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Construction of National High-Quality Courses for LIS in China

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ABSTRACT

The paper first introduces the background of Martin Trow's theory of how to develop mass higher education and then brings up the necessity of Chinese course teaching reform. It introduces the current situation of the construction of the National High-quality Courses (NHCs) in China. And taking the practice of Wuhan University's library and information science (LIS) course teaching as an example, the paper also discusses the implementation of this project, focusing on two aspects: a new system of LIS course teaching and network platform construction. The paper concludes by recommending that, for successful LIS NHCs, it is necessary to transform our educational ideology, strengthen our innovation, and set up a more beneficial teaching environment for innovation cultivation.

Keywords: *Mass Higher Education, Course Teaching, National High-Quality Courses, Creative Capability*

1. Introduction

Based on his research on the development of higher education in America, the well-known American educational sociologist Martin Trow argued that: higher education systems that enrolled up to 15 percent of the college-age population were best described as elite systems; systems that enrolled between 15 and 40 percent of the age group were mass systems; and those that enrolled more than 40 percent were universal systems [1]. This theory has drawn widespread attention all over the world, and many countries have attempted accelerating the development of higher education and stepping into the mass phase as soon as possible.

Alongside educational change run concern with and the study of innovation. Rogers (1995) has noted that "no other field of behavior science research represents more effort by more scholars in more disciplines in more nations" [2]. In an article discussing the work of UNESCO in supporting the development of library schools, Keresztesi (1982) was especially concerned with the prevalence of Western influence on the LIS curriculum [3]. An article by Ballard (1980), a professor at North Carolina Central University School of Library Science, felt that a core curriculum for library science should be developed and adopted by developing countries which would include courses that respond to the particular conditions of these low-income countries and not be carbon copies of curricula of developed countries [4].

By 2007, when the gross enrollment ratio reached 23%, Chinese higher education stepped into mass education phase [5]. As a country whose development was relatively late and was impelled by external factors, China is exploring its own way of developing higher education. Thus we don't necessarily have to judge the massification course of Chinese higher education strictly according to the traditional criterion (15%). Although many aspects of Chinese higher education (e.g. gross enrollment ratio, educational modal diversity, admission and management, curriculum organization, etc.) have shown some characteristics of massification, its development follows a radical path and lacks sufficient resource preparation, which makes course construction, can not meet the mass higher education standard badly. In recent years, the Ministry of Education has successively constructed the NHCs from 2003 to 2010 in the whole country to implement the higher education quality standard.

2. Review of NHCs Construction in China

The development of National High-quality Courses Construction is using following formats: unprompted school construction, autonomous regions and municipalities recommendation, the Ministry of Education evaluation, honorary title conferring, and finally construction fees assistance. Since China's reform and open, especially in recent years, state and municipal

education bureaus and the colleges are increasing funds for the investments of High-quality Courses Construction. Since 2003, the Ministry of Education is actualizing "Higher education teaching quality and teaching reform project" and improving the performance of these several aspects: teaching contents reform and modernization, management system of high-quality course, and courses system reorganization. These successions of measures have enhanced the teaching quality and research level and created new opportunities of educating high-ability students who have innovation spirit and practice ability [6].

By the end of December 2009, among 6,469 courses at 959 colleges and universities (distributed over 31 provinces, autonomous regions and municipalities directly under the State Council) which are required to undergo evaluation. Of those, 2212 were certified as NHCs at 819 colleges and universities. With the 4.43-billion-Yuan investment (2.21 billionfrom colleges and universities, 1.11 billion from governments at various levels and 1.11 billion from colleges and universities levels), these qualified NHCs should consolidate their achievements after evaluation, continue strengthening their construction, deepen the course teaching reform and further enhance their teaching level and working capability (**Table 1**).

NHCs is not only a significant criterion to evaluate the teaching level but also an important aspect reflecting the overall strength of colleges and universities. Therefore, Wuhan University has paid high attention to and conducted unified planning for the construction and realization of its NHCs. In addition to the construction of basic course system already accomplished over the years, Wuhan University is determined to quicken its NHCs construction and make some of them meet the requirements of the provincial standard, with some qualified under national standards. A batch of college-level demonstration courses are to be established and an course teaching demonstration system at the national, provincial and college levels is to be progressively formed. To accomplish these assignments, we should modernize our ideas, deepen our understanding, and improve the course teaching

Table 1. NHCs from 2003–2009 in China [7–13]

Year	Courses applied	Courses gained
2003	467	127
2004	720	249
2005	940	258
2006	980	358
2007	1102	411
2008	1172	400
2009	1195	409

contents and methods, and found new systems. Furthermore, we should pay attention to staff building and establish an effective management and operating system.

