Chapter II

Review of Related Literature

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2.0 INTRODUCTION

The review of literature is an essential component of any research investigation, which gives necessary impact of the researcher to frame the research study on the chosen topic. The aim of the literature review is to provide background information needed to understand the study. It helps the researcher to choose the right research problem for any research investigation after reviewing the earlier studies related to the study undertaken. It will help to the researcher to move towards right direction in his / her research. The literature review may be carried with various information resources such as Journal articles, Conference proceedings, Book chapters, Research abstracts, Project, Dissertation, and Thesis so on. In this chapter, an attempt has been made to review the significant and the recent literature on various aspects of Information literacy under the following sub-titles:

- Studies on Information Literacy
- Studies on Computer Literacy
- Studies on ICT Literacy
- Studies on Electronic Resources

As voluminous literature is available in these areas, only a few important related works are reviewed here. Such a review would facilitate the researcher to have a comprehensive knowledge on the concepts used in earlier studies and enable him to adopt, modify and formulate an improved conceptual framework for the use of the present study and draw a meaningful conclusion.

2.1 INFORMATION LITERACY

Information literacy skills are the most sought after skills needed for the people of all sorts. It is more so in the case of those students, research scholars and faculty members of higher education institutions. Information literacy is central to
student learning (Thomas & Jacobson, 2005). The key for students of today to become independent learners and knowledge workers of tomorrow lies in being information literate (Mokhtar, Majid & Foo, 2008). IL competencies are generally accepted as being useful in student learning and in developing independent learners and future knowledge workers (Mokhtar, Majid & Foo, 2008). Information literacy has become an important concept since the arrival of the information age (Karisiddappa & Rajgoli, 2008).

The purpose of IL programmes is generally to enable students to access, select and utilise resources effectively (Jiyane & Onyancha, 2010). Information literacy is common to all disciplines, to environments, and to all levels of education (Amudhavalli, 2008). Whether one is a teaching faculty or a student or a researcher in languages or social sciences or humanities or pure sciences or applied sciences, learning and coning the information literacy skills has become a must, in this information proliferated era.

2.2 STUDIES ON INFORMATION LITERACY

2.2.1 Study Area

The researchers in the field of information literacy have conducted their studies on different learning environments and institutions.

Some of the researchers have conducted IL studies in universities. To quote a few, a study in university of Ghana by Sebuava (2016), University of Ibadan, Nigeria by Adeleke, Samuel and Emeahara (2016), University of Ilorin, Kwara State, Nigeria by Issa, Aumsan, Olarongbe, Igwe and Oguntayo (2015), University of the Punjab, Lahore, Pakistan by Mahmood (2013), Sabaragamuwa University of Sri Lanka by Nawarathne and Singh (2012), Bangalore University by Moghaddaszadeh and Nikam (2012), Machang and Kota Bharu campus branches in the Malaysian public university in the state of Kelantan namely UiTM Kelantan by Salleh, Halim, Yaacob and Yusoff (2011), Andhra University by Sasikala and Dhanraju (2011), 36 university
libraries in Nigeria by Baro and Zuokemefa (2011), three Spanish universities by Pinto and Sales (2010), School of Dental Medicine, University of Nevada, USA by Kingsley and Kingsley (2009), University of Fort Hare by Somi and De Jager (2005), Indian universities by Nyamboga (2004), University of Nevada, Las Vegas - School of Dental Medicine by Kingsley, Galbraith, Herring, Stowers, Stewart and Kingsley (2011).

While some of the researchers like Lata and Sharma (2013) and Annet Kinengyere (2007) conducted IL studies in research institutions, few researchers like Ali, Abu-Hassan, Daud and Jusoff (2010, Malaysian college) and Hadimani and Rajgoli (2010, College of Agriculture, Raichur) have undertaken IL studies in colleges.

A handful of researchers have carried out their IL studies on specific geographical locations like Ogun State, Nigeria by Bello, Amusa, Omotoso and Osunrinade (2016), South Africa by Jiyane and Onyancha (2010), Kenya by Tilvawala, Myers and Andrade (2009), Bangalore by Karisiddappa and Rajgoli (2008) and Hong Kong by Tarrant, Dodgson and Law (2008).

2.2.2 Target Group

The target population of the studies on information literacy differ to a great extent in the research field. Most of the studies are conducted on students. A study on the information literacy skills of post graduate students by Sebuava (2016) and Adeleke, Samuel and Emeahara (2016) and undergraduate students by Issa, Aumsan, Olarongbe, Igwe and Oguntayo (2015), Nawarathne and Singh (2012), Salleh, Halim, Yaacob and Yusoff (2011), Hadimani and Rajgoli (2010) are noteworthy.


Some of the Information Literacy studies are conducted by the researchers on the population consisting of mixed bags of respondents. Lata and Sharma (2013) performed an IL study on faculty and students, Moghaddaszadeh and Nikam (2012) on faculty members and research scholars, Somi and De Jager (2005) on undergraduate and postgraduate students, Nyamboga (2004) on the library users of Indian universities and Boh Podgornik, Dolnicar, Sorgo and Bartol (2015) and Mahmood (2013) on students in general.

### 2.2.3 Purpose

The objectives of IL studies vary from researcher to researcher. The researcher could see a panoramic set of objectives in the studies reviewed.


While Bello, Amusa, Omotoso and Osunrinade (2016) studied the influence of Information Literacy Skills on Information Needs and use of the respondents, Adeleke, Samuel and Emeahara (2016) and Annet Kinengyere (2007) studied the relationship between information literacy and use of electronic information resources for academic purposes.

Moghaddaszadeh and Nikam (2012) studied the attitudes of faculty members and research scholars towards information literacy and Salleh, Halim, Yaacob and
Yusoff (2011) measured the effect of information literacy on the undergraduates’ academic performance in higher education.

Detlor, Julien, Willson, Serenko and Lavallee (2011) examined the factors affecting student learning outcomes of information literacy instruction (ILI). Tarrant, Dodgson and Law (2008) studied the effect of information management module with a pre test and post test while Boh Podgornik, Dolnicar, Sorgo and Bartol (2015) did a post IL test assessment after an IL-specific study course and Kingsley and Kingsley (2009) studied about the design and assessment of a research-based assignment to help students to develop and integrate information literacy skills with clinical relevance.

Karisdapp and Rajgoli (2008) surveyed the ‘information literacy programmes and practices of selected institutions while Baro and Zuokemefa (2011) undertook an online survey to study the Information literacy programmes of 36 university libraries and Jiyane and Onyancha (2010) studied the availability and implementation of information literacy programmes in South Africa, with special reference to LIS schools/departments and academic libraries.

