京都大学
KYOTO UNIVERSITY

Title	Shanghai Public Libraries and Lifelong Education
Author(s)	Lin, He; Gu, Zhen-Yu; Kawasaki, Yoshitaka
Citation	Lifelong education and libraries (2004), 4: 135-172
Issue Date	2004-03
URL	http://hdl.handle.net/2433/43683
Right	
Type	Departmental Bulletin Paper
Textversion	publisher

Shanghai Public Libraries and Lifelong Education

Lin He, Gu Zhen-Yu, Kawasaki Yoshitaka

Currently, development of the knowledge economy and global cities are becoming indispensable themes for the development of society. Within this trend, public libraries are playing increasingly crucial roles. In this new era, how to create a powerful library system to stimulate the development of the city and society is one of the key projects focused on by the public and authorities. This paper will thoroughly discuss the features, styles, functions and developments of lifelong education offered by the public library by examining lifelong education elements and socio-educational services of the Shanghai Library. Furthermore, it will discuss the status and influence of Shanghai Library's lifelong education services on the developments of Shanghai City.

CONTENTS

1   Library and lifelong education

1.1   Implications of lifelong education within the Chinese context

The term "Lifelong education" is not a new idea in the Chinese context. Back in the ancient days, Confucius, a famous scholar said: "At fifteen, I set my heart upon learning. At thirty, I became able to think for myself. At forty, I no longer suffered from perplexities. At fifty, I knew my destiny. At sixty, I could distinguish the truth out of all that I have heard. At seventy, I could follow the dictates of my own heart, for what I desired no longer overstepped the boundaries of the right." Based on Confucius' meaningful implications of human life, the above statement has become a very famous proverb in China for thousands of years. It is considered that Confucius's ideas are the earliest thoughts of lifelong education in China.

In the 20th Century, with gradual development of the knowledge economic society, the aging and renewal of knowledge is happening at an extremely fast speed. According to statistics, the amount of knowledge that becomes irrelevant every five years has been recorded as: 25 per cent in 1950s, 30 per cent in 1960s and reached 48 per cent in the 1970s[1]. An investigation conducted by the American Engineering Association discovered that the knowledge acquired by a university graduate during his/her university life only accounts for 12 per cent of knowledge needed in his/her working life, and the remaining 88 per cent of knowledge will be learnt throughout his/her working life[1]. In the modern society, education offered by traditional schools has age and time limits. Traditional education institutes can no longer fulfill the needs and demands of the public. In December 1965, Paul Lengrand, a well-known educationist released his new concepts toward lifelong education on the Third Session Seminar of International Adult Education Promotion Committee held in Paris. He stated that education should not be limited to children and youth, but, rather that all human beings need to engage in continuous learning while living in this world. In 1972, UNESCO pointed out that "Lifelong Education" shall be the key concept and guiding principle for all forthcoming education revolutions. In the report titled "Education's Yesterday, Today and Tomorrow"[2], UNESCO suggested that "we can never gain enough knowledge once for all in our initial education, we need to study throughout our lifetime in order to create a continuously-evolving knowledge system – "To learn to live".

Generally, lifelong education has been regarded as: 1) a sequential and continuous process that lasts throughout one's lifetime; 2) the basic human right for all individuals regardless of their age, sex, occupation and geographical location; 3) a social behavior and lifestyle instead of concepts of education or learning; 4) the learning that exists outside of school environments and the needing to progress in informal situations as well as expending learning boundaries, time and space limitations; 5) an activity initiated by one's conscious

mind.

1.2 Roles and features of the public library in lifelong education

The public library is a sub-system within the socio-educational system in which it is bias free and supports the principle of equal education for all. All individuals who utilize facilities of the library are able to be involved in lifelong education practices and to advance their knowledge as well as pursuing further professional and personal goals.

The library comprises of abundant and diversified amount of resources (books, magazines, newspapers), and they are being presented in different forms (printed texts, microfilms, audio-videos, electronic publications, Internet and so forth). The library is an invaluable knowledge source, and its materials have been accumulated through time by different professionals and have influenced different disciplines, morals, cultural appreciations and knowledge acquisition processes in society. At the public library, users can seek answers and solutions to their problems or can pursue their interests in a particular field on a regular basis. It offers a quiet and enriching learning environment for its users in order to build up their consciousness toward learning, and for its users to gain knowledge through active and independent means.

In lifelong education, the public library has the following roles:

A) Knowledge navigation station: Through out the history, the library has been regarded as a treasure house that attracted countless individuals for realizing their own learning and information acquisition. At the library, individuals demand knowledge, and they need flexible and diversified resources. The library can utilize its abundant amount of resources, advanced technology and facilities, and its understanding of users' demands to develop campaigns that support individuals' learning. The library has been regarded as a knowledge navigation station, because it can hold events such as exhibitions for newly published books, educational conferences, seminars, book reviews and discussion meetings. It also offers information and consultations to the general public and organizes large scale book-reading activities that induce users' consciousness and interest towards learning. Through researching and reading different resources, readers' ability to engage in self-learning and researching is improving unconsciously. By responding to users' learning needs, the public library is playing an important role in lifelong education and is attracting more users who have come to it to seek new knowledge and self developments. The public library promotes the notion of lifelong learning to the public and stimulates the development of lifelong education in China.

B) Knowledge updating station: Theorists predict that 90 per cent of the knowledge needed in 2020 has yet to be created, and when students graduate from the university, 60 to 70 per cent of the knowledge they learned from their

lectures are already out of date[3]. These predictions clearly indicate that although school education is important, it will not be able to provide lasting knowledge and skills for individuals to fulfill different requirements in society. The idea of "advancement in school for few years and then serve in society for a lifetime" has been abandoned by the society, and having one skill for one profession in the lifetime is no longer accepted. Individuals must continuously engage in educational experiences and self-learning to advance themselves and to acquire new knowledge. Being a knowledge treasure house and a information hub, the library is in truth becoming a knowledge updating station for all users. Through books, magazines, newspapers, and by researching and analyzing new information, learners are constantly up-dating their knowledge and skills.

C) Occupational knowledge recharging station: Demands for professionals and occupation education in China are large because of its massive population, the new economy and certain problems that have occurred in the history. Presently, many specialists do not exist in this field. According to statistics[4], approximately 10 million junior high school graduates are unable to enter senior high schools, and 4 million senior high school graduates are unable to enter universities or colleges every year. Twelve per cent of the 15-year-old and over population are illiterate, and it was stated that by 2000, half of the entire work force which amounts to a total of 0.3 billion workers would require further trainings when changing jobs. These youth and individuals formed a cohort which calls for the public library to provide continuous education and training. It should be called the "Second Hope Project"[5]. By combining services and trainings offered by other educational institutes, lifelong education services offered by the public library are improving learners' learning abilities and knowledge levels. They also increase ones' abilities at work, decision making and management abilities, provide better human resources and the regeneration of abilities, and encourage developments and increase the quality of society. Even with professionals such as the engineers, their knowledge is only valid for 5 years as new skills and information are being requested every year. All individuals need to participate in continuous learning in order to keep up with developments of the rapidly evolving information age society.

D) Innovative incubator station: Creation is a primary element that facilitates the evolution of human beings and is a powerful engine that stimulates the developments of a nation. As the society is changing and developing constantly, it needs to develop a creative and unique nature to develop citizens' innovative abilities as well as building up innovative education and service systems. Currently, while disciplines and R&D achievements are forging ahead and continuously bringing about new changes, edged disciplines, cross-linked disciplines and various new disciplines are springing up incessantly. Scientists, technicians, engineers, administrators and other related personnel need to learn

new ideas, concepts and knowledge, and to have a firm grasp of the up-to-date trends and information in order to invent innovative means. The library is the best provider of information sources. The knowledge individuals gained from the library inspires their minds and stimulates them to explore new views, concepts, theories and methods which enables one to explore his/ her capabilities thoroughly and unconsciously. The public library is a natural incubator that cultivates creative talents and innovative knowledge that supports the needs of an innovative society.

1.3 Educational characteristics and strengths of the library

1) Wide range of educational implications and flexibility: Learning at the library is neither limited by one's age, time, gender, profession or geographic location, nor is it restricted by the school system, teaching materials, course content and the working environment. It can satisfy users' needs by enabling them to make their own decisions, self-regulations, self-study and self-improvements as well as guiding learners to become lifetime users of the library, seeking education and re-education opportunities which repeatly stimulates users' overall developments.

2) High level of educational efficacies: The goal of library education is to increase the educational efficiencies and benefits of the library. The efficiency of the library education refers to the number of individuals that are able to receive library education within a specific period of time as well as the influences, changes and achievements occured within it. Benefits refer to influences of library education on individuals, society and generations as well as the results of these influences. On one hand, the modern library offers its users with easy accesses toward knowledge retrieval as methods such as digitization and the Internet are allowing users to find their desired information within the shortest time possible. The library gives its users high levels of research and IT skills. Various knowledge navigation services provided by the library also improve users' learning efficiencies and quality. Library education transfers potential value from the knowledge into practical values and enables current scientific knowledge and technologies to be utilized practically in the society. On the other hand, through the library, users can learn in the style they feel comfortable with. Thus along with new social demands and the fast renewal process of knowledge, the library is playing an increasingly important role. The primary purpose of the library is for more learners to actively utilize its facilities and to participate in recurrent education practices. Although many benefits of the library remain invisible, its biggest value is to widen users' abilities, capacities and knowledge accumulation, forming users' perceptions toward life and the world, and ultimately changing the thoughts and minds of individuals.

