" KNOWLEDGE LIBRARIAN"
AN INTERNATIONAL PEER REVIEWED BILINGUAL E-JOURNAL OF LIBRARY AND INFORMATION SCIENCE
Volume: 02, Issue: 03, May –June 2015 *eISSN NO. 2394-2479*
Impact Factor (IIFS) - 0.331

AN OVERVIEW OF REFERENCE SERVICE FOR THE DIGITAL ERA

Amiya Kumar Das
Assistant Librarian,
Bengal Institute of Technology and Management
Bolpur, Santiniketan
West Bengal, India

Abstract:

Reference Service is always a key element in library service, They Provide Personalized guidance to the library users to access information resource to meet their needs. Today, the major revolutionary change came in libraries and especially in reference services with the impact of Information and Communication Technology (ICT). Digital reference services an advancement of traditional reference services that is emerging as natural solution to meet the user's information needs in the electronic environment. This paper highlights the basic concept, element of digital reference service and gives in detail modes, advantages and limitation and how the reference librarian or library professional providing digital reference service.

Key words: *Digital reference service, Reference services, Real-time reference service, Information services*

Introduction

Libraries and librarians play an important role in providing access to information, organizing it, and helping users find the information they need. One key element of libraries has been the reference service, where librarians help users to find an information source or the information itself to meet their individual needs. According to S R Rangananthan Reference service is personal service to each reader in helping him to find the document answering his interest at the moment pin pointedly, exhaustively and expeditiously. It is the process of establishing "contact between the right reader and right book at the right time and in the right personal way". Information and communication technology (ICT), and in particular the Internet and online services, provide opportunities for enhanced reference services. Many libraries are now offering, or considering offering, reference services via the Internet to their users. To meet the information needs of the users in changing technological environment digital reference service is a natural solution which is supposed to be an advancement of the traditional reference service. Digital reference uses the internet to allow people to connect with a librarian.

The Changing Role of Libraries on the use of Information communication technology

Libraries are organized collections of books, journals, and other sources of recorded information. They commonly include reference works, such as encyclopedias, that provide factual information, and indexes, which help users, find information in other sources.

Over the last few years, libraries have also started providing access to information in electronic formats, such as CD-ROMs, the Internet, and online databases.

The traditional role of the library has always been as an intermediary between the information producer and the user. For information producers, the library acted as a clearinghouse of products. Information producers would normally provide the library with their products, thus reducing the administrative problems and costs of providing the products directly to the users. For the user, the library was an efficient instrument to make available a limited set of relevant information sources out of the entire universe of publications. The library acted as a selective filter and quality instrument, making available to the user only those publications that were relevant and of sufficient quality. Also, since publications were acquired through library funds, information was usually made available to end users either free of charge or at minimum cost (Owen, 1997).

Today, there has been a shift in the role of the library, from a clearinghouse of products and a service centre for printed publications towards becoming an intermediary for traditional materials, **and** for networked services based on digital information resources. These information resources come in various formats – printed, audio, video, multimedia, and electronic. The resources may or may not be owned by the library. Some of these resources may be free and available to users directly, others are available only through libraries that have acquired them.

Libraries are also expected to "add value" to the products and services. Adding value to information is part of the core and expertise of libraries. Value is added to information by facilitating access through indexing and bibliographic description, and through the creation of systems, which make information more logically organized and easier to find. Librarians themselves add value to the collections (both traditional and networked) by helping users navigate the universe of information through content development, instruction, search services, and reference assistance (Cunningham, Ascher and Brown, 2003). One form of adding value is the provision of reference services.

Reference services

Reference services appear in the late 19th and early 20th centuries in response to several forces and trends, including:

- an increase in the number and variety of information resources available in libraries and outside,
- an increase in the complexity of those information resources,
- these increases [above] combining to make it more difficult for people to find the resource they were looking for, and to find the information they needed within that resource, and

- An increase in the number and diversity of people using libraries (particularly public libraries), leading to a wider range of information needs, enquiries, and sophistication in the search for information (Janes, 2002).

While reference services provided a useful facility to library patrons, the services themselves evolved with time. The changes in reference services were brought about by new patrons, some of whom were not comfortable using networked resources, old patrons with new needs, increasing amount of services becoming digital, and the changing emphasis in teaching, research, and recreation.

Definition of Digital Reference Services

Many experts have defined digital reference services. Some of are

According to James, "digital reference service is provision of direct, professional assistance to people who are seeking information, at the time and point of need."

According to Smith, "Emphasis on use of print as well as digital reference services provided over the Internet and can involve the use of both print and digital resources."

According to Wikipedia "Digital reference service is a service by which library reference service is conducted online and reference transaction is a computer mediated communication".

