# INFORMATION LITERACY COMPETENCY AMONG THE POST GRADUATE STUDENTS: A CASE STUDY

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### ABSTRACT

*Reports the results of a survey conducted at Government College, Kasargod, Kerala to assess the information literacy competency among post graduate students. Highlights that even though most of the students are computer literate yet majority of them do not have necessary information literacy skills. Lack of information literacy skills among post graduate students as reflected in the study has emphasised the need of information literacy skill training among post graduate students.*

**KEYWORDS:** Post Graduate Students, Information Literacy, Case Study, Competency

**Introduction**

Information literacy is an area of increasing significance for the higher education sector in recent times. It is a skill that is useful in every aspect of life especially in the 21st century due to the technological developments in all areas. The concept of Information Literacy was first introduced in 1974 by Paul Zurkowski, President of the US Information Industry Association, in a proposal submitted to the National Commission on Libraries and Information Science (Behrens, 1994). Information literacy was strongly emphasised as a main theme in higher education with the publication of "Information literacy competency standards for higher education" by the Association of College and Research Libraries (ACRL) in 2000. The importance of this topic was expressed by the US President Barack Obama when he declared October 2009 as the National Information Literacy awareness month (National Information Literacy Awareness month Proclamation, 2009). Students are faced with abundant choices for information. Information is available from multiple sources but is unfiltered. Hence its reliability and validity needs to be assessed. In order to use the vast and complex resources effectively and efficiently, some particular skills are necessary. Many still seek information in a haphazard and uninformed way. The problem is to some extent aggravated by the "Google syndrome", the belief that all the information we need is available at the click on Internet button but it is not. The students need to be able to recognize and access authentic and useful resources (Big Blue Project, 2002). Information literacy enables the students to find, evaluate and use information and also filter out information they don't need. ACRL (2003) defines Information Literacy as "set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information."

**Need for Information Literacy**

Information Literacy is the fourth essential ability after reading, writing and arithmetic. 'Data smog' is a term coined by David Shenk which refers to the idea that too much information create barrier in our lives. The data smog is produced by the amount of information, the speed at which it comes to us from all directions and feeling of anxiety that we are making decisions without having all the information that is available or that we need. Information literacy is a solution to data smog (University of Rhode Island, 2004). Information literacy enables a person to get the skills and knowledge that not only allow us to find, evaluate and use information we need, but perhaps more importantly allow us to filter out information we don't need.

The students in this century are unaware of the range of sources of information that could be used to identify relevant information. Many students are unaware of the role of Online Public Access Catalogue (OPAC). Students have little idea of the relative merits of different sources of information. The character of higher education itself has changed with a significant paradigm shift from tutor centered to learner centered learning and with an acceptance of the concept of lifelong learning. Tremendous increases in the information available in libraries and databases have brought to the forefront of critical question as to what a student really needs to know. The education process will, therefore, have to aim at training people in the science of processing information and transforming it into knowledge that promotes effective decision making and its implementation. Alan Bundy (2004) points out that Information Literacy is a pre-requisite for:

- Participative citizenship
- Social Inclusion
- Creation of new knowledge
- Personal improvement
- Learning for life.

In the 21st century literacy has taken on a new and expanded meaning. Today, it means knowing how to make critical judgments about information: its completeness, accuracy and viewpoint. Information literacy is a critical life skill in today's information jungle. To motivate students to have more inquisitiveness through independent learning is still a major thrust in higher education today. Information literacy is necessary to this effort because independent learners need to know how to access, collect, evaluate, synthesize and report information that is important to the task at hand (Thompson, 2002). Developing lifelong learning is central to the mission of higher education institutions. Information literacy extends learning beyond formal classroom settings and support individuals in self directed learning in all areas of life. By ensuring that individuals can think critically and by helping them to construct a framework for learning; how to learn; educational institutions provide the foundation for continued growth throughout the careers as well as in their roles as informed citizens and members of communities (Jesus Lau, 2006).