2.2.4 Findings

2.2.4.1 Overall Rating of Literacy Skills

Majority of the post graduate students are not information literate (Sebuava, 2016). UG students only have little exposure to available IL programmes (Issa, Aumsan, Olarongbe, Igwe & Oguntayo (2015). Most Kenyans were not aware what information literacy or information-based societies mean (Tilvawala, Myers & Andrade, 2009). The students still have difficulty in finding, critically evaluating and using information (Somi & De Jager, 2005). Annet Kinengyere (2007) revealed that some of the available resources have not been utilized at all. It means that users are not aware of the availability of such resources, they do not know how to access them, or they do not know what the resources offer.
Bankers have high information literacy level (Bello, Amusa, Omotoso & Osunrinade, 2016). All the respondents i.e. faculty and students were able to specify their information needs (Lata & Sharma, 2013). The total mean score of respondents’ attitudes toward 'information literacy' was 235.97 out of 336 (Moghaddaszadeh & Nikam, 2012). Kingsley, Galbraith, Herring, Stowers, Stewart and Kingsley (2011) revealed that information literacy among the student population was lacking.

2.2.4.2 Search strategies and tools

Searching is an art. The information seekers should understand various search strategies and tools that may be employed in the effective retrieval of pertinent information. Lack of search skills will really be a disastrous in information retrieval process.

Most of PG students were not skilled in the use of search strategies, search tools and the evaluation of information (Sebuava, 2016). The respondents are less successful in advanced database search strategies, which require a combination of knowledge, comprehension, and logic (Boh Podgornik, Dolnicar, Sorgo & Bartol, 2015). Students were more comfortable in basic computing and internet related activities but less comfortable on specialized information searching tasks (Mahmood, 2013).

The lack of search skills has a direct impact on the use of various resources too. Low level of usage of electronic resources, in particular, full texts data bases was linked to lack of search techniques skills by many postgraduate students of the university to access the myriad of e-resources (Adeleke, Samuel & Emeahara, 2016).

2.2.4.3 Information Needs and Sources used

The type of information required by the respondents differ to a greater extent depending on where are they, who are they and what do they do.

Job related information, information on health matters and information on financial matters are information needs that are common among the bankers. Current
awareness, research and service delivery are major purpose of information use among them (Bello, Amusa, Omotoso and Osunrinade, 2016). Majority of the respondents in academic institutions have information needs on their academic engagements like class assignments and project writing (Issa, Aumsan, Olarongbe, Igwe & Oguntayo, 2015). To satisfy the information needs, the respondents resort to various online and offline resources. Most scholarly resources used were books in print format, while most non-scholarly resources referred to were in electronic format (Ali, Abu-Hassan, Daud & Jusoff, 2010).

2.2.4.4 Lack of skills and use of E-resources

Adeleke, Samuel and Emeahara (2016) proved that lack of adequate skills of postgraduate students resulted into the non encouragement of the expected research-led enquiry in using electronic information resources (EIRs) in the digital age.

2.2.4.5 Problems

A majority of the respondents expressed dissatisfaction with the present status of information availability, accessibility and usage (Issa, Aumsan, Olarongbe, Igwe & Oguntayo, 2015). Barriers such as lack of interest by students, teachers, and management, inadequate human resources to handle IL training, lack of facilities, low acceptance of online IL delivery approach and absence of IL policy were identified as factors militating against librarians’ efforts when advocating and providing IL programmes in university libraries (Baro & Zuokemefa, 2011). More than half the students do not attend library orientation sessions in spite of their being compulsory (Somi & De Jager, 2005).

2.2.4.6 Effect of IL programme / Programmes

The Information literacy programmes being organized at various institutions have their own impact. The students and scholars who attend the IL programme become better searchers and they are able to retrieve the opt information in time.
The students who took a second ILT assessment after participating in an IL-specific study course achieved an average post test score of 78.6%, implying an average IL increase of 13.1%, with most significant improvements in advanced search strategies (23.7%), and in intellectual property and ethics (12.8%) (Boh Podgornik, Dolnicar, Sorgo & Bartol, 2015).

Prior to commencing the program, students reported low information literacy and writing skills, especially in accessing and searching electronic databases and using referencing formats. The post-test evaluation of skills showed substantial and statistically significant increases in all assessed competencies. In the intervention (introductory information management module) demonstrated with structured but flexible learning activities early in the curriculum, post-registration nursing students could quickly become information literate (Tarrant, Dodgson & Law, 2008).

### 2.2.4.7 Specific information literacy Skills

The total mean score of the respondent’s attitudes towards 'nature and extent of information needed' was 39.12 out of 56; toward 'access to information' was 61.76 out of 88; and towards 'evaluation of information' was 70.52 out of 100. In total, their mean score about attitudes toward 'information use' was 28.69 out of 40 (Moghaddaszadeh & Nikam, 2012).

Majority of the faculty and students rated their skills high in accessing information in print and electronic format (Lata & Sharma, 2013). In comparison to students, the faculty members of both the medical colleges were more familiar with the bibliography (Lata & Sharma, 2013). A very small percent of the respondents of both the medical colleges were familiar with the Boolean operator OR (Lata & Sharma, 2013). Ali, Abu-Hassan, Daud and Jusoff (2010) found that the respondents seriously lacked the necessary knowledge and skills to evaluate internet information, to identify the most efficient search strategy, to use scholarly resources, and to use information ethically. Hadimani and Rajgoli (2010) found that majority of the
respondents indicated that they have the ability to locate the needed information, but needed assistance either by library staff or faculty members.

For evaluating information in print format most of the respondents rated their skills very high whereas in electronic format most of them rated their average skills (Lata & Sharma, 2013). Among those who indicated that they were competent to evaluate the information gathered, 8.89 per cent did not think that it was necessary to evaluate the gathered information with respect to its authority, usefulness, currency, and authenticity (Hadimani & Rajgoli, 2010). Some of PG students knew about copyright issues (Sebuava, 2016).

2.2.4.8 Library visits

Sasikala and Dhanraju (2011) found that the main purpose behind visiting the library was ‘reading text books’. Majority of them do not have proper understanding of the basic structure of the book even though most of them stated that they frequently use it for required information (Sasikala & Dhanraju, 2011). Majority of the students are following subject labels with class numbers provided on the book shelves to locate the required book. However significant percent of them are also depending on library staff for locating the required book on the shelf (Sasikala and Dhanraju, 2011).

2.2.4.9 Association between IL and use of e-resources

There was a significant relationship between information literacy and information use among the bankers (Bello, Amusa, Omotoso & Osunrinade, 2016). The IL was very vital in influencing utilization of e-resources (Annet Kinengyere, 2007). There is a significant relationship between information literacy skills and use of electronic information resources (Adeleke, Samuel & Emeahara, 2016).
2.2.5 Recommendations

2.2.5.1 IL in the Curriculum

Sebuava (2016) recommended that information literacy education should be introduced into the curricular of the University of Ghana as a full course which needs to be credit bearing. Issa, Aumsan, Olarongbe, Igwe and Oguntayo (2015) suggested that university authorities should consider the teaching of IL as a course to fresh students with their credits attached. Every university need to take steps to include Information Literacy in their curriculum with credit-bearing for the purpose of making heuristic self-reliant students in the universities (Nawarathne & Singh, 2012).