1.4 Lifelong education services of Shanghai Library
1.4.1 Shanghai Library's educational resources

1) Abundance of information resources: The abundance of information resources is the materialistic foundation of lifelong education. With developments of IT and digitalization of the modern society, the overflowing information resources are being stored digitally instead of traditional text copies. Microfilms, audio-videos, electronic journals, information multimedia products and other means are increasing the storage capacity of the library while the introduction of Internet offers a virtual side to the storage. The abundant information resources offer different knowledge required by individuals' learning in different domains and levels. Currently in the Shanghai Library, there are more than 10 million text copies, 30 million special documents[6] and its digital resources include more than 11,000 copies of electronic books, 20 network databases, 40 CD databases, 5,000 Chinese electronic journals and 3,000 foreign electronic journals.

2) Advanced hardware and network: In the Shanghai Library, its well organized network and information retrieval system provide a strong technical support for lifelong education. Through the exercise of computers and communication networks, Shanghai Library is linked with other libraries in other regions and countries, and has created an international network. Information resources are being shared globally and are spreading out at an extremely fast rate. The network and multimedia have created a learning environment that encourages interactive and intelligent performances. Information retrieval system via the web or CD databases reduces the amount of time and energy to gather information, and increases efficiencies in learning. The above means facilitate the library to perform different lifelong education practices.

3) Outstanding library staffs: The library staffs offer qualified information guidance and services for users and support the notion of lifelong education. These excellent professionals not only assist users to search for information in speedy and easy ways but also assist them to master skills and methods for effective knowledge acquisition. Through up-to-date networks, outstanding services and users' new understandings toward information resources and organization of materials, knowledge is being utilized by humans more effectively. Users are being encouraged to receive further education, and their knowledge acquisition processes are being made into easier ones.

1.4.2 Shanghai Library's educational services

1) Educational services for a wide range of individuals: Presently, there are 13 millions permanent residents and 6 millions temporary residents in Shanghai[7]. Since 1995, Shanghai Library has issued 0.5 millions library cards and 0.2 millions of which apply for re-registration each year[8]. In the past few years, users have been paying more visits to the library. In 2002, the number of visits has reached 2.33 millions and on an average, daily visitors to the library

has reached 6,384 readers. **Figure 1** shows the total number of visitors to the Shanghai Library from 1999 to 2002. Furthermore, **Figure 2** and **Table 1** show the age distribution, occupation and educational background of visitors respectively.

Figure 1: The total number of visitors, Shanghai Library, 1999-2002
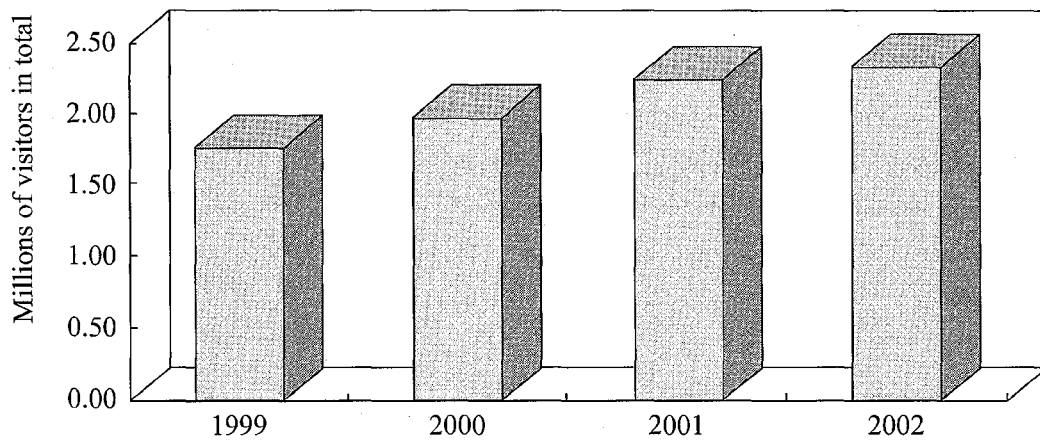
Figure 2: The age distribution of visitors, Shanghai Library, 2002

Table 1: Occupation and educational background, Shanghai Library, 2002

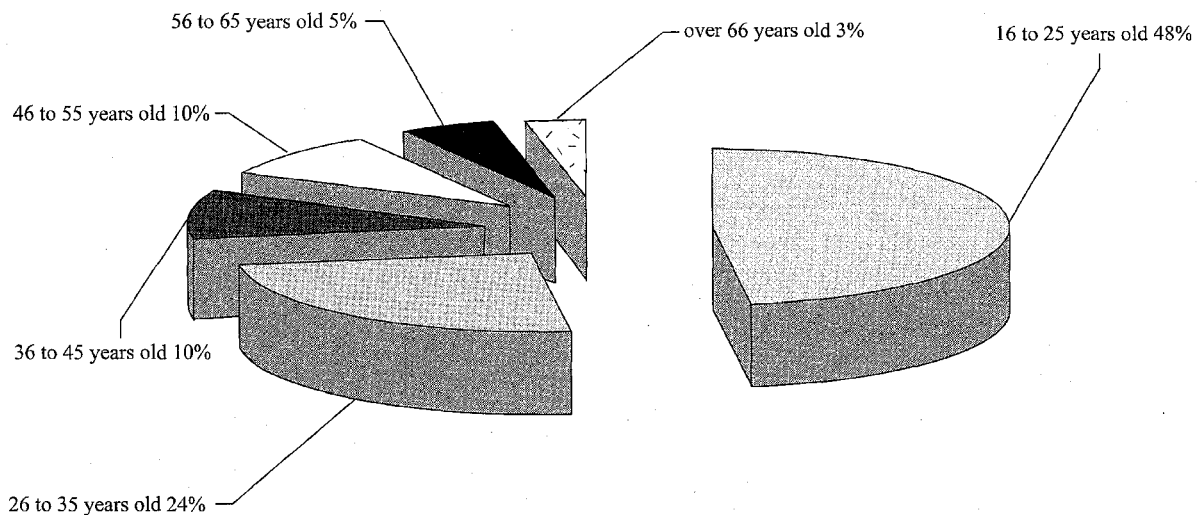| Occupation	Number of visits
Factory worker	142,728
Soldier	10,053
Government officer	73,789
Scientist & technician	186,162
Teacher	95,622
Artist	11,894
Company employee	366,335
Sale assistant	51,254
Medical staff	32,155
Student	853,652
Private businessman	11,952
The unemployed	50,075
Educational background	**Number of visits**
Graduate school level	185,763
University level	699,030
Junior college level	534,128
Senior high school level	712,518
Junior high school level	86,997

2) A flexible and diversified educational services: Besides traditional services such as the borrowing of materials, SDI services and the provision of different up-to-date information, the library also delivers new knowledge and popular cultures to its users through events such as exhibitions, lectures, special seminars and professional trainings. The followings are some events offered by the Shanghai Library:

➢ **Professional training:**

Career training- The "information age" requires professionals to be equipped with a high level of information technology skills. Thus computer and English training are becoming vital parts of professional education. Shanghai Library's Education & Training Center has been focusing its educational programs in these areas for a number of years. From 1995 to 2002, the center has trained approximately 10,000 people in these two fields. Trainings offered by the Shanghai Library also include: Chinese input methods, basic Internet, the preparation for Shanghai citizen's computer skills efficiency test & English examinations, office automation, basic English, conversational English and so forth. The Shanghai Library is playing an important role in enhancing Shanghai citizens' computer literacy and language skills as well as their professional skills.

Librarian training- The Shanghai Library also undertakes the training

and re-training of existing and prospective librarians in Shanghai. Unlike library schools in universities and colleges, the training provided by Shanghai Library offers practical perspectives for its trainees. Recently, the Education & Training Center has developed a series of training courses for individuals who want to pursue their careers in this discipline with respect to new social demands and developments of libraries. Programs offered by the center are listed in **Table 2**:

Table 2: Programs and outlines of library studies

Program	Content and purpose
Class for Shanghai City secondary school librarian	Focuses on secondary school education, basic librarianship and management training.
Advance class for information resource library staffs to receive in-service training	Provides in-service training for library staffs who engage in book maintaining, document classifying and cataloguing roles. It considers individual libraries' conditions, levels and their technology facilities. This program aims at improving and updating knowledge and skills of current library staff in order to promote standardization and usage of skills in the work place. Certificate will be issued to persons who pass the examinations.
Class for master degree students of library and information	Provides in-service training. In accordance with the Shanghai city's new "Developing and sharing information resources in Shanghai" plan, the center had designed a program for master degree students. It aims at training academics and middle/senior level supervisors.
Class for advanced studies of library and information	Provides in-service training. In order to achieve the "Developing and sharing of information resources in Shanghai" plan, the center invite experts to present seminars for learners who already hold high positions in libraries and information units. Participants of this program do not learn passively. They actively analysis and debate on current topics and accomplish specific projects within a given period of time.

⋙ Serial lectures and reporting:

Lectures held by the Shanghai Library have a long history of 25 years with increased demands from the society. They had evolved from the single macro-information lecture to a wide range of lectures that branched out into 10 different regions with different levels of difficulties to suit the needs of different learners. The Shanghai Library is commonly referred to as "a bridge of information transmission, a new classroom for new knowledge and the best link between

government and citizens. It is a university for a society without walls". The mass media portrays Shanghai Library's lectures as: the propagandist of reforms and revolutions, the interpreter and solvent of problems. Up until now, the library had held over 700 large scale lectures, and participants from over 1,200 organizations were involved. Recently, the public is showing a high level interest towards these lectures. Over 50 lectures with 20,000 participants were held in 2002, and 100 lectures are scheduled for 2003. Guest speakers in the Shanghai Library' lectures include Liu Jian-hang (famous underground engineering expert, Academician of Chinese Academy of Engineering), Teng Yi-long (Director of Shanghai Higher People's Court), Wu Jing-lian (famous economist), Yan Lan (famous TV presenter), Wang Meng (famous contemporary author) and others. These speakers not only convey valuable knowledge and skills but also share their extraordinary and successful life journeys with the audience. Lectures in the Shanghai Library are becoming "the important window for information transfer, an easy access for effective learning, a pleasant heart & soul healing school and the stage to express one's talents." The ten serial lectures in Shanghai Library are listed in **Table 3**.