**Literature Review**

Mittermeyer and Quirion (2003) conducted a study in Quebec University to determine whether students entering the first Year University education have the ability to retrieve process and evaluate information. Significant number of students has limited knowledge or no knowledge of basic elements characterising the information research process.

Students have difficulty in identifying concepts and understanding the role of Boolean operators and natural language. They do not know what a catalogue is and are unable to recognize the characteristics of a scholarly journal.

Ramakrishnagowda and Walmiki (2004) have conducted a study at Kuvempu University to know the computer literacy and information literacy of Post graduate students. The study found that the majority of students lack awareness regarding directories, encyclopaedias, subject journals, yearbook etc. About 66% of the students do not possess the ability to identify the key concepts in the given information environment. More than 44% of the respondents are not able to use the computer and many of them do not possess the knowledge of software and hardware, storage devices etc. Nearly $2/3^{rd}$ of the total respondents are not able to use the Internet. The majority of students opine that computer literacy and information literacy programs are very important for them. Joshi and Sharma (2009) have conducted a survey of first year Post graduate students in four department of Kurukshethra University to know their needs for information literacy training. Most frequently students needed information for general subject study. The librarian and teachers were the main sources used for this purpose. Students needed assistance for documents search, document use and Internet use. About 75.3 % have cited the documents they have used for preparation of assignments.

## Objectives of the Study

The present study is conducted to know whether the postgraduate students have the skills to identify the information, ability to locate, use the information and to evaluate the information. ACRL information literacy standards have been used as a guideline for this analysis. This study is an initial step to provide information literacy education by providing the present information literacy skills in the direction status of the post graduate students. Hence this study is an analysis of the present status of information literacy skills among Post graduate students. The primary objective of this study is to examine the information literacy skills among Post Graduate (PG) students in Government College, Kasargod. The specific objectives are:

- To assess whether the students have the necessary skills to identify, locate, access and evaluate information.
- To analyse whether there is any significant difference between science and social science students including humanities students.

Even though there are studies on the assessment of information literacy in other parts of the country, there is a dearth of studies focusing on information literacy skills among postgraduate students in Kerala.

## Methodology

Survey method was adopted for the present study. The study has been undertaken with the help of structured questionnaire designed for the purpose. The questionnaire was distributed to all final year postgraduate students. The survey was conducted in Government College, Kasargod during the third week of March 2011. The investigator visited all the post graduate departments and briefly explained the aim of the study before requesting the respondents to participate in the study. Assistance to clear the doubts in filling the questionnaire was provided by the investigator. The data collected has been tabulated, analsyed and interpreted.

**Scope of the Study**

This study covers final year Post graduate students of the seven departments of Government College, Kasargod. There are 85 PG final year students from different disciplines like Mathematics, Geology, Chemistry, English, Arabic, Kannada and Economics.

**Sample Size**

Questionnaire was distributed to 85 final year PG students. Among them 71 filled questionnaire was returned by the students. So the response rate was 83.52%. Subject wise participation of students in the survey is shown in the Table 1.

**Table 1:** Subject Wise Participation of Students

| Subjects | Number of Respondents |
|---|---|
| Mathematics | 13 |
| Geology | 09 |
| Chemistry | 11 |
| English | 11 |
| Arabic | 10 |
| Kannada | 05 |
| Economics | 12 |
| Total | 71 |

The PG students were divided into two categories based on the discipline of their study viz: 1) Science students consist of the subjects Mathematics, Geology and Chemistry, 2) Social science and Humanities students consist of the subjects English, Arabic, Kannada and Economics. In Kerala State, majority of the students joining for the PG Courses are female students. Out of 71 PG students in this study 62 are female and only 9 are male students.

**Knowledge of Computer**

About 87.87% of the PG students are aware of the use of computer. 87% of science students and 84.21% of social science and humanities students are computer literate. So majority of the PG students are computer literate. This is because of the provision of early computer education even at school level in Kerala.