Annet Kinengyere (2007) recommended that IL should be included in the respective universities’ curricular so as to give it more emphasis. Information literacy programs are best embedded in the curriculum to gain students' attention, especially when emphasis is placed on first year students (Nawarathne & Singh, 2012).

Integration of modules within the curriculum can help students to filter and establish the quality of online information (Kingsley, Galbraith, Herring, Stowers, Stewart & Kingsley, 2011). An intervention program should be introduced to improve students’ information literacy skills (Ali, Abu-Hassan, Daud & Jusoff, 2010). The curricula that integrate new knowledge and current evidence-based practices and technologies are to be developed (Kingsley & Kingsley, 2009).

2.2.5.2 Role of the Librarian

The library and information science professionals need to play a vital role in making his library users information literate. They should either strive on their own or they have to partner with various internal or external units.

To accomplish an information literacy program successfully, librarians should play a leadership role in it. Collaboration with faculty, information technology specialists and students is also essential for ensuring its quality (Nawarathne & Singh, 2012). Librarians must be able to coordinate the selection and evaluation of the best
information sources for the university programs with the assistance of faculties and academic staffs (Salleh, Halim, Yaacob & Yusoff, 2011). The librarian needs to collaborate with other units and sections such as computer and administrative divisions including teaching (Karisiddappa & Rajgoli, 2008). Thomas and Jacobson (2005) opined that information literacy initiatives must be a shared concern of faculty and librarians. Nyamboga (2004) expressed that the inclusion of information literacy programmes in universities is entirely the responsibility of library and information professionals. Information professionals are needed to pass on IL skills to library users (Annet Kinengyere, 2007).

2.2.5.3 Training for Librarians

Library and information professionals need continuing professional development courses as new ways of providing information resources are developed (Nyamboga, 2004). All librarians in university libraries need training and re-training in order to be able to use technology effectively and to be able to pass on the skills to students (Baro & Zuokemefa, 2011).

2.2.5.4 Other Recommendations

The need for adequate provision of information sources that are appropriate to the needs of the users by government and information service providers, packaging of information in the format that would be detailed, timely, and easy for the users to understand and use are the major ways of promoting information literacy (Bello, Amusa, Omotoso & Osunrinade, 2016). The libraries should develop more extensive websites to offer online service at a maximum level (Mahmood, 2013) Lecturers should know ‘how to guide their students in doing their assignment tasks’ and continuously monitor their progresses. They also have to allocate one session during the classroom lectures to teach and communicate the concepts of information literacy (Salleh, Halim, Yaacob & Yusoff, 2011).
Information literacy should be embraced by all developing societies, while maintaining their own cultural identity (Tilvawala, Myers & Andrade, 2009). A formal library orientation committee should be established and orientation should be conducted on regular basis (Somi & De Jager, 2005). There is a need for training students, researchers and staff to make appropriate use of resources made available in libraries (Nyamboga, 2004). The first step in improving students’ information skills is the importance of information literacy assessment (Ali, Abu-Hassan, Daud & Jusoff, 2010).

2.3 STUDIES ON COMPUTER LITERACY

2.3.1 Target Population

The computer literacy of respondents of various genres was conducted by the researchers of different countries. The target group includes business students (Wallace & Claria, 2015), library professionals (Chima, 2015); (Safahieh & Asemi, 2010); (Adomi & Anie, 2006); (Zhou, 1996), medical faculty and students (Momodu, 2014); (Chowdhury, Chowdhury, Rabbi, Tabassum & Ishrat, 2014); (Aldebasi & Ahmed, 2013); (Baikady & Mudhol, 2013); (Ikolo & Okiy, 2012); (Masood, Khan & Waheed, 2010); (Asangansi, Adejoro, Farri & Makinde, 2008); (Ershad Sarabi & Bahaadini, 2005); (Samuel et al., 2004); (Hollander, 1999), University students and faculties (Bediang et al., 2013); (Tella & Mutula, 2008); (Ballantine, Larres & Oyelere, 2007); (Merritt, Smith & Renzo, 2005); Majid and Fanilievna Abazova (1999); (Jones, Navin, Barrie, Hillan & Kinane, 1991); Woodrow (1991), Nursing students Lin (2011); (Ajuwon, 2003); (Saranto & Leino-Kilpi, 1997); Teachers (Son, Robb & Charismiadji, 2011) and Dental students (Mattheos, Schittek, Nattestad, Shanley & Attstrom, 2005); (Mattheos, 2002).
2.3.2 Objectives of the Studies

The researchers tried to assess the computer literacy skills of the selected population in general (Wallace & Clariana, 2015); (Chowdhury, Chowdhury, Rabbi, Tabassum & Ishrat, 2014); (Aldebasi & Ahmed, 2013); (Baikady & Mudhol, 2013); (Lin, 2011); (Son, Robb & Charismiadji, 2011); (Masood, Khan & Waheed, 2010); (Safahieh & Asemi, 2010); (Adomi & Anie, 2006); (Merritt, Smith & Renzo, 2005); (Ershad Sarabi & Bahaadini, 2005); (Mattheos, Schittek, Nattestad, Shanley & Attstrom, 2005); (Samuel et al., 2004); (Mattheos, 2002); (Majid & Fanilievna Abazova, 1999); (Hollander, 1999); (Saranto & Leino-Kilpi, 1997); (Zhou, 1996); (Jones, Navin, Barrie, Hillan & Kinane, 1991); (Woodrow, 1991).

Other than computer skills, the studies concentrated on other objectives like: Influence of computer literacy (Chima, 2015); Need for instruction in information concepts and technology (Wallace & Clariana, 2015); Gender differences in library literacy (Momodu, 2014); Gender differences in computer literacy (Ikolo & Okiy, 2012); (Tella & Mutula, 2008); Attitude towards e-learning (Chowdhury, Chowdhury, Rabbi, Tabassum & Ishrat, 2014); Internet utilization (Aldebasi & Ahmed, 2013); Use of web resources (Baikady & Mudhol, 2013); Computer use experience (Safahieh & Asemi, 2010); Level of computer and internet use (Asangansi, Adejoro, Farri & Makinde, 2008); Computer usage (Ballantine, Larres & Oyelere, 2007); (Jones, Navin, Barrie, Hillan & Kinane, 1991); Validity of self-assessed computer competence (Ballantine, Larres & Oyelere, 2007) and Use of electronic resources (Majid & Fanilievna Abazova, 1999).

