

VIRTUAL REFERENCE SERVICES AT THE MAIN LIBRARY OF KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS, KINGDOM OF SAUDI ARABIA: A CASE STUDY

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ABSTRACT

States that reference and information services have always been the main component of library services. Introduces the concept, history, model of Virtual Reference Service (VRS) and its services at main library of KFUPM. Library provides personalized assistance to library users in accessing suitable information resources to meet their needs. Describes the paradigm of reference and information services in the virtual library environment and it also attempts to highlight the emerging formats and models of digital reference services, including email and web forms, ask a services, digital robots, and collaborative digital reference and the current practices of virtual reference services in KFUPM main library. The case study also investigates availability of VRS in the KFUPM main library.

KEYWORDS: Reference Service, Virtual Reference Service, Digital Reference Service, Information Services, Live Reference Service.

Introduction

Reference services of the library are being enhanced day by day in terms of speed, costs and the mode of delivery. Virtual service is fast, it is available anywhere, anytime, and to the large number of users. Reference librarians are now using Web 2.0 and web 3.0 technologies to deliver information to the end user in suitable format. While continuing to provide many traditional information services, libraries are developing new skills and taking new challenges which are important to support technology based services. In the libraries and information centers "Reference and information Service" is an important personalized service. Traditionally, it is a one-to-one service with user and reference librarian. The user was served by a variety of sources available to meet the information needs. But in the present era, the library and information profession is facing the challenges of so called 'electronic age' and being transformed by technology. So the advancement in information technology has brought out incredible changes in almost every aspect of information services. It has been observed that many large and modern libraries have a general reference desk, full time reference librarians with subject specialists and off desk responsibilities. Thus, with the advancement of technology the mode of providing reference service in the university libraries is gradually changing. It is now presented to the user in a new and more developed form that is "virtual reference service", which is otherwise known as "Electronic reference services" or "digital reference service". The digital environment has increased the need for human help at the reference

desk. In this changing environment, ideas of staffing the reference desk continue to evolve. Reference librarian plays a crucial role to meet the exact requirement of the users. Due to literature explosion in each and every field, reference service has become more important today.

Profile of KFUPM Main Library

The university library is centrally located in Building 8 within a short walking distance of most classrooms and laboratories. It is an "open stack" library, allowing users' free access to its resources. The KFUPM library follows the library of congress classification scheme for shelving arrangement. KFUPM Main Library is the central library facility for a campus that is home to some 15,500 students and 1900 faculties and staff. The Library has a print collection of approximately 207,343 volumes and 123,220 physical serial subscriptions. In addition we have good collection of electronic resources, there are 55 database, 700 electronic journals, 9 Electronic books and 8 Encyclopedias. To complement its print collections and online catalog, the Library provides electronic access to a strong palette of journal articles indexes and abstracts, full-text databases, electronic journals, and e-books. University faculty, staff, and students can access most of these electronic resources from the campus and from remote locations. KFUPM main library status with regard to the provisions of virtual reference assistance closely parallels with that of similar institutions. In early 2011, the Library launched its Web-based "Ask a Librarian" service, which permits University-affiliated users to submit queries via a Web form or through e-mail. This reference service is well-suited for getting quick facts, verifying references to published sources, finding out how to search for needed information in a database or on the Web, or getting advice on strategies for in-depth research. KFUPM reference librarians perceive the "Ask a Librarian" to be a worthwhile service that generates a manageable flow of questions. KFUPM main Library has not launched a real-time chat reference service, though the reference staff conducted it by regular mail check. The head of the reference service of the library has a strong interest in continuing this investigation in a trial phase, with the expectation that a limited-basis service might be launched as early as possible. King Fahd University of Petroleum and Minerals Libraries ([KFUPM Libraries, 2000](#))

Departments of KFUPM Main Library

The KFUPM library has 7 operational departments. All these departments provide excellent services to the entire KFUPM users. These are the followings departments:

- Reference & Information Services Department
- Acquisition Department
- Cataloging Department
- Circulation Department
- Serials Department
- Supporting services Department
- Systems Department

Reference and Information Services Department

The Reference Department offers personal assistance and instruction in the use of library resources to members of the KFUPM community. Assistance is provided at the reference desk, via e-mail and telephone, and through various web-based services. Library instruction is at the heart of the Department's activity. Some important services given by reference and information services department which are as below:

- Reference & Information Assistance from Reference Desk or information desk
- Interlibrary Loan (ILL) Services
- Library Instruction Program
- Development of Reference Collection
- Ask a questions or Ask a librarian
- Tours & Orientations
- Library Search Guides etc. ([KFUPM Libraries, 2011](#)).

