, and philosophical context and impact.
Thus, IL consists of skills and abilities of how to use computers and access information as well as evaluate information in relation to its technical infrastructure and its social, cultural and philosophical context. The Chartered Institute of Library and Information Professionals (CILIP, 2004) defined IL as ‘knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner’. Thus, IL is a skill, ability, expertise, capability and competency of a person that enables him to locate and retrieve relevant and authoritative information from multiple sources. Emphasising the teaching and learning aspect Spitzer et al. (1998) opined that IL ‘is concerned with teaching and learning about the whole range of information sources and formats. It forms the basis for lifelong learning’. According to Koneru (2010), IL is the competency that empowers one with the required knowledge about information, its nature and available formats; skills to fetch the relevant information by sifting the irrelevant, and attitude for consuming and sharing information, by ethical means and practices.

The basic information literacy skills and competencies consists of an understanding of the information need, knowledge of information resources available, expertise to find and evaluate information, capability for ethical use of Information and better understanding of how to manage findings. In nutshell, IL is the adoption of appropriate information behaviour to identify, through whatever channel or medium, information well fitted to information needs, leading to wise and ethical use of information in society (Webber and Johnston, 2003a).

A close analysis of the definitions and review of literature on the term ‘Information Literacy’ provides a set of skills and capabilities listed below:

- The skill and ability to determine the extent and articulation of information needs.
- The skill and ability to locate, identify and access suitable information sources to meet specific information needs.
- The skill and ability to effectively evaluate information and its sources in terms of authenticity and reliability.
- The skill and ability to use information and its sources efficiently and synthesise the new information with previous knowledge.
- The skill and ability to determine if the information need has been met adequately.
- The skill and ability to ethically communicate the produced information to the rest of the world.

Competency is a cluster of related skills, attitudes, knowledge and other specific attributes of individuals or group of individuals essential in a specific work environment. It is a set of attributes that correlates with the performance of individuals or group of individuals and can be measured using well-accepted standards. Periodic assessment of learners is critically important for success of any education and training program, as it provides continuous impetus for improvement and its success. It is equally applicable to information literacy.

Assessment is the means for learning, not just the method of evaluation. It is designed to inform about the acquisition of skills and thought processes by the students (Avery, 2003).

Competency assessment is an attempt to identify related skills, attitudes, knowledge and other specific attributes of individuals or group of individuals essential in a specific work environment. Competency mapping is a process which helps to assess the performance of individuals or group of individuals and determine different level of skills and competencies among them. Thus, this study is an attempt to find out whether the scholars enrolled for research in history possess Information Literacy Competency (ILC) and if so, to what level.
OBJECTIVE OF STUDY

SCOPE AND LIMITATION OF STUDY
This paper is part of a larger study conducted for award of Ph.D. The scope of the study is limited to the scholars enrolled in Ph.D. in the subject of History at University of Delhi (DU), Jawaharlal Nehru University (JNU), Jamia Millia Islamia (JMI) and Indira Gandhi National Open University (IGNOU). It is also confined only to the research scholars on roll in the subject during 2015–2017.

METHODOLOGY
The study has used questionnaire method to collect relevant data. The questions were formulated on the basis of selected concepts of Information Literacy Competency Standards for Higher Education (ACRL, 2000). Each of ACRL’s five Standard was transformed into a set of ten questions to empirically test the competency level of respondents. Thus, there were total 50 questions on IL skills and abilities. The responses of the respondents were evaluated and 2 marks were allotted to the correct answers. The following key concepts were identified using ACRL’s standards and questionnaire was developed for the purpose of this research study.

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

Identified Concepts: ‘Information Need’ including determination of extant and articulation of information need, identification of form and format of information, and selection of appropriate source and place of information.

Standard II
The information literate student accesses needed information effectively and efficiently.

Identified Concepts: ‘Information Access’ consisting of abilities to browse and search information using various individual and meta search engines and constructing search query for precise and relevant information retrieval.

