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Librarians 2.0: IT Literacy of Librarians in China

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Abstract:

The evolution of Web 2.0 brings up Library 2.0 Revolution. Interactive technologies such as blogs, wikis and social networks, are popular among younger library users. Through those technologies, librarians can communicate and serve better as information disseminator and knowledge management executor. Librarians in China gradually conceived that learning information technology is becoming the critical factor for their professional development. This paper first discusses the IT literacy requirements for librarians in China. Then it proposes the concept of Librarians 2.0 followed by detailed analysis in three different aspects, which are mindset, technology and service. And on that basis, it discusses the training measures of promoting librarians' IT literacy. It concludes that librarians need to learn new technologies and innovative service model, in order to improve their professional influence and meet patron's requirements.

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Introduction

Towards the end of the 20th Century, when technology started to play its part by integrating library systems into library service, the evolution of Web 2.0 brought up an extensive revolution of Library 2.0. Attributed to the technology development, Chinese libraries started to provide online access to the catalogue for library users, via computer terminals in the reading rooms. With the spread of the Internet providing access to these online library systems, library users can now access the library service from anywhere on the planet.

Web 2.0 generally refers to the social software tools as social bookmarking, social networking, RSS feeds, and instant messaging that provide users with the ability to create and disseminate content. Entering into the 21st century, some libraries are already starting to make use of Web 2.0 applications, such as Blogs, Wikis, RSS to reach out and interact with their users. Others are starting to embed new tools into their traditional service offerings. Librarians communicate with younger library users through new technologies. Recognizing what Web 2.0 tools are and learning how to adapt them for library use is essential for new and practicing professionals in Chinese libraries.

Web 2.0 and Library 2.0 continue to catch attention and be warmly discussed in scholarly and popular library literature. Blogger librarian Sarah Houghton defines the trend as "Library 2.0 simply means making your library space (virtual and physical) more interactive, collaborative, and driven by community needs. Examples of where to start include blogs, gaming nights for teens, and collaborative photo sites. The basic drive is to get people back into the library by making the library relevant to what they want and need in their daily lives . . . to make the library a destination and not an afterthought" (Elizabeth Connor MLS, 2007). Dave King views Library 2.0 through a technology lens "Our patrons are using web 2.0 services. They are using cell phones. They are gaming, IM'ing, chatting. They are consuming digital content. And we as libraries need to be there, if we want to meet and greet our patrons" (Elizabeth Connor MLS, 2007). In Richard Wallis's presentation, he described Library 2.0 as "a conjunction between Web 2.0 and librarians, is starting to engage users with online library services." (Richard Wallis, 2007)

With the wide application of the computer technology, ICT and high density storage technology and multimedia technology, the library work is changed profoundly. These

applications have changed the way of information treatment, storage and services in Chinese libraries. It is known that information is the life of the library. How to show its concerns of the information activities, and its contribution to the appreciation in value of the information, are the expectations to the libraries from the society. The challenge for librarians is how to plan for continual change to remain relevant for current patrons and to attract new users. How to assist library users with research in unfamiliar disciplines is a struggle even for experienced reference librarians. Librarians need to understand the practical uses of Web 2.0 tools for libraries and keep up with theses new technologies.

New environment and new user commands will bring up psychological pressure for the librarians. Facing the dramatic changes of information environment, the librarians in China realize an inevitable trend that they should be professional, qualified and high-level talents so as to better achieve the goals of the libraries. Mr. Qian Xuesen, academician of the Chinese Academy of Science, mentioned "a staff of a modern library, archive and information unit shall be an information professional, an information engineer, a constructor of the information system and a guide and consultant". Thus, it is top priority to train the IT literacy for the librarians now.

