

ICT and its Impact on Library and Information Services: A Case study of Kendriya Vidyalaya Libraries

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Abstract: *The study investigated the ICT and its impact on library and information services: A case study of Kendriya Vidyalaya Libraries of Kendriya Vidyalaya Sangthan all over India. The present study demonstrates and elaborates the primary way to learn about ICTs, the purpose of using ICT enabled library services, to assess to what extent users are utilized ICT based library services and facilities, various aspects of Internet usage, favourite search engines, and problems faced by the users in using the ICT in libraries. The papers also determine the satisfaction level of users regarding library services, online database services and infrastructure facilities. Suggestions have been given to make the service more beneficial in the library users of Kendriya Vidyalaya Libraries of Kendriya Vidyalaya Sangthan all over India.*

Keyword: ICT, Kendriya Vidyalaya Libraries, User studies, Kendriya Vidyalaya Sangthan, India.

1. Introduction

Information has emerged as the prime in the 21st century. ICT has exerted a profound influence on traditional academic libraries. They have no option but adapt themselves to new developments, especially due to cuts in budget allocation. Hence, networking of information centers is inevitable. The prime objectives of the library is pooling information resources and information related infrastructure and sharing them. In this process, many library have reexamined their traditional methods and services to overcome inadequacies through automation and computerization. The use of computers for library operation avoids respectively jobs and saves considerable amount of time, resources and labour. It also speeds up technical processing and information services. ICT has been a means to bring quality services. Systematic planning of its introduction and application will assure that the technology based information services are sustainable, and enhances the ability of library. In the present scenario, the library and information centers at global level are able to provide access to;

- Online databases across the country and worldwide
- Comprehensive statistical databases and content page services
- Full text information sources with key word searching

The academic libraries in Indian setup have been preparing themselves on a corporate basis; a platform for ICT based information services. Internet has transformed the ways and means of information service. Breaking the distance barrier, internet has emerged as a boon to the information seekers as well as libraries. It has become popular, easy to use and inexpensive teaching and research tool. Internet, in fact is changing the way the librarian view information sources. Professional associations, research organizations publisher is treated as the speedy, accurate and effective way of communication among academic, research, executives and business communities. Hence, internet for information service/ current awareness service in the library is gaining

momentum and becoming popular too. It is also true that internet has become a part of library environment today.

The Kendriya Vidyalaya (KVS) in India is a name for the primer education system which serve the large mass of population in entire India, Kathmandu (Nepal), Masco (Russia) and Tehran (Iran). It cater to the educational needs of the children of transferable Central Government employees including Defense and Para-Military personnel by providing a common programme of education and provide, establish, maintain, control & manage schools, here in after called the 'Kendriya Vidyalaya' for the children of transferable employees of the Government of India, floating populations & others including those living in remote & undeveloped locations of the country & to do all acts & things necessary for the conducive to the promotions of such schools. Running 1,094 schools in India, Moscow and Kathmandu, which are affiliated to Central Board of Secondary Education. A total of 1,148,340 students (as of 31 March 2014) and 56,445 employees were on the rolls (as of 1 September 2013). These were divided among 25 regions, each headed by a deputy commissioner.

This study pursued to examine the impact of ICT on library and Information services in Kendriya Vidyalaya Libraries. It is not feasible to collect large of number data of each and every library user in their study; therefore samples were selected by using stratified random sampling method. Hence Investigator has selected 76 Kendriya Vidyalaya Libraries on the basis of all the libraries fully automated by e-granthalaya Library automation software of NIC Govt. of India, have Web-OPAC facility and each Library has their own Library Blog/Website.

2. Review of Literature

In brief this article reviews a few studies conducted abroad as well as in India on use and awareness of ICT and its impact on library and information services: A case study of Kendriya Vidyalaya Libraries of Kendriya Vidyalaya Sangthan all over India.

Sun, Hao-Chang, Chen, Kuan-nien, Tseng, Chishu and Tsai, Wen-Hui (2010) in his study shows how implementing new information technology has expanded the role of librarians as educators and how this role has evolution of new technology. It was found that collaboration with faculty member was to be an essential feature of the most successful stories. Teaching students and faculty to use new ICT may have become one of the important roles of librarians and information managers. Ghosh and Ghosh (2009) conducted a study to examine the progress India has made in its move towards a knowledge-based economy. The Indian Government has demonstrated its commitment to the development of fundamental pillars of knowledge sharing infrastructure, knowledge workers and a knowledge innovation system. Libraries are identified as key players in building an inclusive knowledge economy (KE) for a country. The important findings of the study were: the practice-based examples of how information and communication technology (ICT) projects are influencing contemporary Indian society and an account of government policies in regard to ICT implementation and development towards a KE are presented. The impediments in the process of KE in India are identified and recommendations are made. Antherjanam & Sheeja (2008) carried out a study to find out the impact of ICT on LIS and its major shifts and practices in university library of CUSAT. The major findings of the study were: (a) Users are making very good use of the available ICT facilities. (b) With the help of telephone, e-mail, Fax etc. reference queries are answered faster than before. (c) SDI, CAS etc. are also done faster than before. (d) Issue & return of books, renewals are done faster than before. (e) Book selection, price checking are also done very efficiently using ICT. (f) About 90% of the users of the library search OPAC for getting information about the where about of books.

The main an objective of the study was to investigate and determine the levels of information technology (IT) in Pakistani libraries. This article also focuses on the status of computers and other commonly used hardware, e-mail, internet, library software, automated user services expenditure on ICT and online resources available in academic libraries of Pakistan and particularly developing countries. The questionnaire methods were used of data collections. In this paper was found that a low level of IT infrastructure facilities availability, particularly the absence of computers, email and internet in libraries. It was found that libraries need to be fully automated using standard library software packages. Hence, access to online information resources through the Higher Education Commission (HEC) was found extensive and comprehensive. The finding can be utilized to evaluate the status of different ICT tools and applications. The collections of data were useful and authentic source for planning to improve the libraries ICT infrastructure, library automation and reducing the gap in the use of IT in different kind of libraries (Ramzan and Singh, 2008). Raza and Amar Nath (2007) point out that the use of Information Technology (IT) in the university libraries of Punjab, Himachal Pradesh and Chandigarh with an clandestine objective to establish some co-relation between quality in libraries and use of IT. The paper highlights the use of hardware and software facilities in university libraries. It

also highlights the access of networks, information services and barriers in IT applications. Questionnaires, interview and observation methods were used for data collection. A survey conducted on four university libraries, namely Panjab University library, Chandigarh; Himachal Pradesh University, Shimla; Punjabi university Library, Patiala; and Guru Nanak Dev University Library, Amritsar found that only Panjab University Library, Chandigarh and GND university library, Amritsar have provided computerized access to in-house databases. Library literature reveals that quality depends on merging print culture with digital culture but the result of this survey confirm that print culture is still dominating in university libraries of this region.

The study of Cholin (2005) is an attempt to give an overview of Information Technology implementation in different university libraries in India that provides effective access to resources available within universities and elsewhere. Also discussed is the role of the INFLIBNET Centre in the overall development of university libraries across the country with special emphasis on efforts through UGC-Infonet E-Journals Consortium. The purpose of the study conducted by Obioha (2005) was (1) to ascertain if ICT has played any roles in helping research officers in their information seeking and use, (2) to know what these roles are (if any), (3) to find out if there are constraints in the use of ICT tools by research officers, and (4) to find out what these constraints are (if any) and extend useful suggestions that will aid in the researchers' information seeking and use. The important findings of the study were: (1) The researchers of the NIOMR, Lagos have considerable awareness and exposure to ICT and its tools, (2) ICT tools aid researchers in their seeking and use of information speedily and with ease. ICT helps in acquisition of more knowledge. This is learning. It is found that aid from international and local agencies supports research activities including provision of ICT tools, training and retraining in ICT, and (3) Lack of adequate, stable power supply and infrastructure are hindrances to ICT use as responded by these researchers. Insufficient ICT tools and centers slow down research work. This paper deals with the development of public libraries in Bangladesh, their present situation, and some recommendations for improving their services and implementing

Information and communication technology (ICT). It plays a vital role in bringing about changes in society. This age of ICT the role of the public library has changed drastically in developed countries. They are providing more cultured and user friendly information services to their patrons. In this view, public libraries in developing countries are using these facilities very slowly due to shortage of funds, skilled manpower and other support. As a result the users of public libraries in developing countries are not fully satisfied (Shuva, 2005). Yapa (2003) revealed the overall scenario use of ICT in Sri Lanka and particularly in libraries. Author argues that, National Information Policy and National Information Infrastructure are essential, if a country would like to exploit the IT to its advantage. The major finding of the study is that the progress of library automation in Sri Lanka is a result of the effort few professionals who worked collectively. One good feature in the Sri Lankan scenario is the commitment and obligation of library professional for

library cooperation. Library consortia in Sri Lanka function with the initiative of the library professionals with minimal administrative and financial support from the authorities. Hussain and Abalkhail (2013) The study clearly revealed that the majority of users of the library used the circulation service. The study found that a majority of research scholars consult the reference books for research work followed by undergraduate students who used the library circulation service.

3. Objectives of the Study

The purpose of this study was to investigate the use of Information and Communication Technology products and services by the users of Kendriya Vidyalaya libraries in Kendriya Vidyalaya Sangathan all over India. It specifically focused on the following objectives:

- 1) To study the present ICT products and services provided by Kendriya Vidyalaya libraries in Kendriya Vidyalaya Sangathan all over India
- 2) To find out the different purposes of using ICT product and services.
- 3) To assess to what extent users are utilized ICT based library services and facilities.
- 4) To know the favourite search engines used by users.
- 5) To identify the type of problems faced by users when using ICT product and services in libraries under study.
- 6) To find out the user satisfaction with the ICT based products and services provided by the libraries under study.
- 7) To suggest measures for improvement of existing resources and services and implementation of ICT.

