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From Centralization to Decentralization in Chinese Higher Education

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Abstract

Since the late 1970's, the Chinese government has been gradually changing its traditional policy for providing higher education and has begun to emphasize the comprehensiveness of the universities. Interdisciplinary cooperation and the synergization of resources are being promoted, and institutional autonomy is gradually increasing. Schools and faculties have been restored in universities. and new research institutions, research schools, research centers and the like have been established. From a unitary three-level model – university/department/ teaching and research group – before the reform, the organizational structures of the universities have developed a new organizational structure that is more flexible and more open. This more adaptable structure is intended to meet the developmental demands of modern universities with close links being created between their work and regional economic and social development. China has moved from a very centralized educational system in which the main decisions were taken by the central government to a decentralized educational system. This reform is also taking place within the institutions of higher education, and their internal organizational structure has also becoming more decentralized.

Introduction

In the present computerized, globalized and knowledge-economy society, science and technology are developing very rapidly. These external factors are profoundly influencing education, and market competition has become an element of the education policy in most Western countries. That individual schools should be self-managed and that competition between schools will improve the quality of education are widely held opinions that are dominating national education policies and school-based management. For example, European higher education has evolved from a centralized to a more decentralized educational system as regards the determination of the curriculum, the hiring of professors and other staff, and the independent management of the lump sum provided by the state (Amaral, Jones & Karseth, 2002; Verhoeven, 2003).

In China, higher education is undergoing reforms and developments similar to those taking place in other parts of the world. Over the last few decades, the Chinese government has paid considerable attention to higher education and has given the highest priority to the implementation of the strategy of "revitalizing the nation with science, technology and education". It formulated strategic guidelines and policies on higher educational reform and development. Chinese society has come to a common understanding that higher education is a crucial force that propels economic development and social progress. The Chinese institutions of higher education are considered to be valuable resources and a wealth for the country (Zhou, 2002). With the extension of the reforms of higher education, the traditional system has become increasingly obsolete. This system reform has become the key to the overall reform of higher education for it includes the reform of the both the external and the internal management system and has two purposes: first, to restructure Chinese higher education management system and promote the present educational reform and, second, to improve the quality of these institutions and to compete with foreign universities throughout the world. The reform is a vast topic, so a complete presentation of the system reform is beyond the scope of a single paper.

This paper focuses on the reform of the internal management of the Chinese institutions of higher education, their organizational structure, and the reforms and developments in the context of the reform of Chinese higher education. Four questions will be dealt with here:

- What were the pattern and the characteristics of the organizational structure before the current reforms? What was the political, economical and social background of this structure?
- What are the patterns and characteristics of the present organizational structure?
- How is the organizational structure developing? Why is this structure developing in this way?
- What problems are the institutions of higher education now facing?

In order to answer these questions, we examined the literature on these problems, Chinese law, and statistical sources, which, however, were insufficient to obtain an up-to-date picture.

Thus, the necessary additional information was obtained from among privileged witnesses and case studies of some universities.

To understand the current situation and characteristics of the organizational structure of institutions of higher education in China, one must have an idea of the background of higher education in the New China from 1949 to the late of 1970s.

Higher Education in the New China (1949 to the late 1970s)

Immediately upon the foundation of the People's Republic of China in 1949, the institutions of higher education, 60% of which were run by the state and 40% of which were run privately or by foreign missionary organizations, were taken over by the new government and run either by the central government or by local governmental authorities. The management of higher education was entirely in the hands of the central government, and its purpose was seen to be the development of the national economy.

Although it was not obvious at that time, China established an economic policy that resembled very much the policy of the Soviet Union (Spence, 1991, p. 541-557). Once the new China was established, the Communist Party of China wanted to develop a socialist economy. At that time, there was a fierce international opposition between socialism and capitalism. Since the Soviet Union was the first country where the socialist revolution had succeeded and a socialist economy had been established, it was a ready example for China to follow. Moreover, this model was a manifestation of anti-capitalism and anti-imperialism, which were very important factors for the government. Thus, the new government of China adopted state-controlled industrial production within a framework of five-year plans, which were seen to have contributed to the success of the Soviet Union at that time. "Thousands of Soviet technical advisers came to China to help with factory building, industrial planning" (Spence, 1991, p. 544).