2.3.3 Findings

2.3.3.1 Possession of computers

Most of the respondents (66.8%) have own computer at home and mostly have laptop (52.2%) Chowdhury, Chowdhury, Rabbi, Tabassum and Ishrat (2014); Most respondents had home access to personal computers Masood, Khan and Waheed (2010).
2.3.3.2 Purposes of using Computers

The reasons why the respondents use computers vary to a greater extent. The respondents use computers for personal purposes (Chowdhury, Chowdhury, Rabbi, Tabassum & Ishrat, 2014). The students browse net and email for recreation & social communication mostly rather than acquiring knowledge (Chowdhury, Chowdhury, Rabbi, Tabassum & Ishrat, 2014). Forty two percent female and twenty four percent male students used computers to get general information (Aldebasi & Ahmed, 2013). 80% of the students reported using computers for academic activities (Aldebasi & Ahmed, 2013), (Mattheos, 2002). 52% females and 22% males used computers for entertainment (Aldebasi & Ahmed, 2013). Respondents regularly used computers in the work environment (Masood, Khan & Waheed, 2010).

2.3.3.3 Fair Computer literacy

The respondents have fair level of computer literacy skills (Chima, 2015); have average computer skills (Chowdhury, Chowdhury, Rabbi, Tabassum & Ishrat, 2014). The students got 56% of computer literacy score (Ershad Sarabi & Bahaadini, 2005). The highest levels of competence in generic ICT areas were for email, Internet and file management (Samuel et al., 2004). A majority of the students have good skills in using e-mail and word processing (Hollander, 1999); (Chima, 2015).

2.3.3.4 Skill variation because of demographic profile

Gender differences exist in library utilization among the respondents (Momodu, 2014). The male students had more access than females to the use of computers (Ikolo & Okiy, 2012). The males spend more hours using computers than female students (Ikolo & Okiy, 2012). The Self-reported basic computer skill was typically at a moderate level, and varied depending on the task (Masood, Khan & Waheed, 2010). The female doctors are the less skilled groups (Asangansi, Adejoro, Farri & Makinde, 2008). Gender differences exist between female and male undergraduate students with regard to computer literacy (Tella & Mutula, 2008). The
Computer literacy of males was significantly higher than females (Ershad Sarabi & Bahaadini, 2005).

There was wide diversity in computer competence amongst both students and academic staff (Mattheos, Schittek, Nattestad, Shanley & Attstrom, 2005). Computer literacy was found to be correlated with positive attitudes towards computers, and with the interest attitude subscale (Woodrow, 1991). Computer literacy was also correlated, with previous computer experience, and with previous word processing experience (Woodrow, 1991).

2.3.3.5 Lack of Skills

The respondents lack the necessary computer knowledge and skills (Wallace & Clariana, 2015). The skills of the respondents with spreadsheet, statistical, and presentation software were negligible (Masood, Khan & Waheed, 2010). Lack of familiarity with computer-related terms was prevalent (Masood, Khan & Waheed, 2010). A majority of the respondents don’t possess a good level of computer skills and even their long duration experience of computer use has not necessarily improved their level of computer literacy skills (Safahieh & Asemi, 2010). Most of the respondents do not yet possess a high level of computer skills and their use of computers and technology was maturing (Adomi & Anie, 2006).

The abilities to perform specific ICT skills were low – less than 60% of the participants were able to perform the core specific skills assessed. There exists low level of ability to use ICT facilities among medical students (Samuel et al., 2004). 57.4 % of the entire sample could not use the computer and majority (75.9%) of the student nurses are not computer literate (Ajuwon, 2003). Many lacked the skills necessary to search the required literature (Hollander, 1999). The respondents reported low levels of competence for skills such as word processing (Samuel et al., 2004).
2.3.3.6 Computer literacy Vs use of library facilities

Students with higher computer literacy were more inclined to access and make use of library facilities (Tella & Mutula, 2008).

2.3.3.7 Methods of learning computer skills

The Computers skills were acquired through formal computer / IT training programme (Chima, 2015), practical self teaching (Chima, 2015). Less than half the students have been exposed to some form of computer literacy education in their universities, with the great majority acquiring their competence in other ways (Mattheos, 2002).

2.3.3.8 Use of internet

84% males and 14% females used the internet to get general information (Aldebasi & Ahmed (2013). Slightly more than two thirds (60.7%) of the entire students had ever used the internet, 33.9% had not (Ajuwon, 2003).

2.3.3.9 Place of accessing internet

The respondents access internet at Cyber cafes (Bediang et al., 2013). Students in Northern and Western Europe seem to rely mostly on university facilities to access the Internet (Mattheos, 2002).

2.3.3.10 e-resources

The computer literature academics use electronic information sources more frequently. A significant relationship was noted between the age of academics and their use of electronic information sources (Majid & Fanilievna Abazova, 1999).

2.3.3.11 Search tools and Engines used

Only less number of respondents has heard about Medical Subject Headings (MeSH) (Bediang et al., 2013). Google was found to be most commonly used search engine (Aldebasi & Ahmed, 2013); (Bediang et al., 2013).
2.3.3.12 Problems

The problems being encountered by the respondents include: inadequate computer in the library (Chima, 2015); Lack of information literacy (Chima, 2015); Lack of sponsorship to computers/IT training program (Chima, 2015); Self-reported computer literacy was not reliable (Merritt, Smith & Renzo, 2005). Students have not fully utilised the opportunity of the use of computer and internet (Ajuwon, 2003).

2.3.4 Recommendations

The researches have given quite a lot of recommendations for improving the computer literacy of the respondents. Some of them are:

Provision of adequate computer systems in the library (Chima, 2015); The students need to be given proper training on computer literacy (Chima, 2015); (Baikady & Mudhol, 2013). More research should be done into factors that play an important role in computer use among the respondents (Asangansi, Adejoro, Farri & Makinde, 2008).

In the computer curriculum, emphasis on word processing and network-related topics may be reduced in favour of an increased emphasis on database, statistical software’s, discipline-specific information systems, and information ethics (Lin, 2011). In-house and continuous training programs are needed to adequately equip the respondents with the computer literacy skills (Safahieh & Asemi, 2010).

Training on basic computing skills in the curricula is recommended (Asangansi, Adejoro, Farri & Makinde, 2008). Computer applications should be integrated into the curriculum (Hollander, 1999).

2.4 STUDIES ON ICT LITERACY (FACULTY)

2.4.1 Target Sample

The researchers have conducted a good number of studies on the ICT skills of sample take from universities, college and other institutions. The sample includes
library professionals drawn from various kinds of institutions which include: library professionals (Bansode & Viswe, 2016); (Seena & Pillai, 2014); Nagarajan (2012); (Haneefa & Shukkoor, 2010) Adeyoyin (2006) and Olu Adeyoyin (2005); College Librarians (Arundhathi & Chandrashekara, 2015), women library professionals (Antony & Vijayakumar, 2015), Librarians in Engineering Colleges (Sankari & Chinnasamy, 2014); Satpathy & Maharana (2011); Thanuskodi (2011).