4. Research Gap

Extant research mainly focuses on the ICT and its impact on the Library and Information Services with respect to Kendriya Vidyalaya Libraries. Little research has focused on the ICT and its impact on the Library and Information services in school libraries and users. This study focused on the ICT and its impact on Library and Information services in the school libraries. In addition, existing studies are restricted to ICT based Library and Information services only at University and college level. To expand the scope of study, this research includes use different ICT products and its impact at school libraries in India directly or indirectly. With these comparisons, this study is expected to provide insights for ICT and Impact on school library services. Based on the research gap, this paper tries to answer four research questions:

Q1: How do school libraries provide ICT based library services?

Q2: Which type of ICT products are most engaging to library users?

Q3: What are the differences among different ICT products and its impact on different Library services provided to users?

Q4: How long Kendriya Vidyalaya Libraries succeed in reaching to its set goals and objectives?

4.1 Research Methodology

The questionnaire method was used for the present study to collect the necessary primary data for evaluation and assessment. The questionnaire method has some limitation to collect the data, hence the investigator adopted interview and observation methods were used to collect required information to supplement to the questionnaire method and to bring more clarity to the data. It is not feasible to collect large of number data of each and every library user in their study; therefore samples were selected by using stratified random sampling method. Hence Investigator has selected 76 Kendriya Vidyalaya Libraries on the basis of all the libraries fully automated by e-granthalaya Library automation software of NIC Govt. of India, have Web-OPAC facility and each Library has their own Library Blog/Website. The questionnaires were distributed personally among librarians and user. A list of the Kendriya Vidyalayas are found in *Appendix*.

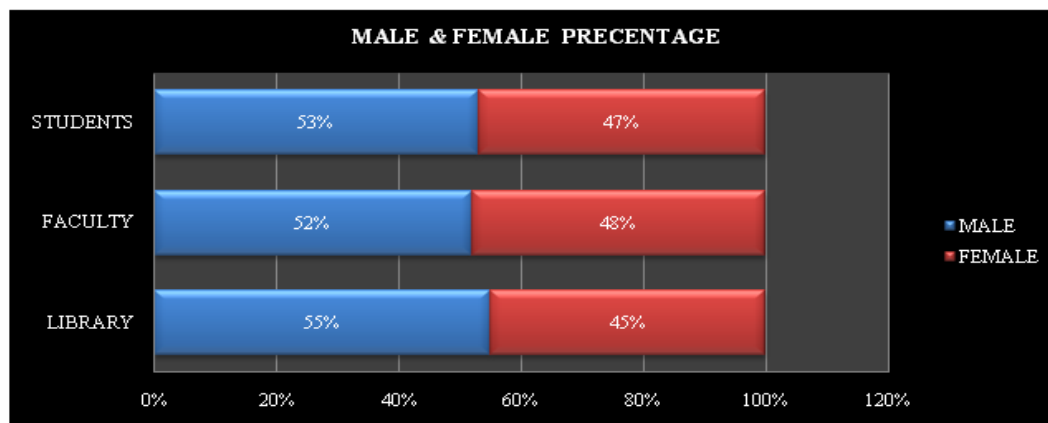
Data Analysis

The paper deals with the analysis and Interpretation of data which were collected through Questionnaire. The data analysis means systematic gathering, recoding, manipulating and summarizing of data to obtain answer to the research problems.

The collected data has been organized and tabulated by using tables, pie chart, histogram etc. The purpose of this analysis is to shape data to intelligible and interpretable forms, so that the relation of research problems can studied and tested.

Table 5.1.1 Male and Female percentage in different Kendriya Vidyalayas

User	Male	Female	Total
Students	14230	12450	26680
	53%	47%	
Faculty	455	415	870
	52%	48%	
Librarian	16	13	29
	55%	45%	
Total	14711	12878	27579

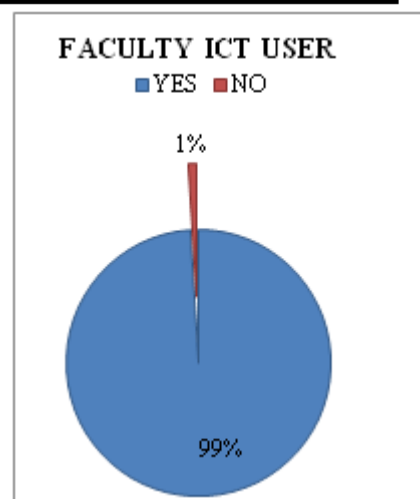


We have got 29 kendriya Vidyalaya' library data which is recorded in the table 5.1.1, and then it is categorized into three parts like student, faculty and librarian. After that we have divided these three sections into male female percentage. Now if we see the bar graph we can understand 53% male whereas 47% are female student in a Kendriya Vidyalaya. Similarly if we considered the faculties then we can see 52% are male and remaining 48% are female. Last but not the least if we consider the librarian we can see it is 55% male whereas 45% comes under the female categories.

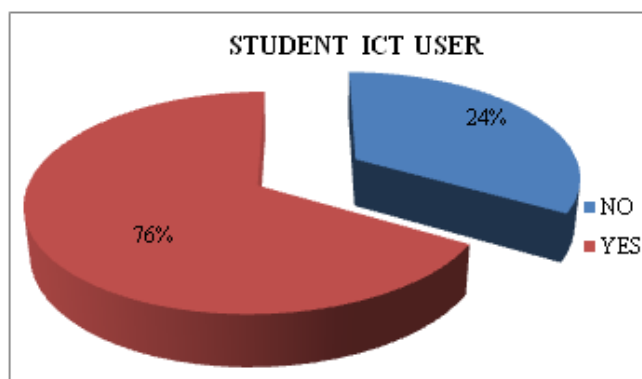
Note: As the kendriya Vidyalaya Libraries serve the students from class I-XII, so data is taken from 29 Kendriya Vidyalayas and from class I-XII students, faculty and librarian included.

Table 5.1.2: Student and Faculty ICT users

User	Yes	No	Total
Students	220	70	290
	76%	24%	
Faculty	288	4	290
	99%	1%	



If compare two diagram we can observed that most of the faculties (99%) as well as students (76%) uses ICT in Kenderiya Vidyalaya. It means that in a Kendriya Vidyalaya application of ICT is very much essential but some user in Kendriya Vidyalayas are there where faculty and student do not use ICT i.e.1% and 24%. The reason could be either they do not know about how to use ICT or lack of interest.(Table 5.1.2).



Note: 02 students from each section of class IX-XII(290) and 10 faculty member from class I-XII (290)of 29 Kendriya Vidyalaya are selected to respond about their using of ICT.

Table 5.1.3: Primary way to learn about ICT

Respodents	Teachers/ Supervisors	Colleagues/ classmates	Friends	Library/ Homepage	Library training	Subject Library	Other
Student	59	66	70	20	-	-	5
Faculty	45	260	275	39	22	7	12

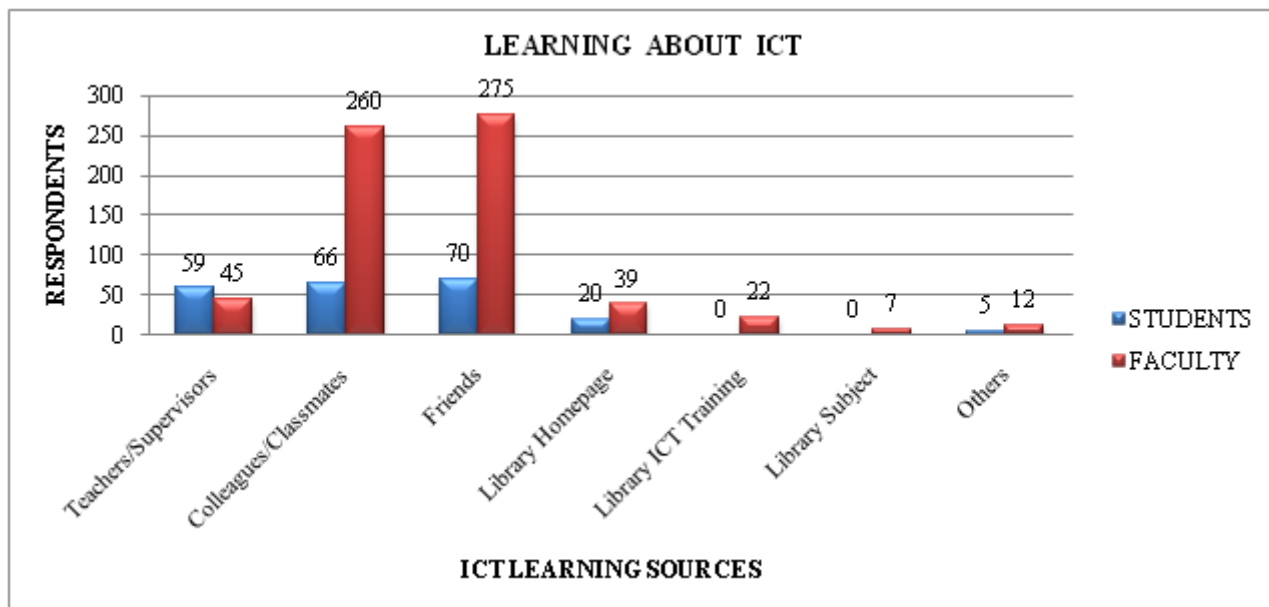


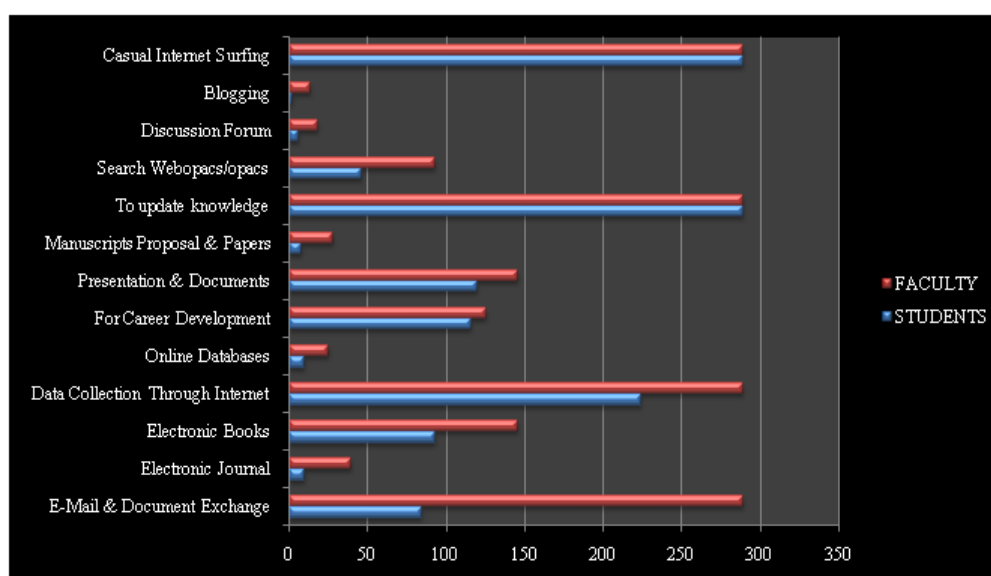
Table 5.1.3 examined that the researcher asked some students as well faculties that how they learn about ICT, so student and faculty give similar kind of response. Now if we see the column chart carefully we can understand that maximum respondent said they learn it through friends i.e. 70 students and 275 faculties. After that maximum people said they learned it through their colleagues/classmates whereas small number of respondent said they learn it by teachers/supervisors, library home pages, library training and others.

