
Information Literacy in Chinese Higher Education

PING SUN

ABSTRACT

WITH THE DEVELOPMENT of the information society, education is facing great challenges and opportunities. Information literacy is recognized as a basic competency of individuals that ought to be incorporated into the educational mission. In order to enhance information education, Chinese educators and librarians have been reviewing traditional information instruction, and they are preparing to establish their exclusive information education role in this new century.

This paper deals with the new informational and educational environment in China and discusses the increasing needs for information and knowledge in Chinese higher education. Some modes and measurements are proposed to promote information literacy and some experiences and experiments are described. Librarians in China have already done much work related to information literacy, as they prepare to become part of modern education.

INTRODUCTION

At the beginning of this century, the information environment is greatly changing throughout the world, and China is no exception. One of the biggest challenges is the exponential growth of information. Information has been regarded as a valuable commodity affected by the knowledge-based economy. The Chinese central government has made it a policy to promote industrialization in relationship to information. A group headed by the prime minister has been organized to lead the information development. This development is a very important factor and will influence the national economy and social activities, thus inevitably affecting the entire educa-

Ping Sun, Professor and Director, Information Science Education Division, Tsinghua University Library, Beijing, China

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tion environment as well as the fundamentals of education. Education, especially information education, has become one of the crucial issues. Furthermore, information literacy is an essential component to help individuals gain the competencies to meet the needs of the evolving information society. In China, more than ever, people who deal with education, library, and information science, are becoming involved in discussions on information literacy and are broadening their studies and practices in this arena.

What exactly is information literacy? What purposes or standards of information literacy should be proposed? How should standards of information literacy be enforced? What has been done and what needs to be done next to promote information literacy? These are major concerns in Chinese education, especially on university campuses.

Individuals are facing multiple information choices within the escalating complexity of the environment. Information literacy forms the basis for lifelong learning and can lead to unlimited sources to produce knowledge. Colleges and universities need to pay serious attention to information literacy and to incorporate it into their educational goals.

The academic library is the information resources center as well as the center of study on the university campus. Due to their expertise and training, librarians are the natural educators for information literacy.

CHINA'S NEW EDUCATION MISSION

In order to advance the goal of information literacy within the population, the Chinese State Department has resolved "To deepen the reform of education and to promote information literacy" for schools, colleges, and universities. Beginning in 2001, the goal that "every school will be networked" began to be realized gradually throughout the country. Information technology will be a major component and requirement for the curriculum in schools. During the next five to ten years, 150,000 schools in China and their 30 million students will be able to learn the fundamentals of information technology because it will become integrated into their basic curricula.

NEW LEARNING ENVIRONMENT

Presently more than 80 percent of Chinese universities are connected to the CERNET (The China Education and Research Network, which began operating in 1994 and has two gateways to the Internet). Many universities own their campus LAN (Local Area Network) centers and support the various online computer servers for the use of libraries, offices, and labs, as well as dormitories. Advanced information infrastructures help create a new learning environment, which forms the base of initial digital libraries and virtual universities. New learning environments make higher education expand beyond the university and operate more effectively and efficiently. This also enables higher education to collaborate with other social agencies.

The Internet enables student self-learning via virtual distance education any time and any place. This makes it possible for students to learn more actively and freely, and it enables them to increasingly utilize current information. Learning can thus be based on the information resources of the world. It will be the main task of information literacy endeavors to train students to use information effectively and efficiently.

NEW CHALLENGES IN EDUCATION

Higher education in the new century has to deal with competition. Flexible learning and critical thinking will enable students to become more productive. Traditionally, there is a famous saying in Chinese education circles, "Equip students with hunting rifles rather than bags of food." By "rifles" are meant people's skills and abilities. Nowadays what are these "rifles" like? Information literacy can be a "rifle." It is one of the four essential abilities, along with reading, writing, and mathematics. Information literacy teaches students the skills of storing, organizing, and accessing information. Students should be self-directing and self-deciding, and they should know how to find and use information to complete their projects or tasks. They need to learn how to learn and become lifelong learners. A document entitled "Information Literacy Competency Standards for Higher Education" was published in 2000 by the Association of College and Research Libraries (ACRL) in the United States. In order to improve the assessment and outcome measurements within education, Chinese educators have to review the traditional education and begin to reform curricula that will include information literacy components.