Defining Virtual Reference and Information Services

Virtual reference is reference service initiated electronically, often in real-time, where patrons employ computers or other Internet technology to communicate with reference staff, without being physically present. Communication channels used frequently in virtual reference include chat, videoconferencing, VOIP, co-browsing, e-mail, and instant messaging ([American Library Association, 2008](#)). VRS is defined as the provision of real-time personal assistance to patrons via web-based interactive software. To meet the user at his or her "point of need" and to satisfy the patron's information need, the librarian can use a "chat" component of the software to answer a fairly specific or simple question, possibly deliver slideshows, 'push' web sources to the patron, and provide online bibliographic instruction. The "point of need" may happen when the library is closed, or when the user is unable to get to the library. This way, users can still be in contact with experienced reference librarians ([Alaska's Virtual Reference, 2002](#)).

Nature of Virtual Reference Services

It can easily summarize the nature of virtual reference services as such:

- Internet-based reference service
- Asking a question online
- Live online reference service
- Virtual, digital, live, interactive, real time, web-based, synchronous
- While online sources are often utilized in provision of virtual reference, use of electronic sources in seeking answers is not of itself virtual reference.
- Virtual reference queries are sometimes followed-up with telephone, fax, in-person and regular mail interactions, even though these modes of communication are not considered virtual.
- "Using computer and communications technology to provide reference service to patrons anytime and anywhere ([Sloan, 1998](#)).

Concept of Virtual Reference Service

Virtual reference services allow patrons to submit questions and receive answers via the Internet and other electronic means. [Berube \(2004\)](#) defines that Digital reference or virtual reference primarily refers to a network of expertise, intermediation and resources placed at the disposal of someone seeking answers in an online environment. [Wasik \(2003\)](#) defines "Digital reference and Ask services are Internet-based question-and-answer services that connect users with experts in a variety of Subject areas. In addition to answering questions, experts may also provide users with referrals to other online and print sources of information".

Thus, the virtual reference service connects the users with librarians or information professionals and helps them to receive direct assistance irrespective of their location and time. In addition to answering questions, these information experts may also provide

users with referrals to other online and print sources of information and support the development of skills such as information literacy. The term, "virtual reference," "digital reference," "e-reference," "Internet information Services," "live reference," and "real-time reference" are used interchangeably to describe reference service that utilize computer technology in some way (Kaza, 2003). A digital reference transaction will usually include the following elements:

- The user;
- The interface (web form; e-mail; chat; video etc.);
- Electronic resources (including electronic or CD-based resources, Web resources, local digitized materials etc.) as well as print resources; and,
- The information professionals (Berube, 2003).

Objectives of Virtual Reference Service

Libraries of the current digital era have undergone massive facelift. To achieve the goal of providing excellent services and assist users with their educational and research needs, the reference librarian answers of the reference questions, both to users in the library and remotely through telephone, e-mail and online services. Hence the virtual reference service has the following basic objectives:

- i. To provide individual assistance and instruction;
- ii. To provide and maintain an appropriate collection of reference resources, both print and electronic;
- iii. To assist users with locating the best sources of information;
- iv. To help in marketing reference and resources;
- v. To serve as a public relations representative;
- vi. To help in Online Searching;
- vii. To help and assist in professional activities for professional development and growth;
- viii. To help in referral process, forward the enquiry or provide the user with live links to authoritative websites; and finally
- ix. To educate users concerning resources and research techniques in order to help them to become information literate.

Background/Concept of Reference Service

Reference service is one of the library's primary practices besides acquisition, classification, cataloguing and physical planning. The term reference services or sometimes referred to as reference and information services can be defined as personal assistance provided by trained personnel to library users seeking information. Bunge and Bopp (2001) noted that such personal assistance is the essence of reference services and it is the fundamental role of the reference librarian.