Table 5.1.4 Purpose of using ICT product
SI.1 E-Mail & Document exchange

- SI.2** Electronic Journals
- SI.3** Electronic Books
- SI.4** Collect Data through Internet
- SI.5** Online Data Bases
- SI.6** For Career Development
- SI.7** Presentation & Documents
- SI.8** Manuscripts Proposal & Papers
- SI.9** To Update Knowledge
- SI.10** Search Webopacs/Opacs
- SI.11** Discussion Forums
- SI.12** Blogging
- SI.13** Casual Internet Surfing

Users	SI-1	SI-2	SI-3	SI-4	SI-5	SI-6	SI-7	SI-8	SI-9	SI-10	SI11	SI-12	SI-13
Students	85	10	93	225	10	116	120	8	290	46	6	2	290
Faculties	290	40	146	290	25	126	146	28	290	93	19	14	290

5. Purpose of Using ICT Product



The above table shows that maximum response on to update knowledge and casual Internet surfing (i.e. 290 students & 290 faculties) then 225 students and 290 faculties mentioned it also helps in data collection through Internet as per today's world is concerned. There are others aspect of using ICT product like electronic journals (10 students, 48 faculties), electronic books (93 student, 146 faculties), E-mail & Document Exchange (85 students, 290 faculties), online

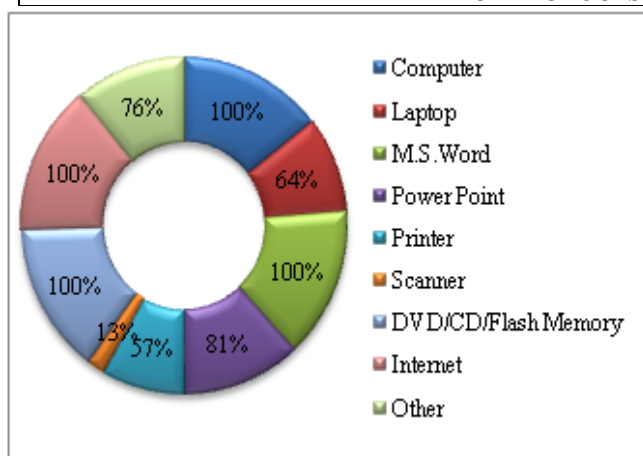
database (10 student, 25 faculties), for career development (116 students, 126 faculties) and so on.

Note: 02 students from each section of class IX-XII (290) and faculty from class I-XII (290) of 29 Kendriya Vidyalaya are selected to respond about their using of ICT.

Table 5.1.5: Use of ICT product by student & faculty

Respondents	Computer	Laptop	MS Word	Power Point	Printer	Scanner	DVD/CD/Flash Memory	Internet	Other
Students	290	186	290	234	164	39	290	290	221
	100%	64%	100%	81%	57%	13%	100%	100%	76%
Faculty	290	279	290	284	276	65	290	290	275
	100%	96%	100%	98%	95%	22%	100%	100%	95%

ICT PRODUCTS USED BY STUDENTS

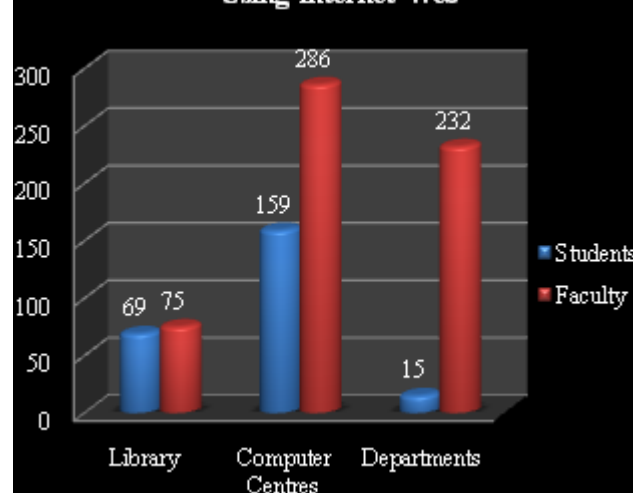


Note: 02 students from each section of class IX-XII (290) and faculty from class I-XII (290) of 29 Kendriya Vidyalaya are selected to respond about their using of ICT Products.

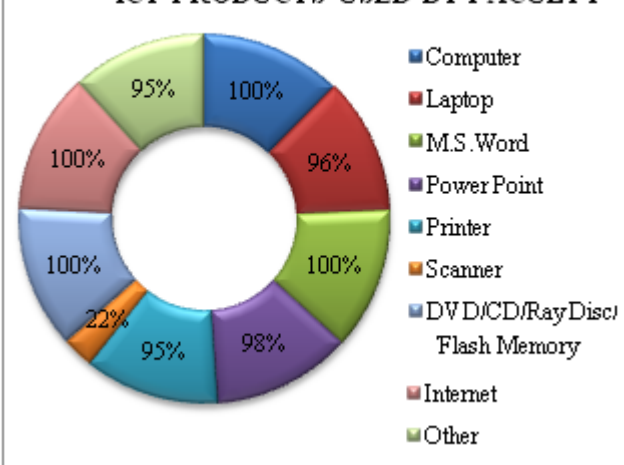
Table 5.1.6: Using internet web

Respondents	Library	Computer Centers	Departments
Students	69	159	15
Faculty	75	286	232

Using Internet Web



ICT PRODUCTS USED BY FACULTY



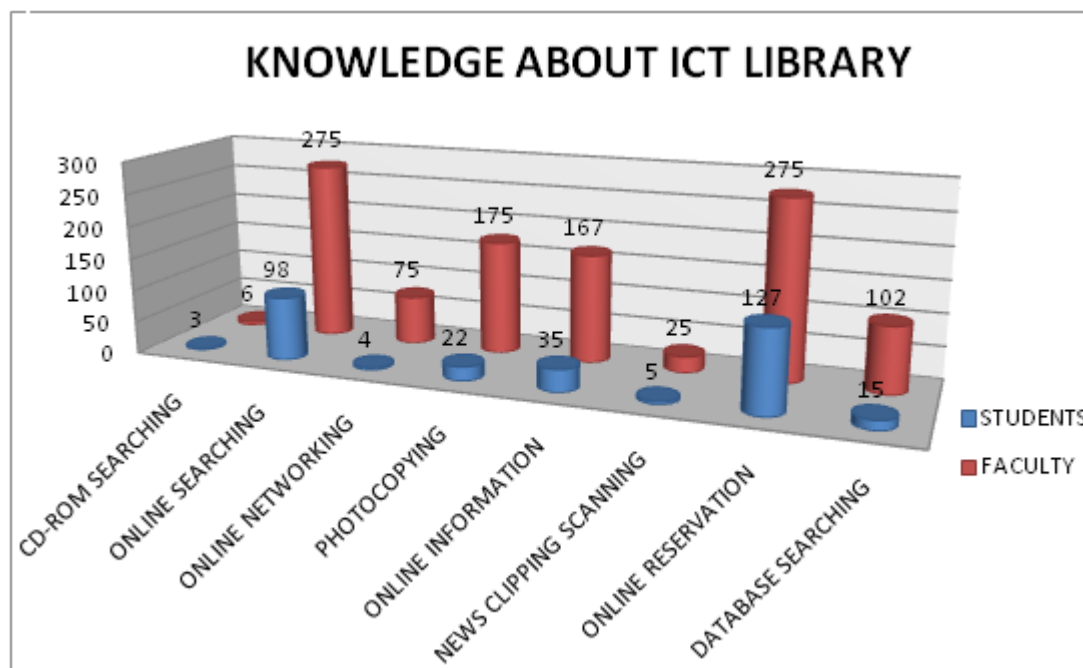
The above table focused about the faculty and student that where they use the ICT product in that case students as well as faculties give same kind of feedback. 100% student and 100% faculties said it is maximum use in their Computer, DVD/CD/Ray Disc/Flash Memory, Internet, after that they said it can be also used in Laptop (64% students, 96% faculties), Power Point (81% students, 98% faculties), Printer (57% students, 95% faculties), Scanner (13% students, 22% faculties), Other(included Facebook, Twitter, Professional network etc. (76% students, 95% faculties) and so on.

While we are doing survey it is very important that how we using internet web so for that we ask some students and faculties. If we see the chart it is clear that many student and faculties think that the usage of internet web is more at Computer Centers (159 students, 286 faculties) then library (69 students, 75 faculties) and the Departments (15 students, 232 faculties) but if we see the department section there is a contradict between students and faculties feedback. Maximum faculty belief that it is more important for the various departments whereas students believe it as least important.

