

This document is downloaded from DR-NTU, Nanyang Technological University Library, Singapore.

Title	Librarianship : what is it about now?
Author(s)	Choy, Fatt Cheong.
Citation	Choy, F. C., (2008). Librarianship : what is it about now? Library Association of Singapore Conference, 8-9 May 2008: Singapore.
Date	2008
URL	http://hdl.handle.net/10220/6105
Rights	Copyright © 2008 LAS This paper was published in LAS Conference 2008 and is made available as an electronic reprint (preprint) with permission of Library Association of Singapore. LAS official URL: [http://www.las.org.sg]. One print or electronic copy may be made for personal use only. Systematic or multiple reproduction, distribution to multiple locations via electronic or other means, duplication of any material in this paper for a fee or for commercial purposes, or modification of the content of the paper is prohibited and is subject to penalties under law.

Librarianship: What is it about now?

CHOY FATT CHEONG, University Librarian, Nanyang Technological University

ABSTRACT

Librarianship is generally considered to be concerned with the principle and practice of selecting, acquiring, organizing, disseminating and providing access to information in accordance with the specific needs of groups of people or an individual. As every practicing librarian knows, rapid developments in the global communication infrastructure in the last decade or so have seriously fudged, loosened and erased the boundaries of librarianship as we know it. Taking a broader perspective of the purpose of librarianship and beyond, this presentation attempts to clarify, redefine, reshape and expand the boundaries of our concerns as we move forward to more disruptive changes. The purpose is not to offer predictions, solutions or answers but rather to initiate and provoke the reflection and discussion that must take place amongst us in order for our profession to meet with the challenges of the future.

Introduction

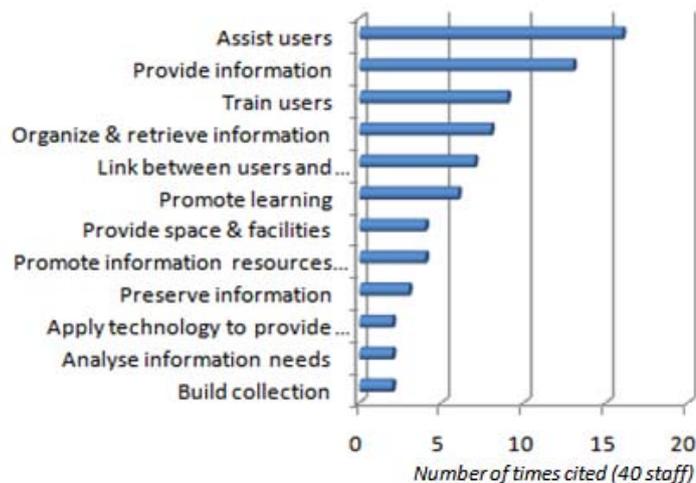
To some people, librarianship may sound like an old-fashion term - something that smells of mothballs and is wrapped in parchment. The term librarian already evokes image of a certain type of staid personality and putting the suffix "ship" to it only adds lead to its weight. More than twenty years ago, when I started out in this field, I confess that I was not very keen to call myself a librarian too, preferring something with the word information or some other technically sounding clang in the job title. Somehow the transition from being an engineer to a librarian seemed a bit too drastic in those days. However the words "librarian" and "librarianship" became more endearing to me as I grew older. At this point, I thought it aptly described what we do as a profession. Like many of you, I have a graduate degree in Library and Information Science, but what we do is not a science, not in the strictest sense of it. The word librarianship is better for it encompasses humanistic elements that define our ethos and more importantly, puts the place of libraries as an institution squarely in the centre. I know that some people will disagree with this and want to rip the library out of their information persona just as digital information now exists without being associated with any one media. Actually I am sympathetic to this view. Labels and their connotations can be devastating and create obstacles to the good things that we can do. However, I think there is much strength to be gained from libraries as an institution and it would be wise for librarians not to disassociate ourselves from it.

What is librarianship about now?

