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ICT LITERACY AMONG LIBRARY PROFESSIONALS OF PROFESSIONAL COLLEGES IN SOUTHERN KARNATAKA: A SURVEY

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Abstract : The ICT is one of the important buzzword of today's` world. It has changed the society into Information Society and our way of life. The ICT includes computers and communication technology for processing, storage and its retrieval of Information effectively. With the help of ICT the library professionals can introduce new resources and services to the target users. The study mainly focused on the types of ICT skills possessed, awareness of Internet, familiarity with various web browsers, awareness about ICT based library services, level of awareness towards technological skills, level of awareness towards ICT based applications, frequency of use of web services, areas of training needs for library professionals and constraints faced by library professionals to acquire ICT. For this purpose the researchers prepared a well-structured questionnaire as a tool for data collection and the collected questionnaire has been analyzed and presented. The outcome and suggestions of the study would be beneficial to take appropriate measures to improve ICT Literacy among Library Professionals.

Keywords: Information and Communication Technology, ICT Literacy, Library Professionals, Professional Colleges.

1.0 Introduction

ICT played a significant role in shaping today's world. It has really been a boon to mankind. It broke the barriers between nations and has brought them closer. With the easy dissemination of knowledge through ICT, now people can work and collaborate much easier and faster than ever before. Information explosion had created a huge challenge to the libraries. But with tools which ICT provides, it is now very easy to work with this despite its huge volume. With ICT it is possible to give each and every individual equitable access to information a lot easier, quicker and in efficient way. A true democratic sense of information dissemination can be achieved with this technology. Not only does it deal with information exchange but information manipulation, calculation and such. The ICT means the use of computers, Internet, and telecommunications used for the effective information exchange. Librarians are the most important factor in this whole exercise. It is librarians who need to adapt to these changing trends and acquire new knowledge on how ICT can be best utilized to make libraries better. Hence it becomes extremely important not just for formal education field but also for the informal education sector too to take notice if this opportunity. In this light, this study tries to access the present scenario of ICT usage libraries today. The present study is to find out the current ICT literacy level among library professionals in professional college set up as to where they are succeeding and where they are lacking. It seeks to determine how professional college libraries are coping up with the information explosion with the help of ICT. The study will be useful to the librarians and its managers to identify their level of literacy by knowing the current scenario of professional colleges. The present study confined its scope to professional colleges in Southern Karnataka. The districts covered under Southern Karnataka are, Mysore, Hassan, Chamarajnagar, Kodagu, Kolar, Chikkaballapura, Ramanagara, Mandya, Bangalore

and Tumkuru. The professional colleges under the study belong to disciplines of Engineering, Law, Education, and Medical Sciences.

2.0 Objectives of the Study

The main objectives of the study are:

1. To identify the types of ICT skills possessed by the library professionals in professional college libraries.
2. To assess the level of awareness towards ICT based applications and frequency of use of Web tools/ service.
3. To assess the use of ICT based resources and services by the library professionals of professional colleges.
4. To identify the training requirements for the library professionals in ICT based resources, services, and tools.
5. To identify the constraints in acquiring ICT skills by the library professionals.

3.0 Methodology

The questionnaire method was used for the present study to collect the necessary data, keeping in view the objectives of the study. The present study was conducted on a sample of 982 library professionals from 417 professional colleges. A total of 982 questionnaires were distributed among library professionals and 814 filled in questionnaires were received. The rate of response of 82.89%. The highest number of questionnaires have been received from Engineering college library professionals amounting 403 (49.50%), followed by Education College library professionals amounting 201 (24.69%), Medical college library professionals amounting 157 (19.28%) and Law College library professionals amounting 58 (07.12%). In addition to questionnaire method, interview schedule and observation method were also used to collect required information as a supplement to the questionnaire method to bring more clarity to the data which are essential and use for analysis and interpretation of data.

4.0 Analysis and Interpretation of Data

The data was collected by different methods were analyzed and interpreted and same presented in the following tables.

4.1 Gender Wise Distribution: The gender wise distribution of the professional colleges library staffs under the study has been shown in Table-1. The Table-1 shows that of the 814 total professional college library staffs, 483 (59.33%) are 'Male' and the remaining 331 (40.66%) are 'Female'.

Table-1: Gender Wise Distribution.