The studies include other sample respondents like university students (Obasuyi, 2015); (Adetimirin, 2012); (Verhoeven, Heerwegh & De Wit, 2010); (Luan et al., 2005); Physical Education Students (Vellaichamy & Jeysnajkar, 2015), faculty members of medical college (Dhanavandan, Esmail & Nagarajan, 2012), agricultural graduate students (Pouratashi & Rezvanfar, 2010), Teachers and Practitioners in the field of disability (Nanda & Ramesh, 2012), trainee student teachers from the view of sexuality (Moradi Rekabdolkolaei & Amuei, 2008), Teachers and Students from Schools (Khalkhali, Moradi & Amuei, 2008), student teachers in departments of primary education (Usluel, 2007) and trainee teachers in secondary teaching (Markauskaite, 2007).

2.4.2 Study Objectives


There are certain other studies which have slight different objectives like Impact of Information and Communication Technology (Vellaichamy & Jeysnajkar, 2015), awareness, skill and attitude towards Information and Communication
Technologies (Seena & Pillai, 2014), access and awareness of ICT resources and services (Dhanavandan, Esmail & Nagarajan, 2012), factors influencing application of ICT (Pouratashi & Rezvanfar, 2010), the ICT literacy differences (Moradi Rekabdarkolaei & Amuei, 2008), ICT 'Literacy between staff and students (Khalkhali, Moradi & Amuei, 2008), ICT literacy of the anglophone and francophone countries (Adeyoyin, 2006) and gender differences in ICT competencies (Luan et al., 2005).

2.4.3 Findings

2.4.3.1 Areas of ICT Literacy

High level of Literacy: Maximum library professionals are well versed with the computer technology, storage devices, printing and scanning technology, audio visual technology and communication media technology. Hence the literacy about these emerging ICT technologies was high among maximum library professionals (Bansode & Viswe, 2016). All LIS professionals are computer literate and have sound knowledge of the available ICT tools in libraries (Satpathy & Maharana, 2011).

Average Level of Literacy: The library professionals in the Kerala University Library System have relatively average level skills in various ICT related tasks in libraries (Seena & Pillai, 2014).

Low level of literacy: 68 % of professional librarians were ICT-illiterate. 92% of paraprofessionals were ICT-illiterate (Olu Adeyoyin, 2005). 51.62 percent of professional librarians and 84.03 percent of paraprofessionals are ICT non-literate (Adeyoyin, 2006).

2.4.3.2 Purposes of using Internet

Majority of (750, 82.05%) library staffs access Internet to meet their information needs (Arundhathi & Chandrashekara, 2015).
2.4.3.3 Browsers used

About 809 (88.51%) library staff are aware and prefer ‘Google Chrome’ web browser for browsing Web Resources, followed by 802 (87.75%) who use ‘Internet Explorer’, and 660 (72.21%) who use ‘Mozilla Firefox’ (Arundhathi & Chandrashekara, 2015).

2.4.3.4 Digital Library Software Literacy

Most of the librarians’ have more skills in Greenstone software (53.85%) (Sankari & Chinnasamy, 2014). The skills are below average in the use of other digital library software such as D-space (33.33%), E-prints (12.82%) and Fedora (10.26%) (Sankari & Chinnasamy, 2014). The use of digital library and institutional repository software was very low among the library professionals (Haneefa & Shukkoor, 2010).

2.4.3.5 Modes of Learning ICT skills

The library professionals acquired IT skills by undergoing training in their work places (Nagarajan, 2012).

2.4.3.6 Demographic features causing variation in ICT literacy / Use

Librarians, Deputy Librarians and Assistant Librarians are leading in the use of ICT based services than Technical Officers, Technical Assistants and Library Assistants (Nagarajan, 2012). Professional Assistants are more ICT literates than the Junior Librarians and Assistant Librarians (Haneefa & Shukkoor, 2010). The use of ICT-based resources and services, library automation software, and general purpose application software is high among the Professional Assistants than the Junior Librarians and Assistant Librarians. Haneefa and Shukkoor (2010).
2.4.3.7 Operating system and Programming Language

‘Windows’ was the most popular operating system and HTML was the most popular programming language used by the professionals in libraries (Satpathy & Maharana (2011).

2.4.3.8 ICT Literacy Others Respondents (Students and Faculty)

Majority (65%) of the students are skilful in ICT use and they are highly ICT literate (Obasuyi, 2015). The respondents possess average skills for computer networking, average skills for CD/DVD writing (41.94%), above average skills for the knowledge of mobile phone (54.84%) and above average skills for digital camera (48.39%) among the respondents (Antony & Vijayakumar, 2015). The undergraduates in the federal universities have average ICT literacy skills (Adetimirin, 2012). 87% of respondents were computer literate (Nanda & Ramesh, 2012). The respondents have good computer skills in the field of Internet, E-mail, MS Office, and WWW (Nanda & Ramesh, 2012).

Computer, telephone and the Internet were the three ICT tools mostly used by the undergraduates, although more on an occasional basis (Adetimirin, 2012). The undergraduates in the state universities have poor ICT literacy skills (Adetimirin, 2012). Less number of respondents was skilful in using software programs (Nanda & Ramesh, 2012). 95.12 percent of professionals have knowledge in computer fundamentals, 81.07 percent in Internet, 42.68 percent in multimedia and only a very few professionals (29.26 percent) have knowledge in computer programming (Thanuskodi, 2011).

68.7 percent were skilful in data retrieval, 66.4 percent were skilful in the field of data application and classification, 51.3 percent were qualified in data representation and interpretation, 53.5 percent were skilful in data quality and utility judgment and 42.8 were qualified in data designing and creation (Khalkhali, Moradi
& Amuei, 2008). Female and male academic staffs were most skilful in the use of word processing followed by e-mailing (Luan et al., 2005).

2.4.3.9 Frequency, Place and Purpose of using Internet

Internet has become a significance source for the students as they use internet for education purposes, research work and updating knowledge. Half of the respondents (72.90%) use internet for E-Mail purpose only (Vellaichamy & Jeyshankar, 2015). The respondents use internet almost every day. A maximum number of faculty members use Internet (Dhanavandan, Esmail & Nagarajan, 2012). Almost all students had access to computers (93%) and Internet (89%) outside the university campus (Markauskaite, 2007).

2.4.3.10 Mode of Learning

A maximum number of respondents learned the use of electronic resources through external course and Guidance from others (Dhanavandan, Esmail & Nagarajan, 2012).