According to Lankes "Digital reference service refer to the position of human intermediated service over digital network"

Digital reference service may be defined as "the provision of reference services involving collaboration between library user and librarian, in a computer based medium. These services can utilize various media, including e-mail, web forms, chat, video, web customer call centre software, voice over internet protocol (VoIP), etc".

Elements of Digital reference service

A digital reference service generally comprises four elements

1. The user of the service
2. The interface in the form of e-mail; a web form, chat; video conference etc.
3. A librarian, or information professionals, and
4. Information resources print or electronics.

Forms of digital reference services

Digital reference service can take many forms, that they can be divided flowing

A. Asynchronous transactions

Are you wondering which real life communication methods are used that are called asynchronous transaction. Asynchronous transaction generally takes following forms;

a. **Discussion boards:** We all have been on some or the other discussion boards online at some point of time. It is an online community of members for sharing thoughts, ideas, questions, queries and information regarding some topics. It is a great way to make new friends and to know numerous ideas.

b. **Bulletin Boards:** You were not present online in a discussion on some topic and now you want to know about what you missed. Well, with bulletin boards, coordinators post the links pertaining to the discussion and you can use the browser to catch up what you have missed. This is certainly one of the biggest advantages of online education.

c. **Blogs:** Blogging is a great way to share and receive knowledge, habits and hobbies. People, who like your writing, will follow your blog whenever they want. There is no restriction on time.

d. Website Links: Instead of providing entire content, it is easier to share website links that direct the user to the contents. It makes the task of information sharing easier and simple.

e. Shared Calendars: To coordinate numerous activities in your college or in your office, you can use shared calendar software available online that can be also used to share information regarding any public events or with a group of friends.

f. E-Books: Web books are the latest trends online and it is easier to access them irrespective of time constraints. Even if the local library is not open, it is very much possible to access a book online, late midnight or early morning.

g. Databases: Information storage is a great way to use it for future references whenever required. Databases are perfect examples of storage houses where data can be stored and managed.

h. Streaming Audio and Videos: As a part of your online education, you can log in to the video link on a website to learn the lessons again or later to revise it further. It has no limitations of time. You can visit the video anywhere, anytime, if you have access to required communication devices such as a PC and the Internet.

i. Surveys and Polls: Collecting information from a large number of people at the same time is not a feasible task. So surveys and polls help in preparing critical information regarding any important topic. Again the benefit of doing this task in multiple time zones makes it simpler.

j. E-Mails: As aforementioned, emails are not expected to be replied immediately and you give time to the other party to reply later. It is just like posting a letter in the post office. You don't get back the reply instantly. You wait for some time.

k. Social Networking Sites: Facebook and Twitter can play important roles in your asynchronous communications strategy. Facebook pages for a class can be the destination for up-to-date information about the course, without your students having to friend you (or even one another). Twitter, and Twitter lists, can be useful sites of asynchronous discussion, although not in the threaded format that one is used to seeing in a discussion board setting.

l. AskA services: which are usually corporate-sponsored web sites that allow users to ask questions and receive answers for free from public information located mainly on the World Wide Web or from proprietary databases and networks of field experts. A variety of AskA services exist, Ask-An-AntarcticExpert to Ask-A-Reporter. A list of current AskA services is available at http://www.vrd.org/locator/subject.shtml

Being able to get information and communicate at any time forms the greatest advantage of asynchronous communication. Besides that, it is said that this communication type is great for communities and like-minded people who can collect, store and share information despite being far away from another. On the flip side, the disadvantage is that it requires discipline and administration. People who're involved in a discussion board, for instance, are expected to log in for accessing the information. Barring that, asynchronous communication is great

for online community users and they've certainly revolutionized the way online interaction is done.

B. Synchronous transactions

This transaction takes place in 'Real-Time' with an immediate response to the query i.e. the interaction between the user and reference librarian is live therefore it is also called Real-Time Digital Reference Service. Synchronous transaction generally takes following forms;

a. Text based Chat/Instant messaging: This service is a supplement to the email reference service as the exchange of information between the user and reference librarian is live (takes place in real time).To answer the questions online , the same criteria is followed as it is followed at the reference desk. Librarians who work with digital reference tend to prefer web based or electronic sources because these sources are easier to access and share with the user. Most of the user now days want to access online, full text sources. If the user finds difficulty in finding information from any particular resource, reference librarian can demonstrate how to use the particular resource. Instant messaging needs software products such as AOL Instant Messenger and ICQ which must be downloaded on both librarians and patron's computer. These products allow librarians to communicate with the patrons in real time.

b. Video Conferencing or web cam services: Video Conferencing is introduced as a remedy to the communication problems inherent in text based services. This digital form include visual elements where user and librarian both can use text and speech transactions and they can and hear each other just similar to face to face interview. This service is useful in distance learning, research and reference applications, can be found in off-campus library services of University libraries.