The policy of the Soviet Union inspired not only China's economic policy but also its higher-education policy. With the support of large numbers of Soviet experts both as consultants to the ministries and as teachers and researchers in a number of institutions, China, instead of learning from the experience of the Soviet Union, copied the total political, economic, and cultural patterns and practices of the Soviet Union. Higher education came increasingly to resemble the Soviet system1 (Zhong Guo Jiao Yu Bai Nian Da Shi, 1952). In spite of what might have been expected, this process was not hindered by the intellectuals, who generally came from well-to-do families. On the contrary, massive groups of intellectuals attended courses in 1950 and 1951 on the basics of Marxism (Spence, 1991, p. 564) and supported the new political structure.

The first large-scale reform of higher education was launched by the Chinese government in the early 1950s under the guidance of the Soviet Union. This reform changed

¹ In November 1952, the Ministry of Education (MOE) prescribed and asked the institutions of higher education to make a plan for editing and translating textbooks form the Soviet Union. Between 1952 and 1956, 1393 Soviet Union's textbooks were translated and published in Chinese.

and reorganized the colleges, schools and departments of the institutions of higher education. This complete restructuring of the entire higher educational system was to place it at the immediate service of the economic and political objectives of the First Five-Year Plan. The new institutions were run by their affiliated professional ministries. 2 The operational mechanism in the old model of highly centrally planned economy greatly influenced the higher education as almost the same management model was adopted. The responsibility was placed on the university presidents, and the mid-level management organization (schools or faculties system) was abolished (Wang, 2001). The organizational structure in all the universities and colleges was uniform. Departments became the teaching units for "cultivating specialized talents" with teaching and researching groups or offices under them. The uniform model of the organizational structure was: "universities and colleges³—departments—teaching and research groups or offices".

At the end of 1950s and the beginning of 1960s, there were three kinds of institutions of higher education: full-time, part-time, and spare-time. At the same time, a two-level educational provision system had taken shape that was administered by the central and local governments (Zhong Guo Jiao Yu Nian Jian 1984).

In 1961, Chinese higher education institutions established the system of the University Affairs Committee, which was chaired by the president of the university. The University Affairs Committees, under the guidance of the Committee of the Communist Party of the University, was the group leadership unit of the administration of a university and decided on important issues of university management submitted by the president, who then implemented them (Wang, 2001)

The departments were teaching and administration units and were set up for the various disciplines. The teaching and research groups were set up in function of one or several courses.

For the period between the 1950s and 1966, the centralized Chinese higher educational system came in for a great deal of criticism. For example, the colleges and universities, which were affiliated either with the central professional ministries or with the local governments, had divided functions and responsibilities. All of the programs4 were set

² By "professional ministries", we mean the central ministries before 1990, such as the Ministry of the Electronic Industry, the Ministry of the Metallurgical Industry, the Ministry of Agriculture, the Ministry of Health, the Ministry of the Chemical Industry, the Ministry of Railways, and the Ministry of Construction. At that time, these professional ministries owned and administered their specialized higher institutions (*bumen banxue*). The ministries decided about teaching and learning programs, funding programs, enrollment programs, and so on for these institutions on the basis of their needs. They also recruited students from their own institutions (Chen, 2002).

³ Colleges are institutions of higher education smaller than universities with respect to the number of students, the size of the teaching staff, the amount of education expenditure, and so on. The main task of a college is teaching. Colleges seldom conduct scientific research.

⁴ Programs here mean the enrolment plan, the curriculum and instruction plan, the graduate job assignment plan, and the like.

in function of the needs of the professional ministries or the local governments. The government reorganized the colleges, schools and departments in 1952 and 1953 and replaced the comprehensive universities by new specialist universities and colleges (Chen, 2002; Jian, 1998; Min, 2002). As a result, the scope of knowledge on the part of the graduates was relatively narrow. With these criticisms aside, we acknowledge that universities and colleges did train the elite, the backbone of the country. There was a qualified teaching staff in universities and colleges, and the quality of the teaching was emphasized.

During the "Cultural Revolution" from 1966-1976, the Chinese higher education witnessed unprecedented chaos in its leadership system, in education and in instruction management. The universities actually disappeared. The teaching and research groups and basic teaching units were dismissed (Yang, 2001).

In the late 1970s, after practices were corrected and appropriate measures taken, economic, scientific, technological, and cultural and educational matters have gradually begun to take a new developmental track. In recent years in particular, with the expanding reform of the economic system and the governmental sector,5 the present government has been giving the highest priority to the implementation of the strategy of science and technology as "the first productivity" and "revitalizing the nation through science, technology and education".