2.4.3.11 Factors influencing the use of ICT

Skill, support, and facilities were the three factors that influenced the application of ICT by agricultural students. The skill had direct and indirect effects on the application of ICT, while support and facilities affected the application of ICT indirectly. (Pouratashi & Rezvanfar, 2010).

No significant differences were found between females’ and males’ previous experience with ICT. However, males on average worked with computers significantly more hours per week than females. Significant differences between males’ and females’ technical ICT capabilities were observed. When the impact of the background and ICT experience variables was controlled, gender failed to be a significant predictor of the sustainability scores (Moradi Rekabdarkolaei & Amuei, 2008).
There was a meaningful difference between teacher and student ICT literacy in 5 components and also showed that student literacy was higher than teachers’ literacy in 5 components (Khalkhali, Moradi & Amuei, 2008). The student teachers’ level and duration of ICT usage were determining factors for information literacy self-efficacy (Usluel, 2007). Significant differences among grades show that training during university education has an important role in increasing information literacy self-efficacy (Usluel, 2007). When compared according to gender, females rated themselves to be more competent than males in inserting and editing texts for word processing (Luan et al., 2005).

Gender and secondary school attended did not influence students’ ICT literacy skills. There was no significant difference between male and female students’ ICT literacy skills as well as students that attended private or public secondary schools (Obasuyi, 2015).

2.4.3.12 Barriers in the of ICT

Up to 72% of the respondents have stated that ‘no computer lab’ is the prime barrier of using ICT Resources (Vellaichamy & Jeyshankar, 2015). The main constraint in the application of ICT in libraries was inadequate training in ICT applications (Seena & Pillai, 2014). Three major factors affecting the ICT literacy of the undergraduates were identified as irregular power supply, inadequate ICT and limited duration of the use of the ICT (Adetimirin, 2012).

2.4.4 Suggestions

The suggestions for improving the ICT skills of the samples include Training and orientation in ICT based resources, services, and tools (Bansode & Viswe, 2016). Colleges should be provided requisite financial aid for rendering highly technical and modern library services to the users as they demand (Arundhati & Chandrashekara, 2015). University library professionals need in-house training programmes to update
their ICT skills (Antony & Vijayakumar, 2015). For the optimum utilization of e-journals, consortia’s and various other ICT based resources and services, the library should undertake the literacy/orientation programs on regular intervals for their respective respondents (Vellaichamy & Jeyshankar, 2015). 105(60.70%) professionals indicated the need for training in use of bibliographic resources, 101(58.38%) on the use of online catalogues and 107(61.85%) in use of E-Journals, E-books and E-data bases (Nagarajan, 2012). Library professionals should be encouraged and deputed by the authority to attend seminars, workshops, conferences, training programmes on library management software, IT tools, Search techniques. The library authorities need to provide necessary scope and motivation to upgrade the ICT literacy of library professionals. (Thanuskodi, 2011).

2.5 STUDIES ON ELECTRONIC RESOURCES

2.5.1 Objectives


Some researchers restrict their research focus on use of e-use of E-resources and search strategies (Bhat & Ganaie, 2016), awareness about Electronic Resources (Singh & Prasad, 2014), use of electronic information resources for academic research (Okite-Amughoro, Makgahlela & Bopape, 2014), access, awareness & use of Electronic Information Resources (Das & Maharana, 2013), use of Internet and electronic resources (Thanuskodi, 2012), use of electronic resources and its impact (Habiba & Chowdhury, 2012), how graduate students perceive, use, and manage electronic resources (Wu & Chen, 2012), access and use of electronic information resources (Kumar & Singh, 2011), impact and use of e-resources (Haridasan & Khan,
2009), awareness and use of digital resources (Asemi & Riyahiniya, 2007), access and use of electronic resources (Dadzie, 2005) and knowledge and use of electronic information resources (Renwick, 2005). Some researchers have evaluated the use of digital resources (Thanuskodi & Ravi, 2011) and internet resources (Babu, Sarada & Ramaiah, 2010) exclusively.

2.5.2 Sampling Units

The research studies on the use of electronic / digital / internet resources were conducted on a wide variety of respondents. The diverse sample groups include Medical Students of MM University, Ambala (Kumar, 2016), users of Dr YS Parmar University of Horticulture and Forestry (Bhat & Ganaie, 2016), Faculty Members of Sir Sayyyed College Aurangabad (Mohsin, Khatoon & Usman, 2014), Scientists in IARI (Singh & Prasad, 2014), postgraduate students at Delta State University, Abraka, Nigeria (Okite-Amughoro, Makgahlela & Bopape, 2014), Research Scholars of Berhampur University (Das & Maharana, 2013), faculty members in diverse public universities in Bangladesh (Zabed Ahmed, 2013), research scholars of Utkal University and Sambalpur University (Sahu, Patra & Mahapatra Rabindra, 2013), the post graduate students and research scholars of Faculty of Arts in Annamalai University (Thanuskodi, 2012), medical professionals with special reference to Tamil Nadu (Thanuskodi, 2012), life scientists of Sambalpur University, India (Bihari Sethi & Panda, 2012), library users of Dhaka University (Habiba & Chowdhury, 2012), graduate students (Wu & Chen, 2012), scientists of National Physical Laboratory in India (Kumar & Singh, 2011), Students and Researchers of Faculty of Arts, University of Kerala (Sudhier, 2011), faculty and research scholars of Manonmaniam Sundaranar University, Tirunelveli (Thanuskodi & Ravi, 2011), students of business schools of Orissa (Swain, 2010), academics at the University of Karachi (Ansari & Zuberi, 2010), librarians at Catalan academic libraries (Olle & Borrego, 2010), social scientists in National Social Science Documentation Centre (NASSDOC), India
(Haridasan & Khan, 2009) and medical sciences faculty at The University of the West Indies (Renwick, 2005).

2.5.3 Findings

2.5.3.1 General use

The users were using e-resources (Mohsin, Khatoon & Usman, 2014). A majority of the academics have computer skills that facilitate the use of electronic resources, although a majority has little knowledge of electronic resources (Ansari & Zuberi, 2010). The graduate students are frequent users of electronic resources, particularly during the thesis-writing period (Wu & Chen, 2012).

2.5.3.2 Purpose of using e-resources

More than 70% of researchers are using e-resources weekly for the purpose of research (Sahu, Patra & Mahapatra Rabindra, 2013). Majority of the respondents 76.66% use e-resources for writing papers (Thanuskodi, 2012). Majority of the users use e-resources for their learning purpose (Habiba & Chowdhury, 2012). The access and use of e-information was an important component of research activities for scientists (Kumar & Singh, 2011). 56.67% of the respondents use internet for educational purposes and 19.16% of respondents use internet for checking e-mail (Sudhier, 2011). 49.2% respondents use e-resources mainly for academic purposes, 27.5% respondents for seminar presentations and 11.7% use for project works (Sudhier, 2011). Majority of the members are using digital resources for research purpose (Thanuskodi & Ravi, 2011). The electronic resources are used for research and for preparation of lectures (Ansari & Zuberi, 2010). Large numbers of research scholars and faculty members are using these e-resources for their research work (Haridasan & Khan, 2009).

