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2020

## A study of Competencies and Attitude in use of ICT among Librarians of Govt. and Aided First Grade Colleges affiliated to University of Mysore

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Nagappa, Hemesha Hebbandi and K.T., Santhosh Kumar, "A study of Competencies and Attitude in use of ICT among Librarians of Govt. and Aided First Grade Colleges affiliated to University of Mysore" (2020).

*Library Philosophy and Practice (e-journal)*. 4592.

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# **A study of Competencies and Attitude in use of ICT among Librarians of Govt. and Aided**

## **First Grade Colleges affiliated to University of Mysore**

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### **Abstract**

This study aims at assessing the competencies and attitude in using Information and Communication Technology (ICT) among librarians working in Govt. and Govt. Aided First Grade Colleges (Affiliated to University of Mysore) of Mysore region in Karnataka. The study emphasizing on exploring the competency level in using ICT based applications, library automation and digital library software, use of e-resources, difficulties faced among the responding librarians and also knowing attitude towards using ICT. The results of the study shows that majority of librarians have good competency level in using basic ICT & e-resources and also felt the need for further training in improving the use of ICT applications to render better library services to their users. Lack of sufficient budget for ICT implementation in the libraries is also a major concern in acquiring ICT skills among librarians. In spite of some difficulties, majority of respondents have shown positive attitude towards using ICT and its applications in library services.

**Keywords:** Information and Communication Technology (ICT), ICT Competency, Attitude towards ICT, Use of e-resources, Information literacy, Computer literacy

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## **1. Introduction**

Information and Communication Technology (ICT) refers to technology that provides access to information through telecommunications. It is similar to Information Technology (IT), but focuses primarily on communication technologies. This includes the Internet, wireless networks, cell phones, and other communication mediums. Use of ICT is very vast in recent time and library and information science and librarians are not exceptional to it. In order to provide quality and instant information to users, the library and information centers should be accommodated with adequate ICT infrastructure and well trained librarians, otherwise libraries couldn't able to deliver the required information to the users. Librarians need to cope up with current ICT and its applications to deliver information services to the users who are looking for getting instant information. To satisfy the user's instant information needs, librarians ought to acquire and become competent in use and application of various ICT tools and techniques in the libraries. Hence, the present study is undertaken to examine the level of competence and attitude of librarians of Govt. and Govt. Aided First Grade Colleges (Affiliated to University of Mysore) in the Mysore region of Department of Collegiate Education, Karnataka.<sup>1</sup>

## **2. Review of literature**

Extensive review of literature has been undertaken to explore previous studies on the present study which helps the investigator to understand the way the studies are being conducted by different researchers in the past and the derived results of their investigations helps to plan and

conduct the present study in the right direction. The following are the previous studies so far selected for reviewing purpose.

## **2.1 Studies on ICT Competencies, Information literacy skills and Use of e-resources.**

The study conducted by **Thanuskodi (2019)**<sup>2</sup> on Information literacy skills among library and information science professionals in India reported that majority of librarians are aware of the concept and value of information literacy education for students in Indian academic institutions. They strongly felt that they are capable of handling information literacy activities and found essential to make information literacy programme a regular activity in the higher learning and research institutions. Library professionals are acquainting with the technological gadgets and showing interest in guiding the users in the process of information search and access. A study on Perception of semi-professionals in using ICT in Manipal academy of higher education libraries conducted by **Ashish Rao et al., (2018)**<sup>3</sup> exhibits that EasyLib-the library automation software, and Electronic Public Access Catalogue (EPAC) had most impact on the role of semi-professionals (84.2 %) in providing ICT enabled services to the users. More than thirty percent (31.5 %) of the semi professionals were of the opinion that ICT has considerably changed their duties and responsibilities. Semi-professionals are also of the opinion that they are now in a position to provide faster, more accurate and up-to-date information services to the users in their libraries. The findings of the study support a need to implement the appropriate technologies in the libraries as they support the semi-professionals in their library housekeeping activities as well as in providing effective library services to the users. Regarding the use of electronic information resources, a study conducted by **Kumar & Singh (2018)**<sup>4</sup> has shown good awareness and acquaintance by the majority of respondents which is a healthy sign towards seeking of information utilizing e-resources. Further, the study reveals that majority of faculty members seeks information for their study/personal assignment and research scholars use it primarily for their research work.