**Table 2:** Proficiency in the Use of Computer

| Discipline | Knowledge of MS Word | Knowledge of MS Excel | Knowledge of PowerPoint Presentation | Software knowledge |
|---|---|---|---|---|
| Science Students | 29 (87.87%) | 25 (75.75%) | 22 (66.66%) | 7 (21.21%) |
| Humanities and Social Science | 33 (86.84) | 26 (68.42%) | 20 (52.63%) | 5 (13.5%) |
| Total | 62 (87.32%) | 51 (71.83%) | 42 (59.15%) | 12 (16.9%) |

**Proficiency in the Use of Computer**
In order to become the beneficiary of Information Communication Technology (ICT) application in education, students should be proficient in the use of computer. The proficiency of students in the use of computer is shown in the Table 2. Data in Table 2 show that 87.32% of students have the knowledge of MS Word and 71.83% of students have the knowledge of MS Excel. Knowledge of PowerPoint presentation is lower (59.15) compared to knowledge of MS Word and MS Excel. Number of students with software knowledge is very low (16.9%). This is due to the fact that students are not much serious about learning the use of computer. There is no significant difference in respect of computer proficiency between science and humanities and social science students. All the students need more information than their degree level study. Purpose of information varies from student to student. Students require information to meet their various curricular and extracurricular needs. There were multiple responses to this question. Their responses are presented in Table 3.

**Table 3:** Purpose of Using Information

| Discipline | To gain knowledge of the subject | Assignment | Seminar | Examination |
|---|---|---|---|---|
| Science Students | 25 (75.75%) | 3 (9.09%) | 8 (24.24%) | 4 (12.12%) |
| Humanities and Social Science | 29 (76.31%) | 10 (26.31%) | 13 (34.21%) | 8 21.05%) |
| Total | 54 (76.05%) | 13 (18.3%) | 21 (29.57%) | 12 (16.9%) |

PG students most frequently needed information to gain knowledge of the subject. Table 3 shows that about 76.05% of students need information for the purpose of subject study. There is no significant difference between Science, Social Science and Humanities students regarding the subject study requirements of information. The humanities and social science students requirement of information for preparing assignment is comparatively higher than science students. There was low response for examination and only 16.9% students' needed information for this purpose.

**Search in a Library Catalogue**
 Library catalogue helps to locate books in a library. Author approach, title approach and subject approach of the users are satisfied through the author entry, title entry and subject index entry in a library catalogue. Students were asked how to find out works about an author viz. Mahatma Gandhi. Their responses are indicated below:

**Table 4:** Search in a Library Catalogue

| Discipline | Title | Subject | Author | Don't know |
|---|---|---|---|---|
| Science | 20 (60-6%) | 2 (6%) | 10 (30.3%) | 1 (3%) |
| Humanities and Social Science | 16 (42.1%) | 9 (26.38%) | 10 (26.31%) | 3 (7.89%) |
| Total | 36 (50-7%) | 11 (15.49%) | 20 (28.16%) | 4 (5.6%) |

As shown in Table 4 most of the students expressed that title is the best choice for retrieving the works of an author. About 28.16% of students expressed that the choice of

author helps to find out works of an author. The right choice is subject but still only 15.49% of students expressed this choice. Most of the Science and Humanities and Social Science students have expressed wrong choice of the search in a library catalogue.

**Knowledge of Bibliography**
Students need diverse views on a topic and for that purpose bibliography is useful. Last part of a book contains bibliography which acts as a reference tool for the in depth study of a particular area. Students' knowledge of the section of a book to find other documents on a topic is presented in the Table 5.

**Table 5:** Knowledge of the Section of a Book to Find Other Documents on a Topic

| Discipline | Glossary | Index | Bibliography | Table of Contents |
|---|---|---|---|---|
| Science | 4 (12.12%) | 20 (60.6%) | 2 (6%) | 7 (21.21%) |
| Humanities and Social Science | 2 (5.26%) | 25 (71%) | 2 (5.2%) | 7 (18.42%) |
| Total | 6 (8.45%) | 45 (66.19%) | 4 (5.63%) | 14 (19.7%) |

Only very few percentage (5.63%) of students preferred bibliography to find other documents on a topic. About 66.19% of students preferred the option 'index' to find out other documents on a topic. Index is only a search tool to find out the contents of a particular book. There is no significant difference between science and humanities and social science students regarding the knowledge of bibliography.