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

Identified Concepts: ‘Information Evaluation’ with respect to authenticity and reliability of information available in multiple forms and formats and from various sources.

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

Identified Concepts: ‘Information Use’ including communication formats, methodologies, analysis and inferences.

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

Identified Concepts: ‘Information Use Ethics’ encompassing referencing, in text citation, citation style and plagiarism.
To measure the ILC level of respondents, the following Performance and Competency Scale was used (Singh and Kumar, 2019).

### Table 1: Performance and Competency Scale

<table>
<thead>
<tr>
<th>% of marks</th>
<th>Grade</th>
<th>Performance grading</th>
<th>Competency level</th>
</tr>
</thead>
<tbody>
<tr>
<td>91 and above</td>
<td>‘O’</td>
<td>Outstanding</td>
<td>Outstanding</td>
</tr>
<tr>
<td>81–90</td>
<td>‘E’</td>
<td>Excellent</td>
<td>Excellent</td>
</tr>
<tr>
<td>71–80</td>
<td>‘A’</td>
<td>Very Good</td>
<td>Very Good</td>
</tr>
<tr>
<td>61–70</td>
<td>‘B’</td>
<td>Good</td>
<td>Good</td>
</tr>
<tr>
<td>51–60</td>
<td>‘C’</td>
<td>Fair</td>
<td>Baseline</td>
</tr>
<tr>
<td>41–50</td>
<td>‘D’</td>
<td>Below Average</td>
<td>Minimal</td>
</tr>
<tr>
<td>Below 40</td>
<td>‘F’</td>
<td>Failed/Not Responded</td>
<td>Very Low</td>
</tr>
</tbody>
</table>

The above performance and competency scale clearly indicates the percentage of marks and grade obtained, corresponding grade and the IL competency levels. The ‘Outstanding’ performance grade denotes that ILC development is above the requirements, ‘Excellent’ performance grade denotes that ILC development clearly meets the requirements, ‘Very Good’ performance grade denotes that ILC development meets the requirements, ‘Good’ performance grade denotes that ILC development meets the requirements but to a limited extent and ‘Fair’ Level to ‘Failed/Not Responded’ performance grade denotes that ILC development is below the requirements.

### Population of Study

The research scholars registered for Ph.D. programmes in history under the four select central universities constituted the sample for study. Out of the total 86 respondents, 20 were from DU, 20 from JMI, 22 from JNU and 24 from IGNOU. The distribution of respondents and their percentage is given in Table 2 and Figure 1.

### REVIEW OF LITERATURE

Zurkowski (1974) coined the term ‘information

literacy’ as part of an analysis of the structure of the information industry. It has formally been defined by ACRL (2000), Muthumari and Tamilselvan (2014) as a set of skills and competencies that enables a person to identify information need; locate the precise and relevant information shuffling out the irrelevant from multiple sources and places; evaluate it in terms of authenticity and reliability; analyse and use it ethically to build new knowledge; and communicate the resulting information with rest of the world. ‘Information Fluency’ and ‘Information Literacy’ were described as two separate concepts by Lombard (2016). He further identified ‘collaboration and commitment’ as two necessary components to information fluency. In the rapidly changing new
information environment, IL is of great importance in the higher educational institutions. Dadzie (2007) reported that

in the university setting, information literacy is of critical importance. Students are expected to discover things for themselves, find the information they need and use the data to support their assignment and projects.

Ross *et al.* (2016) considered that ‘lifelong learning, information literacy skills and information literacy self-efficacy are associated with higher levels of student academic motivation’. Similarly, periodic assessment of ILC has assumed greater importance. Addressing the need of ILC assessment Kaufman (1992) opined that ‘although we live in an information age, most of the society suffers from information incompetency’. Hoffman and Goodwin (2006) also noted that even the students who are ‘technologically competent overestimate their ability to effectively search for and access information’. According to Baldwin (2008),

assessment can relate to teaching or to the level of information literacy of the student, or it can be directed to a set of standards and outcomes, to library instruction programs, etc.