Under this new development situation, huge changes have been made in Chinese higher education with the purpose of fostering educational reform and development. In these changes, system reform has become the key to the overall reform of higher education. Before 1995, there were 358 national-level universities, 35 of which belonged to the State Education Commission (or National Education Commission), which is now called the Ministry of Education (MOE). All the other 323 universities and colleges were under the jurisdiction of 62 central ministries (also called professional ministries, see above), such as the Ministry of the Electronics Industry, the Ministry of the Metallurgical Industry, and the Ministry of Agriculture. To change this obsolete system under which universities were owned and run by a variety of central ministries into a fairly decentralized, two-tier management system was and is the main object of the reform. In this new system. administrative authority is shared by both the central and the local governments, and the local governments are required to play a major role (Chen, 2002). For example, in order to increase efficiency and effectiveness and to tackle the problems of departmentalization, segmentation, and the wasting of scarce resources, professional ministries are no longer permitted to run the institutions of higher education. With the establishment of a market economy and the ever-deepening reforms, the highly concentrated planned economy is becoming increasingly obsolete.

Indeed, China embarked on a process of rapid change. The relations with the Soviet Union had deteriorated, which contributed to the rejection of the Soviet higher education model. Moreover, the Chinese government stressed the necessity of the "Four Modernizations": agriculture, industry, national defense, and science and technology. At the Third Plenum of the Eleventh Central Committee of the CCP in December 1978, it was stressed that these "Four Modernizations" should go together with a shift of authority from the "the leadership to the lower levels". Clear distinctions should be made between the CCP, the local government, and enterprises. The party should not fulfill government

⁵ Government sector reform means that the Chinese government modified and reduced the central ministries and departments. See also Note 7.

functions, and managers should be responsible for the efficiency of their production units. What the Chinese leaders wanted was to try to combine "centralism" with "people's democracy" (Spence, 1991, p. 654-659). The time was ripe for change, also in higher education policy.

Along with the growth of the economy and the opening up to the outside world, higher education reform advanced in increments. After the Fourth National Conference on Higher Educational Work in 1992, and especially since the announcement of the "Outline Program for Educational Reform and Development in China," the MOE, on the basis of a careful summing up of the lessons and experiences of institutional and systemic reform in the past, gradually formulated the principle of "joint construction, adjustment, cooperation and merger" in the reform of the management of higher education. According to the principle, hundreds of universities and colleges were reorganized and merged. In this reform, universities and colleges had to be comprehensive, i.e. they should include most disciplines, especially medicine. The government also promulgated the Law of Higher Education of the People's Republic of China in 1998, which prescribed that state-owned universities and colleges should adopt the president-responsibility system under the leadership of the Communist Party University Committee. By 2000, a total of 612 higher education institutions had been merged into 250 (Li, 2000), which should be beneficial for crossdiscipline exchanges and the optimization of resource allocation. The autonomy of institutions of higher education had to be gradually promoted. Thus inside the higher education institutions, a series of internal reforms and innovative measures have been implemented. These initiatives include the restructuring of teaching and research groups, the creation of research institutions or graduate schools, the adjustment, merger or revocation of disciplines, and the resumption of schools. Gradually, China has moved from a very centralized educational system, where the main decisions were taken by the central government (professional ministries), to a decentralized system. Universities have realized that they are self-governing institutions. For instance, they determine the curriculum under the subject and discipline catalogue (MOE, 1998) issued by the MOE, hire professors and other staff, rank professorial staff, and may pay professors according to their performance. Moreover, universities are charging tuition fees (see also Sun, 2004).

In 2002, there were 111 national-level universities and colleges, 71 were directly controlled and funded by the MOE, and 40 were affiliated with central government departments (other central ministries).

⁶ The latest Catalogue for Undergraduate Subjects and Disciplines of Common Higher Education Universities was published in 1998, which includes 11 disciplines of Philosophical Sciences, Economics Sciences, Law, Education, Literature, History, Natural Sciences, Engineering, Agriculture Sciences, Medicine and Management Sciences, as well as 71 subordinate disciplines and 249 subjects. Take Economics Sciences for example, there are four subordinate disciplines: Economics, International Economics & Trade, Public Finance, and Finance and Banking.

Table 1 Numbers of Higher Education Institutions by Jurisdiction in China in 1995 and 2002.