The importance of reference services grew over time with the introduction of new technologies and services in libraries. Bunge (1999) categorized reference services into three broad groups:

- i. Information services that involve either finding the required information on behalf of the users, or assisting users in finding information;
- ii. Instruction in the use of library resources and services (broadly defined as information literacy skills); and
- iii. User guidance, in which users are guided in selecting the most appropriate information sources and services

The Reference and User Services Association (RUSA) of the American Library Association has been a leader in formulating standards for reference services. RUSA that has a responsibility for supporting the development of reference services for library users of all ages has issued guidelines for the development and delivery of such services. The guidelines state that: "Information services in libraries take a variety of forms including direct personal assistance, directories, signs, exchange of information culled from a reference source, reader's advisory service, dissemination of information in anticipation of user needs or interests, and access to electronic information (ALA, 2011)".

Role of Virtual Reference Librarian

Librarians are professionally trained in the acquisition, organization, retrieval, and dissemination of information. In essence, the practice of librarianship in the virtual library environment will not be very different from that in the traditional print-based library. The librarian's role will continue to include selection of suitable resources, providing access to such resources, offering instruction and assistance to patrons in interpreting resources, and preserving both the medium and the information contained therein.

Issues that are new to librarians in the virtual library environment are related to the new technologies, making digital libraries possible, and the techniques necessary to deliver new forms of information resources and services. In providing access to information, the librarian in the virtual library environment must consider the requirements of any digital resources- any hardware or software necessary, the most effective way to refer patrons to the resource, and whether availability is limited to a defined user group. It can be called as the 'knowledge navigator' role. In navigating access to knowledge, librarians in the virtual library are confronted with the repercussions of the shift from 'ownership to access', and the resulting rights to access considerations which must be specified and negotiated in contracts and licenses.

The virtual library environment requires a new technical set of competencies for librarians which were not previously required. Skills such as creating web pages, building and maintaining computer networks, designing search interfaces are sought after in today's library employment market. Along with the need for technical skills the ability 'to cultivate a level of comfort with ambiguity and change is also required. One characteristic of the virtual library, which librarians must accommodate, is the rapidly changing and evolving nature of the environment. This environment is subject to immense change very quickly, and a key role for the librarian in the future will be the ability to adapt and to work effectively in such an environment (Burke, 2003).

Virtual Reference Services at KFUPM Main Library: An Overview

Academic libraries have experienced major shifts in technology. The emergence of the information superhighway has challenged academic libraries to provide web-based reference services to their university population. Nowadays, more and more academic libraries are developing their own websites. The emphasis has shifted from processing printed materials to providing access to information via the web (Aman, 2004). Generally, VRS refers to a network of experts, intermediation and resources placed at the disposal of someone seeking answer online. These services are provided through e-mails, web forms, chat, videoconferencing, digital reference robots and FAQs, etc. Keeping in view the importance of virtual and digital resources, the KFUPM main library deeply involved itself in the organization and management of a large number of e-resources to provide

various digital reference sources to their users under intranet as well as internet environment. These resources and services which deserve mention are as follows:

Reference Desk Service

The main purpose of reference desk is to consult the staff at the reference desk for help in finding information. The librarian works with the library user to clarify their needs and determine what information sources will fulfill them. The reference desk in the libraries provide access to various indices, reviews of the quality, credible and current information-based sites and assists the readers in navigating these sites to satisfy their required information need.

E-mail Reference Service

In e-mail reference service, the user sends to library an e-mail with a reference query to supply whatever information he or she feels is necessary. It can be provided to the users in different forms, such as customized news to users, latest additions of library resources and provide answers to the query by different ask a services as Ask a Librarian. For this service, KFUPM library community sends query by e-mail at askus@kfupm.edu.sa (KFUPM Libraries, 2011).

