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# **Measuring Information literacy skills of graduate students of Lahore University of Management Sciences (LUMS)**

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## **Abstract**

The study was conducted in order to measure the information literacy skills of graduate students of Lahore University of Management Sciences (LUMS). To meet the purpose, a study was conducted in multiple phases. In the first phase, a comprehensive literature review was completed. In the second phase, a survey research design was solicited to collect the required data using a self-administered structured questionnaire. A convenient sampling technique was used to collect the required data from the population. The results showed that the majority of the graduate students have awareness about the information and its importance for their academic achievements. To fulfill their academic needs, the students desired the contents related to their assigned task subject and research so that they could identify a need, resources to access and authenticate the available information. The findings of the study would provide some useful guidance for University administration, policy makers and those concerned to improve and expand university level information literacy training sessions and programmes in Pakistan. These results could be executed on other universities with the same teaching and learning system, strategies, and environments.

**Keywords:** Information Literacy; Skills; Graduate students; LUMS University; Pakistan

## **Introduction**

Information literacy (IL) skills are vital for getting the required information to fulfill scholastic needs. IL skills play a significant role in accessing and disseminating the needed information. In particular, information literacy is important in this age because it helps us to adjust by giving us the ability to recognize when we need information and where to find it effectively and efficiently (Baro & Fyneman, 2009). Due to reckless growth in information, students are facing difficulties in locating their desired information. This information explosion has caused serious issues regarding the authenticity, and reliability of the information as well (Ranaweera, 2008). Naveed and Rafique (2018) describe that the information literacy term typically defined as a skill to set the need for information, how to locate desired information and its assessment, currency, and authenticity, then use it in decision making. Fidzani (1998) conducted a study at the University of Botswana and revealed that the graduate students depended intensely on library books and journals

to make foundations of information for their course-work. Further, it was observed that the students were more involved in the adoption of technologies, therefore, web-based instructions could be used for inculcating information literacy skills among the students. Jan, Anwar, and Warraich (2016) have pointed out that the core purpose of the academic libraries is to support teaching, learning and research activities which are only possible by providing access to the required information and related resources. They have further emphasized the vital role of academic libraries in the students' learning and performance in their studies.

In recent years, research regarding information literacy skills has attracted the attention of Pakistani academics, practitioners, and researchers. In the age of information explosion, students need more IL skills and experts to make choices about the tools to locate their relevant information. IL promotes and blooms a resource-based learning environment in which students make tangible and effective decisions about appropriate sources of information. IL further decreases the students' reliance on library and information professionals (LIS) and strengthens the ability to play with information with maximum confidence and bravery (Rafique & Khan, 2018).

LUMS has its own standing and leading higher education institute of Pakistan, as it can be seen in QS Ranking (symonds, 2019). It can offer a line for all other Pakistani institutions of higher education in the country, especially in the private sector to follow the policies for the enhancement of their instructional programs. Gad and Birgit Rausing Library, LUMS being the state of the art library of Pakistan, trying its best to deliver state of the art facilities to its users. Library efforts to enrich the graduate students with the best possible skills. This research will offer a productive insight for policymakers especially library professionals to revise information literacy instructional programs for LUMS and other universities as well. This study focused on answering the following research questions:

- What is the graduate students' perception of information literacy (IL)?
- What are the existing IL skills of graduate students?
- Is the IL program needed as a course for graduate students?
- What is the perception of graduate students about the role of IL in the students' development and learning?

## **Literature review**

Information literacy (IL) term appeared firstly in early 1970 when Zurkowski (1974) used the new term IL to describe the "techniques and abilities" known to the information literates. Different authors, knowledge organizations and groups offered different meanings, principles, frameworks, and expectations in information literacy. Gorman (2003) has emphasized that the rapid growth of information services makes it important for the citizen to be literate about information. In the customary perception, an individual is measured "educated" who is able to read and write. As technologies progressing, intelligence is becoming increasingly complex. Educators feel the need of learning to engage them in dealing with the information along with other learning processes. Information literacy as a procedure of skills that empowers a person to examine access, investigate and use information. Information literacy is a powerful concerned with learning, in-depth thinking, and to learn concepts of education (Ranaweera, 2008). In a study, Probert (2009) revealed that the