Year	State Education Commission	Central Ministries	Provinces	Total
1995	35	323	696	1054
Year	Ministry of Education	Central Government Departments 7	Provinces	Total
2002	71	40	1285	1396 (2003 including adult education)

Source: Department of Planning, State Education Commission, 1995 Department of Development and Planning, Ministry of Education, 2003

The Current Situation and Characteristics of the Organizational Structure of the Chinese Higher Education Institutions

The Current Situation

At the end of 2002, there were all together 2,003 institutions of higher education in China. Among them, 1,396 were regular institutions including the 111 which were directly under the administration of central governmental departments. 607 were higher education institutions for adults. 728 institutions could provide postgraduate education, among which 408 were higher educational institutions and the other 320 were research institutions8 (Department of Development and Planning in MOE, 2003).

Universities of different types have different structures. To date, there are no official criteria for their division. Nevertheless, we will offer an overview of the different types of colleges and universities as they occur in China.

- 1. In function of subordinate relations, there are four types.
 - (1) The state universities or colleges (national universities or colleges), which are mainly affiliated with the Ministry of Education and a few other ministries. At present, there are 111 higher education institutions directly under the administration of central

⁷ After the reform of the Chinese government, the number of ministries was greatly reduced in 1998. There are now 28 Central Ministries and Commissions and 38 National Bureaus directly under the central government (Guo Jia Bu Men Xin Xi, 2000).

⁸ A research institute here means an independent scientific research institute that only does research and does not provide teaching, such as the Institute of Chemistry (Beijing), which is affiliated with the Chinese Academy of Sciences (CAS). See also Note 11.

governmental departments (Department of Development and Planning in MOE, 2003).

- (2) The local universities or colleges, which are affiliated with the local provincial governments. At present, there are 1,285 local universities or colleges in China (Department of Development and Planning in MOE, 2003).
- (3) Community colleges, non-residential junior colleges, which are publicly supported and locally oriented and which offer vocational training programs, technical skill programs and other special interest programs "responsive to the outside world", such as international finance, tourist management, and clothing design. Students who lack a strong educational background are offered continuing education for cultural growth, life enrichment, and skills improvement.
- (4) Private higher education institutions, which are run and funded by social partners or celebrities (Turner & Acker, 2002).

At present, there are 1,202 community colleges and private higher education institutions in China (Department of Development and Planning in MOE, 2003).

- 2. In function of disciplines, there are three types.
 - (1) Comprehensive universities, which have strong schools (faculties) in the humanities and the natural sciences and are complemented by other major disciplines such as engineering, agriculture science, medicine, law, economics and management, and so on. For example, in 1998, Zhejiang University, Hangzhou University, Zhejiang University of Agriculture, and Zhejiang University of Medical Science were merged into a new Zhejiang University (City of Hangzhou, Zhejiang Province). The new Zhejiang University covers all disciplines except military science. It is one of the largest and most comprehensive universities in today's China.
 - (2) Multi-disciplinary universities are composed of faculties in several disciplines but do not cover all disciplines. For example, Wuhan University of Science and Technology (City of Wuhan, Hubei Province) has a structure in which engineering predominates, but this is linked with other disciplines, namely science, literature, management, economics, law, philosophy and education
 - (3) Single disciplinary institutions or single area institutions, such as language and art universities or colleges, such as the Beijing Foreign Studies University (City of Beijing), the Central Conservatory of Music (City of Beijing) and the Central Academy of Drama (City of Beijing).
- 3. In function of the purpose of universities, there are three types.
 - (1) World-class universities: These universities are top state universities, but they are expected to develop into world-class universities and to compete with other top universities in the world.

- (2) High quality universities: These universities are eminent within China, and they strive to improve their quality and gradually build up their reputation in the state.
- (3) Distinctive universities specializing in one discipline: These universities as a whole do not rank at the top but distinguish themselves by having one or several first class subjects. For example, the Ocean University of China (City of Qingdao, Shandong Province) is especially renowned for its marine sciences and fishery sciences and the China Agricultural University (City of Beijing) is a leading agricultural education and research institution in China.
- 4. In function of academic features, there are four types.
 - (1) Research universities are universities that conduct a significant amount of research and train both graduate and undergraduate students (Araoz & Romar, 2000). They create new knowledge through teaching and research programs and bring the most current knowledge in their disciplines to students in the classroom and have graduate students and post-doctoral fellows in far greater numbers than do other institutions. They have the requisite research environment with extensive libraries and well-equipped laboratories.
 - (2) Teaching and research universities have both teaching and research programs. While they concentrate on undergraduate teaching, they also assume responsibility for the education of graduate students.
 - (3) Teaching universities focus on undergraduate education and award bachelor degrees.
 - (4) Skill-training colleges are junior colleges that are primarily responsible for educating students in practical skills in production, service, and front-line management (Jian, 1998).

