The results derived in the previous chapter are discussed here in the light of the studies already conducted on the same aspects and observations made by the investigator.

**Frequency of visiting the library**

44.4% of the respondents visit the library ‘daily’, 31.9% ‘2-3 times in a week’, 13.2% ‘once a week’ and 9.6% ‘rarely.’

Caravello, Herschman & Mitchell (2001) in their study revealed that 64.2% of the respondents were high library users while a study conducted by King (2007) showed that 51% respondents visited library only after a few months. Similar results were achieved by Coleman (2007).

Sharma (2008)’s study found that 38.4% of the respondents visited the library ‘daily’, 32% ‘2-3 times in a week’, 19.7% ‘once a week’, 5.42% ‘once a month’ and 4.35% ‘2-3 times in a month.’

**Sources consulted to locate information**

‘Internet’ is the most preferred source to locate the information with 87.1% responses followed by ‘library catalogue’ (59.6%) and ‘teachers/professionals’ (47.9%).

‘Library catalogue’ brings a striking contrast. While the present study puts it at 59.6%, Baro & Fyneman (2009) and Sasikala & Dhanraju (2011) put it at 67% and 64.53% respectively, Demo (2013) showed it at 10% in a university library in Albania. However Rehman & Alfaresi (2009) showed much higher percentage (82.4%).

Meltzer, Maughan & Fry (1995)’s study found that more than 50% respondents favoured asking library staff for seeking information in library.

Baro & Fyneman (2009) in their study revealed that 55-60% of the respondents consulted subject experts/library professionals to meet their information needs. Demo (2013) reported 22% for faculty and 34% for library professionals. Duncan & Varcoe (2012) put it at 19.4% only. However Hadimani & Rajgoli (2010) in their study revealed that 94.44% respondents consulted library staff followed by faculty (72.22%).

**Purpose of using information**

78.4% respondents of all the universities use information ‘to update knowledge’ followed by ‘to support research’ (39.2%) and ‘preparing course material for classroom learning’ (38%). The purpose ‘to write paper for seminar/workshop’ is the one that motivates the least (23.9%).
'To update knowledge’ shows a striking contrast in the percentage of the present study and the earlier studies. Maharana & Mishra (2007) put it at 92.8% while the present study shows it at 78.4%. Similar results were shown for ‘research support’ as Maharana & Mishra (2007)’s study showed it at 80%, by the time the present study was conducted, it restricted to 39.2%.

‘Preparing course material for classroom learning’ also shows striking situational contrast. While the present study puts it at 38%, Maharana & Mishra (2007) at 65.72% and Baro & Fyneman (2009) showed much higher percentage (90%).

‘Writing papers for publication’ also shows striking contrast. While the present study puts it at 23.9%, Maharana & Mishra (2007) put it at 61.43% and Baro & Fyneman (2009) at 85%.

**Preferred format for information**

Majority of the respondents (75.9%) prefer to read ‘both print and electronic format.’ Only 17% prefer to read ‘print only’ and 7.2% ‘electronic only.’

A comparative study of the earlier studies regarding preferred format for information brings out striking contrasts. The present study shows ‘both print and electronic format’ as the most preferred format for information, a study conducted by Meltzer, Maughan and Fry in 1995 showed that majority of the respondents weigh heavily in the favour of ‘print only’ materials whereas Wahoush and Banfield (2013)’ study showed ‘electronic only’ as the most reported sources of information.

**THEME I: CONCEPT IDENTIFICATION**

**Significant words**

Only 25.3% of the total respondents are able to recognize significant words. Majority of the respondents (74.7%) did not choose the most efficient strategy or admitted they did not know the answer.


The comparison between the present study and Mittermeyer & Quirion (2003)’s study shows a decrease of 39.2% over a period of about one decade. Mittermeyer & Quirion’s study shows it at 64.8% while the present study puts it at 25.3% only. Coleman (2007) puts it at 54%.
THEME II: SEARCH STRATEGY

Search fields

Only 26.1% of the respondents of all the universities have knowledge of the structure and the content of the fields in a library catalogue. Similar results were achieved by Mittermeyer & Quirion (2003). Here again a striking situational contrast exists between the conditions prevailing in India and foreign countries. Maughan (2001) conducted a survey of University of California and puts it at 77%, Freeman (2004) at 80% and Demo (2013) showed much higher percentage (94%). The present study shows it at 26.1% only. However the study reveals an increasing trend towards using library catalogue. From 12.2% (Ali et al.) in 2010, it increased to 18.43% (Sasikala & Dhanraju) in 2011 and 26.1% in the present study.