3. Constructions of NHCs for LIS

Along with the rapid development of digitalization and network technology, information resources are being digitalized continuously and transmitted to all corners of the world through the Internet. Consequently a globalized and highly effective information transmission system is taking shape and changing the pattern which people follow in producing, transmitting and applying information. All these have brought unprecedented challenges as well as developing opportunities to LIS education. As LIS is a multi-disciplinary intersection, its professional knowledge and skills are widely recommended in this digitalized network era and the innovational reform of LIS education has become a significant subject energetically probed all over the world. Like any other disciplines of higher education, the essential aim of LIS education is to cultivate high-quality synthetic talents. Therefore the whole of LIS teaching should be brought into the scope of course teaching, level upon level and step by step, so that the teaching service system can be reformed in the end.

3.1 Methods to Found NHCs for LIS in Wuhan University

The School of Information Management (SIM) of Wuhan University is an institution for information management education and research which has the longest history and the grandest scale in China. It grew out of the college of library science (established by the American scholar Mary E. Wood in 1920) of Boone University in Wuchang and then was developed as Boone Library School in 1929. In 1953, Boone Library School was merged into Wuhan University and renamed as the department of library science (for college students). The department for undergraduates was then established in 1956. After being approved by the Ministry of Education, the School of Library and Information Science came into being in 1984, and then it was renamed as SIM in 2001 [14].

The school have library science, information management and information systems (whose precursor was the scientific and technological information specialty which had not been founded before 1978 in China), archivistics science (professors were recruited in 1934 and in 1940, when the archivistics specialty was founded, but it ceased in 1947 and rebuilt in 1984) and electronic commerce (founded in 2001).

Form 2003–2009, there are 21 NHCS in LIS subject which belong to 16 high colleges and universities (see **Table 2**). Wuhan University has 6 courses that received the honor, which is the first place in Chinese Colleagues of LIS subject.

Table 2. NHCs of LIS subject (2003–2009)

Subject	NHCs	Colleges
LIS	Introduction to Bibliography	Wuhan University
	Foundations of Information Management	Wuhan University
	Electronic File Management	Wuhan University
	Information Service and User Study	Wuhan University
	Information Metrology	Wuhan University
	Information Resource Construction	Wuhan University
	Introduction to Library Science	Peking University
	Introduction to Archival Science	Renmin University of China
	Information Management Science	Hefei University of Technology
	Computer Network	National university of Defense Technology
	Database system and Application	Jiangxi University of Finance and Economics
	Management Information System	Xiamen University of Technology
	Information Systems Analysis and Design	Liaoning University
	Introduction to Decision Support System	Donghua University
	Management Information Systems Analysis and Design	Huazhong University of Science and Technology
	Documentations	Heilongjiang University
	Information Retrieval and Utilization	Shandong University of Technology
	Information Resource Sharing	Sun Yat-sen University
	Science of Archives Management	Guangxi University for Nationalities
	Archival Science	Shanghai University
	Document Retrieval	Central South University

3.2 Course Teaching Reform Based on Core Course Integration

The core courses of Library science, Archives science and Information management science will be integrated with the development trend of the subject integration. In our school, we reform in 5 NHCs which named as Introduction to Bibliography, Foundations of Information Management, Electronic File Management, Information Service and User Study, Information Resource Construction and Information Metrology in order to realize the core course reform of LIS. In the open environment, we try to construct the new teaching system of core course that can adapt to the new requirements. The teaching reform has laid equal stress on both classical and modern, essential and frontier theories. It has been updated closely by following the discipline's development to create a bigger space and to get a raise in synthesis, design, and research so that course teaching, scientific research, projects and social application practice can be closely integrated, furthering reciprocity and establishing a skillful, personalized, diversified and modernized course teaching system.