notion of knowledge literacy amongst the students was misconstrued. A few students (27%) acquired information literacy as ICT (Information Communication and Technology) and reflected that both terms are the same, whereas precisely (25%) were not sure about both perceptions. Faculty and library staff can play an important part in the improvement of students' information literacy skills. Sessions with respect to library rules need to be more frequent, and LIS specialists can also create enhanced outcomes. In Pakistan, at the beginning of 2008, the Department of Library and Information Science at the University of Punjab launched a robust IL system for the first time in the subject's history. Initially, in 2009, the six-hour course on IL was given, and Pakistan's Higher Education Commission (HEC) also revised its curriculum (Ullah & Ameen, 2014). Rafique (2014) described that professional librarians and faculty jointly held a meeting to plan IL sessions for students to use information effectively. He recommended training students for their proficiency in authenticating the source of information. Ullah and Ameen (2014) Insisted that librarians would take responsibility for equipping the students with guidance on information literacy. Bhatti (2012) conducted a study to evaluate education programs in the universities of Pakistan and noticed that only 40 percent of libraries gave their students sufficient user education programs. Major focus of the libraries was on providing orientations and library tours to the new entrants. Naveed and Rafique (2018) conducted a study of M. Ed. Students by using pretest and posttest tool and reported the significant impact of the training. Students highlighted the issues faced and training improved their skills. In his study, Mahmood (2016) exposed that Punjab University students had limited computer and internet knowledge and suggested instruction with respect to user searching techniques. He further suggested that such instructional programs should be designed for students at all levels of Pakistan. Rafique and Khan (2018) conducted a study of graduate students from two Lahore universities and concluded that the students preferred online resources on a library visit. The students claimed in this research that they had adequate skills to understand and explain the information required but the study suggested IL instruction for the students to become lifelong learners in finding, interpreting, arranging and using it for their future needs. LIS researchers have also discussed some of the major IL issues. Lack of interest among students in the quality of information literacy is a concern for the progress of information literacy. Furthermore, the lack of awareness of information literacy, the lack of cooperation between librarians and faculty are the major issues (Varlejs & Stec, 2014). In addition, the poor information literacy skills of the academicians are also an issue. LIS experts' reluctance to conduct instructional programs and poor training assessment plans are also among the issues in inculcating the information literacy contents effectively (Johnston & Webber, 2003). Another issue is the lack of systematic orientation methods for students about library resources and their services (Fidzani, 1998). Lwehabura and Stilwell (2008) have described that there is an absence of mindfulness among students about the information literacy sessions on offer. Other factors that weaken the efficiency of imparting IL skills are the lack of practical approach of librarians, lack of partnerships between librarians and teaching staff to streamline IL and convenience of resources. It is evident from the relevant literature that Information literacy is one of the areas of interest of the present era.

## Research Methodology

A self-administered structured survey questionnaire was used to collect data from graduate students. The sample size was calculated using Yamane (1967) formula. A total of 283 students of LUMS were selected as sample for this study. To collect the data, 283 questionnaires were distributed among the graduate students of various schools of LUMS. Out of 283 questionnaires, 215 (76%) questionnaires were received. Statistical Package for Social Sciences SPSS version 19.0 was used for the analysis of the collected data.

## Data analysis and discussion

The questionnaire was divided into various parts to collect the maximum data. Information about gender, age, school, etc. was intended to collect through the first part of the questionnaire. Results of Table 1 show that among the participants, male and female students were 101 (35.7%) and 182 (64.3%), respectively. Whereas 28 (9.9%) of participants were 16-20 years and 255(90.1%) of respondents were 21-25 years old.

Table 1

Demography of Participants

Demography of participants	Frequency	Percent
Gender		
Male	101	35.7
Female	182	64.3
Age group		
16-20	28	9.9
21-25	255	90.1

## IL Familiarity Level of Graduate Students

Participants of the study were asked to indicate their level of familiarity with IL. Results showed that 15.5% of students were familiar with IL “To a Great Extent”, 51.6% were aware of the concept IL “Somehow”, 22.3% have knowledge about IL “very little” and 10.6% mentioned that they were completely unaware of the IL concept.