**Bansode & Viswe (2017)**<sup>5</sup> in their study on ICT literacy level of library professionals working in university libraries in Maharashtra found satisfactory as majority of library professionals have acquired the basic ICT literacy skills which is required to handle day to day library operations. Nevertheless, few library professionals felt the need for enhancing their literacy level in the area of open source library automation software, digital library software and institutional repository software etc. further, the study suggested that the university libraries should organise in-house training and orientation programs on ICT-based resources and services and depute their library professionals to attend the training and orientation programs on regular intervals to update the ICT Literacy level of library professionals. The non availability of desired electronic resources is another reason that leads to decline in the use of e-resources and it is found from the study by **Amusa & Atinmo (2016)**<sup>6</sup> on use of electronic resources on law among the law lecturers as majority of them reported non-use of the resources due to non-availability of desired electronic resources. Absence of adequate training in using electronic resources, paucity of work stations to access electronic resources within the universities, and low level of local contents are other significant reasons to low level use of e-resources. As such the study recommends regular subscriptions to electronic resources and provisions for basic information literacy skills with emphasis on how to access, retrieve, download and print electronic resources for the law lecturers.

**Seena & Sudhier Pillaiw(2014)**<sup>7</sup> obtained the results from their study which revealed that respondents have relatively average level skills in various ICT related tasks in libraries. Libsys software was more used in libraries. The study indicates that inadequate training in ICT applications is the main constraint faced by respondents and all respondents have positive attitude towards the application of ICT in libraries. The similar study conducted by **Thanuskodi**

(2013)<sup>8</sup> on ICT Literacy among Library Professionals in the Engineering College Libraries of Tamil Nadu and the study identified that 95.12 percent of professionals have knowledge in computer fundamentals followed by 81.07 percent in Internet and 29.26 percent of professionals have knowledge in computer programming. The study is of the opinion that there is a need for deputing and encouraging library professionals to attend seminars, workshops, conferences, training programmes on library management software, IT tools and search techniques etc. **Haneefa & Shukkoor (2010)**<sup>9</sup> observed from their study that professional assistants are more ICT literates than the Junior Librarians and Assistant Librarians. The use of digital library and institutional repository software is very low among the library professionals. Majority of the professionals had confidence in routine ICT and Internet tasks but they need training in the fields like library automation, digital library and institutional repository software.

In contrast to the results of above studies, **Liman et al., (2018)**<sup>10</sup> in their study observed that academic librarians from developing countries, especially in Africa, are still lagging behind Internet skills and competencies to provide effective information services in the library. The study on Digital Literacy Competencies among the library and information professionals of Bangladesh by **Siddike (2010)**<sup>11</sup> revealed that 45% of information professionals of Bangladesh have average ability in using computers and digital content. It is observed from the study that 72.5% of respondents have shown lower ability to use proximity searching. The similar study by **Ademodi (2009)**<sup>12</sup> observed that one third of Librarians in Academic Libraries in Ondo and Ekiti States, Nigeria have received formal computer training and as a result very few librarians have the necessary computer skills. More than half of the librarians in both the states are not so competent in using Microsoft Word and very few can work on other programs.

## **2.2 Studies on attitudes of the librarians and faculties towards the use of ICT and e-resources.**

It is reported from the study conducted by **Baskaran and Ramesh (2019)**<sup>13</sup> on Observation and Impact of the faculty attitude for disseminating Electronic information in the Engineering and Technology institutions, which revealed that majority of the respondents (50.6%) are “highly satisfied” with e-resources offering lecturing materials, followed by 49.4% of respondents “satisfied” with electronic lecturing materials. The study also reveals that 78.1% of faculty members are “highly satisfied” with Google search engine and 64.8% of the respondents “Agree” that e-resources are helping them to keep abreast of knowledge. It is obtained from the study done by **Eguavoen (2011)**<sup>14</sup> is that Staff members of Kenneth Dike Library have a positive attitude towards using ICT and it is recommended that staff of libraries be trained to allay the fears and anxiety about the use and application of ICT in their respective libraries. A similar study by **Adekunle et al., (2007)**<sup>15</sup> carried on Attitudes of Librarians in Selected Nigerian Universities toward the Use of ICT and the study exhibits that librarians have a positive attitude toward the use and implementation of ICT in their libraries. The reasons may include an understanding of the benefits of ICT. The respondents reacted favorably to the advantages of ICT, rather than to any perceived negatives. The results reveal further that librarian training and knowledge of ICT influence their attitudes toward it.