At present in China, there are no criteria for categorizing higher education institutions as a research university, a teaching and research university, or a teaching university. According to 2002 statistics, China has 642 higher education institutions that award bachelor, master and doctoral degrees. Among 642, 408 award master and doctoral degrees. Among 408, 208 higher education institutions award doctoral degrees (Zhong Guo Jiao Yu Nian Jian, 2003).

There are 56 higher education institutions with a graduate school. According to some educational experts, these 56 institutions would be research universities. The more than 350 (408-56) higher education institutions, which award a large number of master degrees and a few doctoral degrees, would be teaching and research universities. The 234 (642-408) higher education institutions that award bachelor degrees only would be teaching universities.

The university organizational system

The universities are generally governed by a University Affairs Committee, which is an administrative board under the leadership of the Chinese Communist Party (CCP). The University Affairs Committee formally is the supreme body of the university and is composed of the president, the vice-presidents, a secretary and vice-secretaries of the CCP, the directors of all faculties, the deans, and representatives of teachers and students. This body decides on research policy, educational policy, and student policy, that is, every important university issue. Basically, every university sets up an Academic Committee, an Academic Degrees Committee, a Teaching Committee, and so on under the University Affairs Committee. The Academic Committee evaluates, and advises on, academic research projects. The Academic Degrees Committee deals with degree applications, assessment, and authentication. The university appoints the deans and directors of schools, faculties and departments after inspection. The main administrative organs include an Office of the university, an Educational Affairs Office, a Research Office, a Personnel Office, a Student Office, a Logistics Office, and an Infrastructure Office, etc.

At present, the institutions have a "president-responsibility system" under the leadership of the CCP (Zhong Hua Ren Min Gong He Guo Gao Deng Jiao Yu Fa, 1999). In each government higher education institution, there is a secretary of the CCP and a president, both of whom head the organization of the university. The law stipulates that the president in principle has responsibility for the implementation of the decisions of the University Affairs Committee.

The governmental departments appoint the leaders of the higher education institutions after inspection. In the past, the procedure for the selection and designation of president in the national universities was as follows:

- 1. Recommendation from within the schools.
- 2. Evaluation by a higher administrative authority, 9
- 3. Sanction by the higher administrative authority.

When the position of president falls vacant, the university itself will recommend candidates in function of their moral character, academic background, and personal capability, and so on. The team of nominators, ranging from 200 to 250 members, is made up of administrators, directors of faculties and departments, professional experts and some teacher deputies. Normally, only those who obtain more than 30% of the nominations can be short listed as candidates. Then the higher administrative authority will send an ad hoc delegation to the university to further evaluate the candidates by interviews and other means. Finally, the higher administrative authority discusses the evaluation results and makes the

⁹ For the national universities, the administrative authority is the MOE or another central ministry. For the local universities or colleges, the administrative authority is a local education department such as a provincial education committee or a municipal education office. China is divided in 31 provinces, autonomous regions and municipalities, and Hong Kong Special Administrative Region as well as Macao Special Administrative Region.

final decision. At the same time, a formally approved document is delivered and the appointment is announced.

In the last 5 or 6 years, some changes in terms of the selection and designation of the president have been introduced. Public competition and election has become the main trend in some universities. The MOE is experimenting in the public election of presidents and vice-presidents in some universities. Everybody inside as well as outside the universities is eligible as long as they meet certain qualifications. People can sign up freely even online. An evaluation council of 13 to 17 members is formed by the deputies from different sections within the university, the main difference being that students and persons from outside the university can also belong. This evaluation council is in charge of an interview. The interview includes the candidate's presentation. After the interview, the council votes by secret ballot. The interviews are open to the teachers and students of the university. After the interviewing and the comprehensive evaluation, two are selected as the final candidates.

The first university to adopt this way of electing a president was Tongji University (City of Shanghai) in 1995. The China Agricultural University (City of Beijing), Ocean University of China (City of Qingdao, Shandong Province) and the Southwest China Normal University (City of Chongqing) then followed suit.