The screenshot shows the 'Ask a Librarian' interface on the KFUPM Library Online Catalog. At the top, there is a blue header with the KFUPM logo on the left and a search bar on the right containing 'KFUPM ID:' and 'Library PIN:' fields, along with a 'Login to My Account' button. Below the header is a green navigation bar with links for 'Library Catalog', 'Find It Fast!', 'Library e-Services', 'Knowledge Portal', 'Reserve Desk', 'Library e-Resources', 'My Account', and 'Ask A Librarian'. The main content area is divided into two columns. The left column, titled 'Contact Us', contains a 'Question:' text area, a 'Comment:' text area, 'KFUPM ID:' and 'Alternate ID:' input fields, and 'Send' and 'Reset Query Values' buttons. The right column, titled 'Library Info', contains links for 'Local Interest', 'Policies & Procedures', 'Staff', 'News', and 'More information'. A green footer bar at the bottom contains 'Go Back', 'Help', and 'Logout' links.

Figure 1: Ask a Librarian

Links to E-Resources

The growing popularity of electronic information resources and the increasing demand of information seekers have necessitated for the present day libraries to acquire e-resources. The KFUPM main libraries have built up a good collection of e-resources such as, e-books, e-journals, e-databases, e-thesis, etc. and the links to e-resources provide a

quick accessibility to all these resources. The users are capable to search their required information online and obtain such resources through electronic mode of distribution. The users of KFUPM are capable to access all these E-Resources within campus through intranet and outside the campus through library portal (KFUPM Libraries, 2011).



Figure 2: Electronic Resources

Referral Service

Referral service gives the reference source of required information. In this case KFUPM main library provides the referral service, which includes the links to different publisher's sites, links to other websites, interlibrary loan and directory service.

Web form or Query form Service

In web forms the user fills out an online form on the libraries website. It structures the user's request in such a way that helps the user in providing additional supply of information that will specify his/her request. The query is submitted to the library and the person replying these will post an e-mail reply to the user immediately. The web form may be an interlibrary loan request form, book recommendation form and group instruction form. This type of form is available at KFUPM library homepage as library online services.

Figure 3: Inter Library Loan Form

Collaborative Reference Service

In this model, two or more libraries team up to offer reference service using any of the online formats. It includes union list or union catalogue of participating libraries and also takes initiation towards providing consortia based resources to the libraries under study for serving the users in a better way. The KFUPM main library participated with many Middle East universities and also with some European universities.

E-Print Archives

E-Prints are electronic copies of academic research papers. They may take the form of 'pre-print' (Papers before they have been referred) or 'post print' (after they have been referred). They may be Journal articles, conference papers, book chapters or any other form of research output. Typically, an e-print archive is normally made for freely available on the web with the aim of ensuring the widest possible dissemination of their contents. This services is also provided by the KFUPM to it users.

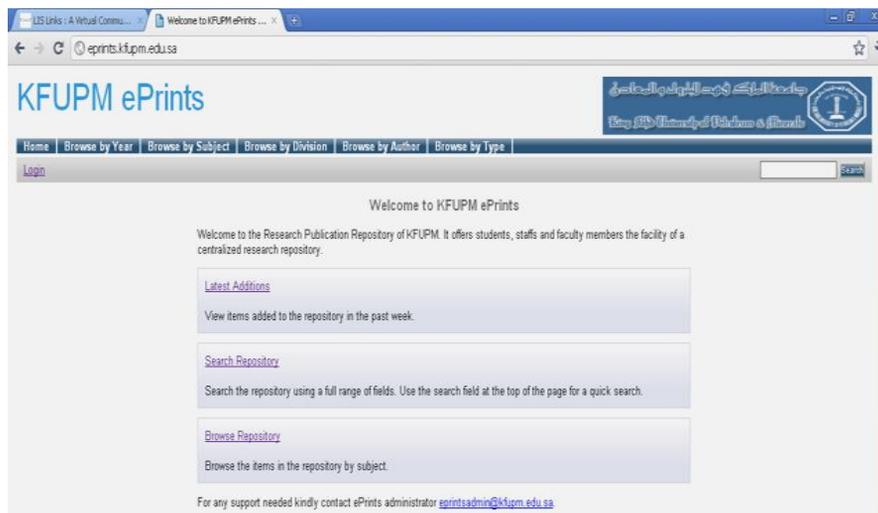


Figure 4: KFUPM e-Print

Feedback form Service

In feedback form the libraries provide an online form for asking questions related to library and its staff suggestion, views and comments upon the library service for improving the quality of its services and to make it more effective. This service is yet to be launched at KFUPM library but presently it is performed through ask a librarian.

