



Analysis of Research Scholars' Information Literacy based on their Demographic Factors

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Abstract

This paper presented a study of the level of information literacy among research scholars from Manonmaniam Sundaranar University, Tamilnadu, India with respect to their demographic variables such as age, gender, locality, research discipline, frequency of using libraries, frequently used search engines, time spent per week for accessing library resources, time spent per week for accessing internet resources, and computer literacy. Survey questionnaire was distributed to the research scholars of the University and received 246 completed questionnaires were selected for further analysis. The findings of the study revealed that the information literacy of the research scholars was at moderate level. The study also revealed that the information literacy of the research scholars are positive correlated at the level of 0.05 by their discipline, frequently used search engines, time spent on internet, and stages of research and at the level of 0.01 for the respondent's age, locality, computer literacy, number seminars and workshops attended.

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Introduction

Information literacy is a person's ability to understand, evaluate, organize, manage, and apply critical thinking and decision-making according to situations. Information literacy here refers to literacy or the ability of research scholars.

Information literacy is the capability to identify the scarcity of information and ability to identify, locate, effectively use, evaluate, and apply the information for solving an issue. Information literacy helps in reducing the level of anxiety (McPherson, 2015).

Enhanced Perception on Information Literacy

As per Information Literacy Process (ILP), information seeking anxiety associate with three perceptible criteria; input, processing and output stages. (Onwuegbuzie, Jiao and Bostick, 2004).

During this phase, the level of ISA (Information Seeking Anxiety) plays a vital role in the process of preprocessing information. An individual adventured anxiety, exhibits their ability to recognize, collect, decode complex information and eventually decision making. The individual with higher anxiety level tends to collect most irrelevant information and cause information overload.

The processing stage is where the individual applies all the new concepts according to their understanding on the topic. Individual's knowledge may struggle to understand a new concept due to the complexity of the information. So the individual should have the ability to discrete redundant information and make it work out on their style of learning, which helps to minimize the anxiety level of them.

Finally, the individual needs to prove their skills to organize and make effective use of the previously gathered information in the output



stage. The individual's anxiety shouldn't be a hindrance for efficiently utilizing the collected information.

Literature Review

The quality of understanding and analyzing the gathered information and organizing it as per the requirement for application in future is termed as Information Literacy. Adequate skill of information literacy helps in spotting the required facts and avoiding redundant irrelevant information. It also provides a way to handle electronic gadgets efficiently, while using it.

The relationship among postgraduates' information literacy, online platforms, online knowledge-sharing processes and their innovation performance is explored by *Sun; Liu; Razmerita; Xu and Qi (2022)*. The analysis of survey is done among 501 Chinese postgraduate students. The study revealed that, (1) information literacy has a positively predictive effect on postgraduates' innovation performance; (2) an efficient online learning environment can contribute to higher-quality online learning process, thus improving postgraduates' innovative performance; (3) different online learning processes lead to different learning results; and (4) the quality-oriented online knowledge sharing process is a more powerful intermediary variable. The author of the study suggested that policy makers should develop postgraduates' digital skills for sustainable development in the digital age by (1) providing an efficient sharing platform for sustainability, resilience, and digitalization in higher education; (2) encouraging them to practice high-quality online learning processes; and (3) encouraging them to practice high-quality online learning processes.

A study to examine information literacy programs on the use of legal information resources by undergraduate law students of Bayero University, Kano is conducted by *Umar and Habib (2022)*. Quantitative research method using cross-sectional survey research design is used in the study. The study revealed that the library tours by chambers, library orientation exercise, and program related to course such as legal methods and GSP Program on the use of the library are the literacy programs available to the students in the university, while lack of regular

information literacy program, lack of university commitment to information literacy program and faculty unwillingness to incorporate information literacy program into the curriculum are the reasons hindering IL. The author recommended the provisioning of regular IL programs for students from the study.

The anxiety among 31 Pakisthani doing research in University of Punjab, Lahore is studied by *Zahra; Bibi; Kazmi; Nisa and Bibi (2021)*. They classified anxiety as procedural anxiety, language anxiety, asset anxiety, data over-burden anxiety, topical anxiety, ability anxiety, ICT anxiety, and library anxiety. These are the reason for anxieties among the researchers; task avoidance, search avoidance, research avoidance, and felling of inadequacy. Author suggested that the library staff might be given training to reduce anxieties of learners and information literacy guidance was recommended for the scholars.

The information literacy self-efficacy and use of Web 2.0 tools among architectural students is studied by *Bakbak (2019)*. The data collection process was done via a survey by distributing questionnaires, and data analysis was carried out using t-test and ANOVA. The study revealed that there was no association of information literacy self-efficacy according to the participants' gender or duration of internet use, but had a significant change with the level of literacy in terms of their knowledge of foreign languages.