Note: 02 students from each section of class IX-XII (290) and faculty from class I-XII (290) of 29 Kendriya Vidyalaya are selected to respond about their using of Internet Web.

Table 5.1.7 Know about ICT based library

	CD-ROM Searching	Online Searching	Online Networking	Photocopying	Online Information	News Clipping Scanning	Online Reservation	Database Searching
STUDENTS	3	98	4	22	35	5	127	15
FACULTY	6	275	75	175	167	25	275	102



On the basis of students and faculties opinion (Table 5.1.7) we have collected some data that shows maximum people know about ICT based library through online reservation (127 students, 275 faculties), online searching (98 students, 275 faculties), online information (35 students, 167 faculties), and online networking (4 students, 75 faculties). There are also other ways like database searching, news clipping searching, photocopying, online networking and CD-ROM searching; but it is not much effective as compare to above sources.

Note: 02 students from each section of class IX-XII (290) and faculty from class I-XII (290) of 29 Kendriya Vidyalaya are selected to respond about their knowledge about ICT Library.

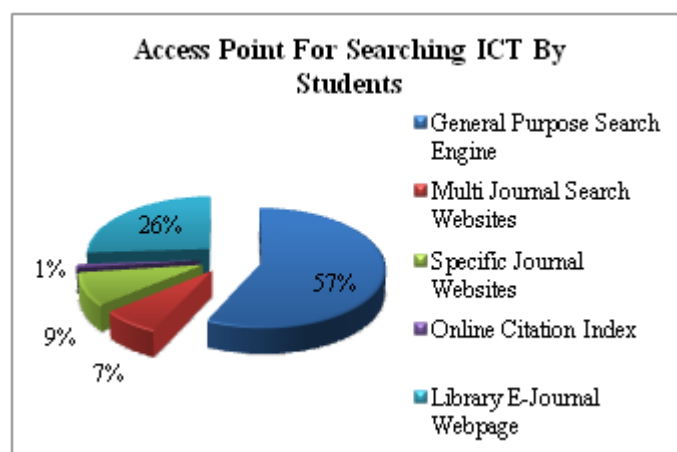


Table 5.1.8 Access point for searching ICT

	General Purpose Search Engine	Multi Journal Search Websites	Specific Journal Websites	Online Citation Index	Library E-Journal Webpage	TOTAL
Students	165	19	26	4	76	290
	57%	7%	9%	1%	26%	100%
Faculty	123	29	38	15	87	290
	42%	10%	13%	5%	30%	

ACCESS POINT FOR ICT SEARCHING BY FACULTY

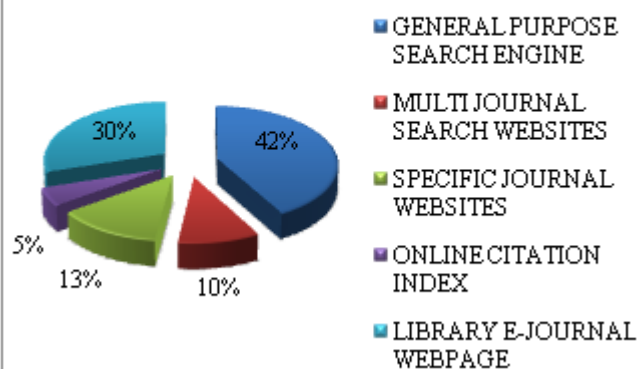


Table 5.1.7 described the access point for searching ICT product. So that we took opinion from student as well as teachers for that we have drawn two pie chart for student as well as faculties. If we consider the student first we can see 37% said for general purpose search website which is huge in number after that maximum students told by multi journal search website (30%), library E-Journal WebPages (14%), and specific journal websites (12%). While investigator

asked same question to faculties, they give more or less similar kind of answer like 29% said for general purpose search engines, 22% said multi journal search websites, 20% said library e- journal web pages and so on.

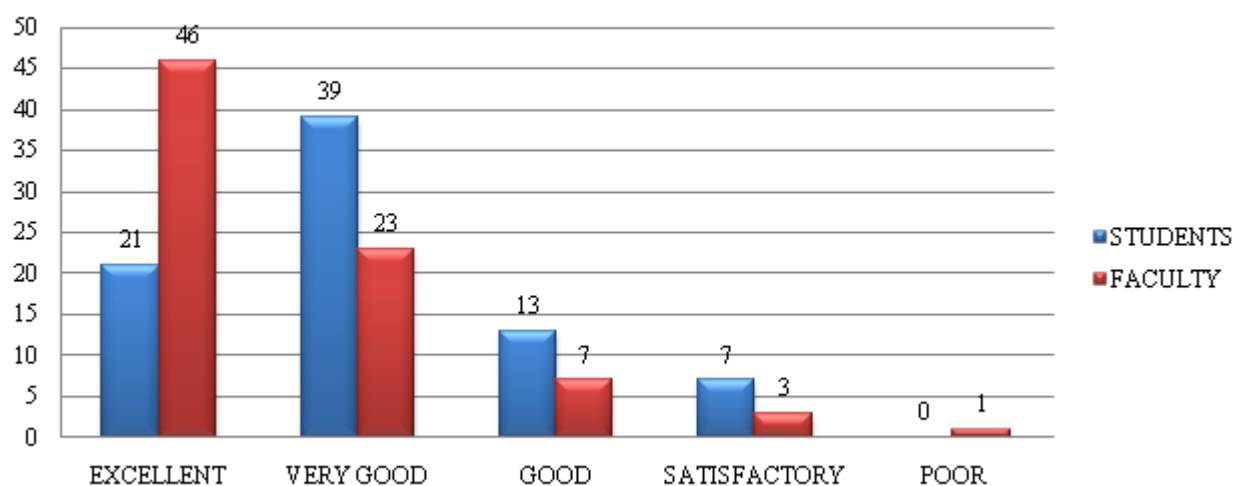
Note: 02 students from each section of class IX-XII (290) and faculty from class I-XII (290) of 29 Kendriya Vidyalaya are selected to respond about access point of searching by students and faculty separately.

Table 5.1.9: Expertise in using ICT and the Library performance

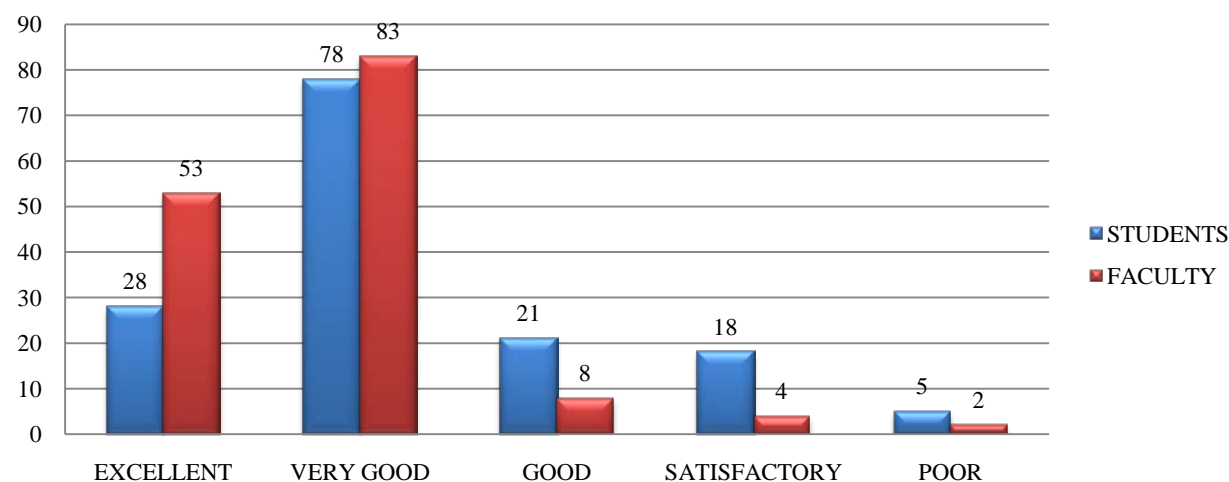
Expertise in using ICT					
	Excellent	Very Good	Good	Satisfactory	Poor
Student	21	39	13	7	0
Faculty	46	23	7	3	1

Library Performance					
	Excellent	Very Good	Good	Satisfactory	Poor
Student	28	78	21	18	5
Faculty	53	83	8	4	2

Expertise in using ICT



LIBRARY PERFORMANCE



The analysis shows that the feedback about accessing point then we asked about the expertise in using library product. In that case 21 students and 46 faculties mentioned as a Excellent while 39 students and 23 faculties mention as a Very Good,13 students and 07 faculty Good,07 students and 03 faculty satisfactory and 0 student and 01 faculty Poor found having expertise in using ICT. After that researcher put another question about the library performance by using ICT product and they give their views which can understand by this chart. 28 students and 53 faculties mentioned that the performance is an excellent whereas 78 students and 83 faculties said it is Very Good, 21 student and 08 faculty Good, 18 students and 04 faculty satisfactory and 05 students and 02 faculty said poor. It means using ICT product increase the performance of a library.

Note: 02 students from each section of class IX-XII (150) and faculty from class I-XII (150) of 05 Kendriya Vidyalaya are selected to respond about their expertise in using ICT and Library performance.