IT literacy requirements for Chinese librarians

IT literacy definition

In year of 2002, ETS (Educational Testing Service) has announced the report on Digital Transformation a Framework for ICT Literacy, which classifies IT literacy in the following 6 category of abilities:

1. Access: to know how to search and collect information, and know how to locate the target resource in a database.

2. Manage: to organize the information and display

3. Evaluate: to evaluate and judge the quality, relativity, usability, validity, authority, deviation and timeliness of the sources

4. Integrate: to abstract, conclude, judge and compare the information from different sources

5. Create: to create new information by the activities of analyzing, applying, devising and creating in the IT environment

6. Communicate: to transmit the different kinds of information to different individuals and target groups

Partnership for 21st Century Skills, which is formed by educators, education policymakers and large enterprises, believes that ICT literacy is a must quality for the talents of the 21st Century. This partnership defines the ICT Literacy as the ability to effectively use technologies in the knowledge economy, which includes:

1. Skills of learning: information and communication skills, thinking and problem solving skills, interpersonal communication skills, and use traditional technology to research, organize, evaluate and communicate information;

2. Using Tools：Communication, information processing and research tools (e.g. word processing, email, component, display, web exploitation, internet search engine, etc.); problems solving tools (e.g. forms, decision-making and design tools); self development and productivity tools (e.g. E-learning, time management, calendar, collaboration tools); use the digital technology (e.g. computer, handset digital devices, medial player, global positioning system, etc.) and communication/network tools and actual social network to access, manage, integrate and create information so as to achieve successful living, study and work;

3. Ability of management & innovation: understand and apply the ethics and legal criterions of different kinds of ICT; use ICT to access, manage, integrate, evaluate, create and communicate information; use ICT to manage complicate things, solve problems and have innovative and systematical thinking; use ICT to increase productivity and achieve self development.

IT literacy requirements:

Knowledge service is the objective and required service mode of libraries in the knowledge management environment, which can furthest fulfill the function and effect of the knowledge information. Knowledge innovation can only be reached through knowledge service. The librarian's IT literacy level will decide the level of the knowledge management and services in the libraries, which is also the sign to scale the management and service abilities of a library.

Li Guangyan from the Library of Harbin Institute provided his research result of the evaluation criterion about IT literacy in four aspects as following (Li Guangyan 2004):

1. Quality of literacy on Information Technology: knowledge on the modern technology, such as computer, network and multimedia, etc.

2. Quality of media on Information Technology: to have knowledge on the formal communication channels and information media and know the formats, characteristics and the ways of use of multimedia.

3. Ability to operate the computer: handle basic operations of the computer, like Word Processing, basic data management, and the usage of the common software.

4. Ability to use the network: to understand the scope, distributing and value in use of the global web information resources and its services, the production, management and access mechanism of the web information; besides, can use technology with the web searching tools to search and obtain certain kind of information, and use the web information to analyze and solve the problems related to the work or personal decision making so as to get the services which will improve life quality.

Librarians 2.0

Librarians 2.0, a conjunction of Web 2.0 and library 2.0, is starting to use new technologies to engage users with online library services.

1. Mindset

IT literacy differs from information literacy. Information literacy focuses on information and shows the process to understand, discover, evaluate and use information. However, IT literacy also emphasizes technical measures. Information literacy mainly indicates the ability to search, evaluate and use the information on different kinds of media, while the IT literacy mainly focuses on that of the digital resources; it is a basic quality for the librarians in the IT environment.

The librarians should know the importance of the IT in the library operation and

management and its high value. They should know the concept and content of IT literacy, and moreover understand the measures and skills to access information. Thus, the dated traditional views will be transformed. Besides, the librarians should have the ability of knowledge innovation.

2. Technology:

"Incorporating Technology" applications that allow for a conversation with patrons, such as blogs and instant messaging, are highlighted. Other technologies offer means for attracting and using patrons' input, from tagging in the online catalog to adding resources to library-hosted wikis, both to create more personal connections and to keep the library's online material fresh.

The abilities to use computer technology and network are necessary and essential for the librarians in the information and network era. The librarians should have the skills to collect, store, organize, control and provide access to the electronic information resources, the capability to evaluate the applicability and judge the value of the different types of electronic information resources (like bibliography, numerical value, fact, full text, image and multimedia) on different kinds of media (floppy, CD-Rom, magnetic disk or tape), and the ability to explore the electronic information resources to create new information product and news service contents.

