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Information literacy skills among the postgraduate students at Aligarh Muslim University, India

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Abstract

The purpose of this study is to examine the information literacy regarding the library resources among the postgraduate students at Aligarh Muslim University, and to know their basic needs of information and information search strategies in the library as well as in web based resources. The present study selects the descriptive survey method and covers 329 postgraduate students of five selected faculties e.g. Faculty of Arts, Faculty of Science, Faculty of Commerce, Faculty of Theology, Faculty of Social Science at AMU. The questionnaire discusses their information searching strategies on OPAC, their search engine preference, awareness of e-resources, level of information literacy skill, needs of information literacy skill etc. The paper reveals that most of the students are aware of the information sources which are available in the library. "Google" is the most popular search engine to the students. Through this study, the investigators find that there are some valuable suggestions which are made by the users according to their need to improve their information literacy skill such as motivational lectures, workshops, conferences, symposium, project based learning, and online literacy programme. This study may be considered as a unique one which brings out the current status of information literacy skills among the PG students at AMU. It will help recognize the librarian and teachers to instruct students as to where to search the source of information and how to evaluate information to meet their information needs.

Keywords Information literacy, Information skills, Innovative Technology in libraries, Web 2.0 Tools, PG Students, Aligarh Muslim University, India.

Background information

Aligarh Muslim University (AMU) is a prestigious, premier Central University in India which is located in Aligarh city. It was set up by Sir Syed Ahmed Khan as 'Mohammedan Anglo-Oriental College' in 1875. After that it became Aligarh Muslim University in 1920. It attracts students from various corners of the country as well as foreign countries. It has 12 Faculties e.g. Agricultural Sciences, Arts, Commerce, Engineering & Technology, Law, Life Sciences, Medicine, Management Studies & Research, Science, Social Sciences, Theology, Unani Medicine, each consisting of several Departments of Studies (Office of the Controller of Examination, 2014).). It has great respect in the academic field. It provides several ICT facilities e.g. computer lab for each department, Wi-Fi facilities in every hostel and department so that the students can get a lot of benefit from them.

At AMU, every department has a separate seminar library which is special for particular subject wise collections. Besides AMU has Asia's second largest academic library which is named Maulana Azad Library (MAL), the central library of AMU. MAL library operates all the seminar libraries of each department. The library has a large number of collections e.g. 18, 00,000 documents, including books, periodicals, newspapers, theses, dissertations, reports, pamphlets, manuscripts, paintings, photographs, CDs, microfilms, databases, e-books, talking books, etc. and it is fully automated with LibSys 7.0 software

which connects almost all 9,500 computers within the University as well as the centers in the distant states such as Murshidabad campus, Mallapuram campus and Kishanganj campus. The 3M security system and three dozen CCTV cameras have been installed to ensure safety for the library materials (<http://www.amu.ac.in/amulib>). MAL library is fully air conditioned. It has courses wise separate reading rooms having facilities of high speed Internet connection which makes the students feel comfortable to use the library at the best possible manner.

However, the present study focuses on the need and purpose of the ‘information literacy’ in the modern era of technologies. With the help of this study, the investigators make an effort to investigate the awareness, knowledge, use of different search techniques and usefulness of the social networking sites for the development of information literacy among the PG students of Aligarh Muslim University. The findings of this study will serve as a great help for the coming generations to improve their information literacy skill.

Information literacy skill means possessing knowledge as to which type of information is required, what type of resources are available for that information, have the knowledge how to find the information and how to communicate the findings with others. Australian and New Zealand information literacy framework (2004) state that “Information literacy is an intellectual framework for recognising the need for understanding, finding, evaluating, and using information. These are activities which may be supported in part by fluency with information technology, in part by sound investigative methods, but most importantly through critical discernment and reasoning. IL initiates, sustains, and extends lifelong learning through abilities that may use technologies but are ultimately independent of them”. According to American Library Association (2000) the Information Literacy objectives are identified as follows:

[...] Information literacy forms the basis for lifelong learning. It is common to all disciplines, to all learning environments, and to all levels of education. It enables learners to master content and extend their investigations, become more self-directed, and assume greater control over their own learning. An information literate individual is able to.