3) Flexible channels for educational services: By the beginning of the 21st Century, Shanghai has become an internationalized metropolis, and many changes are occurring to the lifestyles and workstyles of people. Individuals are spending more time in reading and socializing, and how long and where they spend their leisure activities are influencing their usage of the library. Hence, a modern library needs to consider changes in people's lifestyles and all the other changing elements in the society. In order to reduce barriers that prevent library usage, public access to the resources of the library should be made more convenient and interesting. The library needs to constantly improve its services to its users and come up with new customer service systems. Based on the results of investigations and surveys, Shanghai Library had created a flexible approach toward customer service. It had, for example, discarded the traditional one-to-one front desk service and time limits. The Shanghai Library's new education services include the following 3 aspects:

Alliance between libraries – As Shanghai City has been successfully promoting the "Developing and Sharing of Information Resources" plan, the "Shanghai Central Library System" has also become a successful example under the city's movements for information technology developments. Within the "Shanghai Central Library System", the Shanghai Library was appointed as the headquarter and is combining with many libraries at the district/county level as well as academic, scientific and technology libraries in Shanghai. This system does not interfere with any of its member libraries' administration, personnel management or finance. Through networking, its primary goal is to share and expand information resources between libraries, and to improve overall customer

Table 3: The ten serial lectures, Shanghai Library

Serial name	Initial date and the number of lectures presented ever since	Content
Macro-size lectures	1978 ~ 700 lectures	Focuses on current affairs & news, important social issues, culture phenomena and distributes up-to-date IT information.
Information technology	1999 ~ 20 lectures	Focuses on people's informative life, and distributes information and knowledge for citizens so they can enjoy and become aware of various benefits and convenience of the information age.
New century forums	2000 ~ 12 lectures	Invites reputable experts, professors, scholars and artists to share their lifetime experiences with the audience. Discussions will be carried out from humanistic, cultural, artistic and historical point of views. Speakers will share their philosophies with the audience, and discussions will be carried out accordingly.
Student forums	2001 ~ 5 lectures	Creates an environment for high school students to exchange ideas, carry out researches, and express their talents and achievements. It is an opportunity for young students to discuss common topics and to receive advice from experts.
Shanghai youth forums	2002 ~ 7 lectures	Invites outstanding youths from different fields. It offers a bias-free environment to communicate, debate and share their ideas with peers.
Legal studies	2002 ~ 4 lectures	Invites experienced judges from high court to explain laws and regulations. Individuals will gain a better understanding of appropriate/inappropriate social behaviors as well as how to protect their interests through laws and regulations.
City culture	2002 ~ 9 lectures	Presents stories of successful persons, their spiritual states, and how they overcame pressure and difficulties in life. Lectures include topics such as investment, management and life styles.
Academician forums	2002 ~ 5 lectures	Invites academicians to discuss scientific knowledge and promote the scientific spirit. Participants can gain a better understanding of scientists' philosophies and why scientists pay small focus on fame and name values. Scientists continuously devote their time and energy to the field of science. Scientists share their success stories with the audience.
Knowledge and health	2002 ~ 5 lectures	Invites medical experts and biological professors to explain new ideas and concepts of health, scientific information sources, and precautions to commonly happening diseases. Participants will also learn about real pleas in the society.
Examining works of famous authors.	2002 ~ 9 lectures	Gives readers the opportunity to examine different authors' perspectives and learn to appreciate different literatures, histories and humanities. These lectures will increase one's literalistic ability, create new cultural norms in the society and promote the "city spirit".

services among all libraries. It is the first time in China where divisions between libraries were erased, and libraries of different levels and categories were combined into one system. They are being standardized and managed as one large system regardless of hierarchical order and differences among library authorities. Recently, 18 libraries at the district/country level, 5 university libraries and 2 professional libraries have become members of the "Shanghai Central Library System," and a central resource management network was developed between these libraries. On-line networking was installed between Shanghai Library, and its member libraries and a joint library catalogue was developed. Users may use the same "card" to borrow or return books at any libraries within the system. Moreover, users may borrow any desired materials from the library which is geographically convenient for them and also return these materials at any library that suit their convenience. In other words, users may browse through and borrow all books stored in Shanghai from one library. Since this system was established, the book circulation for each member library has increased by over 50 per cent respectively; especially in Jing-an and Huang-pu libraries, book circulations has increased by 100 per cent. In the forthcoming years, Shanghai city will be aiming at including 10 more member libraries into the "Shanghai Central Library System" each year, to build up a strong network among main libraries in Shanghai and eventually expend this network to suburban, local and related service points. It will become a highly technical, logical and effective educational service system.

Combining "on the spot" services with the network – As Shanghai Library adopted the latest up-to-date technologies, it also combined traditional counter-based customer services with advantages of the digital technology. With the successful developments of the Shanghai's "Million Families on Network" plan and countless free computer classes being provided by the library for its users, on-line borrowing and returning services were made possible. Currently, there are approximately 100 users borrowing books on-line each day, and as the result, more Websites are being browsed overall. The Shanghai library's digital service has combined a high level of Internet and digital technologies and has integrated unified interface, software and management. This new system is remote, fast, comprehensive, sequential, intelligent and unique. The Shanghai Digital Library has ten thousand pieces of resource materials, and they include: ancient books, Minguo books, local documents, scientific and technical reports, domestic and foreign magazines, audio-videos, historical photos and so forth. Furthermore, these resources were divided into 9 categories to satisfy the different educational demands of different users. These categories include: Shanghai ancient drawings, Shanghai ancient literatures, music database, S&T proceedings, Chinese newspapers, Minguo books, titles of Western magazines and S&T park.

Combining fixed and mobile services – Services in Shanghai Library are not limited to a fixed location within the library complex. It offers a team of "Mobile Libraries" that delivers books to several well-known locations in the city where a number of readers have gathered, such as the Shanghai Volkswagen Co., Ltd., Huang-du Town in Min-hang District, Yan-ji Community in Yang-pu District, experimental primary school in Chang-ning District and so forth. The "Mobile Libraries" extend library services to every corner of the city to satisfy demands and requirements of enterprises/institutions, basic organizations and individuals with specific needs.

1.4.3 Public libraries and university libraries

Library is a new style of learning and has much in common with the education offered by traditional schools. It is also an essential component of the overall education system in the society. The goals of both libraries and schools are to transfer knowledge and skills, develop public morals and capabilities, improve talent and artistic appreciation, and to upgrade qualifications held by learners in order to produce different human resources required by the society. However, unlike schools and other education systems, public libraries are unique in nature because they target at a wider range of learners. They have various teaching/ learning styles, diversified contents and no time limits which produce ultimate educational outcomes. By comparing with features of the university library, advantages and characteristics of the public library education are listed below:

Educational theory – Higher education focuses on systemic career education as well as ability and knowledge education. The results of students' learning are often verified through different forms of examinations. Therefore, educational services offered by its library are often career training oriented and provide resources for different faculties and career needs in accordance with the nature and goals of the school. On the other hand, educational services offered by the public library concentrate on public and comprehensive education as well the distribution of education opportunities and overall improvements of all individuals. The public library emphasizes on imperceptible influence and creative nature of the social education in which results of learning can be witnessed by one's actual improvements and can be verified by learners themselves and by the society.

Educational content and resources – In terms with educational content and resources, the university library emphasizes on discipline development and organizes its educational resources accordingly. Resources of the university library are more systematic, regularized and are limited to specific number of disciplines. Unlike the university library, the public library is not discipline-specific and offers a wide range of educational content which covers all different domains of human science and cultures. In addition, the public library answers demands from different regions and levels of the society and initiates readers' self-learning,

researching and creative thinking abilities. These abilities are indispensable for learners in order to enhance themselves intelligently and spiritually in different stages of life and career.

Different targets of educational services – The main target of the university library is its students. These energetic, vigorously and lively future social backbones are thirsting for knowledge and have high capabilities in understanding, recognizing and judging different information resources. On the other hand, the public library is targeting at the general public which includes individuals from different levels and age groups of the society such as workers, peasants, soldiers, students, merchants and technicians. Once a person becomes a user of the public library, he or she automatically becomes the educational and service target of the library. Thus, educational services of the public library are more individual based. It recognizes and emphasizes different needs of different learners.

Social benefits of education – The traditional library education at the university has a fixed pattern of phases, service targets and service areas. On the other side of the extreme, the public library education integrates school education, social education and family education simultaneously and acts as a back-up device to fill any deficiencies experienced by these three types of educations. Also, it provides sustainable educational services for learners by reflecting different needs and developments of the society. The library offers lifelong education opportunities for learners who had finished their initial school education to be constantly challenged on their abilities and intelligences to promote overall productivity of the society.

2 The current city culture and library's lifelong education

2.1 Shanghai's lifelong education development

Shanghai is one of the most culturally and economically developed cites in China and has been recognized as the center for international cultural exchanges. Education is playing an important role in Shanghai's economic and social developments. Since the mid 1990s, Shanghai has developed the "A leading education for a leading city" philosophy to turn itself into an international economy, finance and trade center (the so called "Three Centers"). According to the report by the "Striding towards the 21st Century" group, Shanghai's educational objectives were enunciated: 1) to develop a leading lifelong education system in the Asian-pacific region and 2) to promote overall and individual developments of all citizens[9]. From the supports of various public cultural organizations in the society, this process utilizes maximal amount of educational resources to develop educational activities for all individuals in all levels of the society. It is creating the "Learning Society" and the "Learning City" which can

compete actively in the international ground.