3. Service:

In Casey and Savastinuk's words: "Library 2.0 is a model of library service that includes constant and purposeful change and user participation in the creation and maintenance of services, while maintaining a primary goal of extending the library's reach to potential library users" (Kris Stacy-Bates 2008). Notice that this definition is not dependent on the use of particular technologies. Casey and Savastinuk emphasize that just starting a new library service is not sufficient. Change must continue, not for its own sake but to reflect feedback from initial implementation and the continuing changes in the communities we serve.

The libraries and librarians in the information age should provide knowledge services. With the development of the knowledge economy, Knowledge has been attached great importance. From knowledge innovation to knowledge management, all show the great importance of knowledge to the social development. The "knowledge" here not

only refers to the knowledge stored in the library, but also the knowledge services by the librarians with the help of their personal knowledge and skills.

IT literacy training practices in Chinese library communities

The Public Library of Charlotte & Mecklenburg County has a more innovative practice. In an effort to address learning issues related to newer technologies of the Library 2.0 ilk, it developed a learning competition for library staff of all generations that involves experimenting with 23 things related to blogging, photo sharing, RSS feeds and newsreaders, generating images, tagging, wikis, open source productivity tools, sharing audio and video files, and much more <http://plcmcl2-about.blogspot.com/>. What measures used in China? As we all know, there are many categories of libraries. Different types of libraries may have different training measures. Some examples are given in the following according to the types of the libraries.

1. National Libraries

National Library of China has a Social Education Department which is in charge of the organization and management of the librarian trainings, making annual training plans. According to its plan, each librarian is expected to have at least 5 hours trainings. In the annual training plans, the content includes a certain percentage on the information and technology, such as, computer using skills, commonly used software, online searching, mobile storage equipments, blogs, and so on. Besides, the training courses on the use of databases are organized in order to promote the IT literacy for the librarians, especially for reference librarians, such as the use of Social Science Database of EBSCO, STN, etc.

2. Public Libraries

Take Shanghai Library as an example, the annual training plans focus on the promotion of professional skills. It cooperates with the East China Normal University, Peking University, Science and Technology Information Institute of China, etc. to create professional training base and open training courses. The content of these training programs include up-to-date computer application skills (95% trainees passed,

that will get the certificate from the Ministry of Human Resources and Social Security of China), and multimedia design and application. Since 2003, it also started the training courses on the use of graphic design, which focus on how to use multimedia software, e.g. Photoshop, Illustrator, Flash etc.

3. University Libraries

After survey and analysis on the library and librarian's needs, Wuhan University Library established the training principle: organize the training according to the different categories (age group, their profession and major, work post) of librarians; set compulsory general courses and elective professional courses; combine the training and self study; conduct training evaluations.

4. Special Libraries

Hebei Provincial People Hospital Library takes the training measures of in-library training and inter-library study. In the library, each librarian will be the trainer, and give lectures to other librarians according to his/her profession. Besides, it also invites LIS experts to give professional lectures for the librarians of the librarian.

IT literacy training measures for librarians

Analyzing from those practical examples, we generate that literacy training measures in China can be divided into three main categories:

1. Inside-library training:

(1) Continued Professional Education. Many libraries encounter the librarian's aging problem. Their education level varies, and the understanding and knowledge of information technology are different. In order to improve their IT literacy, the pointed training is necessary.

(2) Training on modern information and technology. There are two ways, one is to have the librarians to visit other libraries and study their techniques and experiences and understand the exterior development status; the other is to invite professionals and experts to have training sessions for the librarians, so as to improve their ability on

information access, processing, etc. This will also improve the library service levels.

(3) Organize training courses on basic knowledge and skills of computer and network, with aim to shape the practical operation skills.

2. Social practice:

(1) Have the librarians involved in the information services, which can help them to use what they learned into practice. This will combine the theory and practice, and increase the understanding of the information services and enhance the ability in using the information technologies.

(2) Librarian exchange program: The libraries exchange their staff according to their mutual cooperation agreements. For example, the National Library of China and the National Library Board Singapore exchange librarians every year through the staff attachment program. According to this program, the librarians of one library can work for a period of one month in another library, through which they can learn the knowledge and experiences from each other.