- To determine the extent of information needed
- To provide access the needed information effectively and efficiently
- To evaluate information and its sources critically
- To incorporate selected information into one’s knowledge base
- Use information effectively to accomplish a specific purpose
- Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally.

In this age of ICT the users have the facility to fulfil all these need with the help of the innovative technologies. It is because of these technologies that provide the new ways to improve the knowledge about the use of all these techniques and the information literacy as well. This is a learning process which will continue throughout the life. According to Bruce (1997) has identified the “*Seven Faces of Information Literacy*”:

- “Information technology conception—using information technology for information retrieval and communication;
- Information sources conception—finding information;
- Information process conception—executing a process;
- Information control conception—controlling information;

- Knowledge construction conception—building up a personal knowledge base in a new area of interest;
- Knowledge extension conception—working with knowledge and personal perspectives adopted in such a way that novel insights are gained; and
- Wisdom conception—using information wisely for the benefit of others”.

However, “IL competency extends learning beyond formal classroom settings and provides practice with self-directed investigations as individuals move into internships, first professional positions, and increasing responsibilities in all arenas of life” (Babu, 2008). Because IL enhances students' competency with ‘evaluating, managing, and using information, it is now considered by several regional and discipline based accreditation associations as a key outcome for college students and for "on campus" students’ (Karisiddappa, 2007).

Review of literature

Generally, information literacy stands for how a person utilizes information and how he acquires information through several information sources. Paul Zurkowski is the pioneer of the term ‘Information Literacy’ which was first introduced in 1974 (Shoeb, 2011). According to Zurkowski (1974) an information literate person is a person who “has learned techniques and skills for utilizing the wide range of information tools as well as primary sources providing information solutions”. In addition to him, there are various scholars, organizations and associations that have defined ‘Information Literacy’ in different ways. *Harrold’s Librarian’s Glossary* defined the term ‘Information Literacy’ as “The ability to identify, locate, evaluate, organize and use information – particularly from electronic sources – to address an issue or solve a problem, whether for personal, social, cultural, or business purposes. Also to communicate such information to others. It is seen as a basic human right; a means to help in the eradication of inequality of access to information and the encouragement of tolerance”. *The American Library Association* “[...] a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information” (ALA, 1989). Besides these, *Dictionary for Library and Information Science* defined ‘Information Literacy’ as the “skill in finding the information one needs, including an understanding of how libraries are organized, familiarity with the resources they provide (including information formats and automated search tools), and knowledge of commonly used research techniques. The concept also includes the skills required to critically evaluate information, content and employ it effectively, as well as an understanding of the technological infrastructure on which information transmission is based, including its social, political, and cultural context and impact”. However, Information literacy is an effective skill by which a person can easily find the specific information in the digital environment, use it properly and share it with his peer. IL has regarded information technology skill as an important medium which is indispensable to use and search the information in a sophisticated era (Babu, 2008; Baro and Fyneman 2009). Babu (2008) also highlighted that IL is the essential skill of “lifelong learning and central to achieving both personal empowerment and economic development”. In advanced society, the library users must be an information literate because the innovative technology has totally changed the pattern of library services and systems. UNESCO’s Information for All Programme (IFAP, 2008) has defined a model and framework for the measurement of IL. IFAP stated that “information literacy is part of an integrated set of skills which adults need to be effective in all aspects of their lives.” IFAP also state that:

[. . .] information literacy is the capacity of people to: recognize their information needs; locate and evaluate the quality of information; store and retrieve information; make effective and ethical use of information, and apply information to create and communicate knowledge.

Baro and Fyneman (2009) point out that in Niger Delta University, the majority of the social science students were deficient in using information technology through various ways. They observed that male students were much more conscious than female students regarding using Internet at the University. They used Internet, email, various search engines, web based resources for obtaining informations regarding academic curriculums. A study by Ali *et al.* (2010) observed that the majority of the engineering students in 'Universiti Putra Malaysia', had lack of knowledge and skill to search the information on Internet. They also suggested, IL programs are pivotal for students and awareness of 'scholarly resources in both print and electronic format'. Hadimani and Rajgoli (2010) found that UG students of agriculture college, Raichur, were able to search the information on Internet and store the same for future use. But as they were sometimes unable to locate the specific information, they were in need of helps from library professionals. They also reported that students had lack of knowledge of copyright and privacy of electronic information. Siamak, Nodoushan and Khaleghi (2013) point out that students of QOM University of medical science had low level of literacy skill.