Gender	Engineering (N=403)	Education (N=201)	Medical (N=152)	Law (N=58)	Total (N=814)
Male	227 (56.32)	119 (59.20)	98 (64.47)	39 (67.24)	483 (59.33)
Female	176 (43.67)	82 (40.79)	54 (35.52)	19 (32.75)	331 (40.66)

The Table-1 also depicts in Engineering Colleges 227 (56.32%) of library staffs are 'Male' and 176 (43.67%) are 'Female', followed by Education College library staffs with 119 (59.20%) are 'Male' and 82 (40.79%) are 'Female'. In Medical College library staffs 98 (64.47%) are 'Male' and 54 (35.52%) are 'Female'. In Law Colleges there are 39 (67.24%) are 'Male' and 19 (32.75%) are 'Female'.

4.2 Designation Wise Distribution: The data gathered regarding the designation of the professional colleges library staff has been summarized in Table-2. The Table-2 depicts that a very high number of library staffs 412 (50.61%) are 'Librarians', followed by 280 (34.40%) 'Assistant Librarians', 89 (10.93%) 'Library Assistant' and 33 (04.05%) are 'Chief Librarian'.

Table-2: Designation Wise Distribution

Designation	Engineering (N=403)	Education (N=201)	Medical (N=152)	Law (N=58)	Total (N=814)
Librarian	119 (29.53)	182 (90.55)	62 (40.79)	49 (84.48)	412 (50.61)
Assistant Librarian	205 (50.87)	12 (05.97)	58 (38.16)	05 (08.62)	280 (34.40)
Library Assistant	61 (15.14)	07 (03.48)	17 (11.18)	04 (06.90)	89 (10.93)
Chief Librarian	18 (04.47)	00 (00.00)	15 (09.87)	00 (00.00)	33 (04.05)

The Table-2 also depicts that the large number of library staff in Engineering Colleges amounting 205 (50.87%) are 'Assistant Librarians', followed by 182 (90.55%) are 'Librarians' in Educational Colleges, 62 (40.79%) are 'Librarians' in Medical Colleges and 49 (84.48%) are 'Librarians' in Law Colleges in Southern Karnataka.

5.0 Use of Internet

The awareness and use of Internet by the professional college library staffs has been summarized in Table-3. The Table-3 depicts that 754 (92.63%) of library staffs access to Internet to meet their information needs and 60 (07.37%) library staffs do not access to Internet.

Table-3: Use of Internet

Use of Internet	Engineering (N=403)	Education (N=201)	Medical (N=152)	Law (N=58)	Total (N=814)
Yes	389 (96.53)	179 (89.05)	144 (94.74)	42 (72.41)	754 (92.63)
No	14 (03.47)	22 (10.95)	08 (05.26)	16 (27.59)	60 (07.37)

The Table-3 also depicts that 389 (96.53%) of library Staffs of Engineering Colleges access to Internet and 14 (03.47%) do not access. In case of Education College library staffs 179 (89.05%) are accessing the Internet and 22 (10.95%) do not access. In Medical College Library Staffs 144 (94.74%) are accessing the Internet and 08 (05.26%) do not access the Internet. In Law Colleges library staffs 42 (72.41%) access the Internet and 16 (27.59%) do not access.

6.0 Awareness and Preference about Web Browser:

The awareness and preference of web browsers used by the library professionals for accessing web resources and services has been summarized in the form of Table-4.

Table-4: Awareness and Preference about Web Browser

Browser	Engineering (N=403)	Education (N=201)	Medical (N=152)	Law (N=58)	Total (N=814)
Google Chrome	399 (99.01)	182 (90.55)	141 (92.76)	51 (87.93)	773 (94.96)
Internet Explorer	381 (94.54)	186 (92.54)	132 (86.84)	44 (75.86)	743 (91.28)
Mozilla Firefox	322 (79.90)	84 (41.79)	112 (73.68)	23 (39.66)	541 (66.46)
Opera	91 (22.58)	08 (03.98)	12 (07.89)	04 (06.90)	115 (14.13)

Others like Safari, Microsoft Edge, Maxthon etc.	23 (05.71)	05 (02.49)	08 (05.26)	02 (03.45)	38 (04.67)
Note: Figures in parentheses indicate percentage and because of multiple choice options the percentage is exceeded to more than 100%.					

The Table-4 depicts that 773 (94.96%) of library professionals are aware and prefer 'Google Chrome' web browser for browsing web resources, followed by 743 (91.28%) 'Internet Explorer', 541 (66.46%) 'Mozilla Firefox', 115 (14.13%) 'Opera' and 38(04.67%) library professionals are aware and prefer other browsers like Safari, Microsoft Edge, Maxthon etc.