NEW FOCUS

In January 2001 China held the first international conference on "Teaching and Learning in the Networked Environment: Practice, Challenge and Prospect in China." It emphasized the skills needed to collect and process information, and it encouraged schools and colleges to teach basic computer skills. This conference was followed by a "National Workshop on Information Literacy for Higher Education," held in Harbin City in January 2002. Academic librarians and educators from China and abroad met together to discuss information literacy competencies. At the same time, many publications about this topic have been issued in Chinese journals and newspapers.

REVIEW OF INFORMATION SKILLS EDUCATION IN CHINESE UNIVERSITIES

Under the supervision of the Chinese Education Committee, information skills education in academic libraries has been well developed during the past twenty years. Not only in the form of credit courses but also diversified instruction and training modules were designed by most Chinese universities and colleges for their specific needs and purposes.

THE CREDIT COURSES

The library at Tsinghua University in Beijing presents a good example for teaching information and library skills utilizing credit courses. It offers ten credit courses related to library and information literacy and teaches them to more than 2,000 students, both undergraduates and graduates, on an annual basis. These systematic courses cover such subjects as “Using the modern library,” “Using reference books,” and “Information (document) retrieval,” and they are taught on different levels and have different requirements. The main purpose of the courses is to teach students today’s information access technology, focusing on the searching methodology and computer applications. Some courses for graduates on information and document preparation are taught to prepare them for their thesis work—e.g., “Information gathering and synthesizing for special academic research topics,” “Information access principles and technology,” and “Information resource management.”

TEXTBOOKS AND TEACHING MATERIALS

The various features, purposes, and objectives of the courses on “information retrieval” have been organized and revised repeatedly by the special office of the Chinese Education Committee. The textbooks and teaching materials have been written, edited, and reworked by the librarians who instruct the students. Statistical data indicates that more than 400 textbooks have been published during the past twenty years to teach the information skills courses. Some are serial textbooks, some focus on computerized searching and some concentrate on special subjects. Most of them feature computerized and networked information retrieval.

COMPUTER LABS

Many university libraries in China have built computer labs for instruction and information search practice. Usually there are dozens of computer terminals connected to the library or the campus LAN or to the Internet. Thus these labs make learning more convenient and effective and they are highly popular among students. The search systems and databases are realistic, can be “seen” and “touched.” The search process can be interactive for the students. Information resources can be selected from a great number of databases and Web sites. The labs provide free space and free time to enable students to learn on their own. In these labs, supervision and examinations are part of the learning process.

CAI COURSEWARE

More and more classrooms, large and small, have been rebuilt and provided with advanced technological facilities, involving television projectors, photo cameras, computers, and related equipment. All teaching materials and CAI courseware can be provided in electronic formats, be stored

in computers and transferred through the network to give class demonstrations and, ultimately, be available for use by students after class.

In the networked environment, simulative and digital versions of the courses can be easily communicated via microwaves, satellites, and the Internet. Distance instruction of computerized information retrieval is encouraged. Tsinghua University Library did the pioneering work for this in 1997.

VARIETY OF INSTRUCTION

Many training sessions are held for a variety of information needs, including tours during freshmen orientation and special-topic instructions for students, staff, and faculty. Librarians collaborate with colleges and departments to address their information-retrieval needs. Currently, librarians in Chinese universities are increasingly focusing on information skills training. Librarians who deal with information courses and instruction are collecting feedback from students and their advisors to improve the courses and to make them more effective.

WEB SITE FOR DISCUSSION

For the convenient communication of the librarians in charge of information instruction and training, a special homepage on Tsinghua University Library's Web site has been built. It is dynamic and interactive. All librarians, instructors, students, and faculty who are interested in information education are encouraged to share relevant news, comments, ideas, and suggestions and are encouraged to jointly promote information education (<http://www.tsinghua.edu.cn/eng/index.htm>).

THE NEED FOR INFORMATION LITERACY

The new generation of students wants more information to expand their views and their knowledge bases. They deal with social issues not only with their textbooks. They also use their own gathered information and their own critical thinking. They are no longer satisfied with what is taught in class; they intend to be more self-directed. Besides, faculty and administrators need to ensure that their education prepares students to be lifelong learners. To prepare for the information arena, instructors are eager to renew their knowledge-base formulations and to enhance their abilities to collect and use digital information resources. Their teaching outcomes and research achievements need to be evaluated on a scientific basis and supported by appropriate and relevant information.

COURSE REFORM

The course "Information retrieval" assigned by the Chinese Education Committee as a for-credit course has existed continually in higher education. Librarians have been innovating the goals, the content, and the modes of teaching and learning as an important aspect of information literacy.