We cannot ignore the needs of "Information Literacy" skill because various studies revealed that the information literacy skill is pivotal for the users of google generation. Dorner (2009) believes that "Information literacy education is a cooperative process. In this process, the teacher facilitates information-related learning experiences. The learners critically and reflectively engage with information as a resource for self-actualisation in their unique local contexts". However, Sasikala and Dhanraju (2001) observed that majority of the science students of Andhra University badly need the electronic environment. The IL skills or literacy programs are essential to find out particular information at a particular time. John and Verma (2016) explored that in Indore city, India, the level of information competency is very commendable, and concludes that lawyers are information literate but are not well versed with ethical issues of information.

Another study by Shoeb (2011) found that IUB undergraduate business students require more information competencies to solve their 'information-related problems'. Jayaprakash and Venkateshwaralu (2005) mentioned that there is an importance of user education and IL in promoting and supporting digital information services in the modern era.

Objectives of the study

The present study is made to measure the level of the information literacy and the use of advanced technologies in libraries. The following are some objectives of the present study.

- To find out the information need of PG students at Aligarh Muslim University.
- To examine the level of awareness of the different types of information sources available in the University library.
- To know the different information searching strategies used by the students.
- To elicit the knowledge of modern communication tools related to Web 2.0 tools.
- To investigate the level of digital literacy among the students.
- To find out the level of awareness of e-resources among the students.

Methodology

The present study selects the descriptive survey method. The survey was conducted among the students of PG in five selected faculties of the main campus of AMU, Aligarh. At the initial stage, the investigators prepared a structured questionnaire that were circulated among 25 PG students in ten departments in order to have pilot testing. After collecting the questionnaires from them, the investigators have come across with some problems regarding the questionnaire faced by many PG students. They

reported that they were unable to get the meaning of some terms and questions in the questionnaire. Eventually, investigators rectified the questionnaires on the basis of their suggestions. Thereby the rectified questionnaires were circulated in five faculties. Finally, after accumulating and analysing the questionnaires from these five faculties, it reveals that faculty of arts reached 34.95 per cent, faculty of science 24.92 per cent, faculty of commerce 14.89 per cent, faculty of theology 7.29 per cent and faculty of social science reached 17.95 per cent.

The questionnaire discusses their information searching strategy on OPAC, their way of searching the web based materials, level of information literacy skill, needs of information literacy skill, etc. Most of the questions were multiple-choice typed where respondents were instructed to mark the answer that was correct.

350 questionnaires were distributed among the students of five faculties and out of these the investigators got 334. Out of 334 questionnaires, investigators found only 5 questionnaires which were left unanswered. Hence, 329 questionnaires have been applied to this study.

Result and discussion

In this survey it has been found that there is 54.72 per cent female and 45.28 per cent male respondents. The study observes that most of the respondents are female as the number of female students is greater than that of male students in PG courses (University Annual Report 2015).

Use of library by PG students

The present study demonstrates that 98 per cent PG students visit the central library (MAL) whereas only 2 per cent students do not visit the same. Two per cent students state that they use seminar library most of the time, which is attached to the same department. The study finds that out of 98 per cent PG students, 25.22 per cent students visit the library daily, 63.22 per cent students visit sometimes and only 9.42 per cent students visit library in weekend.

The study also finds out the purpose of PG students' visiting to the central library of AMU. After analysing the data, the investigators point out that PG students visit the library for various purposes such as 19.14 per cent visits for reading newspaper & magazine, 38 per cent for books browsing and lending purposes, 32.21 per cent for consulting reference material, e.g. Encyclopedia, reports, dictionaries, etc., 17.93 per cent preparing for competitive examination, 21.88 per cent for photocopying/Xerox relevant purposes and 46.80 per cent for reading text book purposes.