Table 5.1.10: Favourite search engines

Search Engine	Students	Faculty
Google	264	225
Yahoo	10	24
MSN	3	11
Alta Vista	1	5
Rediff	11	22

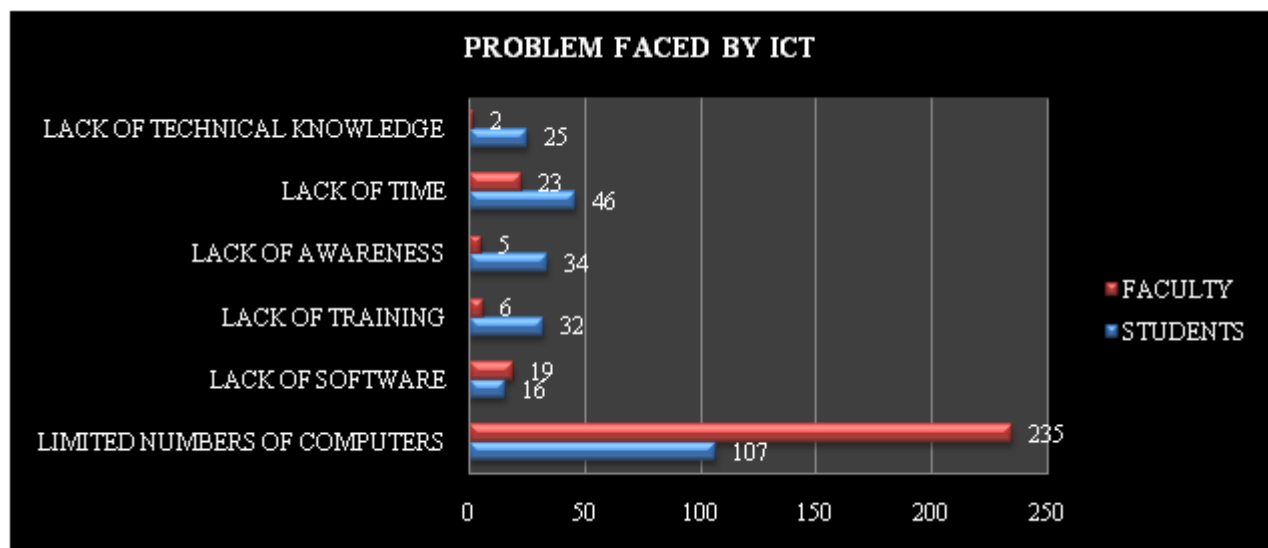
Hotbot	0	0
Khoj	1	3
Lycos	0	0
Excite	0	0
Others	0	0

The table 5.1.10 indicates that the students and faculty have different kind of opinion about their favourite search engine which is being recorded into a tabular form. Now if we see the table we can say 264 students and 225 faculties give maximum weighted to the google search engine, then it is yahoo (10 students, 24 faculties) and rediff (11 students, 22 faculties). There are some other search engines like msn, khoj, and lycos but it is not much effective compare to the others.

Note: 02 students from each section of class IX-XII (290) and faculty from class I-XII (290) of 29 Kendriya Vidyalaya are selected to respond about their favourite search engine.

Table 5.1.11: Problem faced by ICT

	Limited Number of Computers	Lack of Software	Lack of Training	Lack of Awareness	Lack of Time	Lack of Technical Knowledge
Students	107	46	32	34	46	25
Faculty	235	19	06	05	23	02

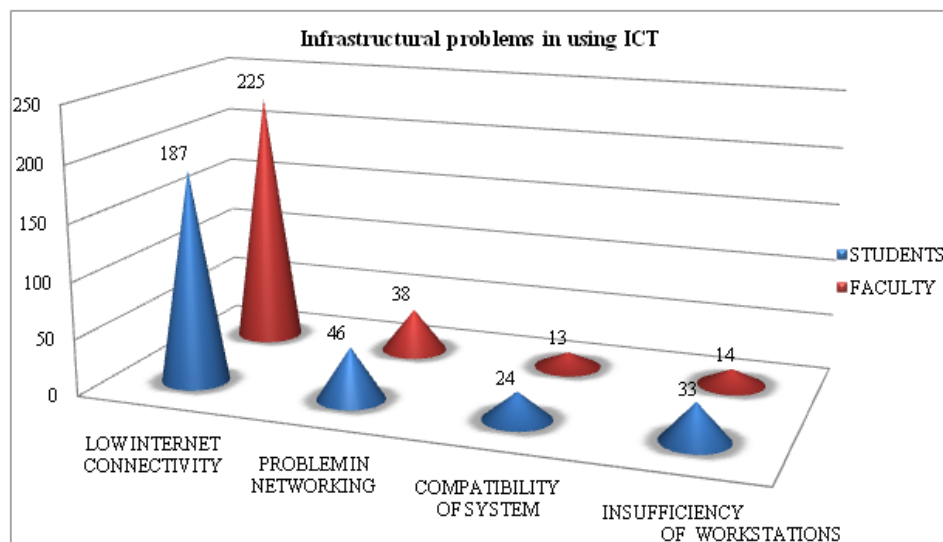


In every application there are some advantages as well as disadvantages. So when we asked about the problem related to the ICT, Students and faculty have different opinion majority of student as well as faculties said that the problem is generated as because of lack of time (46 students, 23 faculties), lack of software (16 students, 19 faculties), lack of awareness (34 students, 05 faculties), limited number of computers (107 students, 235 faculties), lack of training (32 students,06 faculties) and lack of technical knowledge (25 students, 02 faculties).

Note: 02 students from each section of class IX-XII (290) and faculty from class I-XII (290) of 29 Kendriya Vidyalaya are selected to respond about the problem faced by them by using ICT.

Table 5.1.12: Infrastructural problem in using ICT

	Low Internet Connectivity	Problem In Networking	Compatibility of System	Insufficiency of Workstations
Students	187	46	24	33
Faculty	225	38	13	14



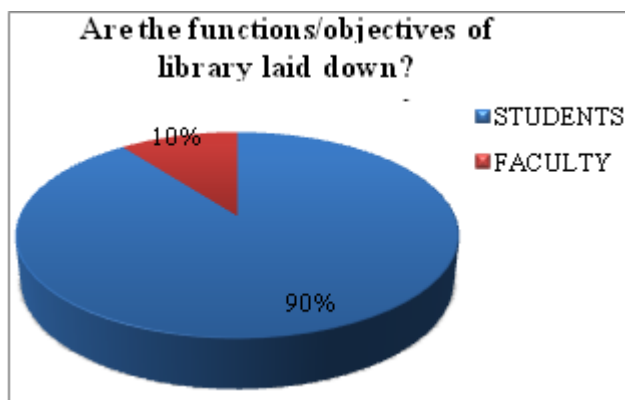
The above table discussed about infrastructural problem about using ICT many students and faculties mentioned it was because of low internet connectivity (187 students, 225 faculties), problem in networking (46 students, 38 faculties). It means when we use ICT the internet connection should be fast there should not be any problem in networking otherwise it will not work properly. It should be kept in the mind that if you are using ICT product in that case Kendriya Vidyalayas should have proper Wi-Fi connection especially in the library section.

Note: 02 students from each section of class IX-XII (290) and faculty from class I-XII (290) of 29 Kendriya Vidyalaya are selected to respond about their infrastructural problems in using ICT.

6. Data Analysis for Librarians

Table 5.2.1: Are the functions and objectives of the library specially laid down?

Librarians	Yes	No	Total
	26	03	29
	90%	10%	100%



To understand whether the functions and objectives of the library laid down or not for that we asked this question to the librarians of 29 Kendriya Vidyalaya and 26(90%) librarians said it has been laid down whereas 03(10%) librarians said it not being laid down. Here it is very difficult to get exact

conclusion because the variation of data is quite close in nature.

Note: 29 Librarians from 29 Kendriya Vidyalaya selected to respond about whether the functions/objectives of library have been laid down or not.

Table 5.2.2: Has the objectives been revised ever?

	Formally	Informally	Through library committee	Through library board
YES	28	2	27	27
NO	1	27	02	02

When scholar asked the librarian whether the objective has been revised or not, for that 28 Librarians said yes for formally revised and 01 replied as a no. 02 Librarians said yes for informally revised and 27 replied as a no. 27 Librarians said yes for through library committee revised and 02 replied as a no and 27 Librarians said yes for through library board revised and 02 replied as a no

Note: 29 Librarians from 29 Kendriya Vidyalaya selected to respond about whether the objectives of library has ever been revised or not. .

Table 5.2.3 Staff details working in the library

Designation	Qualifications				Pay Scale of the Post	No of Post
	B.LIS	M.LIS	M.Phil/Phd.	UGC NET		
Librarian	05	16	03	05	9300-34800	01

While researcher is doing survey it is important to know the staff details working in the library. The Table 5.2.3 it is mentioned that there are four sections i.e. Designation, Qualification, Pay-scale and number of post. If we talking about the librarian the qualification required B.LIS But majority of librarian are Ph.D/M.Phil/M.LIS/UGC NET and the pay-scales of this post is 9300-34800/- with grade pay Rs.4600/- and drawing other allowances a central Government employee of India entitled to receive.

Note: 29 Librarians from 29 Kendriya Vidyalaya selected to respond about the staff details working in the library.

Table 5.2.4: Promotional policy for the librarian

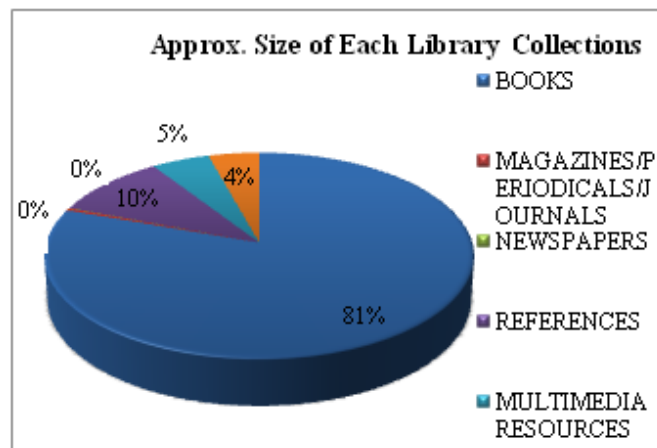
	Seniority	Qualifications	Performance	Combination of all
Yes	0	0	0	0
No	29	29	29	29

There is no promotional policy for Librarians in the Kendriya Vidyalaya. They are in teaching section but they are treated as Miscellaneous Teaching Post. This is a matter of great regret and a de-motivating factor for the librarian of Kendriya Vidyalayas Librarian. Kendriya Vidyalaya Network with the Teachers' Association of Kendriya Vidyalaya is working on the issue of Librarians' promotion. When researcher asked the librarian about the promotional policy to the Kendriya Vidyalaya Librarian, so in that case 0 % librarian said yes they provide, whereas 100% librarian said that they don't provide

Note: 29 Librarians from 29 Kendriya Vidyalaya selected to respond about the promotional policy for the libraria.