**Source to Gain Familiarity with a New Subject**
Encyclopedia provides background information and historical development of a particular area or topic. If a student is totally unknown about a particular topic or phenomena he can consult an encyclopedia and get himself/herself familiarize with the new subject or topic. Journals, database and books also help the students in gaining the familiarity with a subject. The students were asked about the source they consult to gain familiarity with a new subject or topic. Their opinion is presented in Table 6.

**Table 6:** Source to Gain Familiarity with a New Subject

| Discipline | Journal | Encyclopaedia | Database | Book | Don't know |
|---|---|---|---|---|---|
| Science | 1 (3%) | 12 (36.36%) | 2 (6%) | 19 (57.57%) | 2 (6%) |
| Humanities and Social Science | 1 (2.63%) | 16 (42.1%) | 1 (2.63%) | 17 (44.73%) | 2 (5.26%) |
| Total | 2 (2.81%) | 28 (39.43%) | 3 (4.22%) | 36 (50.7%) | 4 (5.63%) |

About 50.7% of students (Table 6) have the opinion that textbooks are helpful for gaining the required knowledge concerning a new topic. Only 39.43% of students provided the

right answer encyclopedia to familiarize a new topic. Only 36.36% of Science students and 42.1% of humanities and social science students expressed this opinion.

## Current Information

The Students need latest information for their project work, presentation on seminar, for preparing competitive examination etc. Students should know latest development in their subject area otherwise they would not be able to compete with the candidates of another state. Journals provide the primary information. Journals publish the research findings and they are up-to-date than any other source. Table 7 shows students' preference of different sources for getting recent information.

**Table 7:** Current Information

| Discipline | Book | Journals | Encyclopaedia | Internet |
|---|---|---|---|---|
| Science | 1 (3%) | 11 (33.33%) | 4 (12.12%) | 17 (51.51%) |
| Humanities and Social Science | 2 (5.2%) | 25 (65.7%) | 3 (7.89%) | 8 (21.05%) |
| Total | 3 (4.22%) | 36 (50.7%) | 7 (9.85%) | 25 (35.21%) |

It is observed from Table 7 that 50.7% of students prefer journals for getting recent information. More Science students (51.51%) prefer Internet for getting current information than Humanities and Social Science (21.05%) students. Overall 35.21% of PG students preferred Internet for current information. There is a need for an increased journal use among students.

## Source to Find Journal Articles

Students need to complete assignments and to participate in seminars on relevant topics. Journals provide latest information on a topic. Data base is the next best source to find articles from a journal. The respondents were asked the source that they consult to find the article from a journal on a topic. Table 8 shows students preference of different sources to find articles from a journal.

**Table 8:** Source to Find Article from a Journal

| Discipline | OPAC | Google | Journals in Library | No Response |
|---|---|---|---|---|
| Science | 1 (3%) | 21 (63.63%) | 10 (30.3%) | 1 (3%) |
| Humanities and Social Science | 3 (7.89%) | 22 (57.89%) | 6 (15.78%) | 7 (18.42%) |
| Total | 4 (5.63%) | 43 (60.56%) | 16 (22.53%) | 8 (11.26%) |

More than 60% of students selected the wrong choice of Search engine like Google for retrieving article from a journal. The right choice to get articles from a journal is database. But no student selected the database for retrieving articles from a journal.

**Identifying Journal Citation**

The ability to identify the citation of an article in a journal article is useful in assessing the relevance of a source for one's information needs. Citation of journal article, book, conference proceedings, and multi-volume books are listed. Students were asked to identify the citation of 'journal article' and it was surprising that no student could identify the citation of a 'journal article'.

**Knowledge of the Copyright**

It is legally wrong to reproduce a substantial portion of the work of another person without permission. About 90.14% of students are aware of 'copyright'. About 96.96% of Science students and 78.94% of Social Science and Humanities students have the knowledge of 'copyright'. There is no significant difference in the knowledge of copyright between science and humanities and social science students.