Boolean operator “OR”

Only 25.9% of the respondents have skills to use boolean operators. Ali et al. (2010) and Sasikala & Dhanraju (2011) in their survey revealed that about 16% of the respondents are able to choose correct boolean operator to get search results. By the time the present study was conducted, the percentage rose to 25.9%. The results achieved by Mittermeyer & Quirion (2003), Salisbury & Ellis (2003), Rehman & Alfaresi (2009) and Demo (2013) were identical with the present study. Caravello, Herschman & Mitchell (2001) and Duncan & Varcoe (2012) in their study revealed that about 45.9% of the respondents did not know that in a boolean statement, OR retrieves more results than AND or NOT. However the studies conducted by Cole & Kelsey (2004) and King (2007) showed that majority of the students did not understand boolean searching adequately.

Wildcard/Truncations

Majority of the respondents (95.6%) do not have knowledge about wildcard/truncations. The comparison between the studies conducted in India and USA also brings a striking situational contrast. Coleman (2007)’s study revealed that 51% respondents were able to retrieve search results using wildcard/truncation techniques while Sasikala & Dhanraju (2011)’s study and the present study (Punjab) show that majority of the respondents (82%
and 95.6% respectively) donot know about wildcard/truncation. This wide variation may be attributed to situational variations and definitely requires some remedial measures to improve the situation.

However King (2007)’s study found that only 18.8% respondents were able to use truncation effectively.

**THEME III: DOCUMENT TYPES**

**Encyclopedias**

Only 54.6% of the respondents recognize the usefulness of encyclopedias.

The studies by Rehman & Alfaresi (2009), Ali et al.(2010) and Sasikala & Dhanraju (2011) revealed that the knowledge of encyclopedia ranged from 22% to 33.7% but the study conducted by Mittermeyer & Quirion(2003) and the present study show that 50.4% to 54.6% respondents understand the usefulness of encyclopedias.

Pinto et al.(2012) in their study found that 75.6% of the students had sufficient skills to identify a document according to their needs.

**Periodicals**

56.3% of the respondents understand the characteristics of journal as more recent information tool.

A comparative study of the earlier studies brings variations among the results. The studies conducted by Mittermeyer & Quirion(2003) and McKinny, Jones & Turkington(2011) revealed that about 74% of the respondents knew that periodicals contain most recent information than other document types. But the present study finds that only 56.3% of the respondents are familiar with the characteristics of journal. King (2007)’s study and Ali et al.(2010)’s study put it at 26.5% and 24.5% respectively.

Caravello, Herschman & Mitchell (2001)’s study showed that 78% of the respondents preferred web for locating current information, only 15.5% used periodical index.

**Internet based resources**

‘Search engine’ is the only search tool which is highly used by most of the respondents (74.9%) followed by ‘websites’ (55.5%) and ‘wikipedia’ (55.5%). The other information sources in order of preference are ‘e-resources’ (49.4%), ‘online bibliographic databases’ (28.9%) and ‘subject gateways/portals’ (15.6%). The least preference is shown towards ‘blogs’ (14.3%).
A comparison of the present study with earlier studies regarding internet based resources brings out some similarities and contrasts. For ‘search engine’, the percentage increases within a short span of time. The studies conducted by Rehman & Alfaresi (2009) and Sasikala & Dhanraju (2011) put it at 42.9% and 30.49% respectively while the present study shows it at 74.9%. The studies conducted by Choudhury & Sethi (2009), Baro & Fyneman (2009) and Duncan & Varcoe (2012) showed identical results to the present study. However Maharana & Mishra (2007)’s study put it at 85.71%.

For ‘websites’, the present study and other recent studies of Baro & Fyneman (2009), Sasikala & Dhanraju (2011) and Duncan & Varcoe (2012) do not show much contrast. Whereas for ‘e-resources’, it shows a striking contrast. While Sasikala & Dhanraju (2011) put these at 27.66%, the present study shows these at 49.4%.

‘Wikipedia’ also shows a striking contrast between the present study and a recent study conducted by Duncan & Varcoe (2012). Duncan & Varcoe put it at 17.7% only while the present study shows much higher percentage (55.5%).

‘Online bibliographic databases’ do not have much contrast to show. The studies conducted by Maharana & Mishra (2007), Choudhury & Sethi (2009), Sasikala & Dhanraju (2011) and the present study show identical percentages.

‘Subject gateways/portals’ also show a striking contrast as Choudhury & Sethi (2009) and the present study shows these at 11.11% and 15.6% respectively. Maharana & Mishra (2007)’s study put these at 28.57%.