Table 5.2.5: Approximate size of library collections

Books	Magazines/Journals/periodicals	News papers	References	Multimedia Resources	Text Books
6500	30	05	800	400	350

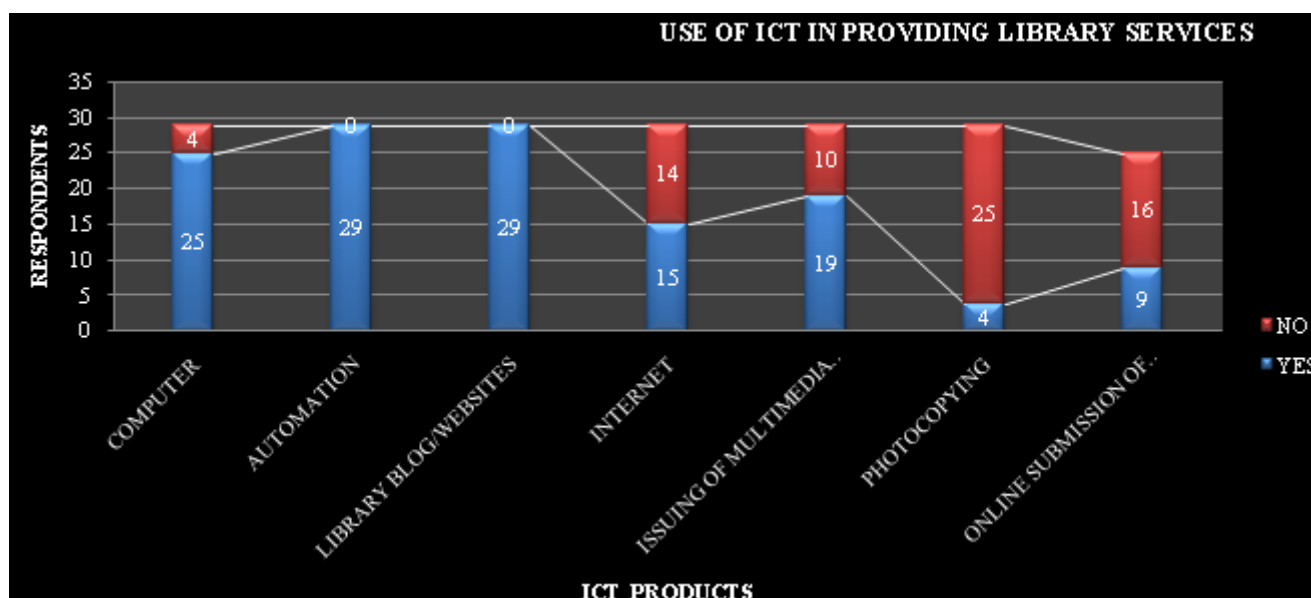


After done the survey about the library collections from different Libraries. We have got the response that is average (6500)81% books are available in the library, 30(0%) is for different kind of Magazines/Periodicals/Journals, 05(0%) is for Newspapers. 800(10%) is for References.400 (5%) is for multimedia (CD-ROM/DVD, Video/Audio cassette etc.). and 350(4%) is for Text Books.

Note: 29 Librarians from 29 Kendriya Vidyalaya selected to respond about their Library collections.

Table 5.2.6: Use of ICT in Providing Library Services

	Computer	Automation	Library Blog/Websites	Internet	Issuing Multimedia Resources	Photocopying	Online Submission of book review
Yes	25	29	29	15	19	4	9
No	04	0	0	14	10	25	16



After done the survey about use of ICT in providing Library services librarian of different Kendriya Vidyalayas have different opinions 25 said yes and 04 no for providing adequate computers, 29 said yes and 0 no about having library fully automated through e-granthalaya a library software from NIC of India, all the 29 library in survey said

that they have their own Library Blog/Websites, 15 said yes and 14 no regarding providing internet facility, 19 said yes 10 no about issuing of multimedia resources, 04 said yes 25 no about photocopying facility, 09 said yes 16 no about the facility of online submission of book reviews.

Note: 29 Librarians from 29 Kendriya Vidyalaya selected to respond about their use of ICT products for providing Library services.

Table 5.2.10 about the library budget

Adequate	Fairly Adequate	Inadequate	Total
18	5	6	29
62%	17%	21%	100%

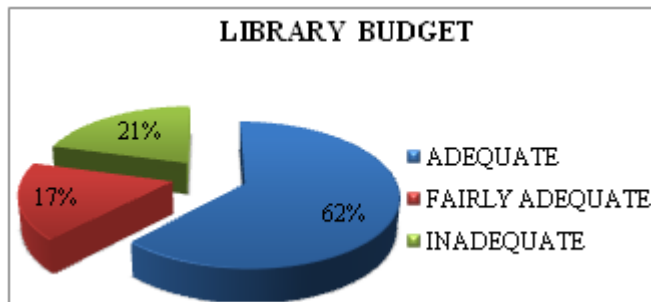


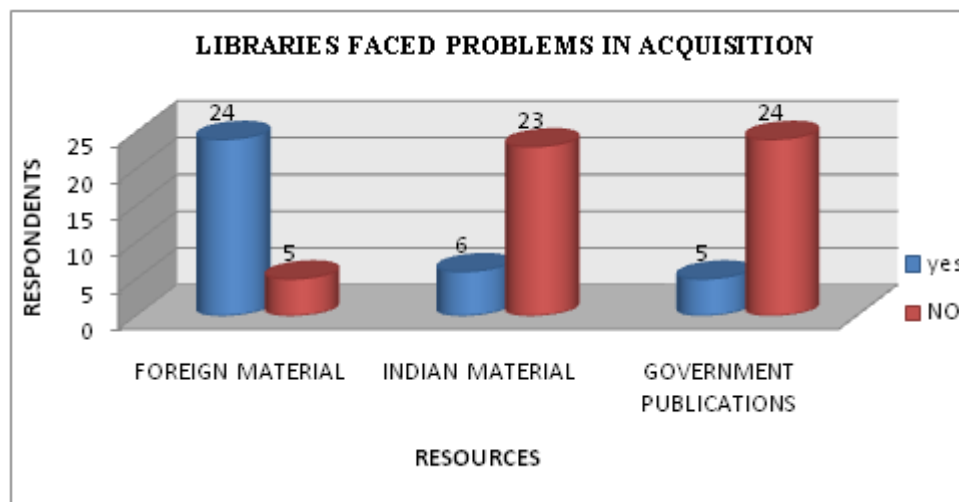
Table 5.2.11: Some information about library

Question	Yes	No
Does the library have written acquisition policy?	29	0
Whether the librarian is kept informed about the current policy?	29	0
Is existing classification scheme found helpful?	29	0
Does the library maintain any online OPAC?	21	8
Are Reading and stacks combined?	29	0
Is there any exclusive space provided for the Reading-Room?	18	11
Has there been any expansion in accommodation in past ten years?	3	26
Do you have a separate periodical section?	24	5
Do you circulate loose issues of Periodicals?	2	27
Does the library participate in any national/international information network/agency?	29	0

There are some questions we asked to the librarian like does the library have written acquisition policy? So in that case 29 respondents said yes whereas 0 respondents said no then again we asked whether the librarian is kept informed about the current policy, for that 29 said yes and only 0 respondents said no. After that we asked is existing classification scheme found helpful, for that 29 responded said yes and 0 said no. There are some other questions like does the library maintain any online OPAC? So in that case 21 respondents said yes and 8 said no then we asked are reading and stacks combined? 29 responded as yes and 0 as a no. After that we asked is there any exclusive space provided for the Reading-Room? Here 18 said yes and 11 said no. Similarly we asked do you have a separate periodical section. For that 24 said yes and 5 respondents said no and so on.

Table 5.2.12 Does the library face problem in acquisition of the following?

Category	Yes	No
Foreign Material	24	5
Indian Material	6	23
Government Publications	25	4



It is important to know whether library faced any problem related to acquisition or not. For that researcher capture the data into a table and plot a graph. Now we can see for Indian material 23 respondents said there is no problem in acquisition where only 6 respondents said they faced the problem, similarly when we talked about the foreign material 5 respondents said they did not face any problem to acquisition and 24 respondents said it is difficult to acquire. Lastly if we see the government materials for that case 5

people said it is easy to acquire whereas 24 people said it is quite tough.

Table 5.2.13(1): The classification scheme used in the library

Classification	Respondents
Colon Classification	0
Dewey Decimal Classification	29
Universal Decimal Classification	0