So what is librarianship? Particularly, what is it about now? We can take a very broad view, such as "the preservation and transfer of knowledge in all recorded forms across time and space for the benefit of humankind", which is part of the LAS Ethical Statement or we can draw on our practical day to day work and define librarianship as "being concerned with the principle and practice of selecting, acquiring, organizing, disseminating and providing access to information in accordance with the specific needs of groups of people or an individual". Both definitions are my own formulation, expressed in response to various demands in the course of my work. What we need is an empirical, up-to-date and aggregated view of what librarians today really think. So I turned to my colleagues at NTU Library for an answer. I asked each of

the professional staff to give me a short spontaneous response (via email) on what they think librarianship is all about now.

After going through all the responses, which ranged from one liner to 3 pages of passionate text, I manage to distill it into the chart below. Basically I just tick the number of times a facet or its equivalent is mentioned - not very scientific but what I needed was just some indication. Note that no questionnaire was used and the categories listed in the chart are created by me. Though the responses may be colored by the nature of the work we do in NTU, I think it might be a fair representation of what most librarians in Singapore think. We have a very diverse group of staff representing many age groups, prior occupational backgrounds, fields of study (apart from library and information science) and duration of library work experience.



A definition of librarianship

Many of the key elements of librarianship identified in the informal email poll are what we would expect. What is interesting but not so surprising is that there is a strong emphasis on users and less on library collections and resources. This is probably one of the major but subtle changes in librarianship in the last 20 years. When I started out in librarianship there was much more focus on building and organizing library collections. Even reference work was very dependent on good cataloging and organization of library resources. Though everything we did then was also aimed at helping the users, it was more implied than obvious. Today we seem to be more obsessed and anxious about our relationship with users, and for good reason as we shall discuss.

Nonetheless, going by the email poll, there seem to be some agreement on the shape and structure to the profession. There is a unique "aboutness" of the profession that can be articulated just as in the discipline of science, engineering, law, medicine, etc. Based on various sentiments expressed in the poll, I attempted to provide a collective view in the following definition of librarianship for the purpose of this presentation.

"Librarianship is the discipline and profession that is concerned with helping individuals obtain reliable information to increase their knowledge in all spheres of their lives from the cumulated information store of mankind".

This definition focuses on the intermediary or bridging role of libraries. One of the respondents put it more colorfully as follows:

“Librarianship is a bridge between 2 entities; people and information. Librarians consider who may need this bridge, when and where a bridge is needed, how it is to be built, how it can be best utilized. We are the planner, architect, builder, and marketer of bridges” - *Samantha Ang*.

To play this role adequately, it is implied that libraries need to have a clear understanding of the needs of the user on one hand and the knowledge and availability of relevant information resources on the other. The definition also assigns an end purpose for our roles, i.e. to help users obtain information that will increase their knowledge in all spheres of their lives. It makes a distinction between information and knowledge, as the latter is part of an individual's makeup and cannot be disassociated from it. We help people obtain useful and reliable information but it is up to the each individual to assimilate it and make knowledge their own.

It is clear that most librarians in the survey look at librarianship as a predominantly intermediary function. The question is whether this is relevant today. Do users need or want us to help them obtain information? Are the information resources that libraries provide - the evidence base of knowledge cumulated in the past, highly desired by users anymore? Are people concerned enough about using reliable sources of information to make an effort to obtain it? There are many questions and exciting developments in library land today and it might not be possible to touch on all of them in this short presentation. Instead, I would like to look at the 3 major facets (i.e. users, information resources and librarians' intermediary role) in the definition given above and discuss the transformation of their characteristics over the years.

USERS

Librarianship has always been about serving the individual, whom we call by different names such as user, patron, customer, etc. Books or information resources are purchased for the individual because he or she needs them or we anticipate his or her needs. They are catalogued with great consideration of appropriate access points so that the individual may find them precisely. We lend out materials to individuals or provide databases for them to get the information to increase their knowledge and perform their work effectively or help in their personal development. We have specialist reference librarians to answer questions from individuals and guide them in finding information. Librarians in public libraries run reading promotion programs to encourage the reading habits of individuals, from children to adults. What is more, individuals get these services mostly for free. Therefore all the work that librarians do leads to the satisfaction of the needs of individuals.