## **3. Objectives of the study**

- To assess the level of competency and skills acquired/possessed in using the ICT by the librarians working in Govt. and Aided First Grade Colleges of Mysore region.
- To know the attitude of librarians towards using ICT and its applications in library and information services.
- To find the constraints in acquiring ICT competency & skills by library professionals under study.

#### 4. Methodology

Survey method has been adopted for the present study and in this regard, a structured questionnaire is designed based on the objectives of the study and used for primary data collection consisting of 15 unique questions of both optional type and statements. Questionnaires have been circulated via mail and also through Google form to collect the primary data from the respondents. The study covered all 72 working Librarians of Govt. and Aided First Grade Colleges of(Affiliated to University of Mysore) Mysore Region. The region consists of 79 (47 Govt. & 32 Aided) Govt. and Aided First grade colleges spreading over Mysore, Mandya, Chamarajanagar and Hassan districts. The data so collected has been tabulated and analysed with interpretation and also given some constructive recommendations.

#### 5. Analysis

##### 5.1. Gender and Age-wise distribution of respondents

N=72	
Gender	No. of respondents
Male	46 (64%)
Female	26 (36%)
Age in years	No. of respondents
31-40	38 (53%)
41-50	26 (36%)
>50	8 (11%)

Table-1: Gender and Age-wise distribution of respondents

It is evident from the above table that, out of 72 librarians, 46(64%) of them were male and 26(36%) female library professionals working in the colleges of Mysore region. It also represents that majority(38) of library professionals age lies between 31-40 years (53%), followed by 26(36%) between 41-50 years and only 8(11%) respondents having more than 50 years of age. The analysis of the table clearly shows that more number of male librarians (64%) are working in the colleges of said region and it is observed that more than 50% of colleges having young librarians in their libraries.

##### 5.2. Basic and Professional Qualification and Professional Experience of respondents

N=72	
Basic Qualification	No. of respondents
B.A.	39 (54.16%)
B.Com.	21 (29.16%)
B.Sc.	12 (16.66%)
Professional Qualification	No. of respondents
M.L.I.Sc.	30 (41.67%)
M.Phil. ) (with M.L.I.Sc. as basic Master degree)	34 (47.22%)
Ph.D. (with M.L.I.Sc. as basic Master degree)	8 (11.11%)
Professional Experience	No. of respondents
5 to 10	44 (61.11%)
11 to 20	20 (27.78%)
>20	8 (11.11%)

Table-2: Basic and Professional Qualification of respondents

Regarding the qualification is concerned it can be observed that 39(54.16%) of librarians are from social science background with the basic degree of BA. 21(29.16%) respondents are from commerce background by having B.Com as basic degree and remaining 12(16.66%) respondents are from Science background with the basic degree of B.Sc. The table also indicates that 30 (41.67%) respondents obtained M.L.I.Sc. as minimum qualification for the librarian post in First Grade Colleges and 34 (47.22%) respondents have Master of Philosophy (M.Phil.) with M.L.I.Sc.as basic master degree and only 8 (11.11%) respondents have Doctor of Philosophy (Ph.D.) with M.L.I.Sc. as basic master degree in Library and Information Science. Regarding professional experience, the study reveals that 61.11% of them have 5-10 years of experience and 27.78% having 11-20 years followed by 11.11% of Librarians have more than 20 years of experience. In total, it can be observed that majority of respondents are from social science background and most of them had Master of M.Phil degree in Library and Information Science and also majority of them are young librarians with less than 10 years of experience.