Shanghai has many world-level public culture facilities and some of its advanced facilities include libraries, museums, cultural museums, art galleries, gymnasiums and so forth. The effective utilization of these facilities is an important component of lifelong education in Shanghai. Recently, Shanghai City had developed a range of cultural facilities such as the Shanghai Library, Shanghai, Grand Theater, Orient Pearl Tower, Shanghai Art Gallery, Shanghai Bookmall, Shanghai History Museum and so forth. The Shanghai Library is one of ten symbolic cultural buildings in Shanghai in which the abundance of its resources (10 millions books and 30 millions pieces of documents) is being ranked as one of the top ten libraries in the world. Presently, Shanghai Library is placing its emphasis on the development of digital library and the central library system in order to transform itself into an increasingly important information and cultural base in Shanghai.

Shanghai Library, being a social and cultural education center, has unique advantages in areas such as extensity, continuity, multiplicity, publicity and flexibility. It is not merely an information-gathering facility of the society. Rather, it is an organization that organizes and offers abundant amount of valuable educational resources. It promotes cultural appreciation and education as well as forming a base for new city culture developments. Furthermore, its unique lifelong education elements are irreplaceable by any other educational facilities. The understanding of lifelong education practices, updating of users' conceptions and attitudes, offering of newer and easier customer services and provision of lifelong education services enable Shanghai Library to take another step in realizing its lifelong education developments in the new era.

2.2 Aggregation of city modernization and city spirit

Since the ancient times, the public library has been considered as a symbol of social civilization and an important component in the process of city civilization. It has been regarded as a treasure-house of human's cultural essences where an abundance of books and historical documents are being stored and pieces of human civilization and development are being safeguarded. These treasures include outstanding traditions and spirits of human race of the past several thousand of years. They are an unexhausted source of energy and spirits for the humankind. The human civilization indicates that the public library is a symbol of social civilization, and individuals often regard the Shanghai Library complex as the representative of the city's grandest architectural project which makes it a leading facility in China both externally and internally. Shanghai Library is not merely one of the top ten Shanghai architectures, it is also being ranked as one of the world's top ten library structures along with the Chinese National Library. Within this superior library complex, an abundant source of knowledge and cultures is

being stored. Inside the library, there is a large open space with flexible partitions and various functional areas. All together, these facilities present a unique cultural climate in Shanghai City. Many public libraries are treating their cultural activity facilities as an important structural components and utilize such facilities to hold a variety of cultural events and entertainment; such as reading circles, current affair discussion groups, concerts, speech contests, training courses, cultural classes, audio-video sessions and so forth. These lively and fulfilling activities have transformed the public libraries into leisure and cultural centers for many citizens. Thus, in a fast-paced modern society, the library has become a gathering spot for the enjoyment of different cultural experiences. It has been referred as the city's "oxygen bar" and a spiritual paradise for all.

The city spirit is a set of unique values, ideas and mindsets shared by citizens of that city. Modernization and developments of the city are often closely connected with every citizen's unique values and mindsets. Shanghai is the most modernized and developed city in China since the Chinese revolution and is converting itself into a "world class city". Therefore, it needs a matched world level public library to maximize educational opportunities for Shanghai citizens and provide activities such as public readings, public lectures and cultural exhibitions. These experiences will promote the modernization process of Shanghai City in the new era.

2.3 Abundance of different city cultures

Along with fast developments of the city's economy, demands for mass cultures are becoming stronger and are becoming the key component in socio-cultural developments. The mass culture has been regarded as a post-modern culture. Presently, different cultures are being distributed and shared globally, and the gap between high-culture and popular culture, and the gaps between pure literature and popular literature are disappearing. Along with the formation of prosperous business culture environment, production, circulation and consumption of cultural products have become essential means in people's daily lives. These diversified cultures range from national and regional cultures to organizational, family, food and fashion cultures. Moreover, they are transforming the city into a more interesting place. Therefore, how the city's public library can play an active role in leading and distributing new cultures in the city under the lifelong education slogan becomes an important question for all in the new era.

The three effective ways in developing the mass culture phenomenon are 1) introducing advanced cultures, 2) popularizing artistic cultures and 3) improving public's cultural appreciations. Shanghai Library has a rich cultural foundation, and how these masterpieces can be utilized to stimulate individuals' cognitive ability and how to distribute different advanced modern society cultures into thousands of households become important tasks for the library.

On one hand, librarians are required to explore and understand sophisticated resources of the library, research and analyze these resources, develop outstanding customer service means and promote cultural appreciations among the citizens. For example, the audio-video department of Shanghai Library consists of many excellent domestic and international works as well as world-class equipments. Recently, especially after the construction of the Shanghai Grand Theater, the performance industry is developing positively and is attracting many world-class performers and groups to Shanghai. Shanghai citizens are showing a high level of interests toward these diversified performances, in particularly with many of the classical works. Productions such as "Les Miserables" and "Cats" were fully seated, and musicals are becoming big sellers in Shanghai. However, it was witnessed during these performances that the Shanghai audience lacked means of appreciating and enjoying the performances and consequently had difficulties with understanding the true essence portrayed in different artistic works. The staffs of the audio-video department discovered such demands and organized a series of musical and opera appreciation salons which interpret and discuss famous works such as "Carmen", "Tosca", "Bohemians", "The Hunchback of Notre Dame" and "Cats" in details and also arranged FAN tea parties. These events are greatly supported by the public. The main purpose of these lectures is for librarians to lead the public toward a better appreciation of different artistic works, to explore ideas of these great artists and to understand different messages portrayed by these works. In order to organize effective lectures, library staffs eagerly search for different artistic works stored in the library and invite reputable professionals to analyze and explain different cultural and artistic appreciation skills to the audience. For example, the Mozart Symphony No.40, Beethoven Variations and Bach Harmonies interpretation sessions teach the audience how to appreciate different rhythmic patterns. Furthermore, Beethoven Symphony No.9 《Choral》 teaches the audience how to recognize different melodic structures. Mussorgsky's 《Pictures at an exhibition》 teaches the audience about a variety of instruments, and John Williams's 《Star wars》 enables the audience to understand the concept of the "theme". In addition, a diversity of experiences such as instrumental performance, audio-video and games are also being adapted in these lessons to promote active, interactive and enjoyable learning experiences. Through these elegant and artistic classes, learners will be able to enjoy different masterpieces written by different great artists and ultimately improve their artistic appreciation level. The artistic appreciation lectures are always fully seated and include a wide range of participants such as the retired, students, company employees, engineers and many others. At the end of each session, participants always ask questions endlessly, hoping the lecturer could give them more information on different artistic works.

Shanghai is an internationalized metropolitan city and has gathered different

talents from different areas of the profession. These valuable human resources are priceless and can be effectively utilized into many lectures and seminars to promote advanced cultures and scientific knowledge in order to improve overall city cultures in Shanghai ultimately. Shanghai Library has many seminar halls and rooms equipped with advanced audio-video facilities for a variety of lectures and seminars. Its unique academic atmosphere and outstanding facilities have attracted many well-known guests to give lectures the Library. For example, in the city culture series, some lectures given by well-known guest speakers were: 《Music inspires human's spirit flash》 given by He Zhan-hao, a famous musician; 《Observing the history via the Africa journey》 given by Ge Jian-xion, professor of History & Geography Research Center of Fudan University;《Explanation on books/drawings treasure exhibition of Jin-Tang-Song-Yuan Dynasties》 given by Chen Xie-jun, the director of Shanghai Museum; 《Knowledge, intelligence and fascination》 given by Jin Yi-xi, a famous Eastern-Western culture emissary who introduces interesting historical, cultural and artistic means to the audience; 《Females' image and etiquette》 given by professor Bao Ri-xin; 《Healthy life styles of modern people》 given by Yang Bing-hui, the director of Zhongsan hospital and《Financial management: modern people's smart selection》 given by Xu Jian-ming, a famous financial expert. By applying small examples from the real life context, some of these sessions teach the audience how to improve one's potentials and the quality of life. Presently, serial lectures organized by Shanghai Library are well known in the society and are highly reputed. The Shanghai Oriental TV station's "Oriental Dais" program broadcasts about these lectures so frequently to an extent that these lectures are currently accounting for half of the program's coverage. Through television broadcast, this knowledge source is increasingly being transmitted to more households, where more individuals are able to experience different advanced cultures. Ultimately, this cultural richness is transforming Shanghai into a cultural city.

2.4 Development of citizens' information attainments

The "information age society" is a society where quality of life, social evolution and economical development are depending heavily on information sources and their development. In this society, standard of life, work and leisure styles as well as education system and the market are all being influenced by the evolution of information and knowledge. Therefore, regardless of one's profession, status and life routines, all individuals are required to have a strong information awareness, basic knowledge, means of information retrieval and abilities to acquire, handle and analyze information in order to actively participate in the information age society. In other words, information attainment is a fundamental element for individuals to become active participants of the society. American Library Association defined information attainment as "the ability that allows

individuals to become aware of the right time to acquire the right information and to be able to seek out, evaluate and utilize the right information"[10]. According to Christina Doyle, information attainment can be divided into the following ten abilities[11]: (1) ability to distinguish necessary information; (2) ability to understand the relationship between complete information and intellectual decision-making; (3) ability to describe information related problems and express demands for information; (4) ability to become aware of available information resources; (5) ability to establish appropriate information retrieval strategies; (6) ability to use information in different forms; (7) ability to evaluate reliability and usefulness of the information; (8) ability to organize information effectively; (9) ability to absorb new knowledge and to turn it into a part of own knowledge resources and (10) ability to use information for critical thinking and problem solving.

Comparatively, information education was introduced to China at a relatively late stage. Currently, There are less numbers of scientists and technicians in China than numbers recorded in other developing countries back in their 1980s. Among these individuals, the ability to research for appropriate information resources is extremely low. This trend is placing tremendous negative effects on the development of Chinese science and technology. According to results of surveys, 95 to 99 per cent of information required for scientific and technical projects can be retrieved by researching the literatures, and the remaining 1 to 5 per cent of information needs to be researched by scientists and technicians[12]. A survey was carried out among 100,000 scientists and technicians in Shanghai, and its result indicates that only 1 to 2 per cent of scientists and technicians have the adequate ability to research for information required by their work[11]. It indicates that the information attainment level of Chinese scientists and technicians is extremely low, and the information attainment level of the general public is even lower. Recently, with the popularization of information technology, demands for citizen's information attainment are becoming stronger. Thus, for scientists and technicians or even the general public, information attainment is indispensable in order to meet demands of the new era as it is becoming an essential component of lifelong education.