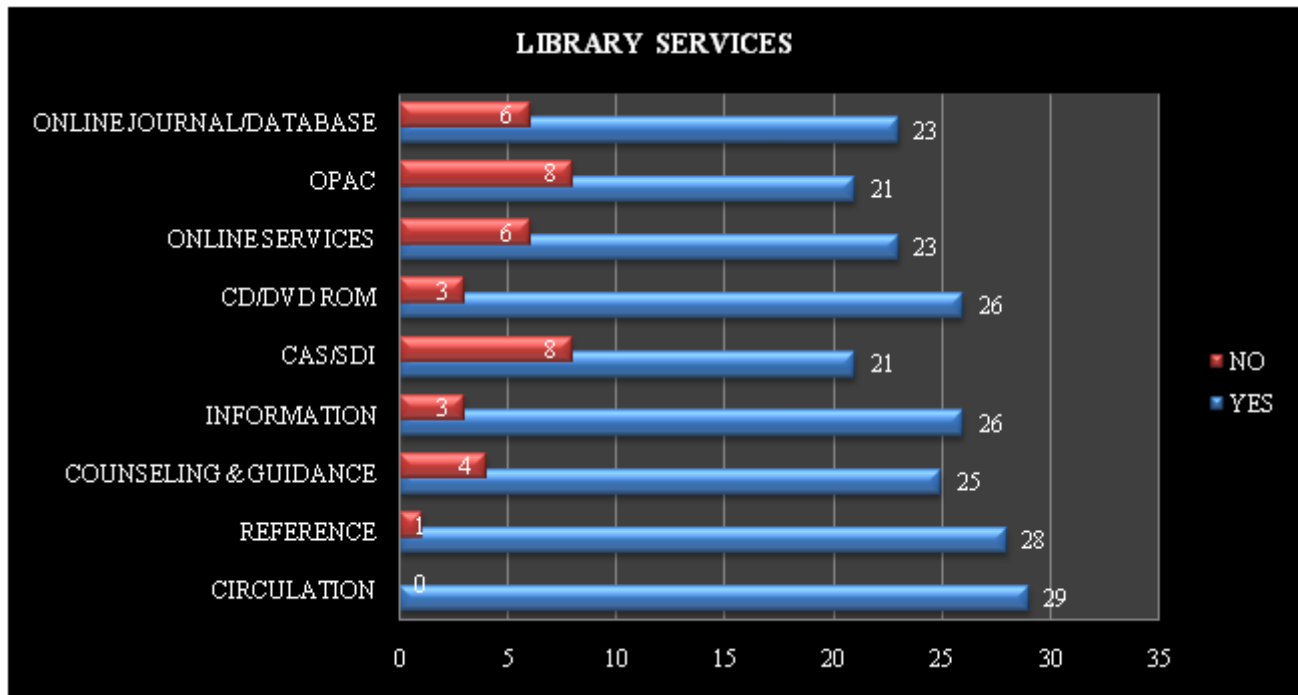
Table 5.2.13(2): The cataloguing code used in the library

Catalogue	Respondents
Classified Catalogue Code	0
Anglo American Catalogue	29
Others	0

Table 5.2.13(1) mentioned that Dewey Decimal classification scheme used in the libraries whereas Table 5.2.13(2) explain the cataloguing code used in the library. From table 1 we can see that 29 people mentioned they used Dewey decimal classification scheme whereas only 0 Librarian used Universal decimal classification scheme and table 2 shows 29 respondents used AACR code in the library which is huge in numbers.

Table 5.2.14: Services offered by the Librarian

Services	Yes	No
Circulation Service	29	0
Reference Service	28	1
Counseling & Guidance	25	4
Information Service	26	3
CAS/SDI	21	8
CD/DVD ROM	26	3
Online Service	23	6
OPAC	21	8
Online Journal/Database	23	6



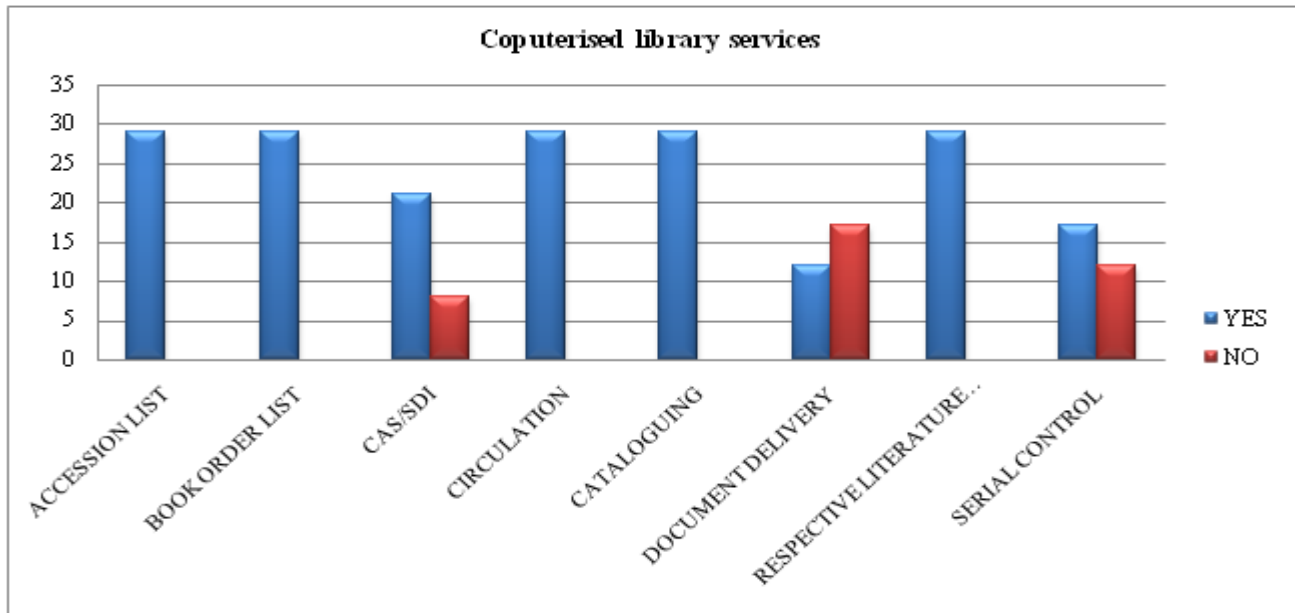
The various services that is offered in the library are as follows: 29 respondents said that the maximum service used in library is circulation, after that 28 respondent said reference services and 26 respondents said for information and CD/DVD ROM whereas 25 said counseling & Guidance, 23 respondents for online and online journals/databases and last but not least respondents said for CAS/SDI and OPAC library services.

Table 5.2.15: Do you provide online access to your collections

	On library Intranet for users within the library	On campus Intranet, for Vidyalaya	On Internet for library users only	On Internet for global access
YES	29	26	29	0
	Lack of Online Journals/Databases	Lack of infrastructure to support access	Copyright problems	Other
NO	04	03	29	0

Table 5.2.16: Services undertaken by using computer

Services	Yes	No
Accession list	29	0
Book order list	29	0
Current awareness services	29	0
Circulation	29	0
Cataloguing	29	0
Document delivery	29	0
Respective literature search	29	0
Serial control	24	05



Now if we consider the Table 5.2.16 is all about services undertaken by using computer. From the column chart it is cleared that 29 respondent said for Accession list, 29 respondents said it is Circulation & Cataloguing whereas 29 respondents said Book order list, 21 Respondents said it is for CAS/SDI. Rest 12 said it is for Document delivery, 29 said it is for Respective literature search and 17 for Serial control.

Table 5.2.17 Does computerization of library has impact

H₀: Computerization of library has no impact with the variable (Reject)

H₁: Computerization of library has great impact with the variable

Alpha = 0.05 (P-Value)

Degree of freedom = (3-1) × (2-1) = 2

Chi square critical value = 5.991

Chi square calculated value = 47.836

	Better utilization of the library	Reducing the pressure	Nothing definite	Total
Yes(Fo)	28	19	1	48
Fe	17.185	16.592	14.222	
No(Fo)	1	9	23	33
Fe	11.814	11.407	9.777	
Total	29	28	24	81

We could now set up the following table:

fo	fe	(fo - fe)	(fo - fe) ²	(fo - fe) ² / fe
28	17.185	10.815	116.964	6.806
19	16.292	2.708	7.333	0.450
1	14.222	-13.222	174.821	12.292
1	11.814	-10.814	116.942	9.898
9	11.407	-2.407	5.793	0.507
23	9.777	13.223	174.847	17.883
Total				47.836

Chi Square = 47.836

Degrees of Freedom = (Column - 1)(Row - 1)

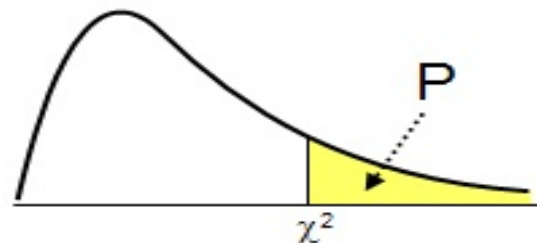
Therefore:- Degrees of Freedom = (3 - 1)(2 - 1)=2

Chi Square distribution table.

Probability level (alpha)

Df	0.5	0.10	0.05	0.02	0.01	0.001
1	0.455	2.706	3.841	5.412	6.635	10.827
2	1.386	4.605	5.991	7.824	9.210	13.815
3	2.366	6.251	7.815	9.837	11.345	16.268
4	3.357	7.779	9.488	11.668	13.277	18.465
5	4.351	9.236	11.070	13.388	15.086	20.517

Reject H₀ because 47.836 is greater than 5.991 (for alpha = 0.05)

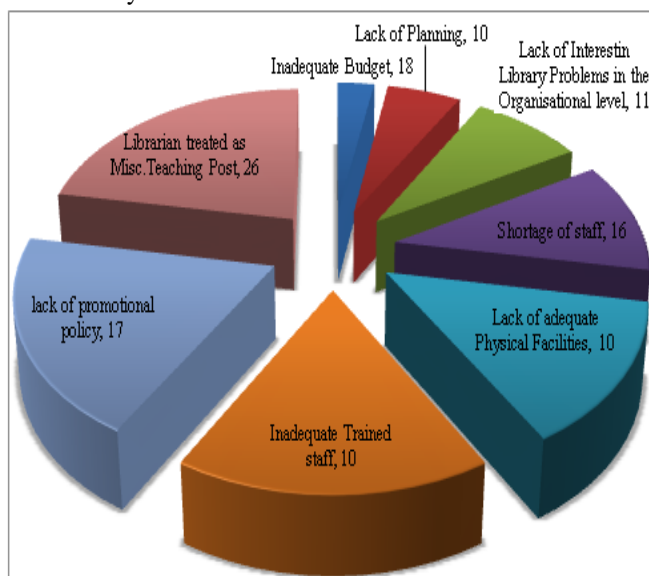


As Chi square calculated value is more than the Chi square critical value so we will reject the null hypothesis and accept the alternative hypothesis that means computerization of library has a great impact with the variable like better utilization of the library, reducing pressure and so on.

Table 5.2.18: Following problems affecting the development of the library?