With the expanding reform of the structure of the economy and education, Chinese socialist modernization and the development of science, technology, and education have contributed to the emergence of a large number of new disciplines in institutions of higher education. The merging of hundreds of universities and colleges has led to the reorganization and merger of departments and disciplines. Moreover, the development of modern science is increasingly moving toward greater integration. Interdisciplinary cooperation has become more and more widely accepted, and economic and social development is requiring ever larger numbers of people with complex skills and abilities. Thus, the institutional reform has broken down the original uniform three-level administrative framework of "universities or colleges, department, teaching and research groups or offices" that had functioned in Chinese higher education institutions for half a century. Many flexible organizational forms have been introduced, which can be divided into three main models.

1. University – research schools or faculties – departments or research institutes

Compared with the traditional structure, this new structure synthesizes the existing disciplines and then upgrades them into faculties. Accordingly, the teaching and research groups are upgraded into departments. This model has been adopted mainly by the research universities.

2. University – departments – research sections

The second model is a single-level expansion. It expands the function of the original teaching and research groups of different subjects so that they can strengthen their disciplinary research while providing education in related programs. This model is seen mainly in the teaching and research universities.

3. University – schools or faculties – departments – teaching and research sections

The last model has a four-level structure, which includes university, faculties, departments and teaching and research sections. In this new model, a new faculty level is inserted into the traditional structure between the university and the departments. In addition, other sub-levels can also be found. For instance, at the level of schools (faculties), some departments are affiliated directly to universities. Tsinghua University provides a good example. Tsinghua University consists of 14 schools10 and 5 autonomous departments at the school or faculty level (Tsinghua University, 2002). In the 14 schools, there are more than 40 departments, but they are organized within the 14 schools. The 5 autonomous departments are as follows:

Department of Environment Science and Engineering;

Department of Electrical Engineering and Applied Electronic Technology;

Department of Engineering Physics;

Department of Chemical Engineering;

Department of Materials Science and Engineering.

These departments cover distinctive disciplines of the university and have good research equipment and highly qualified teachers. The size of these departments as far as teaching staff, students, equipments, etc. are concerned is the same as that of the schools, so they are governed directly by the university.

At the departmental level, research institutions and research schools can be set up separately or jointly. At the root level of teaching and research sections, there are also research sections or research institutes. This model is often adopted by merged large institutions.

Schools or faculties (or departments) are the basic organizational unit established according to disciplines and the nature of subjects with the three fundamental functions of teaching, research, and social service. It is the most important part of the universities and the implementation organ for teaching, research, discipline construction and student work. The administrative organ of a school or faculty consists mainly of a head of the office, a secretary of teaching, a secretary of research, and administrators of student affairs. The governing structure at the school or faculty level consists of the bureau of the school/faculty composed of the dean and vice-deans, the secretary and vice-secretaries of the Communist Party of the school/faculty as well as the head of the school/faculty office, and the school or faculty academic committee consisting of professors and researchers (elected or appointed). On departmental level, there is a similar structure.

¹⁰The 14 schools of Tsinghua University are the School of Architecture, the School of Civil Engineering, the School of Mechanical Engineering, the School of Information Science and Technology, the School of Sciences, the School of Medicine, the School of Economics and Management, the School of Public Policy & Management, the School of Law, the School of Humanities and Social Science, the School of Journalism and Communication, the School of Software, the School of Applied Science and Technology, and the Academy of Arts and Design.

After the restoration of the organizational structure, schools (faculties), departments and teaching and research sections were reconstituted. But schools (faculties) and departments in Chinese higher education institutions have long been accustomed to taking orders from the authorities of their institutions. Teaching and research plans were handed down to them from above, and they had no right to decide on such matters as technology transfer, the development of school-run industry, and the distribution of profits from scientific and technological projects (Qiping & White, 1994).

However, the reforms have changed everything. In principle, universities and colleges will decentralize, and schools (faculties) and departments (if there are no schools) are being given more autonomy.

Schools/faculties (or departments) are both teaching and research units and basic administrative organizations. They do not have complicated organizational structures but rather are aggregates of disciplines and subjects. They can mobilize and organize effective forces. Thus, after the identification of macro-management targets for universities, it is mainly up to the schools or faculties to achieve them.

Characteristics

After these changes, the schools/faculties, and departments are tending to take advantage of the cross-disciplinary exchanges and merging to train a large number of people with complex skills and abilities. They are becoming more comprehensive than they were previously. The organizational framework is also becoming diversified. Some universities have all three types of administrative organizational structure for administration functioning at the same time.

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Over the last ten years, structural reform has led to new changes in the form, function and meaning of the organizational structures. These changes could also be seen as characteristics and outcomes of the structural reform.