However although we focus exclusively on the user, the user-library relationship has not always been equal. Generally users depends a lot more on librarians for access to information in the past than at present. The librarian had a strong intermediary function then as there were various kinds of obstacles to access. These could be physical (e.g. it takes effort to travel to the source of information), administrative (e.g. there are access rules and policies set up by libraries to moderate use), system (e.g. it is not easy to use information system such as the catalogue or indexes) or skills related (e.g. understanding of information seeking methods). For example, a researcher in the 1980s wishing to have a comprehensive literature search done would have to go through an expert online searcher in the Library to interrogate online systems such as DIALOG and BRS both for skills and cost reasons.

Libraries then could therefore afford to treat their users with less alacrity. They either came to the Library or did not get the information they need. However that is not to say that libraries were not user-oriented. It is just that user-centered issues were not accorded high priority over other concerns.

The relationship changed drastically with the beginning of the end-user revolution. It started with bibliographic databases on cd-roms which enable users to use to their hearts' content without incurring expensive online charges or the librarian watching over their shoulders. Soon after that, purchased content became more convenient to use as they migrate to the web which gave users 24/7 access. The power of convenience cannot be underestimated. It is probably the single most important factor that determines the use of an information resource or system.

In the last few years, the advent of Google, the proliferation of free content, the massive worldwide digitization projects and the wide spread use of social networking tools have completed the end-user revolution. Not only is it easier and more convenient to gain access to information but there is also an abundance of free information to be had. Today the perception among many people is that they can find decent amount of information on the Internet for their work or leisure without venturing into the Library or gaining access into its vault of online resources or print collection. Thus the alarming results from the 2005 OCLC study on college students that shows that 84% of respondents use search engines to begin an information search and only 1% start from a library web site (De Rosa, 2005, p 6-2). Thus it would appear that the relationship between libraries and their users have turned 180 degrees. Today, there is much more thinking and activities among librarians on getting the attention of users and bringing them back to the fold of the library.

This then is the first big change in librarianship today. Librarianship today demands much more thought and effort on connecting with users and maintaining their engagement. This emphasis did not appear overnight but has been gaining centre-stage gradually since the balance between libraries and end-users tipped towards the latter due to technological and societal changes. Users now have an attractive alternative to the Library. The goals of librarianship, particularly its role in transmission of knowledge cannot be achieved without users occupying a huge chunk in the equation. Therefore there is an almost frantic rush to pamper to the whims and tech savvy habits of users, particularly those from the new generations who are more at ease with the QWERTY keyboard than with chalk and blackboard.

This preoccupation has implications for how librarianship is and will be practiced. We will see more librarians going to bed with users (metaphorically of course) or being embedded in the working and social environment of users. This is a logical development as the Internet and its attraction will remain and grow and users will not divert from it to the Library unless librarians go out and lead them through our pathways, virtual or otherwise. Furthermore, as users have less contact with libraries, there will be fewer opportunities for libraries to observe and study their real information needs to develop effective plans and services to achieve our mission. In a rapidly evolving environment it is critical to have this information and only by working closely with users can we achieve this. These imperatives require librarians to have the disposition and the interpersonal skills not traditionally associated with library work. Librarianship is no longer centered in the backroom but in the frontline where the users are. Besides possessing knowledge and expertise in information content and users' information seeking behavior, librarians now need to be able to strive in the hustle and bustle of human-to-human relationships and have strong advocacy and marketing skills.

The key to making an impact on users is to raise their expectation of libraries and librarians. This can be done by librarians demonstrating our value directly in the work and interests of users. Librarians could offer to participate as information architect and manager of specific research or study groups in a learning environment or workplace. For example, a librarian could set up highly specific information portals for individual research teams, linking them with resources from the library or elsewhere. He or she could be more involved in the information flow of the group by being their dedicated reference librarian. Librarians could also host blogs for a course of study and contribute to discussion or provide pointers when matters relating to information sources and access surface. They can help individual users set up their own personal virtual libraries to aid them in their learning activities and studies.