**Seeking Information from the Internet**

We can seek information from the Internet in various ways. Searcher need not remember the correct Uniform Resource Locator (URL) address. This trend is true in this study also. Most of the students depend on search engine for seeking information

**Table 9:** Seeking Information Through Internet

| Discipline | URL | Search Engine | Experts | Related Links | Don't Know |
|---|---|---|---|---|---|
| Science | 3 (9%) | 22 (66.66%) | 1 (3.03%) | 5 (15.15%) | 3 (9.09%) |
| Humanities and Social Science | 1 92.63%) | 21 (55.26%) | 5 (13.15%) | 7 (18.42%) | 4 10.52%) |
| Total | 4 (5.63%) | 43 (60.56%) | 6 (8.45%) | 12 (16.9%) | 7 (9.85%) |

About 66.66% of science students and 55.26% of humanities and social science students prefer search engine for seeking information from Internet. Overall 60.56% of students depend on search engine. Only very few students (5.63%) depend on URL for seeking information.

**Favourite Search Engine**

Students were asked to express their opinion regarding the most favourite search engine. The 'Google' is the most preferred search engine. About 90.14% of students preferred Google search engine. Both science and humanities and social science students have expressed the same opinion. Regarding the preference of file format only 11.26% of students preferred PDF file format. About 43.66% of students preferred '.doc file' format. More than 39% of students are unaware of any file format

**Style Manual**

Knowledge of Style manual helps the students to present their assignment or project in a standardized format. There exists different style manual. They are American Psychological Association (APA), Modern Language Association (MLA), and Chicago Manual Style manual. Students were asked whether they follow any style manual. Overall 35.2% of the students follow some style format. About 45.45% of Science students and

28.94% of Arts and humanities students followed some style format. About 19% of Science students have preferred APA style format and 27% of students followed MLA style.

**Use of Boolean Operators**
Boolean operators are used for expert search in order to obtain more accurate search result. Boolean 'AND' operator limits the search, 'OR' operator widen the search and 'NOT' limits certain unwanted items. Students were asked which Boolean operator they use to widen the search to find more documents on a topic. The results are shown in the Table 10.

**Table 10:** Use of Boolean Operators

| Discipline | AND | OR | NOT | No Response |
|---|---|---|---|---|
| Science | 26 (78.78%) | 2 (6%) | 1 (3.03%) | 4 (12.12%) |
| Humanities and Social Sciences | 4 (10.52%) | 7 (18.42%) | 5 (13.15%) | 22 (57.89%) |
| Total | 30 (42.25%) | 9 (12.67%) | 6 (8.45%) | 26 (38.6%) |

Data presented in the Table 10 shows that 42.25% of students answered wrongly by preferring "AND" operator for widening the search to find more documents. Only 12.67% preferred "OR" operator for widening the search. About 38.6% of students did not know about Boolean operator. Only 12.67% preferred OR operator. About 38.6% of students did not know about Boolean operator.

**Criteria for Evaluating Reliability of a Webpage**
Contents of a webpage are not 100% correct. Hence the reliability of the webpage should be properly evaluated. Various criteria are used for evaluation viz. author of the document, date of last revision, professional appearance, information content of the webpage are some of the criteria. Students were asked which criteria they use for evaluating the reliability of a webpage. Criteria used by the students, for evaluating the reliability of a web page are presented in Table 11.

**Table 11:** Criteria for Evaluating Reliability of a Webpage

| Discipline | Author | Date of last revision | Professional appearance | Information content | Don't know |
|---|---|---|---|---|---|
| Science | 1 (3.03%) | 3 (9%) | 00 | 25 (75.75%) | 4 (12.12%) |
| Humanities and Social science | 1 (2.63%) | 3 (7.89%) | 5 (13.15%) | 20 (52.63%) | 8 (21.05%) |
| Total | 2 (2.81%) | 6 (8.45%) | 5 (13.5%) | 45 (63.38%) | 12 (16.9%) |

Data in Table 11 shows that about 63.68% of students evaluated the reliability of a webpage by analysing information content of a webpage. About 75.75% of science students depend on this criterion. While, about 52.63% of Social Science and Humanities

students make use of this criterion for evaluating reliability of a webpage. About 16.9% of students did not know the criteria for evaluating reliability of a webpage.