The public library is a learning center for the citizens, and its contributions toward the cultivation and education of information attainments are irreplaceable. The information attainment process includes three aspects: development of information awareness, training of information abilities and development of information ethics.

Information awareness is the basis of information attainment education – Information awareness represents individuals' sensitivity toward information and has been considered as individuals' response towards the change of information in the environment. It includes individuals' information recognition

ability, their ability to react to new information sources and the degree they desire for information. Information awareness education includes the following elements: (1) provides basic knowledge for acquiring information sources, learning different recognition processes, comprehending and evaluating skills toward information sources in the society; (2) improves individuals' sensitivity and awareness toward information through analyzing the value of the information; (3) enhances individuals' desires and demands toward the information needed for work, study or other research activities.

Information ability is the core aspect of information attainment education – Developing individuals' information ability is the key aspect in information attainment education. Information ability includes individuals' capability of acquiring, handling and utilizing information. Information acquisition ability includes individuals' awareness of various information sources, and base on their individual needs, it promptly and accurately selects suitable information sources and finally collect the required information from these sources. Information handling ability deals with evaluating and analyzing different information acquired. It locates accurate pieces of information by deleting the unsuitable ones. The information handling ability is a fundamental skill for learning and studying. It is also the fundamental ability required for the future society. The information utilization ability deals with applying processed information effectively in practical situations, such as work and everyday lives.

Information ethics is the security for information attainment education – Information ethics is a set of regulations that regulate individuals' behaviors in the processes of developing, utilizing and propagating different information products and usage of the information technology. Despite the fact that information technology has penetrate through every corner of the society and provides maximal convenient measures and wealth for its users, it has also created many serious problems such as hacking and computer viruses which contradict with many traditional ethics and morals. In situations where information technology is used for illegal activities, it will cause tremendous damages to the human race. Thus, how to instruct and guide the public to follow information ethics and morals, self-regulate information-related practices and actively participate in creating an ideal information environment are essential aspects that need to be covered within the information attainment education.

The public library offers different information attainment education programs that cater for learners' different age groups, professional needs and academic background by reflecting on their information knowledge attainment level, learning ability, demands and goals. It introduces different styles and carriers of information resources as well as different searching and retrieval methods. Shanghai Library has the world-class CD databases reading rooms and computer-learning rooms that integrate Internet facilities. The wide range of computer

classes covers topics such as computer & network knowledge, search skills and introduction to the database. They educate users about different ways to retrieve and collect information efficiently, such as basic computer operation skill, retrieval language and strategies, databases on the network, resources on the Internet and other valuable skills. These classes enable users to become familiar with basic network usage and search engines as well as understanding the structure and distribution of information, which is available on the network and the Internet. During these classes, individuals' demands, needs and interests are considered, and learners are given tasks in these areas accordingly. The purpose of such practices is for learners to experience the convenience brought by the digital information, to understand the true value and importance of information, to increase learning desires, and to broaden creativity and perspectives in life.

In 2002, it was estimated that Shanghai Library's computer learning rooms were utilized 39,689 times in the same year within which 10,866 times were used by foreign individuals. In addition, in order to satisfy users' needs in different areas such as preparing for computer qualification examination or basic computer skill acquisition, all computers in the library are equipped with teaching software that enable users to self-study and to involve in practice-drill activities at their own pace. Meanwhile, computer-related classes are being offered, and according to the records, 2,383 learners had participated in them. Since the late 2002, the computer learning room has been inviting famous network database suppliers to hold special exhibitions at the library to introduce their latest products for technicians of the related field. The suppliers offer free trial services for exhibition participants. Shanghai Library has opened up the door for many enterprises and technicians to experience and utilize the massive amount of electronic information resources. The staffs of Shanghai Library utilized their experiences in which they edited and published handbooks such as 《User Manual of CD Databases》, 《Treasures on Network》 and other digital information related texts. These books offer easy to follow guidelines for readers to search information and enjoy network resources. They minimize traditional gaps between the public and electronic resources, broaden their visions toward information and enhance their capability to employ digital information.

2.5 Development of lifelong education in communities

"Community" is a concept used in sociology to study existing social patterns and internal structures. It refers to a particular body of individuals in a particular area that organized themselves into a unit which usually based on some commonly-shared characteristics. Individuals living in the same area usually have common characteristics and the community satisfies material and spiritual needs of its residents in various ways. A community is formed by the community consciousness shared by individuals living together in the same area for a long

period of time.

In the 21st Century, formation of the learning society drives the development of lifelong education in communities. Moreover, advantages of having the community lifelong education are becoming increasingly apparent to its residents. Therefore, educational styles are becoming more flexible and diverse, and the contents are becoming more practical. The future community will integrate both official and non-official education, formal and informal education to realize educational activities and to incorporate elements such as time, space, facilities and resources to build an effective lifelong education system. The above elements support lifetimeness, openness, integration, consistency, socialization, flexibility and collaboration of lifelong education. The community's lifelong education facilitates residents in the community to acquire knowledge and skills required for their entire lifetime and to fulfill their own self values.

Community libraries offer a wealth of learning resources for lifelong education and create an extensive platform for cultural education. The main roles of community libraries in lifelong education are to inspire learners' desires toward learning and to enhance their learning consciousness. Furthermore, community libraries enhance residents' social adaptability, support community' economic and social development, organize residents for public affairs and community meetings and ultimately create healthy community spirits and cultures. The above mentioned community spirits and cultures are foundations of the city spirits and cultures.

There are 263 community libraries in Shanghai within which 33 libraries belong to the district/ county level, and the remaining 230 libraries belong to the village/ town level. Generally, each district/ county level library stocks approximately 300,000 books, and each village/ town level library stocks approximately 30,000 books. In addition, there are approximately 5,000 reading rooms allocated in hamlet/ alley level, and each one of those reading room stocks approximately 500 books. Along with Shanghai's information evolutions, many of these libraries have gradually formed their own unique characteristics and are linked to the network for further developments and expansions. Examples of abovementioned libraries are listed in **Table 4.**

3 Digitization, networking and lifelong education of the public library

3.1 Impacts of network environment on lifelong education of the traditional library

3.1.1 Internet information

Along with initiatives and developments of the Internet, the nature of information resources has changed completely. Traditionally, the main method for readers to acquire information was through the library. Presently, going to

Table 4: Community libraries in Shanghai and their features

Library name	Unique features	Annual visits	Website
Huangpu Library	Book review, film/ drama review	54,750	http://www.shhpl.com
Huangpu No.2 Library	Book review, travel, health	32,850	http://www.nsinf.online.sh.cn
Hongkou Library Hongkou Quyang	Library book & film review, interactive local culture	231,775	http://www.hql.online.sh.cn
Jingan Library	Book review, local authors	5,110	http://www.jinganlib.net
Zhabei Library	Tea cultures	51,100	http://www.zblib.online.sh.cn
Changning Library	Local culture information	7,300	http://www.cnqlibn.com.cn
Yangpu Library	Environmental protection	38,690	http://www.yplib.online.sh.cn
Putuo Library	Local culture, legal culture	149,650	http://www.ptlib.online.sh.cn
Baoshan Library	Chang-jiang river folk culture	20,075	http://www.bslib.online.sh.cn
Minhang Library	Book review, local culture	9,855	http://www.mhlib.online.sh.cn
Pudong Library	Local history and culture	12,410	http://www.pdlib.com
Chuansha Library	Book review, health and local culture	26,645	http://www.lingkong.com
Nanhui Library	Agriculture, local culture	–	http://www.libnet.sh.cn/nanhui
Qingpu Library	Travel, aquatic products	–	http://www.qplib.sohu.com

the library is not the only method, and individuals can gather information easily by pressing a few keys on the keyboard or go onto the Internet by clicking the mouse. Despite the fact that the Internet offers an abundant amount of resources and has improved the information shortage condition, it brings the new information overflow problem. Furthermore, many resources offered by the Internet are not valid, and they may offer false information which usually misdirects the readers. Therefore, readers need the assistance of professional guidance in order to research for appropriate information resources promptly and effectively.

3.1.2 Reading habits

Under the influences of the network environment, reading habits of many readers are changing gradually. Currently, readers have the tendency to favor gathering and reading information on their own computer screens. Furthermore, new information technologies are being launched continuously and are placing new challenges on the traditional book-reading method.

According to many readers, although the e-book has many advantages, it is not as convenient or mobile as paper publications because they are not portable. Thus, the traditional paper publications can not be replaced by e-publications. Yet, the forth mentioned conclusion was solely formed on the basis of present technologies and developments. It is argued that potential development in the future will be able to produce more convenient portable e-publications which will be easy to read and will eventually change human's traditional reading patterns. For example, during the late 1990s, the US developed an e-book reader which weighted 620g, 18cm long, 12cm wide and 2cm thick. It is similar to the size of an ordinary book and can be connected to personal computers to download e-books from the Internet at the charge of a small fee. Moreover, the e-paper device developed by the E-Ink Company in the US is virtually a thin displayer with the thickness of less than 1mm. It is a paper-like material, very thin and flexible. When one electric current passes through the e-paper, the e-link within the paper will automatically changes its color and maintains the color display without constant power supply. This e-paper can be bended, bind into books or be used in the newspaper style and is therefore more responsive to human's traditional reading needs. Currently, despite these new technologies cannot change readers' traditional patterns completely, it is certain that they will be adopted by readers in the near future.