This type of approach goes one step beyond merely providing resources, tools and services for users to make use of on their own initiative or through the encouragement of the Library's outreach activities. It creates and constructs a mini infrastructure that engages specific users with library expertise. It is highly targeted. Such close activities between librarians and users have advantages for both parties. The users will benefit from better information management and flow in their research or learning activities and the personal attention of expert librarians. They will also have a more heightened awareness of what libraries and librarians can offer. Librarians will have a more intimate knowledge of the real needs of users and the problems they face in information access and use by actually being involved in the users' workflow and processes. This will lead to new initiatives in services and products that will solve real information problems and thus create greater value for libraries.

Objections to such intense engagement with users would probably center on lack of resources and problems of sustainability. It could be argued that there is just not enough manpower resources in a typical library to sustain such schemes. However, not to find ways to do so would mean further disengagement with users and possible decline in the role of libraries.

INFORMATION RESOURCES

A key visible role of libraries in the past as well as the present is to provide access to information. If we go back to a few decades ago, information provided by libraries came exclusively from its print collection (and perhaps some audio-visual materials). A Library then was in total control of the information materials that it provided. It owned everything that it had. A typical user saw his library forming a huge part of his information diet. Today, a large percentage of what a library provides, particularly electronic resources is leased and can be taken away when subscriptions are not renewed. With the continued rise and supply of information in electronic format, libraries will own less and less of what is provided over time. If we look at the total universe of information available to a typical user today, the library owned resources, including leased resources form only a small proportion. Despite their pedigree and high potential value, library resources are hardly noticed in the sea of information. Much of the information diet of the ordinary person comes from the vast Internet.

Though most librarians complain about the quality of information available on the Internet, this is slowly changing. The massive book digitization projects by Google, Microsoft, Open Content Alliance and others have put many hitherto inaccessible titles online. Many universities are putting up institutional repositories of their academic staff publications. There is an increasing number of open access journals. For example, more than 3,000 are listed in the Directory of Open Access Journals (<http://www.doaj.org>) which is about 12 percent of total peer-reviewed journals (as listed in the Ulrich database). Scholars now have greater incentive to

submit their publications to open access repositories due to increasing numbers of open access mandates by research funding bodies. Recently the US Congress passed a law that requires beneficiaries of National Institute of Health (one of the largest research funding agencies) to submit publications arising from their funded research work to PUB-MED Central within one year of their publication. Similar mandates have been initiated by other major agencies in UK and Europe. There is also an increasing number of educational resources from the Open Educational Resources (OER) Movement, which started in 2001 when MIT started to offer free access to a wide range of their courseware. Unlike the earlier days of the Internet, there is much more serious and quality information available for free on the Internet, though these are mixed with all the chips and chaff of web chatter.

How will the explosion of free online content and their easy accessibility affect the way that librarianship is practiced? One of the key contributions of librarianship is the development of sophisticated methods of organizing information or bibliographic control that allow information to be accessed efficiently. Put simply, given a large collection of information objects, the librarian can organize them to allow people to find an item or related groups of items with great precision and efficiency. Consider a library. Every item in the library has a corresponding record in the Library Catalog. Everything is ordered, structured, controlled, accountable, retrievable and traceable even when there are millions of items. The Library Catalog is the heart of the Library - it symbolizes the power of libraries. Its classification system, authority and vocabulary control, tracings, finding rules, even the dots and commas on catalog cards are marvels of organization. Within seconds and without the aid of computers, one can collate comprehensively all books on the economy of Singapore or the treatment for depression. You can drill down on a record and identify the date the information first appeared, identify the person who produce the information and find his other works. In other words, catalogs or other index systems create a network of relationships between information items that allow users to draw conclusions, make inferences and act on them. Strangely with all the computing power of the Internet, Google cannot do this. You can never be sure if the list you get is comprehensive. Most times, you cannot even establish the date the information was produced and who produced it.