The Table-4 also depicts that 399 (99.01%) of Engineering College library professionals are aware and prefer 'Google Chrome', followed by 186 (92.54%) of Education College library professionals prefer 'Internet Explorer', 141 (92.76%) of Medical College library professionals prefer 'Google Chrome' and 51 (87.93%) of Law College library professionals prefer 'Google Chrome' web browser.

7.0 Awareness about ICT Based Library Services

ICT plays a vital role in libraries. The main purpose of ICT application is to provide better services and facilities to the users. So the awareness about ICT based library services among professional college library professionals has been summarized in Table-5.

Table-5: Awareness about ICT Based Library Services

Awareness of various types of library services	Engineering (N=403)	Education (N=201)	Medical (N=152)	Law (N=58)	Total (N=814)
Access to full text databases (e- books, e-journals, etc.) Service	389 (96.53)	102 (50.75)	42 (27.63)	46 (79.31)	579 (71.13)
OPAC	341 (84.62)	58 (28.86)	39 (25.66)	32 (55.17)	470 (57.74)
CAS/ SDI Services/ Online Reference Service	343 (85.11)	81 (40.30)	53 (34.87)	41 (70.69)	518 (63.64)
Scanning of documents and forwarding	361 (89.58)	135 (67.16)	61 (40.13)	38 (65.52)	595 (73.10)
Circulation of books in automated environment	322 (79.90)	28 (13.93)	32 (21.05)	32 (55.17)	414 (50.86)
E-Mail alert Service	331 (82.13)	51 (25.37)	55 (36.18)	31 (53.45)	468 (57.49)
Library website, Blogs, etc.	115 (28.54)	13 (06.47)	25 (16.45)	19 (32.76)	172 (21.13)
Other Services	16 (03.97)	02 (01.00)	01 (00.66)	02 (03.45)	21 (02.58)
Note: Figures in parentheses indicate percentage and because of multiple choice options the percentage is exceeded to more than 100%.					

The Table-5 depicts that 595 (71.10 %) of library professionals are aware of scanning of documents and forwarding, followed by 579 (71.13%) are aware of access full text databases (e- books, e- journals, etc.), 518 (63.64%) CAS/ SDI Services/ Online Reference Service, 470 (57.74%) OPAC, 468 (57.49%) e-mail alert Service, 414 (50.86%) circulation of books in automated environment, 172 (21.13%) library website, Blogs, etc and 21 (02.58%) library professionals are aware of other services like off campus access, ready reference services, literature search service etc.

The Table-5 also describes that 389 (96.53%) of Engineering College library professionals are aware of access to full text databases (e-books, e-journals, etc.) services, followed by 135 (67.16%) of Education and 61 (40.13%) of Medical College library professionals are aware of scanning of documents and forwarding service and 46 (79.31%) of Law College library professionals are aware of accessing full text databases (e- books, e- journals, etc.) service.

7.1 Level of Awareness Towards Technological Skills: The level of awareness towards following technological skills has been summarized in Table-6.

Table-6: Level of Awareness Towards Technological Skills

Level of Awareness	Response (N=814)			
	Excellent	Good	Moderate	Poor
Computer networking	369 (45.33)	217 (26.66)	189 (23.22)	39 (04.79)
Smart phones	571 (70.15)	173 (21.25)	59 (07.25)	11 (01.35)
Computers/laptops	433 (53.19)	201 (24.69)	154 (18.92)	26 (03.19)
Internet (leased line , Dial-Up, Broadband)	542 (66.58)	139 (17.08)	84 (10.32)	49 (06.02)
LCD /Multimedia projector	264 (32.43)	223 (27.40)	159 (19.53)	168 (20.64)
Webcam	157 (19.29)	214 (26.29)	89 (10.93)	354 (43.49)
Printers	367 (45.09)	201 (24.69)	175 (21.50)	71 (08.72)
Image scanner	254 (31.20)	158 (19.41)	169 (20.76)	233 (28.62)
External Storage Medium s like, Flash Drive, Pen Drive, Hard disc	389 (47.79)	167 (20.52)	201 (24.69)	57 (07.00)
E- Book reader (Kindle, Pocket Book)	113 (13.88)	102 (12.53)	211 (25.92)	388 (47.67)
Barcode scanner	345 (42.38)	171 (21.01)	166 (20.39)	132 (16.22)
Note: Figures in parentheses indicate percentage and because of multiple choice options the percentage is exceeded to more than 100%.				