2.5.3.3 Hours Spent on E-Resources

Most of the respondents spend less than 2 hours to access internet followed by those spending 2-3 hours and 3-4 hours on internet (Thanuskodi, 2012). One fourth of
the respondents were use e-resources frequently and 2-3 times in week (Bihari Sethi & Panda, 2012).

2.5.3.4 Access Points

The respondents access e-resources at department/office chamber (42 per cent), hostel (29 per cent) and home (26 per cent) (Bhat and Ganaie, 2016). The users are using Department and home more for accessing the information (Mohsin, Khatoon & Usman, 2014). Majority of the researchers is using e-resources at their departmental labs (Sahu, Patra & Mahapatra Rabindra, 2013). 51.56 % of the total respondents access e-resources in their respective department laboratory, followed by 43.75 % in the Central library (Bihari Sethi & Panda, 2012).

2.5.3.5 Search Strategies Employed

A majority of users search the information through “title” followed by “keywords/subject terms” (Bhat & Ganaie, 2016). The users are not yet well-versed with most of the advanced search techniques, as less than half of them are able to use only Boolean operators, and less than 10 per cent of them claim to know other search techniques (Bhat & Ganaie, 2016).

Keyword was the most popular search method for searching e-journals among research scholars (Sahu, Patra & Mahapatra Rabindra, 2013). Many of the respondents search e-resources through linking facility available on the library website (Thanuskodi, 2012). Few students use the Meta search tool to retrieve heterogeneous electronic resources in the library (Wu & Chen, 2012). Title field and simple search techniques are used to access the e-information (Kumar & Singh, 2011). Boolean logic and truncation are the most often used search facilities by IIT users (Ali, 2005).
2.5.3.6 Method of learning e-resources

Majority of users have learnt to use information search and retrieval skills through self-study (Bhat & Ganaie, 2016); (Kumar & Singh, 2011); (Thanuskodi & Ravi, 2011) and (Renwick, 2005).

2.5.3.7 Positive traits of E-Resources

The e-resources are informative as well as update the knowledge in the respective field (Kumar, 2016). E-resources ease the access to information (51.56 %) compared to all other factors (Bihari Sethi & Panda, 2012). The qualitatively and quantitatively developed e-collections overcome conventional resources with the characteristic of fast accessibility (Kumar & Singh, 2011).

2.5.3.8 Most used and least used E-Resources

Search engine and research reports are used highly among the students (Kumar, 2016). Internet resources are the most used e-resources among the respondents from the Arts Faculty (Sudhier, 2011). The students express keen interest in the use of e-journals, followed by e-books, e-newspapers, e-reports, and e-articles (Swain, 2010). The respondents were well aware of the importance of internet search engines as the first information source for academics (Olle & Borrego, 2010). E-journals are most preferred e-resources among the scientists (Kumar & Singh, 2011). Least interest was shown towards the use of electronic theses and dissertations (Swain, 2010).

2.5.3.9 Awareness and use

Most of the respondents are aware of the existence / availability of electronic resources (Okite-Amughoro, Makgahlela & Bopape, 2014); (Thanuskodi, 2012); (Haridasan & Khan, 2009). A majority of faculty members are familiar with the use of digital resources, Thanuskodi and Ravi (2011); Renwick (2005). Almost all respondents were well aware of the available e-resources. 70 percent of students were aware of digital resources, but only 69 percent of them have used them (Asemi & Riyahiniya, 2007).
100% of scientists at IARI are aware about the three types of electronic resources - (1) CD-ROM/On-line databases (2) On-line journals and (3) Internet/Web-based resources (Singh & Prasad, 2014). Most of scientists of IARI are aware about OPACs (98.86%), E-books (97.72%) and E-thesis (96.96%). Majority of scientists (99.24%) of IARI is aware about Consortium for e-Resources in Agriculture (CeRA) (Singh & Prasad, 2014). The majority of students are aware of EBSCO, and Emerald Management Xtra (Swain, 2010). The respondents are aware of the e-resources such as e-books, e-journals, e-encyclopaedias, e-theses, CD-ROM databases, e-mail, internet and the OPAC (Haridasan & Khan, 2009). 70 percent of students were aware of digital resources, but only 69 percent of them have used them; 62 percent were aware of offline databases, whereas only about 19 percent used them through the Central Library LAN network. 70 percent of students were aware of online databases, accessible via the Central Library web site, and about 53 percent of respondents have used them. A total of 64 percent were aware of the “CLBJ Database”, while over half of them made use of it (Asemi & Riyahiniya, 2007). Usage of some internet resources was also very high, whilst the use of scholarly databases was quite low (Dadzie, 2005).

2.5.3.10 Preferred format of accessing e-resources

47.78 % of respondents want to access only electronic version whereas only 32.78% users want to read the printed journals but 19.44% respondents want to use both electronic and printed version (Thanuskodi, 2012). The internet was most preferred medium of access (Kumar & Singh, 2011). Most use both electronic and printed resources (Ansari & Zuberi, 2010).

2.5.3.11 Factors influencing the use of e-resources

The awareness about e-resources encourages users to use such resources to the maximum (Mohsin, Khatoon & Usman, 2014). The users from all branches of science are making use of Internet resources better than social sciences and humanities (Babu,
Sarada & Ramaiah, 2010). Graduate students of science and technology perceive electronic resources to be considerably more important to their research and studies than students of other disciplines do (Wu & Chen, 2012).

2.5.3.12 Level of Satisfaction with E-Resources

The users are generally satisfied with the e-resources (Habiba & Chowdhury, 2012). The scientists are very highly satisfied with the retrieved e-information (Kumar & Singh, 2011).

The satisfaction of medical students is not high with regard to e-resources (Kumar, 2016). The faculty members are not generally satisfied with the current level of university subscribed e-resources (Zabed Ahmed, 2013). A large number of Electronic information source users are not satisfied with the infrastructure facility available (Ali, 2005).

2.5.3.13 Negative Traits / Problems / Issues with E-Resources

PG students feel that e-resources are time consuming and face slow downloading whereas UG students face virus, slow downloading and feel more expensive of using e-resources (Kumar, 2016). The optimal use of e-resources was hampered by limited access to some Electronic information resources due to lack of information searching skills, limited space, low bandwidth and erratic power supply (Okite-Amugho, Makgahlela & Bopape, 2014).