Behind the power of the catalog lies the labor and skills of librarians who painstakingly look through each book to create handles for users to find and collate it with other books. This is an example of the invisible intermediation role of librarians. There is of course no such intermediation on the Internet. Is the first 10 items listed in a Google search result good enough or is deeper investigative and research work still valuable? Is the core competency of librarians in making sense of information through systematic organization still relevant in the new information environment? The answer must surely be the yes. However the problem is the scale and perhaps the common sociological phenomena of diffusion of responsibility. The amount of information pages (even when we group them into coherent units) in the Internet is astronomical compared to a typical library collection. Even if we just take the good bits to catalog, it would still be daunting to even think about it. Also many of the digital files are updated and changed frequently and have many characteristics that are not amenable to traditional form of cataloging. As most web resources are not under the custody of libraries, there is also a question of who should do the cataloging which is where the diffusion of responsibility phenomena applies. The opening paragraph of the Report of the Library of Congress Working Group on the Future of Bibliographic Control summarizes the state of thinking on the above in noting that,

“The future of bibliographic control will be collaborative, decentralized, international in scope, and Web-based. Its realization will occur in cooperation with the private sector,

and with the active collaboration of library users. Data will be gathered from multiple sources; change will happen quickly; and bibliographic control will be dynamic, not static. The underlying technology that makes this future possible and necessary—the World Wide Web—is now almost two decades old. Libraries must continue the transition to this future without delay in order to retain their significance as information providers” (Library of Congress Working Group).

Without going into the current controversy over RDA (Resource Description and Access) development by the Joint Steering Committee for the revision of AACR2, it is clear that the library community is divided over the approach that future bibliographic control should take. I joined the library profession about 5 years after the publication of AACR2 and I remember having been tutored on the difference between AACR1 and AACR2 as a rookie librarian. The transition from AACR2 to RDA or its variants will be much more radical as it has to seriously take into account the new information environment which is much more global, user controlled, dynamic and complex. Changes in our approach in dealing with the organization and access to information largely mediated by the web will have great impact on the theory and practice of librarianship. We have to watch this space.

INTERMEDIATION

In my interaction and work with librarians, including interviews with potential employees, I noted that one of the most common roles of librarian they cite is that of an intermediary between users and information. This implies that there is some kind of barrier or obstacle between users and the information out there which requires the mediation of a library or a librarian to connect the link. This is largely true in the pre-Internet era. However it would appear that this is no longer true in an era when everyone can have access to global information sources from the desktop of their homes or offices. The emergence of the global information network and its accompanying social upheavals has led many people to predict the death of the middle man and intermediaries not only in library work but in many other areas of commerce and society. However the deluge of information and the convenience and ease of access to it also creates new problems and issues that are fertile grounds for librarians to explore and to establish their presence. Disintermediation in one area often cause shifts in others. In other words, life usually gets more complex, not simpler. Complex lives often require a greater variety of support systems and intervention.

Though we often think of intermediation in terms of a librarian assisting a user in getting the information he or she wants (and disintermediation as the obsolescence of such a relationship), the intermediary role of librarianship can be expressed in many other forms. For example, the detailed bibliographic information that cataloguers provide to lead users to the appropriate text is a form of mediation. The classified arrangement of books on the shelves allowing users to browse related work is another. The librarian’s negotiation for a right price with vendors in getting a database for users’ access is yet another. Intermediation is therefore multi-dimensional. It happens and will be sustained when there is value in the intermediation act. We use an intermediary when he or she saves us time, does the work for us better, or does things that we have no expertise to do ourselves. Therefore as long as librarians can add value and demonstrate it visibly in a middleman role between users and the information environment, intermediation will always occur. So, what are the possible intermediation roles for librarianship in a highly networked and content rich world?