The Table-6 depicts that 369 (45.33%) of library professionals are aware to excellent level in using computer networking, followed by 571 (70.15%) of library professionals are aware to an excellent level towards using smart phones, 433 (53.19%) of library professionals are aware to an excellent level towards computers/laptops, 542 (66.58%) of library professionals are aware to an excellent level towards Internet (leased line , Dial-Up, Broadband), 264 (32.43%) of library professionals are aware to excellent level towards LCD /Multimedia projector, 214 (26.29%) of library professionals is showing their good level of awareness towards Webcam, 367 (45.09%) of library professionals have excellent level of awareness towards printers, 254 (31.20%) of library professionals shows excellent level of awareness towards Image scanner, 389 (47.79%) of library professionals shows excellent level of awareness towards external storage medium like memory stick, flash drive, pen drive, 211 (25.92%) of library professionals shows their moderate level of awareness towards e- book reader (Kindle, Pocket Book) and 345 (42.38%) of library professionals have a excellent level of awareness towards barcode scanner.

7.2 Level of Awareness Towards ICT Based Applications

In order to evaluate the skills in using various ICT based application and services in general, the library professionals were asked to specify their awareness about ICT application and services. The level of awareness towards ICT based applications has been summarized in Table-7.

Table-7: Level of Awareness Towards ICT Based Applications

Applications/Services	Excellent	Good	Moderate	Poor
Application Software	441 (54.18)	302 (37.10)	63 (07.74)	08 (00.98)
Web page design	147 (18.06)	202 (24.82)	134 (16.46)	331 (40.66)
Create metadata /tag	136 (16.71)	108 (13.27)	67 (08.23)	503 (61.79)

Installation and customization of software	211 (25.92)	278 (34.15)	104 (12.78)	221 (27.15)
System Administration & Maintenance	225 (27.64)	131 (16.09)	246 (30.22)	212 (26.04)
Programming Languages (C, C++, Java, etc.)	43 (05.28)	66 (08.11)	217 (26.66)	488 (59.95)
Development of institutional repository Dspace, Eprint, etc.	96 (11.79)	148 (18.18)	211 (25.92)	359 (44.10)
DBMS (My SQL, Oracle, etc.)	46 (05.65)	162 (19.90)	72 (08.85)	534 (65.60)
Note: Figures in parentheses indicate percentage and because of multiple choice options the percentage is exceeded to more than 100%.				

The Table-7 depicts that 441 (54.18%) of library professionals are aware to excellent level towards application software, 202 (24.82%) are good level of awareness of web page designing, 503 (61.79%) are poor level of awareness of creating Metadata/Tags, 278 (34.15%) are aware to good level with installation and customization of software, 246 (30.22%) are moderate level of awareness of system Administration & Maintenance, 488 (59.95%) are poor level of awareness of programming languages like C, C++, Java, etc., 359 (44.10%) of library professionals has poor level of awareness of development of institutional repository using Dspace, Eprint, etc and 534 (65.60%) library staff are poor level of awareness of handling DBMS Software like My SQL, Oracle, etc.

8.0 Frequency of Use of Web Services

The frequency of use of some of the important web based services by the library professionals are analyzed and the results are presented in the Table-8.

Table-8: Frequency of Use of Web Service

Web Services	Frequently	Moderately	Occasionally	Rarely
Blogging (e.g., Twitter, Weblogs)	156 (19.16)	322 (39.56)	174 (21.38)	162 (19.90)
Audio/video sharing/webcasting (e.g., Flicker, Skype, YouTube)	131 (16.09)	112 (13.76)	357 (43.86)	214 (26.29)
Email/instant messaging/Chat	456 (56.02)	149 (18.30)	165 (20.27)	44 (05.41)
Discussion groups (e.g, Google /Yahoo! Groups)	76 (09.34)	104 (12.78)	178 (21.87)	456 (56.02)
List serves (e.g., LIS FORUM, NMLIS, MLOSC)	261 (32.06)	206 (25.31)	149 (18.30)	198 (24.32)
RSS feeds	33 (04.05)	56 (06.88)	132 (16.22)	593 (72.85)
Wikis (eg. LISWiki)	56 (06.88)	69 (08.48)	127 (15.60)	562 (69.04)
Social book marking/aggregating (e.g., Delicious, FriendFeed)	114 (14.00)	136 (16.71)	171 (21.01)	393 (48.28)
Social networking (e.g., Facebook)	309 (37.96)	246 (30.22)	156 (19.16)	103 (12.65)
Content management systems (e.g. Drupal, Joomla.)	74 (09.09)	105 (12.90)	88 (10.81)	547 (67.20)
Note: Figures in parentheses indicate percentage and because of multiple choice options the percentage is exceeded to more than 100%.				