Problems Affecting to the Library	Total
Inadequate budget	18
Lack of planning	10
Lack of interest in library problem at the organization level	11
Shortage of staff	16
Lack of adequate physical facilities	10
Inadequately trained staff	10
Improper salary structure of library staff	17
Lack of promotion policy	26

The majors' problems which is affecting in the development of the library are as follows:



62% librarian said it for in adequate budget, whereas 90% of respondent said it is improper that Librarians in Kendriya Vidyalaya treated as Misc. teaching post, which is a part of discrimination with Librarians among teaching then 55% mentioned it is for shortage of staff members after that 34% said it is for lack of planning, lack of adequate physical facilities, Inadequately trained staff. 40% said it is for lack of interest in Library problems in the organizational level.

7. Findings, Suggestions & Conclusion

The findings of this study can be summarized as follows:

For any Kendriya Vidyalaya the percentage of male is more compare to the female whether it is faculties, librarians or students. From the Table 5.1.1 it is clearly mentioned that 52% male and 48% female are the faculty members, whereas 55% male and 45% female comes under librarian and for the students it is 53% are male and 47% are female. So we can say that women in India are not far behind they are also involve in various profession.

Impact of ICT on learning

- As we have mentioned earlier that the use of ICT has exerted a profound influence on traditional academic libraries. Table 5.1.2 shows that now day in Kendriya Vidyalayas 76% students are ICT user whereas faculties are 99%. Therefore we can say that the application of ICT is very useful for Kendriya Vidyalaya Libraries. So the generally academic libraries and particularly in our case School Libraries in Indian setup have been preparing themselves on a corporate basis a platform for ICT based information services.
- There is considerable impact of ICT on teachers and teaching. Good training programmes results in positive attitudes towards ICT in teachers. Using ICT with their own laptop computer increases positive attitudes towards their work. Teachers use ICT to teach lessons and in evaluation more efficiently and more effectively. ICT increases efficiently in planning and preparation of work due to more collaborative approach between teachers.

- The application of ICT helps to increase the library performance. One of the implications of use of ICT is that Libraries can reach out globally to provide their services 24-hours a day in very cost effective manner. ICT has enabled users to avail many services without any human intervention. IT largely used in operations, like acquisition, cataloguing, circulation control, serials control etc.

Information about ICT

- We asked 29 different Kendriya Vidyalayas of 29 Regions all our India about the primary way to learn ICT, most of the students and faculties give similar kind of responses which is captured in Table 5.1.3. The maximum people said they learn it by teacher/supervisor or colleagues/classmates. The application of ICT product in a management college is basically for e-mail and document exchange, to update the knowledge, casual Internet surfing, collect data through Internet and for career development.
- On the basis of students and faculties opinion we have collected some data in the Table 5.1.7. From the graph it is clearly mentioned that the people know about ICT based library through online searching, online networking, online information and the database searching. When we asked about the expertise in using ICT most of the respondents said they are good at handle.

Specific Usage of ICT

- We found from the Table 5.1.5 that most of the Kendriya Vidyalaya, where faculties and student use ICT product either in computer, laptop or internet depending upon their choice. Now talking about the usage of internet web, maximum people said it is used in campus hostel or in the school library because students and faculties spend most of the time there. So we should give fore focus on the access point of ICT on the following area where its usage is more.
- In Table 5.1.10 students and faculties give their response about their favourite search engine most of them give maximum response to Google, Yahoo and Rediff. There are some other search engine like MSN, Khoj and Lycos but it is not so popular compare to these. For searching any documents, company, institution the search engine has a great impact in our life. It gives results in better and organized way so that we can save our time.

8. Barriers

- Research has also identified barriers to ICT in Kendriya Vidyalaya Libraries. Librarians' poor ICT competence, low motivation and lack of confidence in using new technologies in Libraries are significant determinants of their levels of engagement in ICT. These are directly related to the quality of Librarians in training programmes. The educational system itself and its rigid assessment structure that impede the integration of ICT on every day learning activity.
- Sometime ICT cannot run properly due to lack of time, lack of software, lack of power backup equipment, lack of awareness or the lack of computers. So before installing ICT everything should be properly checked

otherwise it may create problem. Sometime Infrastructure create problem while using ICT application like low internet connectivity, problem in networking or insufficient of workstation.

9. Suggestions

- 1) The study shows that internet surfing is most important for user in Libraries so that the libraries should be well equipped with enough numbers of computer.
- 2) Librarian should be well trained. Time duration of using ICT activity should be increased.
- 3) Librarians should be more responsive and helpful. Printing facility should be available in the library to get print out of the articles of e journals and databases.
- 4) As the survey has shown, In addition to access infrastructure and content having requisite skills, teachers' motivation is a critical factor in ICT adoption.
- 5) Proper ICT training should be given to the librarians.
- 6) More attention is required towards the female respondents regarding the ICT usage. Respondents can improve their ICT skill by owning computer at their home.
- 7) Seminar and conferences on ICT should be held at least twice in a year to create awareness about recent advancement in Library and Information Science among the librarians.
- 8) Every Librarian should be given the chance to work with ICT in library.
- 9) In digital era library should be well equipped that all the functions can run smoothly and user can get used all enriched resources of the library.
- 10) More online journals should be incorporated. Training and knowledge must include to spreading of awareness of students as well as faculties.
- 11) Library should install much faster machines for faster access.
- 12) Kendriya Vidyalaya Sangthan can motivate their staffs by providing proper salary structure.
- 13) The last but not least there should be a promotion policy for Librarians in Kendriya Vidyalaya. It will boost up the moral of Librarians and they can use and utilize their knowledge and potential towards strengthening the library system well.

10. Limitations

This study limited to ICT and its impact on library and Information services: a case study of Kendriya Vidyalaya all over India and measures users engagement in the number of user responses. The quality of user responses is not sufficiently studied. And the study relies heavily on the objective data from libraries' use of ICT and its impact on library services. Subjective data on how users expect libraries use ICT is missing. Also, while the study focuses on the application of ICT and its impact on library services, cultural factors are not delved into. And this would probably generate more meaningful theoretical results. Further studies can be improved by including user inputs on libraries' ICT based services, surveying users' opinions and exploring cultural aspects of applying ICT in Library services. As to our sample, all the Kendriya Vidyalaya libraries are

facilitated with ICT facilities. Therefore, the findings may not be applicable to all School libraries in India where still School Libraries are functioning in papers but on ground nothing is being done to establish libraries that provide ICT based services. More studies especially for School libraries in India are still needed.

11. Conclusion

This study sought to examine the ICT and its impact on library and Information services: a case study of Kendriya Vidyalaya all over India. Most of the objectives are met within the results. It is clear from the study that most of the respondents are aware and use ICT application in computer, internet surfing, laptop etc.

Majority of the respondents are experienced user frequently use ICT applications in computer centre. Most common ICT activities of the respondents are surfing internet, email, chat and preparing presentations etc, main purpose of using ICT applications is to look up information, electronic communication and prepare presentation. ICT help them to better informed and stay ahead. Importance of ICT in library can be realized from ICT application catalogues and audio/visual services. ICT has a great importance in each and every sphere of life; now libraries are not left apart from the impact of ICT it dependence upon the attitude of librarian and the library professional. Thus attitude of library professional have very much importance in the context of ICT application in the library. The attitude and skill of library professional can be developed positively by providing training them and conducting seminars and conference on the ICT application in the library. Trained professionals with ICT having positive attitude will ensure the development of libraries and information centre.

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- [13] 13 Vidyalaya Website and Library Blog/website of 29 Kendriya Vidyalaya of 29 Region all over India.

Appendix

A list of Kendriya Vidyalaya Libraries all over India have their Library Blog/Websites/Social Networks.

Blogs.

K.V.Lumding (Assam)
KV Pattom, Trivandrum
KV ASC Bangalore
KV Port Trust, Kochi
KV Gopalpur, MS
KV AFS Arjangarh
KV AFS Kasauli
KV Eluru
KV CPCRI Kasarcode
KV Firozpur
KV Gill Nagar, Chennai
KV NEPA Barapni, Shillong
KV Umroi Cantt, Shillong
KV INS Hamla, Malad
KV NAD Aluva
KV Sector 31, Chandigarh
KV No.2, Calicut
KV AFS, Sulur
KV Pangode, Trivandrum
KV NAD, Aluva
KV OCF Avadi, Chennai
KV Haldwani, Shift II
KV Bolarum, Secunderabad
KV No1, Madurai
KV No1, Dundigal, Hyderabad
KV Sector 8 Rohini, Delhi
KV Sector 12 Dwarka, Delhi
KV JNU, Delhi
KV Ongole
KV Bellary
KV NTPC Kayamkulam
KV No.1 Ishapore, Kolkata
KV Betul
KV No.2, Kasaragod
KV NIT, Agartala
KV Hospet
KV Purnea
KV Berhampore
KV Virudhunagar
KV Jawaharnagar, Sitamarhi
KV AFS Bihtai
KV Eluru
KV ODF, Eddumailaram

KV Begumpet
KV Aruvankadu
KV Malappuram
KV Rubber Board, Kottayam
KV Malkapuram
KV Nagarcoil
KV No.2, Tirupatil
KV Garharal
KV Lakhisarail
KV Yavatmal
KV Doomdooma, Assam
KV Chandrapura
KV Saharsa, Bihar
KV Ponda, Goa
KV Bijapur
KV Anantapur
KV No.1, Madurai
KV No.2, Colaba
KV IIT Guwahati
KV Bhaderwah, J&K
KV Birbhum
KV Murgabadi, Baripada
KV No1, Vasco da Gama
KV Along, Arunachal Pradesh
KV Ujjain, MP
KV Khammam
KV Punjab Lines, Meerut
KV IIP, (Shift-I), Mokhampur, Dehradun
KV NEHU, Shillong
KV Sainik Vihar, New Delhi
KV Peringome, Kannur
KV Latehar
KV Chamera 1, NHPC Khairi
KV MG Railway Colony, Bangalore
KV Panambur, Mangalore
KV Railway Colony, Manendragarh, C.G.

Websites

KV Kanjikkode, Palakkad
KV IOC Noonmati
KV Betul
KV No 3, Pathankot
KV BCPP Korba

Social Networks

Library Junction

Libraries on Facebook

KV Pattom
KV Latehar
KV Haldwani, Shift-II

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