Jarson (2010) enumerated the advantages of IL assessment by mentioning that an
effective assessment can help to understand students’ abilities and perceptions, measure the effectiveness of practices, develop criteria and standards, inform change, and more.

Many measurement tools have been developed for IL assessment. One such approach is exercise or task method. In this method, certain task or exercise is given to the students to assess their IL competency. Archer *et al.* (2009) reported such a study. Assessment allows the library to get the actual picture of the information competency of its users and to identify areas which require improvement. Webber and Johnston (2003b) suggested that ILC assessment should serve multiple purposes. It should be able to assess students’ current level of knowledge and skills; provide fruitful feedback during IL instructions for improvements and modifications; determine the levels of learning outcomes and overall success of the program.

**DATA ANALYSIS AND INTERPRETATION**

The details of ILC assessment and mapping of researchers in history is presented in Table 3 and Figure 2. The study has found groups of researchers having IL competency as well as IL incompetency on each ACRL Standard. As good as 55.8% history researchers consisting of 18.6% ‘Outstanding’, 23.3% ‘Excellent’ and 14.0% ‘Very Good’ were having IL competency to determine and express information need as well as identify information resources and places to meet the ‘Information Need’. There were 18.6% ‘Good’ researchers who could determine and express ‘Information Need’ successfully, but still require to work and improve their ILC skills. The rest 25.6% of the researchers were found lacking in similar IL skills and competency on ACRL Standard I.

On ACRL Standard II, only 34.9% of the researchers were found IL competent to access and browse information as well as use multiple information search tools and formulate precise search strategy. As many as 16.3% researchers were identified to have ‘Good’ ILC level for ‘Information Access’. However, they still need to improvise their IL skills to access information. The rest 48.8% of the researchers were found lacking in the similar skills and competency. Proper evaluation of information in terms of its reliability and authenticity is very essential in the new information environment. However, only 39.5% of the researchers were found having IL skill competency for the same. As many as 16.3% researchers were identified to have ‘Good’ ILC level for ‘Information Evaluation’ and require to further improvise their IL skills to effectively and critically evaluate information and its sources.
Besides, it is rather more important to note that 44.2% of the researchers were not having the required similar skills and competency on ACRL Standard III.

On ACRL Standard IV, the maximum 62.8% of researchers were found IL competent in use of information and its various communication formats and channels. They were also found competent to identify information methodology, analyse information and draw inferences from information. A small number of 11.6% of researchers were identified to have ‘Good’ ILC level for ‘Information Use’ and require to further improvise their IL skills to use information effectively. The rest 25.6% of the researchers were found not to possess similar skills and competency. A good total of 53.5% the history researchers have shown IL competency for information use ethics including referencing, citation and various aspects of plagiarism. However, as many as 25.6% researchers were identified to have ‘Good’ ILC level for ‘Information Use Ethics’ and require to further improvise their IL skills on ‘Information Use Ethics’. The rest 20.9% of the researchers have not shown similar IL skills & competency on ACRL Standard V.

### Table 3: ILC Assessment and Mapping of Research Scholars in History

<table>
<thead>
<tr>
<th>ACRL Standards</th>
<th>ILC Levels</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very Low</td>
<td>Minimal</td>
</tr>
<tr>
<td>Standard I</td>
<td>44.7%</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>11.6%</td>
<td>9.3%</td>
</tr>
<tr>
<td>Standard II</td>
<td>1416.3%</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>16.3%</td>
<td>16.3%</td>
</tr>
<tr>
<td>Standard III</td>
<td>1820.9%</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>9.3%</td>
<td>14.0%</td>
</tr>
<tr>
<td>Standard IV</td>
<td>89.3%</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>11.6%</td>
<td>4.7%</td>
</tr>
<tr>
<td>Standard V</td>
<td>67.0%</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>9.3%</td>
<td>4.7%</td>
</tr>
</tbody>
</table>
The cluster of ILC competent researchers is presented in Figure 3. The X-axis represents the number of researchers and Y-axis represents the respective ACRL Standard. It clearly indicates the clusters of researchers having different ILC levels on each standard. These researchers were found IL competent on respective standards to operate successfully in e-information setting.