### 5.3.Efficiency in using ICT based applications

Technology	Excellent	Good	Fair	Poor	N (Total responses)	$\bar{X}$ (Weighted Mean Value)
Operating system windows	9	63	0	0	72	<b>2.13</b>
Operating system Linux	0	27	18	10	55	<b>1.13</b>
MS Office Package	7	65	0	0	72	<b>2.10</b>
Photoshop	0	12	30	15	57	<b>0.68</b>
Web page Design	0	9	26	21	56	<b>0.41</b>
Create Matadata/tag	0	17	28	11	56	<b>0.91</b>
Installation and customization of software	1	38	22	1	62	<b>1.61</b>
Library Automation Software	17	36	19	0	72	<b>1.97</b>
Database Management System	1	39	18	1	59	<b>1.66</b>
RFID Technology	0	7	43	7	57	<b>0.88</b>
Barcode Technology	2	58	8	1	69	<b>1.87</b>
Maintenance & Configuration of Networks (LAN etc.,)	0	43	18	1	62	<b>1.66</b>

Note: **Weighted Mean value:** 2.51-3.5 = Excellent, 1.51 to 2.5 = Good, 0.51 to 1.5 = Fair and -0.5 to 0.5 = poor

Table-3: Efficiency in using ICT based applications

The analysis of the table-3 shows that, the 63 respondents have good efficiency in using operating system ‘windows’ and 65 librarians rated themselves as “good” in using MS office package with the weighted averages of 2.13 and 2.10 ( $\cong$  to 2.5) respectively. Analysis also exhibits respondents have fair knowledge in using Photoshop and RFID Technology, whereas poor in using webpage design with the weighted average of  $0.41 \cong 0.5$ . Based on the above results, it is suggested that librarians needs to improve their efficiency in ICT based applications like Web page Design, Photoshop and RFID Technology.

#### 5.4. Competency in using Library Automation Software

Library Automation Softwares	Excellent	Good	Fair	Poor	N (Total responses)	$\bar{X}$ (Weighted Mean Value)
E-GRANTHALAYA	14	32	16	10	72	<b>1.56</b>
LIBSYS	3	16	17	23	59	<b>0.59</b>
SOUL	2	11	18	25	56	<b>0.38</b>
KOHA	1	12	22	25	60	<b>0.40</b>
NEWGENLIB	4	13	17	28	62	<b>0.44</b>
EVERGREEN	0	8	18	25	51	<b>0.18</b>
EASYLIB	7	18	11	18	54	<b>0.93</b>
LIBSOFT	4	12	15	27	58	<b>0.41</b>

Note: **Weighted Mean value:** 2.51-3.5 = Excellent, 1.51 to 2.5 = Good, 0.51 to 1.5 = Fair and -0.5 to 0.5 = poor

Table-4: Competency in using Library Automation Software

The table-4 reveals the competence level of librarians in using library automation software. It shows that 14 librarians are excellent in using e-granthalaya followed by 32 having good knowledge, 16 respondents expressed that having fair knowledge and 10 librarians opinioned that they have poor in using e-granthalaya software with a weighted average of  $1.56 \cong 2$ . Looking at the overall data, one can observe that except e-granthalaya, in all the other library software, majority of the librarians have either fair competency or no (poor) competency (Weighted mean value in between 0.18 to 0.93). Having competent with e-granthalaya is mainly because it is available free of cost by National Informatics Centre (Govt.) and department also insist to use this software for library automation in govt. and aided institutions.

#### 5.5. Competency in using Digital Library Software

Digital Library Software	Excellent	Good	Fair	Poor	N (Total responses)	$\bar{X}$ (Weighted Mean Value)
D-Space	1	21	36	12	70	0.99
Greenstone	0	9	48	10	67	0.84
E-Print	0	9	34	18	61	0.56

Note: **Weighted Mean value:** 2.51-3.5 = Excellent, 1.51 to 2.5 = Good, 0.51 to 1.5 = Fair and -0.5 to 0.5 = poor

Table-5: Competency in using Digital Library Software

The result of the above table found that majority of respondents have fair competency in using Digital Library Softwares with the mean values between 0.56 to 0.99 ( $\cong 1.5$ ). The table clearly indicates that respondents have only little exposure to Digital Library Softwares. Hence, they needed hands on training on Digital Library Softwares for implementing digital libraries effectively.