**THEME IV: SEARCH TOOLS**

**Meta search engines**

Only 23.7% of the total respondents have knowledge about meta search engines. The results reveal that students do not necessarily have a good understanding of this type of tool and may believe that Google and Copernic do more or less the same thing.

‘Meta search engines’ also brings out a striking situational contrast existing in India and Canada. While the present study shows these at 23.7%, Mittermeyer & Quirion (2003) put these at 52.7%. However the studies conducted by Maharana & Mishra (2007) and Ali et al. (2010) show identical percentages.

Choudhury & Sethi (2009) in their study revealed that only 11.11% of the respondents have familiarity with meta search engines.
THEME V: USE OF RESULTS

Reading citations

Majority of the respondents (80.4%) are unable to identify the citations associated with a journal article.

‘Reading citations’ also brings out a striking situational contrast existing in India and foreign countries. While the present study shows it at 19.6%, Mittermeyer & Quirion (2003)’s study put it at 35.8%, King (2007) at 41%, Freeman (2004) at 55%, Salisbury & Ellis (2003) at 73%, Duncan & Varcoe (2012) at 74% and Maughan (2001) showed a much higher percentage (96%).

Caravello, Herschman & Mitchell (2001) in their study revealed that 62% of the sample could not identify a correct and complete journal article citation for a bibliography.

Ali et al. (2010)’s study found that only 14.3% of the respondents were able to interpret a citation.

Bibliographies

Only 31.4% of the respondents are familiar with the bibliography as a tool for finding other documents.

‘Bibliography’ also shows a striking contrast in the conditions existing in India and Canada. While the present study shows it at 31.4%, Mittermeyer & Quirion (2003), who conducted a survey of universities in Quebec a decade ago, put it at 78.2%.

The studies conducted by King (2007), Ali et al. (2010) and Sasikala & Dhanraju (2011) revealed that majority of the respondents lacked the awareness about the basic structure of a book i.e. bibliography.

Evaluating information (Internet)

In testing the relevance of Internet resources used by the respondents of all the universities, it is found that 53.1% of the respondents prefer to evaluate the information found on the Internet. Among them 66.4% consider ‘authenticity’ as the most important criteria for evaluation, followed by ‘reliability’ (49.4%).

‘Evaluating information (Internet)’ shows a striking contrast in percentages between the present study and earlier studies. While the present study reveals that only 53.1% of the respondents prefer to evaluate the information available over Internet, Mittermeyer
&Quirion (2003), Maharana & Mishra (2007), Samson (2010), Sasikala & Dhanraju (2011) and Moghaddaszadeh & Nikam (2012) put it at 83.3%, 85.7%, 73.92%, 70.2% and 70.5% respectively.

It also brings a striking contrast between the conditions prevailing in India and USA. While the present study relating to Punjab (India) puts it at 53.1%, Franklin (2005) and Duncan & Varcoe (2012) put it at about 95%. However a study conducted by Hadimani & Rajgoli (2010) showed that 91.11% respondents preferred to evaluate the retrieved information.

Caravello, Herschman & Mitchell (2001), Choudhury & Sethi (2009), Rehman & Alfaresi (2009) and McKinny, Jones & Turkington (2011) in their studies showed percentages identical to the present study.

Baro and Endouware (2011)’s study showed that 42.2% students critically judged the relevance of the sources before retrieving information from them. Moghaddam & Nahanji (2011) put it at 31.9%.

However the studies conducted by King (2007), Ali et al. (2010) and Shoeb (2011) revealed that majority of the respondents lacked knowledge about the criteria used for evaluating the quality of a web site.

All the studies reviewed showed that ‘authenticity’, ‘reliability’ and ‘currency of information’ are the major criteria used for evaluation.

**Ethical use of information**

Majority of the respondents (85.1%) understand the ethics of information use. They either quote the name of the original author or develop new concepts or ideas after reading. However 8.6% of the respondents are not aware of the need to quote name of the author of original text when paraphrasing and do plagiarism and 5.7% have no idea at all about using information ethically. In the ‘others’ category, 5 respondents reported that they sometimes copy word for word but give proper reference of it.

Similar results were achieved by Franklin (2005).

The comparison between the present study and the earlier studies shows an increasing trend towards ethics of information use. While Mittermeyer & Quirion (2003) found that only 27.6% of the respondents knew when to quote a reference, the present study
shows much higher percentage (85.1%). Duncan & Varcoe (2012) and Moghaddaszadeh & Nikam (2012) put it at 51.6% and 65.6% respectively.