FINDINGS AND SUGGESTIONS

A close analysis of the collected data reveals that the maximum 62.8% of researchers were IL competent for ‘Information Access’, followed by 55.8% of researchers having IL competency to determine and express ‘Information Need’ and 53.5% of researchers have shown IL skill competency in ‘Information Use Ethics’. Only 39.5% of researchers were found having IL skill for ‘Information Evaluation’ and the lowest of 34.9% of researchers have shown IL competency on ‘Information Access’. Similarly, the maximum 25.6% of researchers on Standard V, followed by 18.6% of researchers on Standard I, 16.3% of researchers on Standards II and III, and 11.6% of researchers on Standard IV were found to possess only a ‘Good’ level of IL skill competency and may operate in the new information environment, but they still require to learn and improve upon their complete information skills. However, more important are the findings related to IL incompetent researchers. The findings reveals that maximum 48.8% of researchers for ‘Information Access’ on Standard II, followed by 44.2% of researchers on Standard III for ‘Information Evaluation’, 25.6% of researchers on both ‘Information Need’ and ‘Information Use’ Standards I and IV respectively and 20.9% of researchers for ‘Information Use Ethics’ on Standard V were found IL incompetent and require urgent attention.

A reasonably good level of IL skill competency for history researchers is essential to successfully operate in the digital information environment and for academic and research survival. The following areas require improvement in order of priority.

- IL skill competency for ‘Information Access’;
- IL skill competency for ‘Information Evaluation’;
- IL skill competency for ‘Information Need’;
- IL skill competency for ‘Information Use’; and
- IL skill competency for ‘Information Use Ethics’.
This research study is an attempt to assess the IL skill competency of the researchers engaged for Ph.D. in history and suggests measures for improving it. The findings have clearly established that a good part of researchers are far behind competency level and possess only baseline or below IL skills. During the research multiple reasons were identified for the same includes no provisions for earmarked IL unit in the universities; IL activities were not based on models and standards; lack of structured information literacy activity for the research scholars and IL content missing from the Ph.D. course work, etc. Thus, a lot is still to be done for developing and improving upon the existing ILC of the target group. It is suggested that the university libraries should start a combination of IL activities. An earmarked, full-time IL Unit/Centre/with well qualified staff and suitable infrastructure for hands on training should be developed and maintained by each university. IL skill content should be made part of Ph.D course work under UGC guidelines. Universities may also start a credit-based and curriculum integrated IL course at undergraduate and postgraduate level. University libraries should also initiate ‘Training the Trainer Program’ for library and information professionals to make the library workforce information literate. WWW has emerged as a strong platform for online academic activities facilitating development and access to large number of teaching and learning tools and courses. It may be fruitfully utilised to provide ‘Online Information Literacy Tutorials’ facilitating IL skill learning in a 24×7 environment. In all such IL activities, a close collaboration between the teaching faculty and the library professionals should be insured on priority.

CONCLUSION

Good level of IL skills competency is essential among researchers to successfully operate in the new information environment. Scholars involved in historical research should be efficient to determine the extent and identify information need, browse and search precise and relevant information, evaluate information and its sources critically in terms of its reliability and authenticity. They should need to know why, when, and how to use information and its tools in an ethical and legal way. The research findings indicate that proper planning and implementation of multiple IL activities for developing information skills and enhancing the competency is the need of the hour.

REFERENCES


How to cite this article: Rajesh Singh and Shailendra Kumar, 2018. Information Literacy Competency Levels of Research Scholars in History: Assessment and Mapping. JIM - Journal of Information Management, Vol. 5, No. 2, pp. 46-54.