3.1.3 Information retrieval methods

The floppy disk was considered as the prime carrier of electronic resources back in the early days. During the late 1980s and the middle 1990s, compact discs became popular carriers of information, but the Internet and CD publications soon took over in the late 1990s. However, because the Internet broad band offers fast and low cost services, hard discs have problems with reading and storing large files and CDs can be damaged easily, digitalized information resources are gradually becoming the main source of information in this new era. Thus, developments of electronic resources and e-publication are changing readers' information retrieval methods in great extent.

In the past, the principal method for readers to acquire information was by going to the library or other information centers. This process include: (1) reading the literature - keep in track of several editions of core magazines, newspapers or related articles, and then copy any desired materials; (2) research for secondary literatures – use bibliographies, abstracts or CD ROMs to get hold of title names, and then use these titles to locate the whole document. Compared with traditional library services, the network contains a greater amount of information sources as well as speedy and effective retrieval procedures for users to gather their desired information sources on their own computers at home.

3.1.4 Information carriers

In the past, resources in the library were mainly kept in text forms. However,

under influences of the new information technology and network, more digitalized resources are being stocked instead. There are two stimuli for this movement: (1) libraries are actively expanding their electronic resources in responding to developments of the network in the new era; (2) many publishers are decreasing their paper-based publications for more digital publications, and the library is passively purchasing more digitalized resources.

In 2002, Shanghai Library spent RMB 80 million Yuan for purchasing new literatures and resources within which RMB 10 million Yuan were allocated for electronic resources. Currently, Shanghai Library has more than 40 CD databases, 20 network based databases, approximately 1,100 types of foreign e-books, and over 10,000 titles and 30,000 copies of Chinese e-books. The content of these e-books covers a wide range of areas such as government and politics, health and medicine, local information, education, business and economy, society and behavioral science, arts and humanities, law, science and technology, reference books and so forth.

3.1.5 Different service styles and their targets

Currently, Shanghai Library is entering a new stage of electronics and networking in which its service targets and users' demands are changing dramatically. As the consequence, library's service contents, service measures and styles are also changing accordingly. The library needs to maintain its traditional services as well as transforming itself from the traditional service environment to a network service environment. It needs to actively translate the library's traditional information resources into network resources and develop web-based library services for Internet users as well as converting Internet's abundant information resources into one part of library's information resources. Thus, in this "Internet" era, services provided by the library go beyond time or space limits and become 24 hours interactive services for the society.

Within the network, a variety of information resources are being interconnected, in which high quality academic information and low quality information as well as beneficial and harmful information for the society are being mixed. Moreover, different information in different languages and different ideologies and opinions are also being blended into one "big information resource". Since information resources on the network are diversified, constantly changing and unregulated, it is impossible to adopt a unified or standardized method for information retrieval on the network. As the result, the general public are often unable to find their desired information sources on the Internet promptly and accurately. Thus, the primary information service for the library will be to instruct its users to accurately use the network and to construct an effective network navigation system. In doing so, the lack of appropriate/valid information sources and other existing problems will be resolved, and the library's information services will be utilized to the maximal extent.

3.1.6 New approaches to lifelong education

Along with rapid changes resulted from the library's internal and external environments as well as changes in individuals' reading habits and information acquisition manners, traditional lifelong education services offered by the library can no longer meet the demands and requirements of the society. In order to offer services to a wide range of users and to employ advantages of the electronic resources effectively, the library has launched the new distance education.

3.2 Development of distance education
3.2.1 Evolution of distance education

Distance education is also being referred as "Distance learning". In the 1980s, Desmond Keegan, the world's famous distance education expert enunciated that there are 6 distinctive characteristics of distance education[13]:

➤ Teachers and students are separated geographically;

➤ Qualifications of these education organization are recognized by the government's education department;

➤ Education contents are transmitted by modern communication technologies;

➤ Offers mutual-interaction practices to both students and teachers;

➤ Students can attend classes at any time or place. There are no centralized teachings or basic learning groups;

➤ Includes more industrialized education styles, such as the sharing of work, mass production, unification and assimilation.

Currently, it has been considered by educators globally that the abovementioned education has progressed through 3 different stages. The first stage of distance education originated in 1840s by a man called Isaac Pitman. He taught his tutorials on shorthand method of writing by correspondence, and this particular teaching approach still plays a vital role in the current adult education practices. After the 20th Century, due to advancements in information technology, the correspondence teaching was converted into radio and television teaching and is broadcasted widely. It is a practical, feasible and effective approach in distance education and is currently the core approach employed by Chinese distance education. Presently, the emergence of the third stage distance education bases strongly on the Internet. In other words, it is the emergence of the "Network education".

3.2.2 Development of domestic and foreign distance educations

In the information era, governments in many countries are employing different advanced technologies to stimulate the movements of educational informationization. The British government declared that "By 2002, all of British schools, colleges and universities will be connected to the Internet". Developments of distance education in the US are progressing so dramatically that they are creating an outstanding figure of Internet universities being established annually

and a massive number of student enrollments. By the end of 1998, 78 per cent of 4-year-based public universities and 64 per cent of 2-year-based public universities have launched distance education programs respectively, and a total of 54,470 courses were introduced. The number of students learning on the Internet is increasing by 300 per cent annually, and the number of students officially enrolled in distance education programs reached 1.66 millions[14].

The Chinese government also pays close attention to the development of distance education and stated in the 《Education Vitalization and Action Program Towards 21st Century》 plan: "To execute modern distance education projects, to construct an open-ended education network and to establish an effective lifelong learning system." However, China had a slow start with its distance education developments in comparison with other advanced nations. In 1999, the "Modern Distance Education Project" was initiated and was trialed at a number of Chinese universities such as Qinghai University, Beijing University and Beijing Communication University. By September 2000, only 31 universities were approved to trial distance education programs. Overall, technologies and facilities for distance education are not sophisticated in China yet.

3.3 Position and roles of the library in distance education

When examining the position of library in distance education, it is necessary to consider about the library's educational functions first. The Chinese ancient library had several faulting points as it was "closed", "aristocratic" and "storage instead of usage" in nature, and its access was limited only to the selected groups of individuals. Thus, the library's educational functions were not utilized effectively. By the modern library days, the library was opened to the public, and its educational roles are finally put into practice. The library is an indispensable element for many modern social developments. It distributes cultural and scientific knowledge among different individuals and improves their quality of living. Recently, along with individuals' stronger demands for information resources and library's adoption of advanced information technologies, library's educational roles are being enhanced and are placing direct educational impacts on every corner of the society. Moreover, educational contents and approaches are also becoming more diversified. The library's educational role is becoming more well-known and recognized by the public and is currently referred as the "University without walls" or the "Social University".

Presently, under the influences of globalization networking, the modern library is in the process of converting itself into an e-Library and a digitalized library. Regarding to Internet and distance education developments, the library is becoming the main supplier of information resource for distance education and holds an important role for different distance education activities. The essence of modern distance education and the socio-education roles of libraries are unified,

and the distance education system needs supports and involvements from the library. On the other hand, the library can serve the society by employing modern distance education technologies. Ultimately, the library and distance education are realizing the same socio-education goal. In distance education, economic and direct/indirect social benefits of library information services are becoming increasingly obvious. Library's educational activities are being integrated into universities and other educational institutions in order to cooperatively support the distance education phenomenon.

Different types of distance education offered by the library may include: on-line navigation and referencing, on-line catalogue inquiry, on-line e-book borrowing and on-line lectures.

### 3. 4 Distance services and lifelong education of Shanghai Library
3.4.1 On-line navigation and referencing

The "United Knowledge Navigation" on Shanghai City's Center Library Network is based on the "Developing and Sharing of Information Resources" approach in Shanghai. It consists of resources from district/county level libraries as well as libraries of different institutes and universities under the lead of Shanghai Library. It is the first system in China that offers technicians and researchers with high quality professional references and knowledge navigation. It is also a new measure that enhances network services of Shanghai City's Central Library and its knowledge navigation capacity.

The following navigation website (http://eservice.digilib.sh.cn/zsdh/ **Figure 3**) connects to different libraries and information institutes within the Shanghai region. It utilizes libraries' abundant amount of resources as well as massive amount of information on the Internet. Moreover, a number of young and middle aged librarians are organized into a team of network knowledge navigators. Distance knowledge and the navigation website include elements of information, networking and human resources and are becoming vital strategies for lifelong education in Shanghai library. Presently, there are 21 knowledge navigators in total, and each has related professional background and experiences. Depending on their needs and queries in different academic fields, users can select different specialist librarians to assist them accordingly. Once users submitted their questions, they will be provided with satisfactory answers within 1 to 4 working days. By enhancing developments and expansions of library's resources and employing massive information supplies on the Internet, superior references and consultation services can be offered on-line by various libraries in Shanghai. Ultimately, libraries are becoming knowledge navigators for different industries in the present knowledge and economic society.