The course reform should also fully be brought into playing the supporting role of the two national key disciplines of library science and information science as well as the following organizations: the research center of information resources; the cultivation center for senior publication talents of the Press and Publication Administration unit; the senior research center of intellectual property rights; the research center for science evaluation in China; the Chinese e-commerce research and development center; the Institute of Library and Information Science; the Institute of Publication, the Institute of Digital Libraries; the Institute of Study on Complete Collection in Four Treasuries; and the Institute of Electronic Document and Government Information. Scientific research methods and achievements and scientific thinking patterns should be organically integrated into experimental teaching, and parts of the social science,

natural science, base and horizontal projects (between 2005 and 2009) undertaken by tutors have been divided into smaller research subjects (see **Table 3**) for students to choose freely. From 2005 to 2009, teachers of SIM have altogether implemented 120 social science, natural science, base and horizontal projects, with the project funds of 12,600,000 Yuan. The laboratory is open to all the students and accepts some of them to participate in the research, which offers beneficial support for them to independently accomplish their spare-time scientific research. The close integration of class teaching, scientific research and experimental teaching has greatly promoted the experimental teaching reform and the implementation of innovative education and improved the quality of composite talent cultivation. Meanwhile, the teachers have undertaken the teaching reform projects by Hubei Province and Wuhan University, which promote the development of teaching reform for LIS (see **Table 4**).

Table 3. Projects and subprojects undertaken by tutors (2005–2009)

Projects	Classification	Tutors	Sub-projects	Students
Research of Basic Experimental Teaching on LIS	WuHan University teaching reform projects	Xiangxing Shen	Research of Experimental Teaching Systems on LIS	Shuguang Han
			Research on Experimental Teaching Web-Platform of LIS	Ji Liu
Construction of Information Service Systems and Security Systems for a Country based on Innovation	The Key National Funds of Social Sciences	Changping Hu	Research of Tourism Information Services based on Mobile Internet	Han Zhang
			Optimization for IT Project Management	Yan Tang
Research of Knowledge Information Service Systems for a Country based on Innovation	The Key project for Philesophy and Social Science of Ministry of Education	Changping Hu	Research of Value Chain and Payoff Model in M-Commerce	Rong Sun
			Research of Current Tourism Networking Situation and its Prospect in Our Country	Jingyun Huang
Research of User-oriented Information Integration and Service	The National Funds of Natural Sciences	Changping Hu	Research of Regional Tourism Information Resources Development based on Web2.0	Lei Wang
			Marketing Program Design based on Mobile Platform	Lin Chen
Research of Digital Information Resource Plan, Management and Usage	The Key project for Philosophy and Social Science of Ministry of Education	Feicheng Ma	Information Economic Analyse on Pricing Strategy in E-commerce	Jingzhi Zhao
Promotive Government Strategies for Public Access to Information Resource	The National Funds of Natural Sciences	Xincai Wang	Applied Research on E-government Construction combined with WEB2.0	Qiang Zhang
Empirical Research of Libraries' Approaches to Copyright	The National Funds of Social Sciences	Chuanfu Chen	Research on Barrier of the Users for Library Accession	Woruo Zhao
			Research of Development Model for Community Libraries in a Harmonious Society	Ying Yu
Research of National Strategies for Chinese Culture Digital Resources Preservation	The National Funds of Natural Sciences	Jiazhen Liu	Study on the Publicity and Secrecy for Archives Information	Kui Ye
Research of Information Resource Development and its Technology Implements in E-government	（The Key project of Humanities-Social Sciences of Chief Research Center Ministry of Education ）	Xincai Wang	Evaluation and Analysis for Chinese Government Websites Services	Yuyu Wang
Research of Information Resources Configuation Theory and Model	（The Key project of Humanities-Social Sciences of Chief Research Center Ministry of Education ）	Xianjin Cha	Study on Information Organization for Network Products Based on Ontology	Xuan Yang

Table 4. Teaching reform projects undertaken by tutors (2005–2009)