11 (47%) are facing difficulty while finding relevant information. 14 (61%) admitted that accessing information from internet was very slow. The study showed that 12 (53%) scholars are facing problems due to overload of information on internet (Das & Maharana, 2013). A large majority of the respondents were of the opinion that the digital resources can never replace the printed resources (Thanuskodi & Ravi, 2011). The respondents identified limited number of titles, limited access to back issues, difficulty in finding information, inability to access from home, limited access
to computers and slow download speed as major constraints in using e-resources (Zabed Ahmed, 2013).

Poor IT infrastructure, limited access to e-resources, unwillingness to use the resources regularly and consequently are the constraints which lead to low satisfaction with such resources (Zabed Ahmed, 2013). Slow internet speed was the major problem that would discourage users while using e-resources (Sahu, Patra & Mahapatra Rabindra, 2013). The respondents have high problems in accessing e-resources in terms of virus, difficulty in using digital resources due to lack of IT knowledge and limited access to computers (Thanuskodi, 2012). There is a problem of infrastructure facilities (Habiba & Chowdhury, 2012).

The major complaints were platform breakdowns, difficulties in accessing resources off-campus, and discontinued resources (Olle & Borrego, 2010). Low speed connectivity and shortage of hardware facilities was the prime barriers faced by the students (Asemi & Riyahiniya, 2007). The low patronage was attributed to inadequate information about the existence of these library resources (Dadzie, 2005). Lack of printing facilities, trained staff and unfamiliarity with electronic information are the major reasons that discourage users from accessing the Electronic information sources (Ali, 2005).

2.5.4 Recommendations

The institution should provide adequate space, enough power supply and should address some of the issues hindering equitable access to e-resources (Okite-Amughororo, Makgahlela & Bopape, 2014). There was a need to provide high bandwidth to overcome poor network connectivity (Kumar & Singh, 2011).

The library should provide more internet services and most particularly increase the web resources to support their research activities (Das & Maharana,
The library should continue to monitor its collections’ print/electronic balance and not to ignore its’ paper copy provision (Bihari Sethi & Panda, 2012).

Libraries should take active participation in various e-journal consortiums for maximizing procurement of e-journals at minimal cost on sharing basis by which institutes can afford to balanced e-subscriptions without much financial burden (Swain, 2010).

The library should organize training program for the faulty members and the students so that they can know about different search interface, latest changes of the journals site and develop sophisticated searching and retrieval skills or techniques (Habiba & Chowdhury, 2012). Libraries may need to arrange special bibliographical instructional programs for faculty members to keep them informed on services and the development of library electronic collections (Wu & Chen, 2012). The University administration should create programmes and infrastructures to train its staff on ICT with particular reference to the use of digital resource facilities (Thanuskodi & Ravi, 2011). Providing training to its users at the beginning of each semester will improve its use and reduce the problems faced by the library users (Babu, Sarada & Ramaiah, 2010). Electronic version of the journals may be subscribed by the library in each subject area in which the institution was offering courses (Babu, Sarada & Ramaiah, 2010). Many faculty members strongly agreed with the necessity for computer and internet literacy to access information (Haridasan & Khan, 2009). The introduction of information competency across the curriculum and/or the introduction of a one-unit course to be taught at all levels and the provision of more PCs on campus will boost the use of e-resources (Dadzie, 2005). Many respondents expressed a need for training (Renwick, 2005).
2.6 INFERENCES

Out of 106 studies reviewed by the researcher,

- 39 articles by Indian authors and 67 by Foreign Authors.
- 31 reviews are single authored, 47 reviews are Joint authored, 15 reviews are Three authored and 13 reviews are More than three authored.
- Out of 31 single author reviews, maximum of 4 were published in 2005 & 2012 followed by 3 in 2007 and 2011. In joint authorship style, maximum of 8 reviews were published in 2010 followed by 7 in 2012 and 4 reviews were published in 2008, 2013, 2014 and 2015. As far as three-authored reviews are concerned, maximum of 3 were published in 2008 and 2010 followed by 2 reviews published in 2011.
- 29 reviews are on the topic “Information Literacy” followed by 28 on “Computer Literacy”, 24 reviews on “ICT Literacy” and 25 reviews on “Electronic Resources”
- Maximum number (39, 36.79%) of reviews collected from Indian author’s i.e. 15 reviews from ‘E-Resources’, Twelve reviews from ‘ICT literacy’, Seven reviews from ‘Information literacy’ and only five reviews from ‘Computer literacy’ followed by 15 reviews collected from Nigerian authors i.e. 5 reviews from ‘Information literacy’, five reviews from ‘Computer literacy’, four reviews from ‘ICT literacy’ and only single review from ‘E-Resources’.
- Out of 106 reviews, a majority of 49 (46.23%) reviews on 6–10 pages, followed by 29 (27.36%) reviews with 11–15 pages and 12 (11.32%) reviews with 6–20 pages and 1–5 pages.
2.6.6 Overall Inferences

The researcher has collected 106 reviews on various aspects of ‘Information literacy skills in the use of electronic resources’. The literature output on the aforesaid area has revealed that: There is a dominance of joint authorship pattern. Though there is a fluctuation in the number of publications during the period 1991-2016, the research area was more popular during 2010-2012.

Indian research on this research area is comparatively weak as maximum number of publications is by foreign authors. Enough quantum of research output was seen on the areas ‘Information literacy’ and ‘ICT literacy’ required for faculty members. The quantity and quality of literature on ‘Information literacy skills in the use of electronic resources’ by foreign authors deserve worth mentioning. The aforesaid literature analysis also reveals that only a few number of research studies were carried on Indian authors. Hence, the present study could enable to bridge the wide research gap on Information Literacy Skills in the use of electronic resources among the faculty members of Mother Teresa Women’s University and its affiliated colleges.

2.7 CONCLUSION

The review of earlier studies indicated that there has been very limited research conducted worldwide. Various studies have been undertaken to know the specific kind of literacy such as Information literacy, Computer literacy, ICT literacy in the context of digital resources only. Several studies were carried out on specific user community like Research Scholars, Undergraduate Students, Postgraduate Students, Library Professionals, Nurses and Pharmacists and Dentists etc. and in specific disciplines such as Physical Science, Engineering, Science, Management, Chemistry and Microbiology etc. This chapter has reviewed the recent related literatures to enable the investigator to get an idea about various aspects of the topic
such as relevance of the study, methodology to be used for data collection, data analysis etc. The existing gap in the research justifies the rationale of the study at hand. The study was conducted so as to reduce the existing gap in the research of this important area. It makes a brief review of previous studies on the problem and significant writings related to the topic under study. It also helped to avoid the duplication of research. The forthcoming chapter will present a theoretical background of various concepts such as information literacy, IL standards & electronic resources.
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