Cyber literacy among the science research scholars of University of Kerala is analyzed by *Bibina and Kabir (2016)* and discovered that most of them were quite aware of the digital searching techniques including web portal access, digital database and library collection, e-blogs and journals. Also quite a significant amount of them used computers, laptops, electronic gadgets and smart mobiles for accessing information from web on daily basis. They also required some additional digital literacy trainings to overcome some existing constraints they were facing such as poor access speed, inadequate knowledge in relating information. The authorities may be focussed to solve the recurring power and backup issues.

A study to demonstrate the usage of information sources and importance of information literacy among the students of Aligarh Muslim University is done by *Khan (2015)*. The study revealed that 25.45% of the PG students and 13.33% of



research scholars do not know the meaning of IL (Information Literacy), while 20% of the respondents of each category heard about IL, but do not understand it. While 54.55% PG students said that the basic concept of IL is related to bibliographic instruction. The 36.36% PG students and 54.34% researchers knew about the basic concept of information literacy.

A comparison to measure the attained level of Information Literacy among the engineering students of University of Engineering and Technology and University of the Punjab is proposed by *Rafique and Mahmood (2015)*. The researcher highlighted that engineering students expressed high awareness of the Information Literacy skills. This literature study reveals that almost all the studies are conducted at university level except a single study at school level, while the college level studies are ignored. There are many other disciplines where the research is needed to conceive Information Literacy awareness and produce information literate personals for the development of a country. Even after the efforts made by some researchers to highlight the impact of Information Literacy in Pakistan, it is remained invaluable to show any progress regarding the same.

To signify the need by Pakistani University Libraries to consider seriously in formulating a proper policy and mission statement to make their students information literate, a study is performed by *Bhatti (2012)*. They identified various factors to have a quality information literacy program as: lack of assessment of library users' educational and information needs, inadequate in-service training for library staff, lack of research on the subject into Pakistani perspective, insufficient budget for acquiring audio-visual aids, lack of proper policy by the authorities, and poor response from the students and teachers. It also reviewed various IL models by the countries with advanced education and librarianship systems.

A survey among engineering faculties in Pakistan to assess their perception about Information Literacy skills among the graduate students is conducted by *Kousar (2011)*. The study revealed that students were better performing in the skills like search strategy, concept identification, understanding of characteristics of various document types, use of various types of searching tools, ethical use of results, use of emerging

technologies and lifelong learning. The findings revealed that the faculties had perceived that M.Phil and Ph.D scholars were more information literate than master level. A few faculty members were taking efforts to guide their students in making them literate. Lacking of awareness about the offered facility of Information Literacy instructions by librarian, most of the faculty members were not utilizing Information literacy instructions.

METHODOLOGY

Conceptual Framework

User awareness on library and its information sources among the users helps to use the library resources effectively. Knowledge on information sources, its format, type, ability to adjudge its quality and ability to follow ethics promotes the usage of library resources without fear or anxiety. It is termed as information literacy. Thus, information literacy is also taken as an independent variable to study its effects on perceived information seeking anxiety among the research scholars. Tool to measure information literacy consists of 12 statements.

Descriptive Statistics of Information Literacy

Information literacy of the respondents is evaluated using information literacy scale (12 statements). The details of statistics calculated from the information literacy scores are provided in Table 1

Table 1 Descriptive Statistics of Information Literacy

S.No	Information Literacy	Statistics	Standard Error
1	Mean	49.96	0.249
2	95% Confidence Interval for mean	Lower Bound	49.47
		Upper Bound	50.45
3	Median	49.91	
4	Variance	15.22	
5	Standard Deviation	3.9	
6	Minimum	40	
7	Maximum	60	



8	Range	20	
9	Interquartile Range	6	
10	Skewness	107	
11	Kurtosis	-0.404	

The Table 1 reveals statistics calculated from the information literacy score to describe the nature of the population. The mean information literacy score of the respondents is 49.96 with standard error 0.249, which shows that population mean falls within the range of 49.96 +0.249, 95% of confidence and interval of the mean in between 49.47 and 50.45. The median score of information literacy also falls in 49.91, which is also closer to median. The standard deviation is 3.9, which clearly explains the scattered nature the information literacy score of the respondents. The maximum and minimum information literacy score are 60 and 20 respectively. The value of mean, median, kurtosis and skewness show the tendency of the information literacy score falls to normality.

Normality of Information Literacy

Normality of information literacy score is confirmed by plotting individual score on histogram and frequency curve. The histogram and frequency curve based on information literacy curve is depicted in Figure 1.