First, the policy and university structure is becoming more flexible. Seen from a macro-perspective, the traditional rigid, single model of Chinese institutions of higher education, the "university – departments – teaching and research groups or offices" has been abolished and replaced by more flexible and various forms. To view it in a micro-perspective, inside the university, when various levels and organizations are established, many flexible organizations come into being across faculties, departments and disciplines. These flexible bodies are usually task-oriented project teams with full freedom of personnel mobility, such as an interdisciplinary research center or a working group.

Second, the new organizational structure is more open and democratic. The reform of the university structures has to some extent changed the centralization of authority, the closed environment and the ladder-oriented traditional structure. For instance, more and more universities are promoting the system of faculties to expand the function of teaching and research groups and upgrade them into department or research institutions. This shift then leads to the decentralization of authority within the institutions. Compared to the centralization of authority, many academics believe that it is more useful to activate

organizations at the grassroots level inside universities and to initiate the participation of teachers and students in democratic management and supervision11. Furthermore, flexible forms also promote the openness of university bodies, which will then promote not only inter-dependence and inter-penetration of organizations but also more active and effective co-operation and exchanges with other Chinese as well as foreign universities.

The last characteristic is that the organizational structure is more adaptable to the developmental needs of modern universities. Universities are organizations that cultivate higher-level talents and have three main tasks: training talented students, conducting scientific research, and serving society as a whole. To develop themselves, universities need the support of society, but social development also needs facilitation from universities. Through a series of flexible reforms of the university structure, more active linkages have been established between the universities and society. For example, in May of 2004, the China University of Mining and Technology in Beijing signed an agreement with the Fengfeng Group of Mining Co., LTD in Handan City of the Hebei Province. According to this agreement, Fengfeng Group will provide 100,000 RMB Yuan as an educational fund to the university, and the university will provide researchers to help the Group develop technology and will also provide training courses for its staff. This relationship creates a rich resource pool of manpower, materials, financial support and information for the universities, and at the same time enables them to facilitate the development of the economy and culture and to promote the status of universities in society as a whole.

The Development Trend of the Organizational Structure Reform of the Institutions of Higher Education

Policy makers in China realized that higher education institutions in the developed countries, facing the opportunities as well as the challenges of computerization, globalization and the knowledge economy, had adopted the concepts and practices of technological managerial, organizational, and system innovation. The consequence was that more and more universities transposed their structures into a flat and flexible form supported by a system of information distribution.

After the officers of the MOE and the leaders of universities developed more exchanges with well-known universities throughout the world, they began to gather in such forums as Chinese-Foreign University Presidents Forum12 and the Chinese University Presidents Fellowship Forum to share opinions on these new forms of organization. For example, reference was made to the Berlin Technology University (TU Berlin), which established Interdepartmental Research Centers,13 to the Interdisciplinary Research

¹¹ Compare with flexible organized research units (ORU) described by Dill and Sporn (1995, p. 222)

p. 222). ¹² This is a forum organized by MOE where university presidents from countries like the UK, the USA, France, Germany, Japan, and, of course, China present their views on university management.

¹³ There are eight Interdepartmental Research Centers in Berlin Technology University (TU Berlin), among others Zentrum Mensch-Maschine-Systeme (ZMMS), Zentrum Technik und Gesellschaft (ZTG), Biotechnik Zentrum (BZ), etc.

Association (Zhang & Zou, 2001, p.289-299), and to the Research Center for Advanced Science and Technology14 of Tokyo University (Wang & Kong, 2001, p. 317-328). The experiences and best practices of these universities in Western countries have inspired Chinese policy makers and universities to launch a process of structural reform. Consequently, the MOE has gradually given more autonomy to the universities and colleges in China. What were the consequences of this reform?

First, the organizational form tends to be flatter. Compared with the ladder-shaped structure, for instance, university – schools or faculties – departments – teaching and research sections, the flat structure reduces or even omits the function of middle-level management 15 and then establishes a network at the grassroots level consisting of many centers of authority. Consequently, the filtration and blockage of information generated by mid-level management will be reduced and even eliminated, which helps improve information flow and enhances the vitality of the organizations concerned. At present, some Chinese universities have adopted a two-level management system – the university level and the school or faculty level – with the middle-management level being reduced. For example, decisions in the China Pharmaceutical University (Nanjing City, Jiangsu Province) are taken on the level of the university administration and of the 4 schools (Pharmaceutical School, Biological Pharmacy School, Chinese Traditional Medicine School, Business School of International Pharmacy), and three faculties (Basic Science Faculty, Social Science Faculty, Physical Education Faculty). The schools and faculties act independently from each other (Gao, Qian and Wang, 2001, p. 112)