The Table-8 depicts that 322 (39.56%) of library professionals use Blogs, Twitters, Weblogs moderately, followed by 357 (43.86%) of library professionals use Audio/video sharing/webcasting like Flicker, Skype, YouTube occasionally, 456 (56.02%) of library professionals frequently use Email/instant messaging/Chat, 456 (56.02%) of

library professionals rarely use discussion groups like Google/Yahoo! Groups, 261 (32.06%) of library professionals frequently use list serves like LIS FORUM, NMLIS, MLOSC, 593 (72.85%) of library professionals rarely use RSS Feeds, 562 (69.04%) of library professionals rarely use Wikis, LIS Wiki etc., 393 (48.28%) of library professionals rarely use Social book marking/aggregating like Delicious, Friend Feed., 309 (337.96%) of library professionals frequently use Social networking sites like Facebook and 547 (67.20%) of library professionals rarely use content management systems like Drupal, Joomla etc.

9.0 Require Training Programs on ICT

Training in ICT based services and operations are very important, that enables the library professionals to services to their users. The opinion gathered from the Library professionals regarding the requirement of ICT based training programs has been summarized in Table-9.

Table-9: Require Training Programs on ICT

ICT Training Programs	Engineering (N=403)	Education (N=201)	Medical (N=152)	Law (N=58)	Total (N=814)
Required	259 (64.27)	181 (90.05)	88 (57.89)	47 (81.03)	575 (70.64)
Not required	144 (35.73)	20 (09.95)	64 (42.11)	11 (18.97)	239 (29.36)

The of Table-9 depicts that 575 (70.64%) of library professionals opine that they require ICT based training programs and 239 (29.36%) of library professionals opine they do not require ICT based training programs. The Table-9 also depicts that 259 (64.27%) of Engineering College library professionals require training on ICT and 144 (35.73%) do not require, followed by 181 (90.05%) of Education College library professionals opine as 'yes' and 20 (09.95%) opine as 'no', 88 (57.89%) of Medical College library professionals opine as 'yes' and 64 (42.11%) library professionals opine as 'no', 47 (81.03%) of Law College library professionals opine as 'yes' and 11(18.97%) opine as 'no', they do not require ICT based training programs.

9.1 Areas of Training Needs of Library Professionals: The opinion gathered from the Library professionals to know in which area they require ICT based training programs has been summarized in Table-10.

Table-10: Areas of Training Needs of Library Professionals

Areas of Training	Engineering (N=221)	Education (N=173)	Medical (N=102)	Law (N=41)	Total (N=537)
Digitization of documents-Institutional repositories	212 (95.93)	154 (89.02)	89 (87.25)	31 (75.61)	486 (90.50)
Subscription and access to online journals /Databases	206 (93.21)	159 (91.91)	67 (65.69)	36 (87.80)	468 (87.15)
Library management software	196 (88.69)	162 (93.64)	88 (86.27)	37 (90.24)	483 (89.94)
RFID and bar coding	215 (97.29)	156 (90.17)	93 (91.18)	33 (80.49)	497 (92.55)
Web 2.0, creation of website, Blogs	189 (85.52)	164 (94.80)	96 (94.12)	32 (78.05)	481 (89.57)
Basic hardware and networking	188 (85.07)	163 (94.22)	91 (89.22)	29 (70.73)	471 (87.71)
Internet browsing and accessing web information resources	65 (29.41)	107 (61.85)	32 (31.37)	39 (95.12)	243 (45.25)
Search techniques and strategies	88 (39.82)	39 (22.54)	46 (45.10)	33 (80.49)	206 (38.36)
Basic information technology concept like MS office, Editors etc	56 (25.34)	67 (38.73)	21 (20.59)	36 (87.80)	180 (33.52)

Note: Figures in parentheses indicate percentage and because of multiple choice options the percentage is exceeded to more than 100%.

The above Table-10 depicts that 497 (92.55%) of library professionals need training on RFID and barcoding, followed by 486 (90.50%) digitization of documents Institutional repositories, 483 (89.15%) library management software, 481 (89.57%) Web 2.0, creation of website, Blogs, 471 (87.71%) on basic hardware and networking, 468 (87.15%) subscription and access to online journals/Databases,243 (45.25%) Internet browsing and accessing web information resources, 206 (38.36%) Search techniques and strategies, 180 (33.52%) of library professional need training on basic information technology concept.