PG students' information needs

Here the investigators come to know about the users' information needs. The findings reveal that 97 per cent of the PG students need information to write their course assignments, 31 per cent state that they need information to write their conference/seminar papers, 86 per cent of the students need information to prepare for their class presentation and 89 per cent of the students point out that they need information to write in the examination.

Awareness of the information sources

The present study demonstrates how much PG students are aware of various sources of information. The result shows that 16.44 per cent students know about the information sources in library orientation programme, 88 per cent consult their friend circle, 90.22 per cent students acquire knowledge from their classes (teachers' suggestions), 20 per cent make self-study and 16.88 per cent get knowledge from other

sources. They also consult reference librarians (29.77 per cent) and subject experts to meet their information needs.

Information sources	No of respondent	Percentage
Library orientation	37	16.44
From friends	198	88
Teaching staff	203	90.22
self-study	45	20
Any other	38	16.88
Reference librarian	67	29.77

Table I
Awareness of information sources

Note: Total percentage is more than 100 because of multiple choices

Use of information sources

In the age of 21st century, information sources are available in two forms- one is a documentary and another is non-documentary (Lal and Kumar, 2007). MAL library has a vast resource collections in two forms such as printed and non-printed materials. It is noticed that AMU conducts semester examination for the PG students of all the disciplines. As the duration of one semester is six months, students remain busy all the time with preparing assignments, sessional test, presentations, project work etc. The present study reveals that 26.13 per cent PG students use various Encyclopaedia e.g. Encyclopaedia Britannica, Encyclopaedia of Social Science, Encyclopaedia of Americana etc., 82.67 per cent students use their subject related books, 17.32 per cent use various journal articles (Those are conducting project work in their semester), 19.14 per cent use magazine, 6.99 per cent use various databases e.g. Emerald, JStore, Science Direct e-Books, Elsevier, EBSCOHost: Academic Search Complete , Scopus: Citation, Abstracting & Indexing Service etc., 0.60 per cent use consortia and 7.15 per cent PG students use reports. (See table II).

Information sources	No. of respondent	Percentage
Encyclopaedia	86	26.13
Books	272	82.67
Journal article	57	17.32
Magazine	63	19.14
Databases	23	6.99
Consortia	2	0.60
Report	24	7.15

Table II
Use of information sources

Note: Total percentage is more than 100 because of multiple choices

Information search strategy on library OPAC

MAL library has been fully automated with LibSys 7.0 software. There are a number of computers in the library for searching the documents on the OPAC. Actually OPAC has supplementary features such as users friendly, accessible, particularly, search by subject, search by author, search by key term, search by title which is used by the students according to their demand. In this study, the investigators find out the searching strategy by PG students on library OPAC. After accumulating and analysing the data, it is found that 60.79 per cent PG students' most popular search method is "By author's name". A great number of respondents also prefer "By the title of the document" (52.58 per cent). The respondents also go by "By subject" (20.06 per cent), "By call number" (3.34 per cent) as well as "By keywords" (6.99 per cent). Notably, the study brings the fact to light that the least search method is "By call number". (See table III).

Search term	No. of respondent	Percentage
By author	200	60.79
By title	173	52.58
By subject	66	20.06
By call number	11	3.34
By keywords	23	6.99

Table III
Information search
strategy on OPAC

Note: Respondents are permitted to choose multiple answers

Use of search engine

AMU provides students with Wi-Fi Internet connection in every hostel, department, library, reading room etc. According to Ali (2005) "Google" is the most used search engines for IIT Delhi students. The present study also demonstrates that out of 100 per cent PG students, the majority of the respondents highly prefer "Google" search engine (98.78 per cent). Most of the respondents state that "Google" is the most popular search engine which is very effective for searching the information. They also share that the interface of google search engine is very much attractive and information is retrieved quickly.

From the multiple responses by the students it has been found that they, other than going by google, also use different search engine such as 5.16 per cent respondents use "Yahoo", 0.60 per cent "Alta Vista", 5.16 per cent "Google Scholar" and 0.60 per cent others search engine. The investigators also point out that the 0.60 per cent students use other search engines besides Hotbot, SIRIUS, Infoseek etc.