The above navigation site was launched on the 28th of May 2001 and was already well known and respected by many different users. Since then, it answered

Figure 3
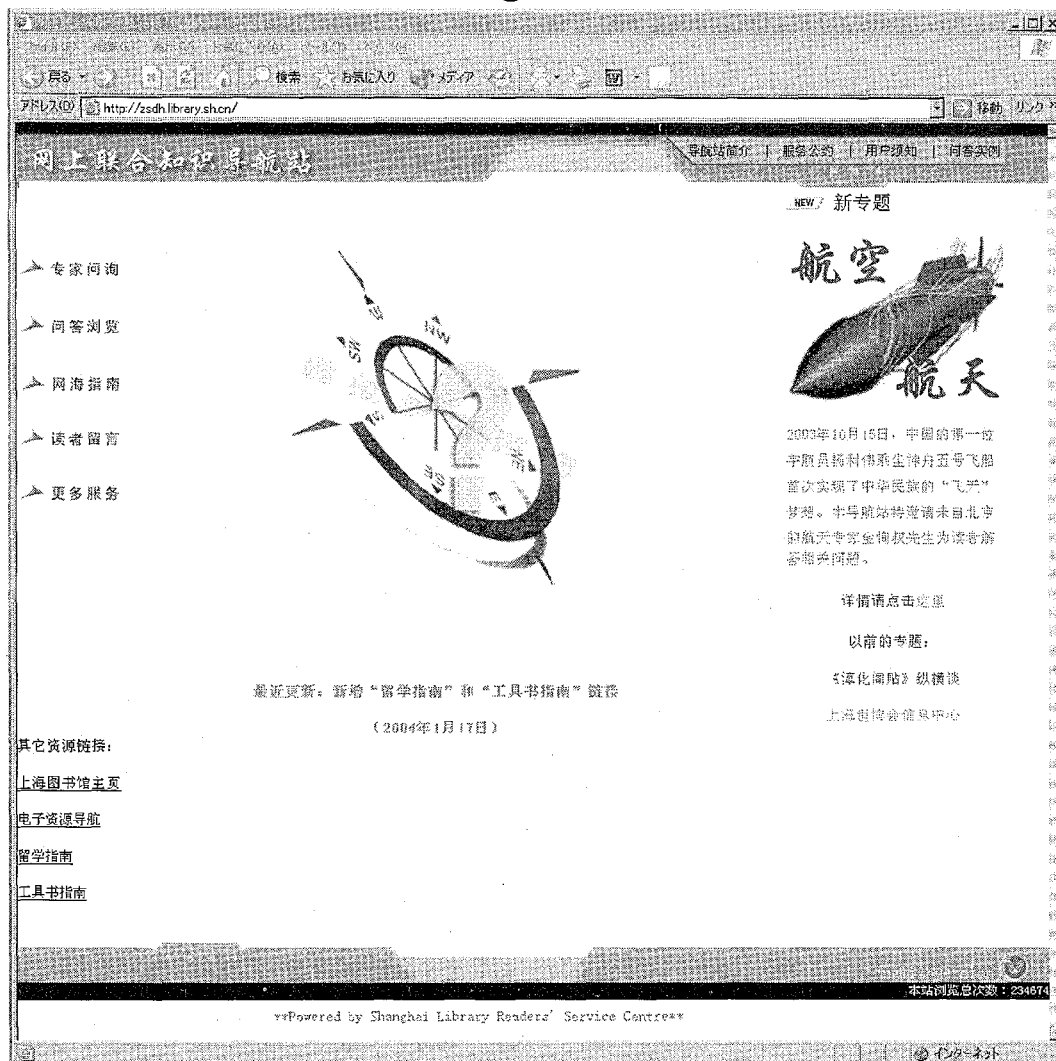
more than 1,000 queries and was not merely helping users within the Shanghai region but also other domestic and international users. Currently, the navigation site accounts for approximately 10 to 20 requests each day, and in order to serve the society better, the navigation site is cooperating with Hong Kong Lingnan University, Singapore National Library and Biblioteca Central de Macau to offer services for Hong Kong, Macao and Singapore region users and answer any related queries. The ultimate goal is to construct a lively, vividly and efficient navigation website.

### 3.4.2 On-line catalogue inquiry

WebPac is a network catalogue inquiry system developed by the American Expitch Company bases on Z39.50 (Network information transmission protocols). Presently, WebPac is adopted by many Chinese libraries such as Shanghai Library, the library of Shanghai Transport University, the library of Shanghai Fudan University and the library of Huanan Science & Engineering University. Through the Shanghai library's WebPac (http://ipac.library.sh.cn/ipac20/

ipac.jsp?profile=#focus **Figure 4**), users may connect themselves to library catalogues in other institutions such as Shanghai Transport University, Shanghai Fudan University, Hong Kong S & T University and the USA Congress.

The Shanghai Library's WebPac offers five search keys and they are: author, title, keyword, subject and standard call number. In addition it offers three retrieval methods. They are: basic inquiry method, advanced method and compounded method. The basic method is further divided into twelve specific retrieval approaches such as simplified author inquiry, simplified title inquiry, author's name stroke order, title's stroke order, author keywords, title keywords and so forth.

Once a retrieval method is selected, the search word (s) is entered and the search key is clicked on, the network will automatically take the user to the next page which displays the retrieval results. The page contains a small summary of information which includes a number of different related works and their titles as well as author names, location and date of publications. Following on, if the user clicks on any of the works retrieved, it will link to the next page which outlines a detailed summary of that particular work. This page outlines the book's abstract, number of pages, storage library, call number, status and availability.

Figure 4
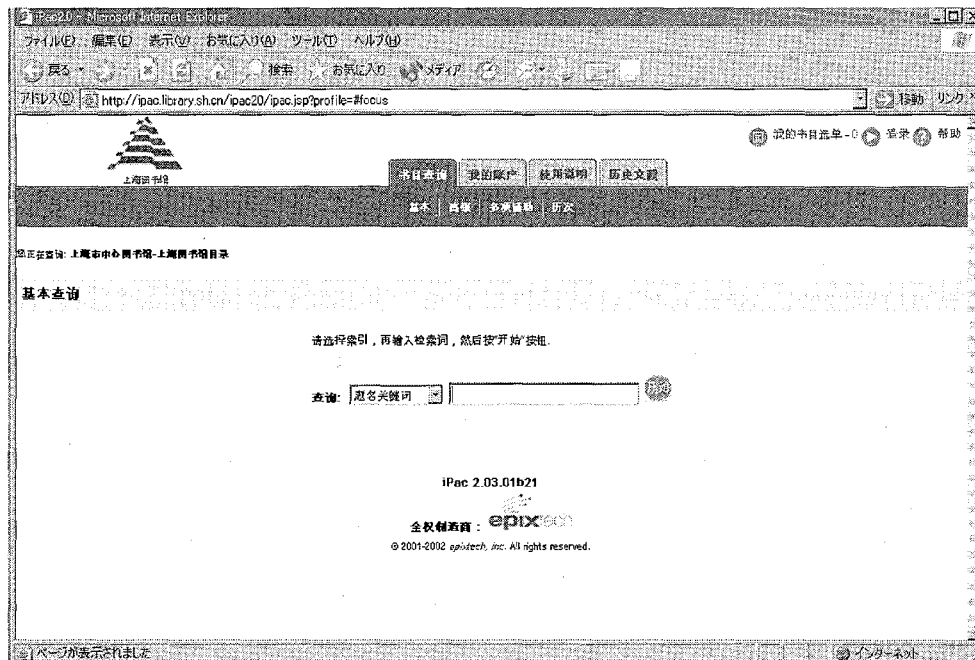
3.4.3 On-line e-book borrowing

Chinese e-Books in Shanghai Library are organized by the Fanzheng Apabi digital book system and are offered to readers through the e-Books rental services on line (http://apabi.digilib.sh.cn/ **Figure 5**). In Shanghai Library, there are 10,000 different e-books, and each book has 3 copies. Therefore, there are 30,000 copies

Figure 5

of e-Books in total covering a range of disciplines such as sociology, philosophy, religion, history, economy, management, literature, entertainment and leisure, mathematics, chemistry, geography, biology, medicine, engineering, mechanism, textile and so forth. Readers who hold current Shanghai Library cards can apply for an e-Book password on the Electronic Resources Navigation Web Page. Following on, individuals who hold these e-book passwords can enjoy all electronic books provided by Shanghai Library at home without making visits to the library personally.

In terms with foreign language e-books, Shanghai Library adopted the Netlibrary system which provides more than 1,100 pieces of e-books to be enjoyed by readers within the library complex.

3.4.4   On-line lectures

The "Shanghai Library Lectures" has 24 years of experiences and history. Some of its theme lecture series include the: "Macro size Lectures", "Information technology", "New Century Forums" and "Student Forum towards the 21st Century". These lectures cover a wide range of cultural, educational, scientific and technological aspects which are widely welcomed and respected by the public. Recently, Shanghai Library has digitalized some of these lectures and placed these audio-visuals on the library's homepage (http://www.library.sh.cn/jiang/

Figure 6). Presently, over 60 lectures may be enjoyed on-line.

Figure 6

上海圖書館講座

４ Developments and progressions of socio-educational services in public libraries

4.1 Training expert librarians

In the information age society, individuals' capability to control knowledge is becoming increasingly dependent on a variety of information windows. However, the presence of information garbage, noise and confusion are placing tremendous negative impacts on the users. Thus, as an information navigator, the library needs to constantly improve its capabilities in all fields and updates its knowledge structure so it can satisfy users' new demands and requests. In order to become an effective knowledge navigator, the library needs to improve its information evaluating abilities in order to allocate valuable information resources effectively for its users. Confronted with the unique situation in which lifelong education services are being urgently demanded by the public, the underlining problems for the library are the shortage and low level of staff's knowledge. Most library staffs have limited amount of knowledge. Each one of them often only masters

one specific discipline area such as library and informatics, a foreign language or one of the scientific or humanity disciplines. Thus, most Chinese libraries lack librarians who are geared with a comprehensive range of knowledge needed for quality services in the modern library. Meanwhile librarians engaged in lifelong education services need to be skilled with one or more scientific and humanistic attainments, high level cultural appreciations or ideological thoughts. In addition, knowledge developments should not be limited within the area of book management. Librarians should also devote their effects to areas such as information technology, computer technology, network technology, multimedia technology, digital resources, information retrieval or library automation. In the information age society, the future librarians need to master advanced information technologies in order to employ modern tools that offer convenient and up-to-date information services for the public. By mastering one or more scientific skills or knowledge, librarians can react actively to readers' navigation needs when searching for knowledge in one of the current scientific technology or engineering areas. Librarians will be able to provide solutions for different readers seeking information across different disciplines and to build a firm foundation for providing information services in specific professional areas for the future library. Sociology and humanities disciplines cover a range of topics such as management, literature, politics, linguistics, law, economy, history, geography and behavioral science. These disciplines foster accurate analysis of the evolutional social philosophies, development of advanced social cultures and creation of new cultural services in the society. The modern library needs a team of librarians with the abovementioned comprehensive skills and knowledge. These experts will be required to cover multiple disciplines, master new technologies and have the ability to participate actively in different academics and technical areas. Following on, they are required to have the ability to control knowledge, being highly creative and innovative. A team with such talents is necessary for the public library to boost up developments and utilizations of its information resources. It is also important for them to meet lifelong education requirements of the general public and to play active roles in "delivering knowledge, conveying ideas and providing solutions" for the society. Moreover, the public library will provide diversified but specialized and personalized information services in the future. In the future, librarians of the public library will utilize their new expertise and knowledge in order to play active roles in the society to offer information and educational services in diversified areas and levels.