Table 2

Frequency Distribution of IL Familiarity Level of Respondents

Familiarity Level	Frequency	Percent
To a Great Extent	44	15.5
Somehow	146	51.6

Very Little	63	22.3
Not at All	30	10.6

### Respondents' Opinion towards Existing IL Skills

A Likert scale of five points was used against each statement. Following options were furnished against each statement:

### Graduate Students' Existing IL Skills

The study results showed that most of the students knew something about IL skills. Students were asked to mention their level of skills to determine their need for information and majority 139 (49.1%) of the students mentioned that they have “somewhat” skills in the aforesaid area. Similarly, participants were asked to give their opinion about their skills to understand what information is exactly needed as well as their expertise to judge the authenticity of the information gathered and good number 111 (39.2%) of the students responded against each statement that they have “somewhat” skills in this area. Likewise, a majority of 128 (45.2%) of the students mentioned that they have “somewhat” skills to identify the sources of needed information. According to results, a large majority of 136 (48.1%) participants accepted that their skills to access the sources to collect needed information are “somewhat”.

Table 3

Results of Respondents' Opinion Regarding Existing IL Skills  
(N = 283)

Sr.	Statement	No Opinion	Not at All	Somewhat	Very Little	To a Great Extent
1	I can determine my need of Information	- (0%)	5 (1.8%)	139 (49.1%)	21 (7.4%)	118 (41.7%)
2	I have skills to understand why information is needed	- (0%)	9 (3.2%)	111 (39.2%)	16 (5.7%)	147 (51.9%)
3	I have skills to understand what information is exactly needed	- (0%)	5 (1.8%)	128 (45.2%)	44 (15.5%)	106 (37.5%)
4	I have skills to identify the	-	9	136	48	90

	sources of needed information	(0%)	(3.2%)	(48.1%)	(17%)	(33.8%)
5	I have skills to access the sources to collect needed information	- (0%)	10 (3.5%)	136 (48.1%)	48 (17%)	89 (31.4%)
6	I am aware of various searching techniques (AND, OR, NOT, wildcard, truncation etc.)	- (0%)	55 (19.4%)	98 (34.6%)	77 (27.2%)	53 (18.7%)
7	I have skills to revise and refine the search query to thrash for the right information	- (0%)	26 (9.2%)	108 (38.2%)	86 (30.4%)	63 (22.3%)
8	I have expertise to compare the sources of needed information	- (0%)	6 (2.1%)	161 (56.9%)	62 (21.9%)	54 (19.1%)
9	I have expertise to differentiate the best sources of needed information	- (0%)	6 (2.1%)	130 (45.9%)	75 (26.5%)	72 (25.4%)
10	I have expertise to judge the authenticity of the information gathered	- (0%)	14 (4.9%)	124 (43.8%)	76 (26.9%)	69 (24.4%)
11	I have expertise to judge the reliability of the collected information	- (0%)	17 (6%)	141 (49.8%)	70 (24.7%)	55 (19.4%)

12	I have expertise to evaluate the importance of the information	- (0%)	8 (2.8%)	135 (47.7%)	59 (20.8%)	81 (28.6%)
13	I have expertise to identify the main themes of the collected information	- (0%)	10 (3.5%)	126 (44.5%)	64 (22.6%)	83 (29.3%)
14	I have expertise to compare the old knowledge with new research to understand the salient differences and similarities between the two	- (0%)	14 (4.9%)	120 (42.6%)	71 (25.1%)	78 (27.6%)
15	I have expertise to decide whether the collected information is right or not	- (0%)	11 (3.9%)	153 (54.1%)	53 (18.7%)	66 (23.3%)
16	I have expertise to manage the needed hardware/software (CPU, monitor, printer, scanner, hard disk, USB,/MS Office, Adobe acrobat, Winzip, Endnote, SPSS etc. ) to manage the collected information appropriately	- (0%)	10 (3.5%)	141 (49.8%)	26 (9.2%)	106 (37.5%)



17	I have expertise to manage key notes of my activities during research	- (0%)	9 (3.2%)	145 (51.2%)	57 (20.1%)	72 (25.4%)
18	I have expertise to use the information accurately to meet my academic needs	- (0%)	6 (2.1%)	143 (50.5%)	48 (17%)	86 (30.4%)
19	I have expertise to convey the outcomes created from the gathered information	- (0%)	7 (2.5%)	141 (49.8%)	52 (18.4%)	83 (29.3%)
20	I am able to understand the ethical, legal, and socio-economic issues related to information and information technology	- (0%)	10 (3.5%)	125 (44.2%)	61 (21.6%)	87 (30.7%)
21	I understand the rules, policies, SOPs (Standard Operating Procedures) of various institutions regarding the access and use of information	- (0%)	28 (9.9%)	107 (37.8%)	86 (30.4%)	62 (21.9%)