Search techniques and strategies on Internet by PG students

It is found that AMU PG students are much more conscious about the modern technologies like computer, Internet, etc. Here the investigators come to know about the search techniques and strategies of the respondents on Internet. The study demonstrates that out of 100 per cent respondents, the majority of the respondents prefer "simple keywords" methods (68.99 per cent) because they feel that this method is easy for information searching. Apart from this, the second choice of the respondents is "Field Search (Title, URL)" (29.78 per cent), and the third is "Boolean Operators". Most of the respondents mention that they are not aware of the Boolean Operators. Some of the respondents mention that they also follow "Truncation" method. About 4.86 per cent respondents have not given answers to this question.

Search strategies	No. of respondent	Percentage
Simple keywords	227	68.99
Boolean operators	36	10.94

Truncation	07	2.12
Field search(Title, URL)	98	29.78
No response	16	4.86

Table IV
Use of search techniques
and strategies on Internet

Note: Total percentage is more than 100 because of multiple choices

Awareness of IT in libraries

Nowadays libraries have adopted various technologies like RFID, mobile technology, cloud computing, web 2.0 tools and techniques, etc. With the help of these new technologies, libraries have been able enough to impart information at the users door step. This study finds out how much PG students are aware of the new technologies in libraries. The study shows that most of the respondents (65.65 per cent) are aware of the new technologies in the library whereas (32.21 per cent) some of the respondents are unacquainted with the same.

Usefulness of Web 2.0 and social networking sites

This is the age of technology and every user uses these technologies in the best possible manner such as web 2.0 and social networking sites. These tools are just like a backbone of the changing society as at present no user can think of his existence without the use of these technologies. The investigators also note that AMU library does not provide any types of Web 2.0 tools and SNSs services to their user communities. PG students access these tools from other universities.

The present study checks the level of users' awareness and finds that (84.16 per cent) users are aware of the use of these technologies at AMU. These technologies such as "Facebook", "Twitter", "MySpace", "blogs", "wikis" "YouTube" etc. are a great source of information to the present society. It is beneficial for students also. Of all these innovative tools the investigators find that wikis (47.42 per cent) are the most used web tools by the AMU PG students. The reason behind this is that Wikis is more effective powerful web tool which is basically used not only for academic purposes but also for "project development", "to supplement resources relevant to the curriculum of the courses" (Harrish and Rhea, 2009; Tripathi and Kumar, 2010). Wikis is followed by YouTube (45.28 per cent), Facebook (37.68 per cent), and blogs (16.41).

Purpose of using these tools

The investigators find out that most of the respondents (53.49 per cent) use Web 2.0 tools and SNSs to fulfil their academic needs. They use these tools for communicating and getting the current informations. 51.67 per cent users use these tools for current information, 49.24 per cent use these technologies to be updated. The reason of using these technologies is that they get appropriate and updated information related to their queries. This also gives them a vision of awareness of the new things.