For an indication of this, it is instructive to read some of the recent literature on users’ behavior on the Internet. One of the latest, from UK, was commissioned by the British Library

and the U.K. Joint Information System Committee to investigate the searching and researching behavior of young people (the so-called "Google generation"). The study found that despite early exposure to technology and regular use of digital resources, the information literacy skills of young people have not improved. It pointed out that "digital literacies and information literacies do not go hand in hand." Conclusions from logged files of user searches indicated that everyone (i.e. not just the Google generation) exhibits a "bouncing/flicking behaviour, which sees them searching horizontally, rather than vertically". They spend a lot more time navigating online than viewing and reading and are not able to develop effective search strategies. They have a poor understanding of their information needs and do not have a good grasp that the Internet is a collection of networked resources from different providers. Young people also have difficulties making relevant judgments about the pages they retrieve. It suggests that plagiarism is a serious issue for this "cut-and-paste" generation. Are similar behaviors prevalent among Singapore's Google generation and other Internet users? Only parallel studies can tell. However anecdotal information does suggest very similar characteristics.

It is not surprising that people have problems using the Internet to seek information effectively. Behind the Google search box lie billions of documents that are not structured or organized systematically for retrieval (as wonderful as page-rank is) and put up (with little moderation and scrutiny) by all manner of people and organizations with various agendas, motivation and interest in offering their content. Finding relevant and reliable information in an environment with abundant information is as problematic as in an environment with scarce information. When there are tremendous choices, the ability to pinpoint and select reliable, credible and useful information requires knowledge, expertise and experience. Interpreting the authenticity and reliability of what is found on the Internet with confidence would be difficult for most people due to the lack of context, explicit cues and metadata common in library and traditional information systems. Even before one starts typing on the keyboard, the ability to formulate the search question is a great hurdle. In short, information literacy or fluency skills is not a given. It requires investment of time and effort to acquire. Given the common skimming and horizontal searching habits identified in the UCL study, it is unlikely that the majority of online users will acquire the necessary skills to get the most out of the information global house. They are going to need help.

Although the librarian has the skills to help users mediate and maximize their use of global information environment, it does not necessary follow that the skills will be demanded by users. The convenience and ease of use and access to the Internet has lulled many Internet users into a sense of mastery over their information environment. In a survey of findings on end-user searching behavior, Markey (2007) concluded that "end users rarely use advanced system features and when they do, they are quite likely to use them incorrectly. Although research findings demonstrate that end users are not conducting sophisticated online searches, the vast majority are satisfied with their searches. In fact, percentages of users who express satisfaction with the results of their searches reach into the high seventies and beyond (p1128-1129)".

Libraries and librarians face two major obstacles in trying to play the intermediary role. Firstly, libraries are not on the radar screen of users as much as we would like. Secondly, even if libraries are, users will need to be convinced to make the effort to use libraries, whether online or offline. This brings us back to our first point of discussion on the importance of advocacy work. Like many things else, development of good habits of people during their formative years are crucial in influencing their behavior later. Good library programs in schools therefore play critical roles in influencing students to learn and develop good information literacy skills. It is unfortunate that there is no concerted effort in this direction here in Singapore. As noted in the UCL report, "Emerging research findings from the US points to the fact that these skills (*i.e.*

information literacy skills) need to be inculcated during the formative years of childhood: by university or college it is too late to reverse engineer deeply ingrained habits, notably an uncritical trust in branded search engines to deliver quick fixes" (UCL, 2008, p32).

Despite the pessimistic note above, libraries in tertiary institutions here can still play an important role. They will have the last opportunity to influence students in acquiring information literacy skills before they disperse into the working world with less opportunity, and lesser motivation and time to learn to get the most out of a complex information environment. Sometimes simple acts can go a long way. For example, one feedback we had from a teaching staff after our instructional classes for his students is that he noticed a remarkable change in their citation patterns. Instead of citing mainly Internet resources and Wikipedia articles, the students had changed to using scholarly materials in academic journals which they learned during the library classes. This small change will have profound effect on their information seeking habits in the future.

Active intermediary functions performed by libraries need also to take into account the behavioral traits of users, particularly the young generation. Though there are many studies on user behavior in U.S., U.K. and other places, there is a paucity of such national data in Singapore. Availability of such studies will be important for libraries here to address users' needs effectively. At this moment we could only assume that the effect of globalization has produced an internationally homogenized student profile that is applicable in our case as well. We know from various studies by Frand (2000), Oblinger (2005) and others that users today learn by doing, using trial and error methods rather than systematic approaches, spent most of their time online, prefer to work in groups, are producers as well as consumer of information, etc. Libraries need to fit their intermediation approaches around these behavioral characteristics.