Ali et al. (2010) and Shoeb (2011) in their study revealed that majority of the respondents were not aware of the need to quote name of the author of original text and do plagiarism.

**Legal use of information**

Majority of the respondents (80.2%) respect the intellectual property of the author. 59.1% of the respondents make ‘fair use of information’, 21.1% ‘seek permission from copyright holder’. 11% of the respondents violate the copyright law and copy the whole text without getting consent of the copyright holder.

Franklin (2005)’s study showed that 59.4% of the respondents understood legal issues surrounding the use of information.

Choudhury & Sethi (2009) in their study revealed that 50% of library professionals were aware of copyright and intellectual property right.

The studies conducted by Sasikala & Dhanraju (2011) and Duncan & Varcoe (2012) showed that about 70% of the respondents knew about copyright and copyright infringement. Moghaddaszadeh & Nikam (2012) showed that 65.6% of the respondents understood many of the legal issues surrounding information and information technology.

The results achieved by Coleman (2007) and Hadimani & Rajgoli (2010) are identical to the present study.

**Economic use of information**

50.7% of the respondents regularly pay money for accessing information. Among those who paid the money, 85.9% received fruitful return for the amount paid on information.

Franklin (2005)’s study showed that 35.6% respondents understood economic issues surrounding the use of information.

Moghaddaszadeh & Nikam (2012) showed that 65.6% of the respondents understood many of the socio-economic issues surrounding information.

**IT skills**

Among the various IT skills, ‘social networking’ comes to the fore with 85.1% responses followed by ‘M.S. Office’ (83.8%), ‘e-mail’ (80.7%) and ‘multimedia applications’ (49.7%). The least preferred IT skills in order of preference are ‘blogs’ (24.2%),
‘programming languages’ (23%), ‘desktop publishing tools’ (21%) and ‘web designing’ (20.6%).

The study reveals an increasing trend towards ‘M.S. Office.’ Choudhury & Sethi put it at 55.5% in 2009, Sasikala & Dhanraju at 66.66% in 2011, but by the time the present study was conducted, it rose to 83.8%.

‘E-mail’, also shows an increasing trend. In 2001, Cole and Kelsey put it at 49.1% and Sasikala & Dhanraju (2011) at 38.3%. The present study puts it at 80.7%. Baro & Fyneman (2009) show it at 77%.

‘Multimedia applications’ also shows an increasing trend in India from 2007 onward. Maharana & Mishra (2007) showed it at 25.72% and Choudhury & Sethi (2009) at 22.22% and by the time, the present study was conducted, it rose to 49.7%.

Maharana & Mishra (2007) in their study revealed that the knowledge of ‘programming languages’ was only 8.57%. In the year 2009, Choudhury & Sethi showed it at 11% but by the time the present study was conducted, it rose to 23%.

**Frequency of updating the Blog**

50% of the respondents update their blog ‘daily’ or ‘2-3 times in a week.’ 25.5% respondents are those who once created their blog but rarely or seldom updated it.

**IL workshop/seminar attended**

Only 44.6% of the respondents attended the workshop or seminar on effective use of information organized by their respective universities. Among those who attended the workshop or seminar, majority of them (89.6%) found the seminar/workshop on information literacy helpful for them to make effective use of information.

Korobili, Malliari & Christodoulou (2008) in their study revealed that 77.36% academic libraries of Greece and Cyprus offered an orientation program, 84.9% offered a few-hours seminar, 11.3% a week-seminar, 32% a program integrated in a course, 13.20% an online tutorial, 47.17% teaching information retrieval in specific sources and 16.98% a course integrated in the curriculum. 46.7% of the respondents participated in a variety of activities which they considered would contribute to the development of their teaching ability.
Korobili, Malliari & Christodoulou (2009)’s study found that 23.3% respondents attended information literacy course integrated in the curriculum and only 7.3% respondents attended a library seminar.

Inclusion of IL instruction in curriculum

Majority of the respondents (76.2%) have information literacy instruction content in their curriculum. However, the respondents (23.8%) who did not have literacy content in their curriculum wanted that it should be included in the curriculum of their respective courses. Baro (2011) investigated more than 60 library schools in Africa. Among them 20 institutions offered information literacy or related course in their curriculum.

Korobili, Malliari and Christodoulou (2009) in their study revealed that 64.5% of the respondents considered that an information literacy course should be integrated in their curriculum.

Samson (2010) claimed that most of the respondents agreed that information literacy should be made a part of the curriculum.

Shoeb (2011)’s study found that 51.5% students of a private university of Bangladesh had classes on finding and using information.

References