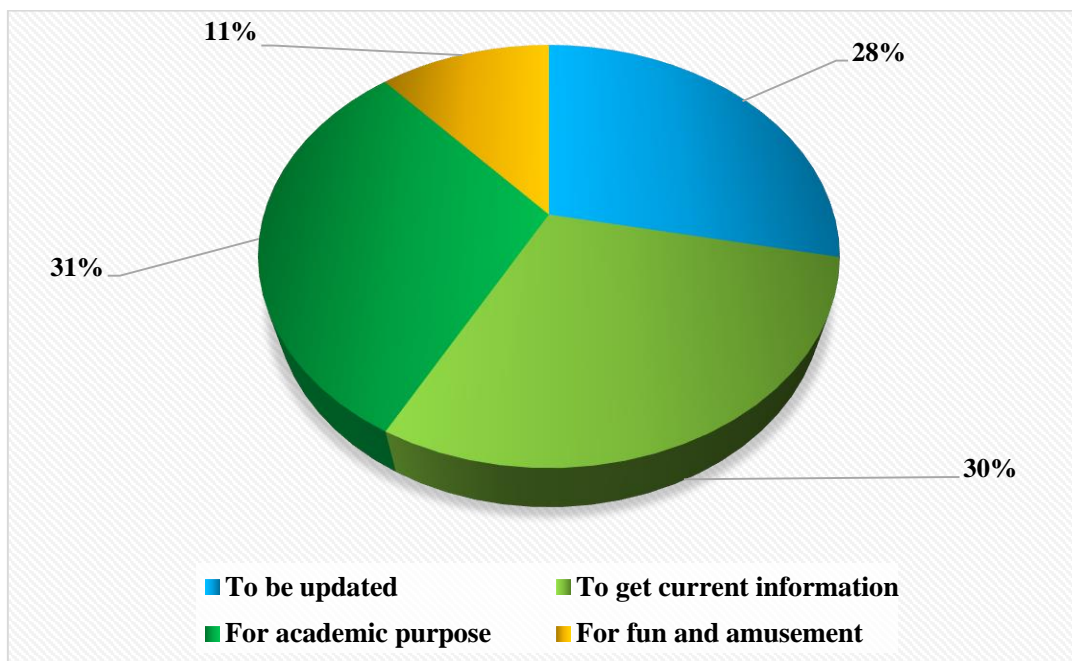


Figure 1: Purpose of using web 2.0 tools

Satisfactions level of new technology in libraries

The percentage of awareness of web 2.0 tools and technologies shows that 86.16 per cent as the users are satisfied with these technologies, they use them. The present study shows that 81.45 per cent users feel satisfied with the use of these innovative technologies. The level of satisfaction shows that the users get a great help from these tools and technologies in fulfilling their aims and objectives of the education as well as social fields.

Access and use of e-resources

Undoubtedly, e-resources have improved the quality of learning system as well as research. The investigators observes that majority of PG students are aware of e-resources. After analysing the data it is found that a large number of respondents (79.63 per cent) access and use various e-resources whereas very few respondents (17.93 per cent) do not use them. Only few of them (2.44 Per cent) did not respond to this query. The study also reveals that most of the responds such as 56.23 per cent use E-Books, 28.26 per cent use E-Journal, 34.34 per cent use E-Newspaper, 0.30 per cent use E-Consortia, 7.90 per cent use E-Databases and reaming 0.30 per cent students use video lecture, audio lecture, etc.

Purposes of using e-resources

The investigators find that PG students at AMU have used various e-resources for several purposes. Table VI shows that most of the respondents (53.79 per cent) use e-resources for improving knowledge whereas 27.05 per cent respondents use them for fulfilling knowledge thirst, 38.90 per cent respondents for current information, 33.73 per cent for fulfilling the personal information needs and few of them (3.95 per cent) use e-resources for just passing time.

Purposes	No. of respondent	Percentage
Improving knowledge	177	53.79
Fulfilling knowledge thirst	89	27.05
Gaining current information	128	38.90
Fluffing the information needs	111	33.73
Wastage of time	13	3.95

Note: Total percentage is more than 100 because of multiple choices

Needs of library orientation programmes

It is not possible for everyone to get essay access to these new technologies available in the libraries. In this study, the investigators find that most of the respondents are unfamiliar with these innovative technologies in the libraries. The present study brings forth the importance and needs of the library orientation programmes in this technological era. 89.05 per cent students state that they need various library orientation programmes which develop their information literacy skill in google generation. Most of the respondents report that they don't know how to search the particular information on Internet. Whereas some of the respondents (7.90 per cent) mention that there is no need for any literacy programmes. Only few of them (3.05 per cent) did not answer this query. (See figure II).