Remote Enquiry Services

The main element of any VRS is the answering of users' queries (Chowdhury & Margariti, 2004). The interface should allow users to place queries electronically usually through a Web form, often via a 'Contact Us' link in the main menu. In KFUPM main library services, observed there are link for submitting general enquiries as ask a librarian and for contacting a librarian. This special service is offered to the entire community of the KFUPM with questions in the specific area of library services.

Catalogue on Web

KFUPM main library have online public access catalogues (OPACs) to make users aware of their collections. An OPAC can be used by a member of the library's public to search the catalogue database in order to see if the library holds a particular work on a particular subject and be informed of the location of those works. The OPAC services of KFUPM library known as e-library. This web OPAC can be accessed from anywhere in the world.

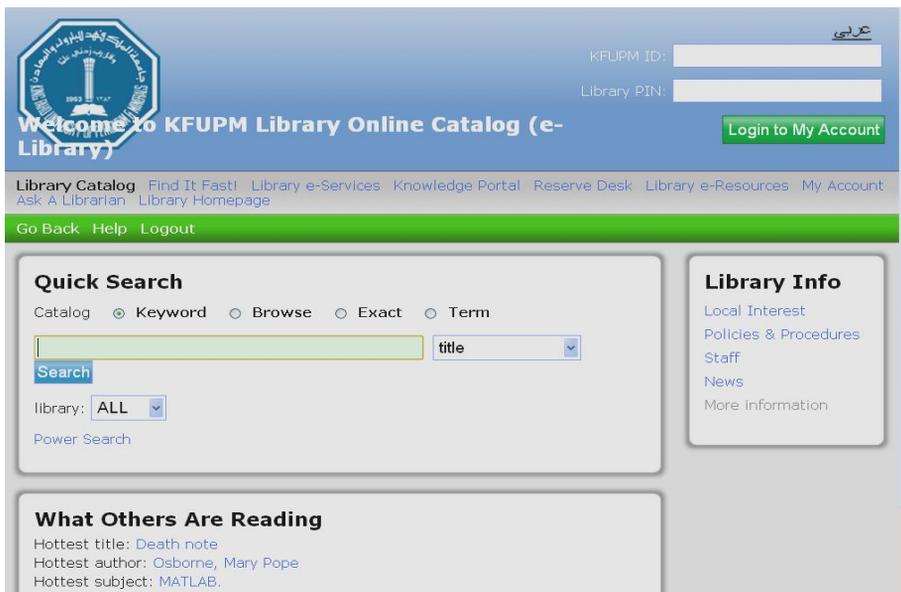


Figure 5: E-library

FAQs Page of KFUPM Main Library

FAQs in library pages can have a beneficial impact on the traffic for the enquiry desk. Clearly laid out FAQs can reduce the amount of repetitive or straightforward operational questions.