The Table-10 also depicts that 212 (95.93%) of Engineering College library professionals, require training on digitization of documents-Institutional repositories, followed by 164 (94.80%) of Education College librarians need training on Web 2.0, creation of website,
96 (94.12%) of Medical College library professionals need training on Web 2.0, creation of website, Blogs, 39 (95.12%) of Law College library professionals require training on Internet browsing and accessing web information resources.

9.0 Constraints Faced by Library Professionals to Acquire ICT

The library professionals' opinion relating to the constraints faced to acquire ICT application has been summarized in the form of Table-11.

Table-11: Constraints Faced by Library Professionals to Acquire ICT

Constraints	Engineering (N=403)	Education (N=201)	Medical (N=152)	Law (N=58)	Total (N=814)
Insufficient fund to acquire ICT	233 (57.82)	146 (72.64)	96 (63.16)	37 (63.79)	512 (62.90)
Inadequate ICT infrastructure	147 (36.48)	98 (48.76)	74 (48.68)	31 (53.45)	350 (43.00)
Inadequate training in ICT applications	121 (30.02)	91 (45.27)	78 (51.32)	46 (79.31)	336 (41.28)
Lack of awareness among library professionals about the potentialities of ITC	149 (36.97)	143 (71.14)	36 (23.68)	44 (75.86)	372 (45.70)
Lack of ICT knowledge on the part of users	113 (28.04)	128 (63.68)	43 (28.29)	19 (32.76)	303 (37.22)
Lack of support from authorities for implementing ICT applications in library	68 (16.87)	49 (24.38)	88 (57.89)	52 (89.66)	257 (31.57)
ICT operational cost is exceeding year by year	102 (25.31)	79 (39.30)	28 (18.42)	21 (36.21)	230 (28.26)
Lack of initiative from professional association to conduct specialized training programs	88 (21.84)	57 (28.36)	31 (20.39)	23 (39.66)	199 (24.45)
Not interested	21 (05.21)	22 (10.95)	73 (48.03)	26 (44.83)	142 (17.44)

Note: Figures in parentheses indicate percentage and because of multiple choice options the percentage is exceeded to more than 100%.

The Table-11 depicts that 512 (62.09%) of library professionals have the opinion that they faced problem due to insufficient fund to acquire ICT, followed by 372 (45.70%) face problem due to Lack of awareness among library professionals about the potentialities of ITC, 350 (43.00%) inadequate training in ICT infrastructure, 336 (41.28%) inadequate training in ICT applications, 303 (37.22%) lack of ICT knowledge on the part of users, 257 (31.57%) lack of support from authorities for implementing ICT applications in library, 230 (28.26%) ICT operational cost is exceeding year by year, 199 (24.45%) lack of initiative from professional association to conduct specialized training programs, 142 (17.44%) of library professionals are not interested in ICT application.

The Table-11 also depicts that 233 (57.82) of Engineering College, 146 (72.64%) of Education College and 96 (63.16%) of Medical College library professionals face insufficient funds problem to acquire ICT, followed by 52

(89.66%) of Law College library professionals face problem due to lack of support from authorities for implementing ICT applications in library.

10.0 Suggestions

Based on the results of the study the following suggestions are made to improve the ICT literacy skills of professional library staffs.

- The professional institutes need to develop the infrastructural facilities of their libraries so that the ICT literacy of library professionals can be best used.
- The colleges should be provided requisite financial benefits for rendering highly technical and modern library services to the users as they demand.
- Management should send library professionals periodically to attend conference and seminars, so as to keep themselves updated with recent technologies.
- Associations like ILA, SALIS, TNLA, IASLIC, IATLIS, KALA and others should periodically conduct symposium and workshop for librarians to keep them phase with latest technology.
- The library schools need to change their curricula focusing more on ICT and changing library environment.

11.0 Conclusion

The ICT literacy levels of the professionals were much influenced by the levels of ICT use in their libraries. The library professionals need to enhance their level of ICT literacy. The professional colleges should provide state-of-the-art ICT infrastructure including hardware, software and electronic resources with full-fledged Internet access. The library professionals should be provided with more chances of formal training to introduce all possible ICT-based resources and services that can improve their ICT literacy. The present library and information science curriculum in universities in India are not supporting the appropriate skills and expertise for handling the applications of ICT. The ICT literacy skills need to be integrated appropriately into the curricula to ensure improved ICT literacy. The professional colleges should take initiative to introduce open-source software or commercial software for the design and development of automated library system, digital libraries, and institutional repositories.

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