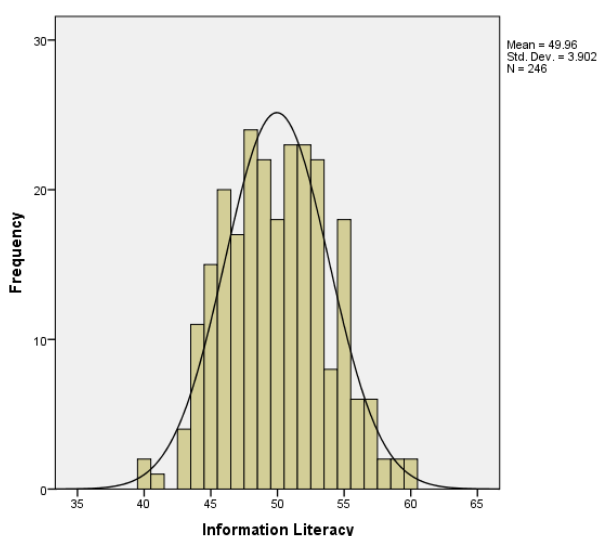


Figure 1: Normality of Information Literacy

The histogram and frequency curve of information literacy score among the research scholars tends to follow normal distribution.

Correlation Analysis

Information literacy of the research scholars directly influences the information seeking behaviour of the users irrespective of their purpose of seeking information. Several studies revealed that some personal variables and variables associated with research directly affect the mental state of the scholars positively as well as negatively. Thus correlation analysis is carried to determine the extent of correlation between information literacy and selected independent variables namely gender, age, locality, research discipline, frequently used libraries, frequently used search engine, time spent for accessing library resources, time spent to access internet, computer literacy, number of workshops attended, seminars attended, number of papers published and stages of research are carried out using product moment method of correlation. Significance of correlation if any is determined at 0.05 and 0.01 level of significance. The factors influencing information literacy of the research scholars are determined using correlation analysis. The details of correlation analysis are summarised in Table 2.

Table 2 Correlation Analysis of Information Literacy

Independent Variables	Information Literacy
Age	0.168**
Gender	0.123
Locality	0.171**
Research Discipline	0.129*
Frequently used Libraries	-0.078
Frequently used Search Engine	0.135*
Time spent per week for accessing library resources	-0.017
Time spent for Internet Access	0.159*
Computer Literacy	0.386**



Number of workshop attended	0.409**
Number of seminar attended	0.354**
Number of paper published	0.107
Stages of Research	0.164*

*Correlation is significant at the 0.05 level

**Correlation is significant at the 0.01 level (2 tailed).

Table 2 reveals that information literacy has significant positive correlation at the level of 0.01 with age, locality, computer literacy, number of workshops attended, and number of seminars attended.

It also discloses that the information literacy has significant positive correlation at the level of 0.05 with research discipline, frequently used search engine, time spent for accessing internet and stages of research whereas other variables are not correlated.

Findings from Comparative Analysis of information literacy

1. Information literacy of the research scholars is moderate among the total 246 respondents.
2. The research scholars' information literacy does not differ based on their gender ($t = 1.94, p > 0.05$)
3. Age of the research scholars influences their information literacy ($F = 5.3, p < 0.05$). Research scholars of age group 40-44 have more information literacy than other age group.
4. The research scholars' information literacy differ significantly based on their locality ($F = 3.67, p < 0.05$).
5. Information literacy of the research scholars differ significantly based on time spent for Internet access ($F = 3.25, p < 0.05$).
6. Based on time spent for accessing library resources, the research scholars' information literacy do not differ significantly ($F = 1.14, p > 0.05$).
7. The research scholars' information literacy does differ significantly based on their discipline ($F = 9.46, p < 0.05$).

8. Information literacy of the research scholars associate significantly based on their computer literacy skills ($F = 21.3, p < 0.05$).
9. The research scholars' information literacy relates significantly based on the number of seminars attended ($F = 19.40, p < 0.05$).
10. The research scholars' information literacy does not differ significantly based on number of papers published ($F = 2.10, p > 0.05$).

Findings from Correlative analysis based on the variables of the study

Information literacy of the research scholars are positive correlated at the level of 0.05 by their discipline, frequently used search engines, time spent on internet, and stages of research. Information literacy is positive correlated at the level of 0.01 for the respondent's age, locality, computer literacy, number seminars and workshops attended.

Conclusion

It is interpreted that information literacy of the research scholars are more influenced by age, locality, computer skill, number seminars attended and workshops attended. The other factors that influence the information literacy are discipline, frequently used search engine, time spent for accessing internet and stages of research. Moreover, information literacy is more among the research scholars of age group 40-44 years, information literacy is more among the scholars of semi-urban and urban than rural, information literacy is more among the science discipline than others, and one who sounds well in computer skills has high information literacy scores. Thus by considering the disparity among the research scholars more user centered library orientation programmes are to be arranged in research libraries as well as research centers to enhance the information literacy competencies of the research scholars.



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