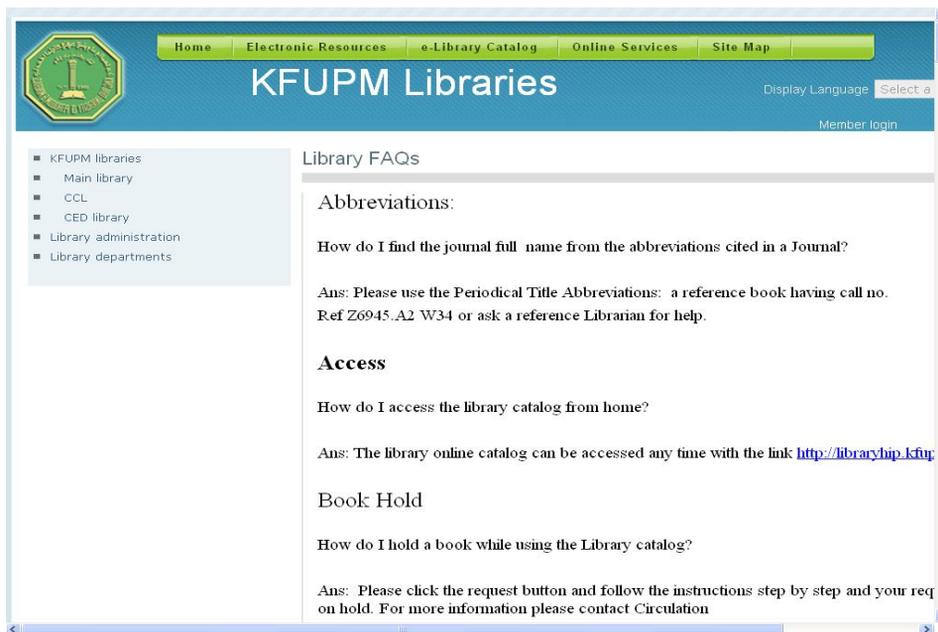


Figure 6: Library FAQs

Interactive Services

All reference librarian offered interactive services to their users. The services include loan status check and fines accrued, online renewal, new acquisition, charged books reservation, purchase suggestion, and inter-library loan request.

Resources Remotely Available

The libraries have provided links to subscribed databases such as Academic Search Complete, ProQuest and Science Direct etc. KFUPM main library has 53 databases in multiple disciplinary fields. All the Electronic databases are remotely available to the KFUPM community except undergraduate students.

Virtual Reference Sources: CREDO Reference

Virtual Reference materials include dictionaries; encyclopedias, bibliographies, and directories etc. Credo reference is one of the best virtual reference sources. Credo Reference, formerly Xrefer, is a company that offers subscription-based online reference content. It provides online versions of 400+ published reference works from over 70 publishers, including general and specialist dictionaries and encyclopedias. Most of these sources are available from any computer with Internet access. Off-campus access may require a login through university portal using email ID and password but in the university campus only Internet ID and password is required.

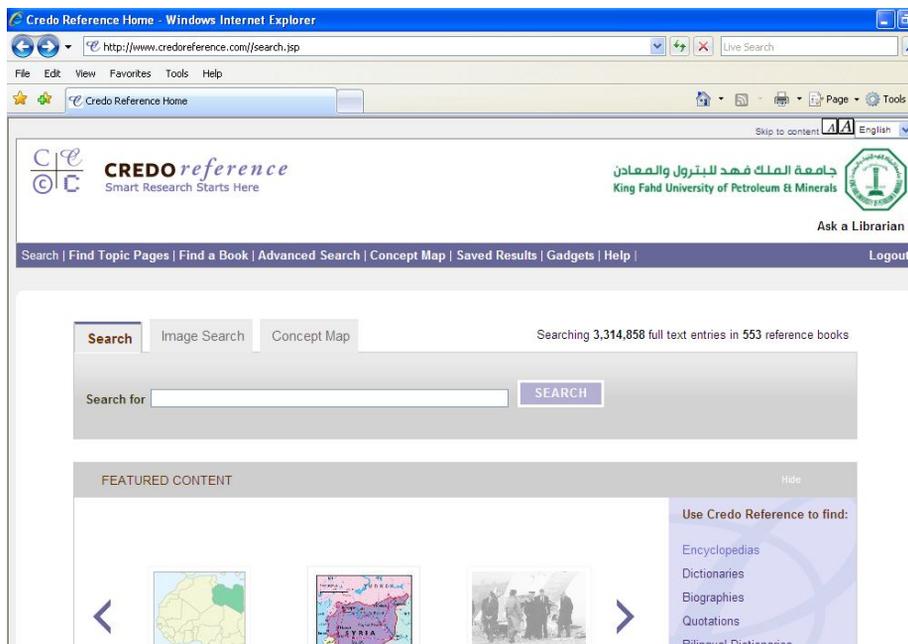


Figure 7: CREDO Reference

Conclusion

Virtual reference and several of its equivalent terms, e.g., digital reference, are the buzzwords for the innovations that are leading reference services in the 21st century. Today, librarians as well as libraries must be prepared to deal proactively with the technological forces, reshaping the reference service environment. There is no doubt that virtual reference is a new powerful method of delivering a reference service. However, KFUPM Main Library is still experimenting with new virtual reference service. Using virtual reference services could be a time saver for users, and using the Internet is generally cheaper than using telephone. Virtual reference services provide an extra choice for users, and may take some of the load of a busy reference desk, although it does not lessen the overall workload of the library. The efforts of the entire library's technical, clerical, administrative, and professional staff are needed to support and promote the service. Moreover, in many cases, effective virtual reference operations will be contingent upon the development of new models to deal with staffing issues. Digital reference lends itself to a tiered staffing structure, with trained Para-professional staff receiving all enquiries and referring to subject specialist for those questions that are not well defined or cannot be quickly and easily answered.