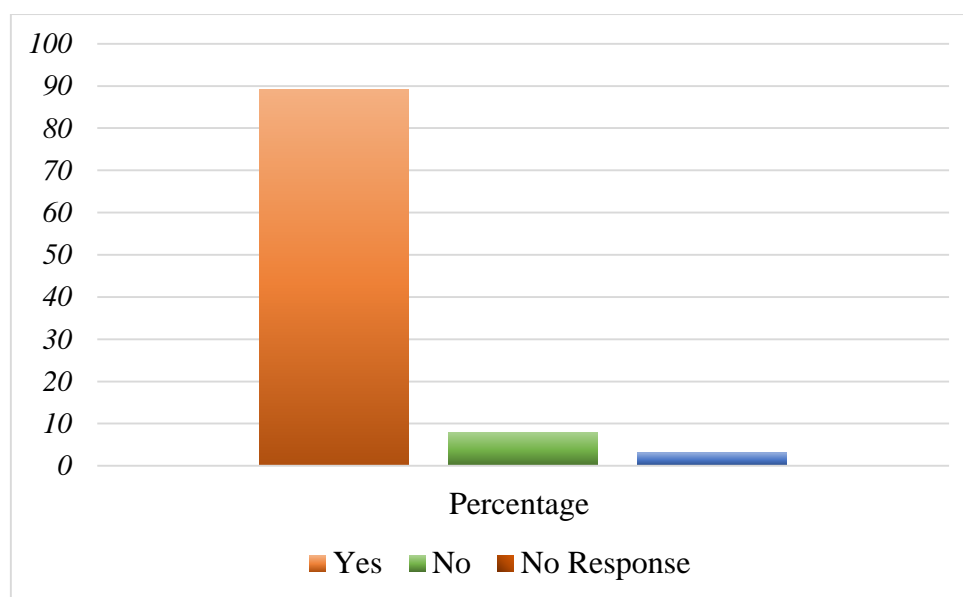


Figure II: Needs of library orientation programmes

Conclusion and suggestions

Information literacy is the basic need of everyone in the modern technological era because every day there is a new technological challenge coming out of the soil of technological experiments. Therefore, the students need literacy skills so that they can recognize their 'information needs, locate and evaluate the quality of information, store and retrieve information, make effective and ethical use of information' for their future perspectives (IFAP, 2008).

On the basis of the above analysis and observations, it is found that most of the students are aware of the information sources which are available in the library. Books are the first preferred source for the students whereas Encyclopaedia e.g. Encyclopaedia Britannica, Encyclopaedia of Social Science, Encyclopaedia of Americana etc. is the second preferred sources of information. The investigators also point out that a large number of the PG students need information to write their course assignments, research papers, prepare for their class presentation and write in the semester examinations. The majority of the students search informations in the MAL through OPAC by "author's name" and "subject wise".

It also reveals that "Google" is the most popular search engine to the PG students of AMU. Apart from this, the most popular search method for searching electronic information is "keyword". Students are

aware of the new technologies which are used in the library e.g. RFID, Web 2.0 tools etc. A good numbers of students use e-resources for research and study purposes.

Through this study, the investigators find that there are some valuable suggestions which are made by the users according to their need to improve their information literacy skill. The users find that there are some important fields where they need some more improvement. 47.23 per cent users suggest that podcast service is very important to understand the concept related to any subject. 23.47 per cent users suggest that they need motivational lectures to make improvement. The important suggestions which are given by the users (66.66 per cent) are that workshops, conferences, symposiums, and discussions may be helpful in developing the literacy skill. There are other suggestions as well which demand for more advanced and technological education programmes, project based learning, discussion on e-mailing, communication tools, internet chat, newsgroups, online literacy programme, visual programme like news and films, literacy compilation programme and seminars organised on IL Literacy. (See table VI).

Users suggestions	Percentage
Users need podcast service for making the concept clear e.g. audio, video lecture etc.	47.23
Need of motivational lectures	23.47
Some research skill test programme	15.01
Need of more advanced and technological educational programmes	10.06
Project based learning and podcast service	20.44
Need of objective types conceptual question booklet	2.01
E-mailing programme	3.05
Seminar organized on IL	27.84
Online literacy programme	19.47
Communication tools – internet chat, newsgroups, Facebook and twitter	24.03
Need of workshops, conference, symposium, discussion should be made on IL	66.66
Visual programmes like news and films on IL	26.76
Need of literacy competition programme	13.13

Table VI
User suggestions

It is noticed that information literacy is the key to success for all the modern users. These skills provide the students with a scope to make a great use of existing information sources whenever they want. Grassian and Kaplowitz, (2001) are of the view that there is enough explanation about the usefulness of information literacy “Gaining skills in information literacy multiplies the opportunities for students’ self-directed learning, as they become engaged in using a wide variety of information sources to expand their knowledge, ask informed questions, and sharpen their critical thinking for further self-directed learning”. Through this study, it can be marked that the respondents have a clear vision towards the awareness of the information literacy.

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