c. Digital Reference Robots: An artificial intelligence is used to response the questions when the reference librarian is not available, is known as Digital Robots. The most well-known of this type of service is Ask Jeeves. The operation of this service involves use of software to search the database of questions and answers.

d. Real-Time Live Web Reference: Real-time reference live on the web is the latest trend in virtual reference. Already some libraries are providing live web reference services to their users. Some of the well known examples are: (i) 24/7 Reference (ii) LiveRef (iii) Know–It-Now Services

C. Collaborative Digital Reference Service (CDRS)

This is a free reference service project of Library of Congress and more than 100 partner libraries form various countries. The mission of this collaborative venture is to provide professional reference service to the users at anytime and anywhere through an international digital network of libraries and information centers. It is a worldwide network of libraries in which OCLC builds and maintains a database which include three main

components - first, Member Profiles(contain information on strength and features of members); second, Request Manager (software for entering, routing and answering reference questions; third, Knowledge Base(a searchable database for questions and answers for future use. It supports reference efforts by combining the power of resources and manpower with diversity and availability of libraries and librarians anywhere.

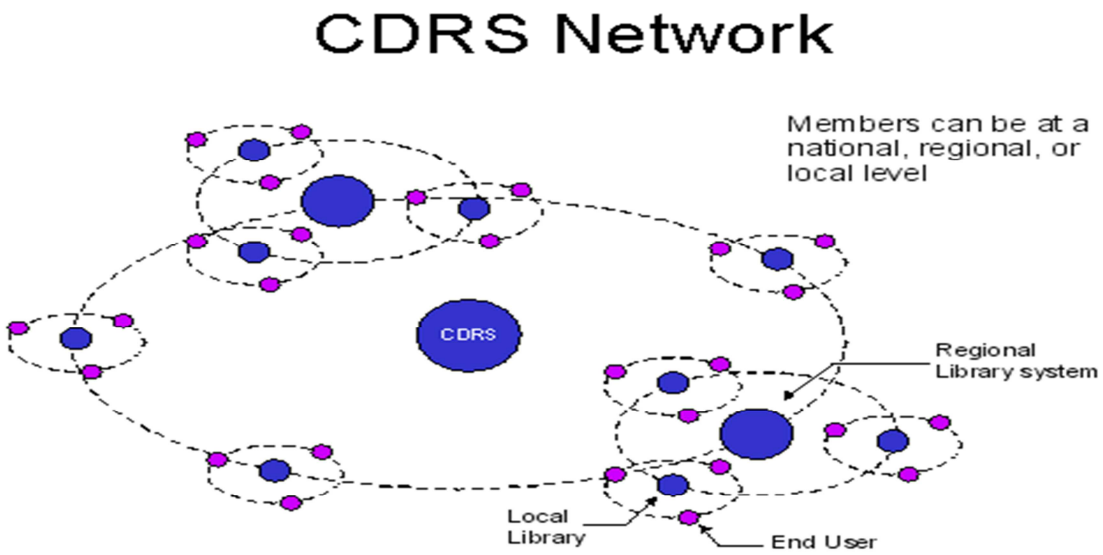

Fig. 1 CDRS Network

Method and Instructional Strategies of digital reference service

To maximize the impact of digital reference on student learning, librarians can employ a variety of instructional strategies grounded in educational theory. The researchers developed a list of instructional strategies on the basis of educational theories, including (a) Metacognition, (b) Constructivism and Active Learning and (c) Social Constructivism.

A. Metacognition

Metacognition is often defined as "thinking about thinking" or the ability to be intentional and reflective about one's thoughts. Expert thinkers and learners are metacognitively aware of their mental processes. When working to solve a problem, they remember methods that they've tried in the past. They actively refine their problem-solving strategies by combining what works best for them, what is empirically known, and what others have experienced. Instructional strategies are-

Catch Them Being Good

- Reinforce positive information-seeking behaviors
- Acknowledge and compliment; recognize user's hard work thus far

Think Aloud

- Make librarian thoughts as expert researchers transparent to users
- Describe cognitive process throughout the steps of the reference transaction

• Give insight into the expert information-seeking process, a window into the minds of librarians

• Share failures, as well as successes, and coping strategies

Show, Don't Tell

• Demonstrate the information-seeking process

• Push URLs, tutorials, etc.