Traditional hard-core approaches in imparting knowledge will probably be less effective today. I would suggest that we take a "tourist guide" approach in our intermediation effort. A tourist can visit any place he wants in a country, but he will get a much better understanding and insight into the culture, history and social norms of the place and all the interesting nooks and corners if he is led by an expert tourist guide. Similarly, anyone can wander around the global information environment, but experts such as librarians can provide tremendous added value by showing and leading users to unexpected resources, explaining their intricacies, pointing out trusted sources as well as "dangerous" areas. Such intermediation work is not only confined to librarians but libraries as institutions. Just as a country's tourism agencies build infrastructure, coordinate resources and provide support to the tourism trade, libraries can do similar things in the networked online environment to provide the facilities, tools and programs that will make learning in the virtual as well as the physical world a much more enriching place.

CONCLUSION

In attempting to answer the question posed by the title of this presentation, I have left out many interesting developments in librarianship and focused only on some areas of the 3 major fundamental aspects that most of us librarians recognize as core to our profession - users, information resources and our intermediation role. In summary, users have been and always will be the focus of our attention. We cannot practice librarianship without users and the intensity of our engagement with them in the future will determine the success or failure of our profession. The world of information that has so preoccupied librarianship in the past has changed drastically over a short period of time. It has become much more complex than our current tools can handle. There are also many more players and participants in the larger information industry which will have a great impact on how we practice our profession as we

develop new means to make the best of the information world. Lastly in performing the intermediary function between users and the dynamic information world, librarianship has the body of knowledge and experience from our user-centered orientation practice to create new and innovative value-added functions for users and society. It is up to us to modify, retool and reformulate the skills that we have and apply it to the new environment to play an important role in intermediating between users and the information world.

Librarians today live in exciting times. The Internet and the global information environment today in fact is something that many librarians in the past have dreamt about. It is a world where information is always at our finger tips, available to all, easy and convenient to access and global in its reach. At the same time it poses tremendous but interesting challenges to the practice of librarianship, which keep us on our toes and gives us the opportunities to innovate and re-invent ourselves to reach a higher level of achievement and satisfaction.

REFERENCES

- De Rosa, C. (2005). *Perceptions of Libraries and Information Resources : A Report to the OCLC Membership*. OCLC Online Computer Library Center : Dublin, Ohio. Accessed 3 May 2008. http://www.oclc.org/reports/pdfs/Percept_intro.pdf
- Frاند, J.L. (2000, Sep/Oct). The Information-Age Mindset : Changes in students and implications for higher education, *Educause Review*, p14-24. Accessed 3 May 2008. <http://www.educause.edu/ir/library/pdf/ERM0051.pdf>
- Library of Congress Working Group on the Future of Bibliographic Control. (January 9, 2008). *On the Record : Report*. Accessed 3 May 2008. <http://www.loc.gov/bibliographic-future/news/lcwg-ontherecord-jan08-final.pdf>
- Markey, K. (2007). Twenty-Five Years of End-User Searching, Part 2: Future Research Directions. *Journal of the American Society for Information Science and technology*, 58(8):1123-1130, 2007.
- Oblinger, D.G. ; Oblinger, J.L. editors (2005). *Educating the Net Generation*. *Educause*. Accessed 3 May 2008. <http://www.educause.edu/educatingthenetgen/>
- University College London CIBER Group. (22 Jun 2007). Student Information-Seeking Behaviour in Context : Key findings from CIBER log studies. Accessed 3 May 2008. <http://www.jisc.ac.uk/media/documents/programmes/reppres/ggworkpackageiv.pdf>
- UCL (University College London) (11 Jan 2008). *Information behavior of the researcher in the future : a CIBER briefing paper*. Accessed 3 May 2008. <http://www.bl.uk/news/pdf/googlegen.pdf>