**Self Evaluation**
Students were asked to rate their ability to access, evaluate and use information. This is presented in Table 12.

**Table 12:** Self Evaluation

| Discipline | Excellent | Good | Fair | Poor |
|---|---|---|---|---|
| Science Students | 2 (6%) | 15 (15.45%) | 17 (51.51%) | 1 (3%) |
| Social Science and Humanities | 2 (5.2%) | 29 (76.31%) | 5 (13.15%) | 00 |
| Total | 4 (5.6%) | 44 (61.97%) | 22 (30.98%) | 1 (1.40) |

Table 12 shows that more than 61% of students pointed out that their information literacy ability is good. While 5.6% of students' rate their ability as excellent. Only 1% of students rated their information literacy ability as poor. Majority of the students over estimated their information literacy skill ability. All students expressed the need for training to locate, access, evaluate and use information. So information literacy education is necessary in colleges to develop an information literate academic community.

**Assessment of Information Literacy Based on Information Literacy Indicators**
The investigator has listed some of the important variables or information literacy indicators and their respective percentage of correct responses.

**Table 13:** Information Literacy Indicators

| Variables | Percentage of Correct Answers |
|---|---|
| Database | 0 |
| Citation of Journal Article | 0 |
| Bibliography | 5.63% |
| Boolean logic | 12.67% |
| Search in library catalogue | 16.9% |
| Style Manual | 35.2% |
| Encyclopaedia | 39.43% |
| Journal Article | 50.7% |
| Copyright | 90% |
| Evaluation of Internet | 96.96% |

Table 13 shows that out of 10 variables, the percentage of correct answers of seven variables are less than 40% and only for 3 variables the parentage of correct answers are more than 50%. So, post graduate students of Government College Kasargod lack many of the information literacy indicators. The data shows that information literacy skills of post graduate students in Government College, Kasargod is low.

**Findings**

Following are the findings of this study:

- The postgraduate students need more information than their degree level study.
- Majority of the PG students need information to gain knowledge of the subject.
- Most of the students are unaware of the importance of bibliography which is listed in the last part of a book for accessing some related documents on the same topic.
- Students are totally unaware about journal database for retrieving articles in a journal.
- About 39.43%of students are aware of encyclopaedia for the background information about a particular area.
- Most of the Science students preferred Internet for current information but the Social science and humanities students preferred journals for current information.
- Internet is the main information source for science students while Social science and humanities students prefer library as their favourite information source.
- No student could identify journal citation.
- About 90% of students are aware of copy right.
- More than 60% of students depend on Search engine for searching information from Internet. Very few students depend on URL for seeking information from Internet.
- About 60.56% of students agree on their dependence over Internet as a source of information.
- Only 11% of the students prefer the PDF file format.
- About 83% of students don't know about the Boolean operator.
- Majority of students evaluate information content of Internet before downloading.
- The number of social science and humanity students who evaluate information content before down loading is low compared to science students.
- Information content of a webpage is the major criterion used by most of the students for evaluating the reliability of a webpage.
- All PG students expressed the opinion that they needed information literacy training.

**Conclusion**

Even though PG students are computer literate they lag behind to satisfy many of the information literacy indicators. They didn't have the capacity of expert search. They are ignorant about database, identification of citation, importance of bibliography and search of a catalogue. Students need information literacy skills to access, understand and use current knowledge of their discipline. Candy et al. (1994) stated, "No graduate-indeed no person can be judged educated unless he/she is information literate". Educators must remember to provide students with opportunities to learn how to find information within sources and how to evaluate information for credibility and usefulness within the context of the larger information problem solving process. Information literacy represents a shift in thinking. For students to be successful in the information age, Information literacy skills must be integrated throughout the curriculum as well as being reinforced outside of college campus.

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