22	I have expertise of the use of various tools (Endnote, Bibtex etc.) for managing my research and references	- (0%)	46 (16.3%)	98 (34.6%)	76 (26.9%)	63 (22.3%)
23	I have expertise to quote the references of the information gathered properly	- (0%)	16 (5.7%)	125 (44.2%)	66 (23.3%)	76 (26.9%)
24	I am aware of fair and unfair use of information (Direct Plagiarism, Self Plagiarism, Accidental Plagiarism etc.)	- (0%)	15 (5.3%)	112 (39.6%)	51 (18%)	105 (37.1%)
25	I have expertise to check the plagiarism using Turnitin software	- (0%)	55 (19.4%)	80 (28.3%)	54 (19.1%)	94 (33.2%)

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### Graduate students' Opinion Regarding Need of IL Program

Graduate students were asked to give their opinion about the need of IL program. Results showed that 89.4% respondents felt that IL program is needed to help improving their academic performances. There were only 10.6% students who negated the need of the aforesaid program. The results represented that majority 197 (69.6%) believed that the IL program should be a mandatory part of the graduate program and 86 (30.4%) were not in favor of this idea.

Table 4

Frequency Distribution of Respondents' Opinion about Need of IL Program

Need	Frequency	Percent
Yes	253	89.4
No	30	10.6
<b>Mandatory</b>		
Yes	197	69.6
No	86	30.4

### Importance of IL Program

Graduate students were asked to express their opinion about the importance of the IL program. The five-point rating scale was used for this purpose. Results showed that the majority of the graduate students 144 (50.9%) considered the IL program as "Very Important". Similarly, a handsome number of students, i.e., 97 (34.3%) believed that the IL program is "Important", 37 considered the IL as moderately important and only five (1.8%) students were in the less favor of IL program.

Importance	Frequency	Percent
Very Important	144	50.9
Important	97	34.3
Moderately Important	37	13.1
Of Little Importance	5	1.8

## Graduate students' Opinion Regarding Contents of IL Program

Graduate students were asked to give their opinion about the contents of the IL program. Options such as “Library Related Contents”, “Subject Related Contents”, and “Research Related Contents” with the option “check all that apply” were given to the participants. Results in Table 6 showed that majority of the students 135 (47.7%) chose all options i-e, “Library, Subject, and Research Related Contents”, only 28 (9.9%) chose “Subject Related Contents” and same number chose “Library Related Contents” and 31 (11%) selected “Research Related Contents”.

Table 6

Frequency Distribution of Respondents' Opinion about Contents of IL Program

Contents	Frequency	Percent
Library, Subject, and Research Related Contents	135	47.7
Subject Related Contents	28	9.9
Library Related Contents	28	9.9
Research Related Contents	31	11
Library and Subject Related Contents	24	8.5
Subject and Research Related Contents	24	8.5
Library and Research Related Contents	13	4.6

## Discussion and Conclusion

The study findings reveal that the majority of participants were female graduate students in the age range between 21-25 years old, it indicates that more of the participants were senior graduate students who invested an equitable amount of time at university. The findings show that the graduates were familiar with the information literacy programs, which is consistent with Rafique and Khan (2018) findings that the students are aware of information literacy. This may be because the Universities ' LIS professionals perform their roles. However, the results show that students have the expertise to recognize their information needs, the tools to obtain their information and authenticate the information collected which supports the findings of Bartol, Dolničar, Podgornik, Rodič, and Zoranović (2018) that the students have been the most effective in analyzing knowledge and having to classify details, and the least successful in legal/ethical issues and in the use of information. Further analysis shows that the majority of graduate students believe that information literacy is necessary for their academic achievements which indicates their interest in receiving such training to fulfill their educational need that strengthens the recommendation of Shao and Purpur (2016) who advocated for well-integrated library training programs and services to improve student information literacy skills. The majority of graduate students want to be literate in the

library, subject, and research related content so that they can be aware of their specific subjects and courses.

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