REFERENCES

- Alaska's Virtual Reference Service (VRS) *Project: Final Report*. (2002). Retrieved March 2, 2011 from http://www.library.state.ak.us/dev/vrs_final_report.htm
- Aman, M. (2004). Use of Malaysian academic library websites by university Students. *Information Development*, 20(1), 67-71.
- American Library Association. (2008). Reference and user service association guidelines. Retrieved May 23, 2011 from <http://www.ala.org/ala/mgrps/divs/rusa/resources/guidelines/index.cfm>
- Berube, L. (2004). Collaborative digital reference: An ask a librarian overview. *Program*, 38(1), 29-41. doi:10.1108/00330330410519189
- Berube, L. (2003). Digital reference overview: An issue paper from the Networked Services Policy Task Group (UKOLN). Retrieved March 20, 2011 from <http://www.ceklon.ac.uk/publignsptg/virtual>
- Bunge, C.A. (1999). Reference services. *Reference Librarian*, 66, 185-199.
- Bunge, C.A. & Bopp, R.E. (2001). History and varieties of reference services. In Bopp, R.E. & Smith, L.C. (Eds.). *Reference and information services: An introduction* (3rd ed.). Colorado: Libraries Unlimited, pp. 3-27.
- Burke, L. (2003). The future role of librarians in the virtual library environment. *The Australian Library Journal*, 51(1), 1-16.
- Chowdhury, G. & Margariti, S. (2004). Digital reference services: A snapshot of the current practices in Scottish libraries. *Library Review*, 53(1), 50-60.
- Chowdhury, G.G. & Chowdhury, S. (2003). *Introduction to digital libraries*. London: Facet Publishing.

Han, L. & Goulding, A. (2003). Information and reference services in the digital Library. *Information Services and Use*, 23, 251-262.

Janes, J., Carter, D. & Memmott, P. (1999). Digital reference services in academic libraries. *Reference and User Services Quarterly*, 39(2), 145-150.

Kaza, P. (2003). Transformation of library services: With special emphasis on digital reference service in multilingual computing and information management in networked digital environment. *Proceedings of Third International CALIBER-2003* (pp. 553-558). Ahmedabad: INFLIBNET.

KFUPM Libraries. (2011). KFUPM Library website. Retrieved May 25, 2011 from <http://library.kfupm.edu.sa/>

King Fahd University of Petroleum and Minerals. (2000). *Graduate Bulletin*. Retrieved May 23, 2011 from www.kfupm.edu.sa/ee/bulletin/graduate_bulletin.pdf

King Fahd University of Petroleum and Minerals. (2011). KFUPM e-print. Retrieved May 26, 2011 from <http://eprints.kfupm.edu.sa/>

Lankes, R.D. & Kasowitz, A.S. (1998). The ask a starter kit: How to build and maintain digital reference service. In Wasik, Joann M. (Eds.), *Building and Maintaining Digital Reference Services*. Retrieved May 23, 2011 from <http://www.michaellorenzen.com/eric>

MARS Digital Reference Guidelines Ad-Hoc Committee. (2004). Guidelines for implementing and maintaining virtual reference services. *Reference and User Services*, 44(1), 9-14. Retrieved May 18, 2011 from <http://www.ala.org/ala/mgrps/divs/rusa/resources/guidelines/virtrefguidelines.cfm>

Sloan, B. (1998). Electronic reference service: Some suggested guidelines. *Reference and Users Services*, 38(1), 77-81.

Wasik, Joann M. (2003) Building and maintaining digital reference service. Retrieved February 7, 2011 from <http://www.michaellorenzen.com/eric/>