### 5.6. Competency in using Electronic Resources

Electronic Resources	Excellent	Good	Fair	Poor	N (Total responses)	$\bar{X}$ (Weighted Mean Value)
Use of OPAC/Web OPAC	11	46	4	0	61	2.11
Library Website	13	22	23	4	62	1.65
E-Books	9	58	5	0	72	2.06
E-Journals	15	52	5	0	72	2.14
Databases	9	37	14	1	61	1.87
E-Theses & Dissertation	9	32	18	1	60	1.80
Digital Archives/ Subject Gateways	3	30	22	5	60	1.43
Open Access Journals	22	38	6	1	67	2.19
Library Networks	10	40	10	1	61	1.95
Library Consortia	9	38	15	1	63	1.86

*Note: Weighted Mean value: 2.51-3.5 = Excellent, 1.51 to 2.5 = Good, 0.51 to 1.5 = Fair and -0.5 to 0.5 = poor*

*Table-6: Competency in using Electronic Resources*

In respect of level of competency in using electronic resources, the data indicates that majority of librarians have possessed good competency particularly in the use of e-books (58), e-journals (52), OPAC/Web OPAC(46), library networks (40), open access journals(38), library consortia (38) and databases (37). Looking at the overall data the weighted average of majority of e-resources is between 1.51 to 2.5. The results of the table revealed that the majority of respondents have good competency in accessing and using electronic resources.

### 5.7. Skill in providing ICT based library and information services

Library and Information services	Excellent	Good	Fair	Poor	N (Total responses)	$\bar{X}$ (Weighted Mean Value)
Information Retrieval (Accessing, Searching and Use of e-documents)	25	43	0	0	68	2.37
Electronic Document Delivery System	6	38	14	0	58	1.86
Online Indexing & Abstracting services	0	39	12	7	58	1.43
Digital reference service	0	37	17	7	61	1.38
Inter library loan (through networking)	0	28	13	15	56	0.96
Online bibliographic services	0	34	7	15	56	1.07
Development of Institutional Repository	0	20	18	19	57	0.68
Current Awareness Services (CAS)	0	40	9	8	57	1.42

Selective Dissemination of Information (SDI) Services	0	31	16	13	60	1.08
Circulation of new arrivals list	13	35	6	7	61	1.77

*Note: Weighted Mean value: 2.51-3.5 = Excellent, 1.51 to 2.5 = Good, 0.51 to 1.5 = Fair and -0.5 to 0.5 = poor*

*Table-7: Skill in using ICT based library and information services*

With regards to assessing skills in providing ICT based library and information services among respondents, the table evident that 25 respondents are having excellent skills in providing information retrieval services (Accessing, searching and use of e-documents) and 43 respondents are good in providing information retrieval services to the users with the highest weighted average of  $2.37 \cong 2.5$  in the table. Further, respondents having good skills in Online Indexing & Abstracting services (1.86) followed by circulation of new arrivals list with the weighted average 1.77. The table also exhibits that respondents are having fair skills in offering ICT based library and information services like Online Indexing & Abstracting services, Selective Dissemination of Information (SDI) Services, Inter library loan (through networking), Development of Institutional Repository etc., with the weighted mean between 0.51 to 1.5. It is found from the table majority of respondents having fair skills in providing ICT based library and information services. Therefore, librarians are needed to be get more competency in providing ICT based library and information services effectively to the users.

### *5.8. Attitude towards use of ICT among library professionals*

Attitude	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	N (Total responses)	$\bar{X}$ (Weighted Mean Value)
ICT facilitates quick access to current data	9	51	6	6	0	72	3.88
It improves quality of library services	28	32	6	6	0	72	4.14
It helps to enhance knowledge and skills of library professionals	22	38	6	6	0	72	4.06
It reduces workload of library professional	24	33	9	6	0	72	4.04
It increases job satisfaction	16	29	21	6	0	72	3.76
ICT disturbs routine work of the library	25	13	18	14	2	72	3.63
It affects regular budgeting provision	6	23	13	30	0	72	3.07
Difficult to cope with all the ICT jargon	0	14	36	21	1	72	2.88
Not able to update the technology of ICT in time	1	7	31	33	0	72	2.67
Working with ICT makes me feel tense and uncomfortable	0	7	39	23	3	72	2.69

*Note: Weighted Mean value: 4:21 to 5:00 = Strongly Agree, 3:41 to 4:20 = Agree, 2.61 to 3.40 = Uncertain, 1.81 to 2.60 = Disagree and 1 to 1.80 Strongly Disagree*