Projects	Classification	Tutors	Fund	Time
Construction and Realization of opening teaching system for Information Management discipline	Wuhan University teaching reform projects	Changping Hu	10,000	2007–2009
Research of Whole Process Teaching Reform for Information Management discipline	Projects for teaching reform of Hubei Province	Changping Hu	30,000	2008–2010
Construction and Research of Basic Experimental Teaching for LIS	Projects for teaching reform of Hubei Province	Xiangxing Shen	30,000	2005–2007
Development and Research for web class of document information service	Projects for teaching reform of Hubei Province	Lin Yuan	30,000	2002–2005
Research of Structure Adjustment for Specialty Archival Science	Wuhan University teaching reform projects	Jiazhen Liu	10,000	2002–2006
Research and Design of multimedia courseware for Library Science basic class	Wuhan University teaching reform projects	Chuanfu Chen	10,000	2004–2008
Research and Practice of innovation for teaching management mode in school of information management	Wuhan University teaching reform projects	Xincai Wang	10,000	2006–2007
Employability Training and Class System Construction for students in information management	Projects for teaching reform of Hubei Province	Yikun Xia	30,000	2006–2007
Construction and Development for Archival Science based on first key discipline	Projects for teaching reform of Hubei Province	Hai Yan	30,000	2007–2008

Such a system has step-by-step guided students to form scientific thinking patterns and understand the essential contents of information obtainment, organization, transmission and application. It also has enlightened students' innovation awareness, discovered students' potential for self-innovation, and stimulated students' interest in participating in class teaching and scientific research. As a result, students positively carry out spare-time scientific research and science and technology practica during their summer vacation, which has greatly expanded the space of class teaching. Between 2005 and 2009, students published nearly 150 academic papers during their schooling.

3.3 Construction of Information Web Site for NHCs

The School has established an LIS gigabyte network center to connect all the teaching and scientific research organizations and teaching laboratories together. A wireless network covers the whole LIS building. In addition to the teaching management, the courses website constructions mainly apply to assist with class teaching. Students can accomplish selecting courses online and consulting abundant online teaching information, such as syllabi, courseware and course scores through the website. It can facilitate students' preview and review and can also supply a communication platform between teachers and students (see **Table 5**).

The use of web information technology can support the teaching of "equal opportunities for interaction", so that more democratic classroom, learners can participate in the teaching content to the formulation and evaluation. Began in March 2007, "Information Services and User Study "course conducted a curriculum network to support teaching, research and practice, has achieved an full-assisted online teaching, students and teachers to achieve the open web-based interaction. Course website collection class teaching, extra-courser research and social practice in one of the open and interactive, emphasizing teacher-student interaction, students and student exchanges between the units of interaction and practice, the main body of the students as a teaching and attach importance to the participation of students in teaching effect. Such as class discussion site set up the module, students who log on the forum will issue a timely reflection, teachers can answer questions to achieve the interaction with the students [15].

4. Conclusions

Founding the NHCs for LIS is a systematic project rather than merely a kind of conditional construction. Firstly,

Table 5. Web site resources of LIS NHCs

Columns	Introductions to each column
Teacher	A brief introduction to the course teachers.
Brief introduction	A brief introduction to the course Credit.
Teaching syllabi	Syllabi for the courses.
Textbook	Textbooks for the courses.
Synchronous teaching	Power Point of all the courses teachers.
Research Project	Projects that undertaken by teachers.
Academic Result	Teachers teaching papers published statistical tables.
Students' papers	Papers that students published after the class.
Practices out of class	A brief introduction to the practices out of class. Relative practice results and excellent. Practice reports are also available
Teaching news	News for course teaching.
Examinations and tests	General methods of tests for tests courses.
Teaching video	Teaching video for the course.
Teaching references	List bibliographies of all the excellence courses and links of some relative websites for learning. Provide commonly-used software downloads for students.
Teaching blog	Provide students a platform to discuss together and thus promote their enthusiasm for study.

we have the obligation of transforming our modes of thinking, further deepen course teaching reform, and promote the transition of education towards the quality-oriented type so as to create a more beneficial course teaching environment for cultivating innovation ability. Second, besides the hardware construction, we should pay more attention to the software to strive to construct the course teaching center as a high-level course teaching base with real and demonstrative functions, cultivate innovative cross-century talents and make a contribution to the improvement of LIS higher education quality.

The American education system lays more emphasis on freedom, dialectical thinking, and student-centered pedagogy, while China's education system lays more stress on well-knit, highly disciplined, and top-down pedagogy. Since these two kinds of systems can't completely be mixed together, what we could do is to profoundly understand the American education system and enhance our course teaching reform to improve LIS higher education quality and thus cultivate more creative talents for China.

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