4.2 Humanized lifelong education services

Due to changes in the environment and status of information in the modern society, the relationship between information supply and the public's demands for information is also changing. Information is becoming increasingly diversified.

As the consequence, traditional library services, contents and styles are gradually being replaced by modernized, industrialized and Internet-orientated information. This trend is forcing the public library to transfer its service style from "literature organization orientated" to "knowledge organization based". The public library is endeavoring at minimizing information asymmetries and digital gaps between individuals from different levels of the modern information society. The library needs to investigate and examine users' different characteristics and demands for information, and analyze their difficulties and psychologies with using information. Presently, the public library lacks complete understandings of readers' demands. Lifelong education faces the problem of having to fulfill diversified demands of individuals who have different age, professions and cultural backgrounds, and have desires for different knowledge and skills. How to provide the same degree of services for all individuals and to provide maximal education effects become big issues for the library. On the other hand, emphasis should also be placed on examining and developing new and digitalized information resources. This refers to researching and indicating different resources and messages contained in different information sources and relationships between them. Thus, by providing different resources and services to satisfy individuals' different demands, an innovative and humanistic approach fowards lifelong education can be developed. It is also important to pay special attention to the assessment and selection procedures of expensive electronic resources, as they are extremely diversified and the quality of the content is also very different. This movement will eventually increase the efficiency and convenience of electronic resources. Ultimately, the electronic resources will work cooperatively with traditional paper documents to provide newer and more effective services for all individuals.

4.3 Active and holistic distance education services

Networking and digitalizing are new approaches taken by the public library. In particularly with the development of Shanghai Digital Library, Shanghai City's Central Library and the "Developing and Sharing of Information Resources" plan, a variety of images, data, texts, videos, audios, films and multimedia located at different geographic positions are being systematized, organized and standardized into one huge digital resource for education and learning. This gigantic resource is becoming the "sea of knowledge" for the society. Data development, knowledge management and applications of other information technologies are effective tools for the development and utilization of resources. Library will consider learners' differences and characteristics and develop learning resources accordingly. Furthermore, it will effectively employ advantages of the Internet to provide active and holistic lifelong education services.

One suggested measure is to improve the role and distribution of education

in order to accomplish the "holistic" aspect of lifelong education. The public library ought to combine the talents of its staffs and advanced technologies to respond to the demands of individuals from different parts of the society. Meanwhile, it ought to cooperate with IT experts to create new customer service methods and combine its resources with expertise of specialists from a wide range of disciplines to generate new knowledge service products. These new services can be transferred to users in different locations via the Internet and fulfill demands of the society to the maximal degree.

The other suggested measure is to strengthen unique features of the education system in order to accomplish the "individualistic" aspect of lifelong education. Different learners have different ages, cultural backgrounds and intellectual levels. Thus, they are equipped with different learning abilities. How to provide individual services for a wide range of users depending on their different characteristics and to effectively respond to their queries have become huge challenges for the future lifelong education. In order to resolve the aforementioned challenges, information technologies of the city's public library ought to be effectively utilized, and the library's role as a spiritual place and as the information hub of cultures, science and technologies should be widely acknowledged. Through the advanced network and experts of different disciplines, a bank of resources has been constructed which answers the demands of different disciplines. A range of learning courses are being developed in the related disciplines to act as knowledge navigators and to provide effective guidance for individuals who are involved in self-development processes. Thus, the library is able to resolve learning problems experienced by learners and builds an obstacle-free interactive connection between learning needs of different learners and different educational resources available in the society.

5   Conclusion

Within the "information age society" and "learning society" of the new era, public library is becoming a center for acquiring social and academic knowledge. As the consequence, its role and influences in social and urban developments are becoming increasingly important and are carrying a heavier responsibility in providing qualitative lifelong education services for all. The library responds to individuals' self-development processes and their demands for knowledge and skills as well as responding to spiritual and cultural demands of social developments. Thus, the fulfillment of the city's spiritual demands has been regarded as the ultimate goal of library lifelong education. By employing advanced digital information technology, computer technology and network technology, traditional information resources are being integrated into electronic resources. Furthermore, all information sources in the society are being gathered to create an up-to-date, open-ended and multi-dimensional lifelong education platform in

order to promote developments of the library's lifelong education services. The public library's lifelong education services are becoming indispensable components of the social lifelong education system and are the dynamism for developments of the city and the society.

Notes

1) 付翠玲 21世纪的图书馆与终身教育 现代情报 2000,(3) 58-59; Fu Cui-ling "Library and Lifelong Education in 21 Century" [Modern Information] 2000,(3) 58-59

2) 联合国教科文组织国际教育发展委员会, 华东师范大学比较教育研究会译 学会生存, 教育世界的今天和明天 北京人事出版社, 1996.10; "Learning living, Education World of Today and Tomorrow" [International Education Development Committee of UNISCO] Translated by Comparative Education Study of Huadong Normal University and published by Beijing Personnel Press Oct. 1996

3) 陶德言 知识经济浪潮 北京:中国城市出版社,1998; Tao De-yan "Knowledge-based Economic Wave" Beijing, China City Press 1998

4) 秦进红 21世纪图书馆的教育职能 图书馆建设 2001.(3); Qin Jin-hong "Education Functions of Library in 21 Century" [Library Construction] 2001 (3)

5) There is a "China Hope Project" in China that collects donations for providing educational opportunities for the poor children. Because there are adults who also need educational opportunities, the authors are referring such matters as the "Second Hope Project"

6) Special documents refer to patent, standard, government report and etc. It is a unit for counting copies. For example, a copy of patent is counted as one piece of document in Shanghai Library

7) The census register system was executed in China and a number of permanent residents are still being controlled in city areas especially in cities like Shanghai to prevent the city population from being over-expanded. The temporary resident refers mostly to a person without a registered permanent residence who lives in a city on a short-term basis for employment or business.

8) Every reader of Shanghai Library should be registered for the reading card. It requires a small membership fee and must be renewed each year.

9) 上海市迈向21世纪的课题领导小组 迈向21世纪的上海: 1996-2010年上海经济、社会发展战略研究。Project Leading Group of Shanghai Towards 21 Century "Shanghai Towards 21 Century: Strategic Research of 1996-2010 Shanghai Economic and Social Development"

10) "Information Literacy Initiative" 30 September 1997

11) 袁昱明 狭义图书馆教育职能论 中国图书馆学报 1998(3); Yuan Yu-ming "Narrow Education Functions of Library" [Chinese Library Journal] 1998(3)

12) 成东娥 继续教育与信息素质教育 2000(3); Cheng Don-ge "Continuing Education and Information Education" 2000(3)

13) 王文英 对图书馆开展远程教育的分析和研究 河南图书馆学刊 2002,22(6) 50-52; Wang Wen-ying "Analysis and Study on Distant Education of Library" [Henan Library Journal] p.50-52, 22(6), 2002

14) 李纪 宋天华 图书馆远程教育的深层次思考 图书馆建设 .2001(2) 62-64; Li Ji and Song Tian-hua "Pondering Deeply Over Library Distance Education" [Library Construction] p. 62-64, 2001(2)

References

持田荣一, 龚同 终身教育大全 中国妇女出版社 1987

朗格让, P., Lengrand , P., 滕星 终身教育导论 华夏出版社 1988.10

陈乃林 面向 21 世纪中国终身教育体系研究 高等教育出版社 2002

陈志仁 图书馆将成为人们终身教育的学校 -- 知识经济时代图书馆教育试析 佛山科学技术学院学报
      (社会科学版)   2002,(2) 85-88

欧阳红红 试论图书馆的终身教育职能 漳州师范学院学报(哲学社会科学版) 2000,(3) 113-115

罗授年 论 21 世纪公共图书馆的社会角色 图书馆工作 2000,(2) 34-35

付翠玲 21 世纪的图书馆与终身教育 现代情报 2000,(3) 58-59

史华坤 图书馆与终身教育 中共宁波市委党校学报 2000,4 34-36

王纯 图书馆对终身教育的重要意义 大学图书情报学刊 2001,(2) 53-54

曹雪莉 信息时代图书馆教育功能的创新 情报杂志 2001, 20(B06) 175-176

王文英 对图书馆开展远程教育的分析和研究 河南图书馆学刊 2002,22(6) 50-52

李纪 宋天华 图书馆远程教育的深层次思考 图书馆建设 2001,(2) 62-64

徐涌 图书馆在远程教育中的作用及发展对策 图书馆学研究 2000,(4) 42-45

肖沪卫 走进前沿技术 上海科学技术文献出版社 2002.7

邓尚民 袁玉珍 Internet 与图书馆的信息服务 情报科学 2000,18(5) 425-426,430

陈有富, 李刚, 金玲 网络环境下的高校图书馆信息服务工作 郑州牧业工程高等专科学校学报 2002,
      (2) 154-156

钱佳平 知识经济时代的图书馆教育职能 -- 信息素养教育 1999,(1) 15-17

成东娥 继续教育与信息素质教育 陕西教育学院学报 2000,