*Table-8: Attitude towards use of ICT among library professionals*

The breakup analysis of data regarding the attitude towards use of ICT indicates that 28 respondents have strongly agreed upon the quality improvement in library services and 32 respondents just agreed the statement with the weighted average of 4.14  $\cong$  4.20. Similarly, majority of the respondents have agreed that the ICT facilitates quick access to current data (3.88), helps in enhancing knowledge and skills(4.06), and reduces workload (4.04) of them. In spite of their agreement on various matters, majority of them also have strong agreement on the statement that it disturbs routine work of the library (WA 3.63  $\cong$  4:20). 36 and 39 respondents were unable to express their opinion on difficulty to cope with all the ICT jargon (2.88), and on working with ICT makes them feeling tense and uncomfortable (2.69) respectively.

### **5.9. Constraints in acquiring ICT skills**

(N=72)		
Problems	Respondents	%
Inadequate training in ICT Applications	45	62.50
Lack of infrastructure & network facility	49	68.06
Lack of support from authorities for implementing ICT applications in library	39	54.17
Lack of budget for ICT	55	76.39
Lack of co-ordination among library staff	31	43.06
Non availability of consultation services	37	51.39
Lack of updating ICT strategy	32	44.44
Fear of ICT application	24	33.33
Lack of interest in learning ICT applications	34	47.22
Overload of working hours	35	48.61

*Table-9: Constraints in acquiring ICT skills*

Asking upon indicating the constraints in acquiring the ICT skills, most of the respondents (76.39%) are facing lack of adequate budget for ICT followed by lack of infrastructure & network facility (68.06%), and Inadequate training in ICT applications (62.50%). Further, little more than half (54.17%) of the respondents expressed the lack of support from authorities for implementing ICT applications in their libraries followed by 51.39% of respondents felt that non availability of consultation services and 48.61% respondents opined that overload of working hours in government and aided institutions in that region.

## **6. Major finding of the study**

The analysis of the study yields following findings.

- a) Librarians of govt. and aided colleges of Mysore region have good efficiency in using Windows operating system and MS office but they have shown poor efficiency in webpage designing.
- b) Respondents have good competency in using e-granthalaya software compare to other automation software.
- c) The study reveals that respondents have only little exposure to Digital Library Software.
- d) The majority of respondents have good competency in accessing and using electronic resources.

- e) Majority of respondents have fair skills in providing ICT based library and information services like Online Indexing & Abstracting services and Digital reference service etc.,
- f) The study found that librarians of this region have positive attitude on ICT usage in library activities.
- g) The analysis of the study shows that lack of budget for ICT and lack of infrastructure & network facility are the major constraints faced by the library professionals in the Mysore region Govt. and Aided first grade colleges.

## 7. Suggestions

Based on above analysis, we have found some useful suggestions for effective use of ICT in libraries.

- The provision for adequate financial assistance by the institution or authorities to develop ICT infrastructure in their library to ensure library professionals to utilize the technology in library activities.
- The need for constant training on wide areas of ICT and its application in Library automation and networking, Digital library, and Information retrieval etc.,
- Authorities should encourage and motivate librarians to adopt ICT in library services thereby extending moral support for librarians to go for implementing better services in the library.
- Institutions should encourage by deputing librarians to attend seminars, conferences and workshops and other professional development programs of interest as it helps them to update their knowledge with the current development.
- Keeping in mind the strength of the users and workload of the existing librarians, authorities should provide additional staff or supporting staff for library. This is because most of the libraries run by single librarian in the study region.

## 8. Conclusion

ICT facilities and its applications in the libraries make users to get instant information from variety of information resources and services and made librarians to update on par with the latest developments in its library applications. In spite of having positive attitude and good competencies towards using ICT resources, the lack of knowledge in using digital library software and library automation software except e-granthalaya may one or the other way hinder the progress of libraries. Hence, the authorities should reconsider the practical problems to resolve that are prevailing in the effective application and constructive use of information and communication technology in providing information services in a meaningful way. It can be done through appointing well-qualified librarians, deputing them to various training programs and extending the required facilities are some of the measures to be taken by the authorities in order to offer better and quality library service to the users.

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