3. Self-training by E-learning:

Self-education focuses on remote education and network study, with the use of online courses, librarian BBS and librarianship blogs. The objectives are to study and command the library websites which are developed with the new technology (such as web 2.0, web 3.0, etc.) on the basis of user's habits, cross database search, various information pushing systems and tools, the online communication tools which are commonly used by the library users and the functions of virtue online community, and the application of information processing and analysis software, etc.

Conclusion

Technology continues to challenge and confound in Chinese libraries. The change and transformation of the library is inexorable trend. Through it all, it is possible to find different and more efficient ways to perform routine tasks, and once in a great while, discover an entirely new way to be productive and creative. The librarians have to adjust their mind and acclimatize actively to the changing requirements. Thus, it is

rather important for the librarians to improve their IT literacy. The Chinese librarians need to study new knowledge continuously, and equip themselves with the innovative spirit, so as to actualize the value of life and embark the library work on a track of benign development.

References

1. Elizabeth Connor MLS, AHIP (2007): Library 2.0, Medical Reference Services Quarterly, 26:S1, 5-23

2. Richard Wallis (2007): Web 2.0 To Library 2.0 – From Debate To Reality, New Review of Information Networking, 13:1, 53-64

3. Li Guangyan (2004): Discussion on Education of the Users' Information Technology Literacy, Information Science, 2004 Vo l. 22, No . 4

4. Kris Stacy-Bates (2008): Library 2.0: A Guide to Participatory Library Service, Michael Casey and Laura Savastinuk, The Serials Librarian, 55:1-2, 310-312

5. He Hua Jun (2011): Discussion on Librarians' Education and Self－education under the New Information Environment, Sci-Tech Information Development & Economy, Vol. 21 (2011), No. 9

6. Huang Jie (2008): Extend multilayer and Individual Training and Promote the Continued Education Effect: the Practices of Shanghai Library Training Center, Library Journal, Vol. 27 (2008), No. 7

7. Liu Xia & Zeng Yan (2010): The Practice of Staff Training in Academic Library: a Case Study，Library Tribune，Vol. 30 (2010), No. 5

8. Wang Ling & Meng Xiaomei, How Hospital Libraries conduct staff training to meet users' needs, Medical Information. Feb. 2009. Vol. 22. No.2

9. Wei Qi (2010): Discussion on Information Literacy Cultivation of Librarians in the Information Age, Sci-Tech Information Development & Economy, 2010 Vol. 20, No. 24

10. Wan Wee Pin (2008): Library 2.0: The New E-World Order, Public Library Quarterly, 27:3, 244-246

11. Gbola Olasina (2011): The Use of Web 2.0 Tools and Social Networking Sites by Librarians, Information Professionals, and Other Professionals in Workplaces in Nigeria, PNLA Quarterly 75:3

12. Hannelore B. Rader (2000): Information Literacy in the Reference Environment, The Reference Librarian, 34:71, 25-33

13. Sara Roberts & Dwight Hunter (2011): New Library, New Librarian, New Student: Using LibGuides to Reach the Virtual Student, Journal of Library & Information Services in Distance Learning, 5:1-2, 67-75

14. Tang Guang-xiong (2008): Library 2.0 and the Technical Literacy of Librarian, Sci- Tech Information Development & Economy, 2008 Vol. 18, No. 20

15. Chen Yan & Wang Zhao Bing (2011): University Library Needs Librarian 2.0, Academic Library and Information Tribune, 2011 Vol. 10 No. 1

16. Giovanna F. Miranda, Francesca Gualtieri, and Paolo Coccia (2010): How the New Web Generations are Changing Library and Information Services, Medical Reference Services Quarterly, 29:132–145

17. Milica Cvetkovic (2009): Making web 2.0 work—from 'librarian habilis' to 'librarian sapiens', Computers In Libraries, October 2009, 14-16

18. Pride Shoniwa & Dr Hazel Hall (2007): Library 2.0 And UK Academic Libraries: Drivers And Impacts, New Review of Information Networking, 13:2, 69-79