• Direct users to open a browser window and follow along as librarian completes steps during chat

• Move beyond narration to images and interaction

Chunk It Up

• Identify additional steps the user will face after the immediate need is met

• Make users aware of or offer advice about future challenges and opportunities

• Step out of chat and renter when users are ready to continue

• Divide transaction into discrete, manageable chunks

B. Constructivism and Active Learning

Active learning is a central principle of constructivist learning theory and widely accepted as a hallmark of effective instruction. When people actively participate in real-world activities and problem solving, learning occurs. Instructional strategies are-

Let Users Drive

- Invite users to describe or show what steps they've already taken
- Encourage users to initiate actions while the librarian just observes
- Allow users to make decisions and take actions

C. Social Constructivism

According to social constructivist theory (**Constructivism** is a theory to explain how knowledge is constructed in the human being when information comes into contact with existing knowledge that had been developed by experiences. It has its roots in cognitive psychology and biology and an approach to education that lays emphasis on the ways knowledge is created in order to adapt to the world) what people learn is socially developed through interactions with "expert" members of a specific community. By interacting with community members, novice learners are acculturated in the knowledge and skills of the group before joining a community of expert learners. Instructional strategies are-

Share Secret Knowledge

- Provide definitions for specialized community language
- Confide "tricks of the library trade" to users
- Explain the ethics, standards, or history of library services and policies
- Describe the scope of what librarians do

Be the Welcome Wagon

- Show enthusiasm for user requests for assistance
- Explain that other information-seekers wrestle with similar issues
- Elicit feedback from users as newest members of information seeking community
- Recognize user's expertise

Make Introductions

- Redirect users to other reference venues if needs can be better met that way
- Refer to other librarians with specialized expertise

Evaluation of Digital reference service

To evaluate means to assess the quality means to judge the standard of the service that should be provided to the users. Library and Information Centres being non-profit organizations evaluate their services to know its significance for the user as well as to measure the user satisfaction. Additionally, evaluation also provide an opportunity to review the economic costs associated in providing the digital reference service as well as staffing and training issues and overall impact of the services on the reference department. Digital Reference Services should evaluate their services their policies and procedures on a regular basis to ensure reliability, quality and efficiency of the service as well as user satisfaction with service as well.

Lankes has laid down the following measures/components for assessing the quality of digital reference services rendered by the library or information centres or organization.

- Outcome Measures – to judge the quality of answers.
- Process Measures – to measure the effectiveness and efficiency of the process.
- Economic Measures – to ensure the costing and cost-effectiveness.
- User Satisfaction – to identify the degree of satisfaction of the users.

Challenges for digital reference service

Challenges of digital reference service are following

1. An ideal Management Software that would support Web-based reference services to have asynchronous and real-time interaction and telephone and site-based, face-to-face reference and facilitate the exchange of digital content; provide centralize the environment as needed in a distributed service organization; and provide the tracking, archiving, search capability, and use- report capabilities critical for the effective management of ongoing operations. The success of realizing goal for achieving complete and seamless integration of digital reference operations largely rests on the integration of Management software of DRS.
2. The casual approach of Librarians will be totally ruled out when DRS is introduced in web environ. Therefore, an exclusive reference Librarian is to be appointed to respond the queries and chat instantly all the time.

3. Up-gradation of educating and training to handle the system of Digital Reference Service in using management software and responding is the basic necessity. This is the best opportunity to reveal the skilled Librarianship to explore their visibility.
4. Virtual Digital reference service will invariably grow even in the absence of aggressive promotion, but the real challenge is to demonstrate effective and high-demand service for the primary user community.
5. Co-operation and coordination is very much required from all angles i.e. Cross-institutional service collaborations, commercial information service development, and the development of tools and user interface designs that foster independent use of digital content for the success of Digital reference service

Future of Digital Reference Services

With the advent of internet, a number of non-library and commercial library and information centers are have started providing digital reference services, while some are free and others need payment. A good number of reference sources i.e. encyclopedias, dictionaries, thesauri, handbooks, directories and major abstracting services like Chemical Abstracts, Biological Abstracts etc. are available on the internet. Thus, in the future,

- Users will be more dependent on the online sources and services.
- They will tap the required information at home by means of computer.

- At the same time the cost involved will be affordable for the users and will continue to get the information at the less cost from the library.
- There will be a great demand for accurate and specific information. So, expert reference librarians will be needed in the future.
- As no library can provide reference service through its own collection there will be a need to have collaborative ventures for reference service.
- The future of reference service will be based on digital collections and communication links through web.
- Whatever shapes the new technology is going to take in the future library and information centres should turn their thought to compete in the new environment to provide real time reference services, especially developing countries like India needs to give a thought over it.
- The reference librarian and reference service in the future is going to act as a centre of universe of information, if the library is well equipped with computer, internet and CD-ROM's.

Conclusion

With arrival of the internet, libraries are converting into cyberspace and even libraries are adapting new technologies. A Reference librarian or library professional will continue need to reach out and help them. Digital reference service has introduced new opportunity as well as new challenges for librarian or Information professionals, users and vendors. Librarian and Information Professional should embrace this challenge and seek out new and improved methods to provide better and modern reference service.

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