They have redesigned the instruction guidelines and extended the course coverage. Courses and instructions related to the information retrieval course are also being developed. These provide good opportunities to promote information literacy. Some experimentation has begun. For instance, students search and organize relevant information and then evaluate the information resources for an assignment in special subjects. The graduate course, "Information access principles and technology," at Tsinghua University Library experimented with various teaching methods and content with excellent results.

EXTENSION OF INSTRUCTION

Many librarians offer library and information instruction to undergraduates, graduates, and subject majors. These are usually separate instructional sessions not integrated into coursework, and they supplement courses. Some are offered on a regular basis, some are at time of need, and some are held to introduce users to up-to-date resources and databases. Academic librarians often place their training programs on the network to educate students and faculty more rapidly. Information education is needed throughout the campus to address the need of all disciplines.

Faculty are at the core of education. "What is called a university is not based on its large buildings but on its faculty," is a famous saying by a Chinese educator. In higher education, there must first be educated persons with information competencies. Educators are busy and have little time to update their knowledge frequently. Librarians need to closely connect to them and find out their various requirements so they can address pertinent and current information needs. This will help to build good librarian-faculty partnerships.

COOPERATION WITH PROFESSIONAL EDUCATION

Almost every discipline and every course has some relationship to gathering information and knowledge. Information literacy runs through all professional learning and studying. Selecting information resources and digging up new knowledge should be the most important part of professional education, necessitating the collaboration between librarians and faculty.

There are two ways to enhance both information literacy and professional learning. One is the incorporation of professional education with information literacy so the information skills course can be combined with professional learning. For example, information and document preparation are taught to graduate students for thesis work. Information ability training and practice in relationship to special professional needs are most effective and pertinent. In that case, the leading instructor is the librarian dealing with information literacy. The development of information literacy, in this case, needs the cooperation of faculty.

Another is the incorporation of information education into professional lectures. This means the professional courses include components of information literacy. Faculty ought to be the leading instructors and should supervise students to find relevant information resources to complete their professional learning. Through discussion in or out of class and through their critical thinking, they will be able to integrate information into their own knowledge base. During the course process students experience and enhance their information competency. All these methods promote collaboration between librarians and faculty.

DISTANCE EDUCATION

The development of information literacy education relies on information technology, including networks and computers. Recently, Chinese universities established more multimedia classrooms and computer labs. Multimedia and networked CAI courseware are gradually being developed and used to make education more effective. They can be used for courses in distance learning situations and offer learning opportunities to adults off campus. Audiovisuals, animations, and other images make lectures lively and help to make learning more exciting. Many teaching materials and practice databases are extracted from the networks. This gives students self-learning opportunities and formulates their self-directed study environment. Many academic librarians prepare the networked CAI to include information literacy instruction and some libraries have had excellent results with that.

NOVEL EDUCATIONAL MODE

Information skills include the ability to access, evaluate, and use information effectively, efficiently, and critically, as well as ethically and legally. Librarians cannot accomplish this complicated education task by themselves. All departments and administrators need to work together. Tsinghua University Library is planning an array of information literacy courses and is seeking the support of other departments and units. Thus the computer center, the media center, the network center, the distance learning center, the education research center, the school of information, the law school, and the school of economics and management are working on becoming partners with the library in teaching information literacy. The teaching group consists of faculty from those schools and departments. They discuss and organize the courses cooperatively to teach the students information literacy competencies more fully.

STANDARDS AND EVALUATION

In reviewing traditional information education, it became apparent that more needs to be done to strengthen the teaching of information literacy in China. It will be necessary to consult the existing international standards

and formulate comparable Chinese standards for information literacy to create an evaluation system based on Chinese characteristics. The information literacy competencies need to be integrated into library literacy, media literacy, computer literacy, Internet literacy, and research literacy as well as critical-thinking skills. A special research program will be prepared and a national standard for higher education will be proposed. The evaluation criteria might be to assess students to see if they know how to learn and how successful they are in their careers and in the social environment.

CONCLUSION

Information literacy is becoming deeply integrated into the Chinese education system with the development of the information society. The attention and support of the whole society as well as the educational sector are needed. It will take a while to establish a viable information literacy education program in Chinese universities but a good beginning has been achieved. In order to realize the established goals in the near future, education needs to be streamlined so that it can include information skills training.

ADDITIONAL READINGS

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