The second trend is that the organizational borders are becoming fuzzier. Compared with the closed-ness of the traditional structure, this trend means that human resources, facilities and information are being shared more freely among internal sections, leaders and subordinates, and project teams, although such organization has clearly clarified divisions of responsibilities and tasks. Teams can be established or dissolved in function of specific tasks or projects. This flexible structure can take most advantage of the organizational resources to improve the effectiveness and efficiency of organizational performance and finally to strengthen the vitality of the organization concerned. At present, there are not only more and more flexible bodies inside a university but also an increasing number of such flexible bodies among universities, such as interdisciplinary research centers and working groups.

¹⁴ This center has four research sections: Advanced Material Research Section, Advanced Devices Research Section, Advanced System Research Section and Society-Technology Research Section.

¹⁵ Mid-level management has two meanings. First, it refers to the administrative organizations of universities, such as the office of a university, the educational affairs office, the research office, the personnel office, the student office, the logistic office, and the infrastructure office. Depending on the function and characteristics of the organizational structure, the administrative organizations of universities, the schools and faculties may sometimes differ as regards the planning or implementation of educational, personnel, student or financial affairs. Usually, they are in charge of the implementation of their own fields. Second, according to the optimization principle, a university with a ladder-shaped organizational structure often limits or reduces the function of one level of management, such as the department-level management, and decentralizes to school-level management.

They are established on the basis of task-oriented projects and are composed of professors and researchers from different fields of study in one or several universities as well as other research institutions. Such flexible bodies break through the boundaries of disciplines, as well as the boundaries of universities, schools/faculties and departments. For example, a National Key Joint Laboratory of Chemical Engineering was established in 1987 by Tsinghua University, Zhejiang University, Tianjin University, and the East China University of Science and Technology. This laboratory successfully passed the assessment of the Ministry of Science of Technology in March of 2004 (Zhejiang University Qiu Shi News, 2004).

The last trend of the reform is the more diffuse authority in decision-making. Authority in the traditional university structure is centralized. In the new decentralization trend, authority is based on knowledge and expertise, and decision-making will no longer depend on the administrative hierarchy but rather on knowledge. Modern organizational theories hold that the effectiveness of an organization is determined by a successful combination of knowledge and decision-making authority. There are mainly two basic models in this process. One consists of passing on relevant knowledge to the decision maker and the other is of passing on the authority to the knowledge holder, the latter being decentralization. As an academic organization with knowledge bases, universities have their own academic talents and knowledge experts. The academic nature of universities requires more diffuse decision-making authority to improve their organizational effectiveness of universities and increase their vitality. At present, academic committees and meetings of professors are becoming increasingly important in the decision-making process, supplementing the administration of the university. However, since there are no regulations or decrees that specify their range of authority, it is determined by the universities themselves. For example, at the China University of Mining and Technology in Beijing, the "meeting of professors" is authorized to assess and advise on plans for the establishment of new disciplinary departments and the teaching force, on plans concerning undergraduates and postgraduates, as well as on the evaluation of the granting of bachelor and master degrees and the evaluation of research achievements. The decisions of these professorial meetings are taken as an important reference in the decision-making process in the University Affairs Committee of this university (Zhong Guo Kuang Ye Da Xue, 2004).

Problems Faced by China's Institutions of Higher Education

The gap between the university's contribution and its funding

For over 50 years, China's institutions of higher education have provided over 95% of the scientists, technicians, and other professionals for the country16 and have also made many valuable research contributions. These research achievements account for over 50% of the research achievements in the country as a whole. Universities have also contributed their due part to the economic and the social development of China, but their financial resources are mainly granted by the institution that established the university or college, namely the MOE, another ministry, a province or some other body. Depending on the financial

¹⁶ Other students are trained by the scientific research institutions, such as the Chinese Academy of Sciences, companies and distance education.

resources of the funding body, a university or a college might or might not have sufficient resources. For instance, in this respect the question is by which central ministry or local government is a university run and funded? Is this central ministry or local government rich or poor? Somewhat less than 50% of the funding comes from the national or local governments, while the main national universities, generally, receive a lump sum from the MOE. However, especially for those that devote more attention to research, the funding from the national or local governments accounts for only a quarter of the total (Shen, 1999) Thus, the presidents and other top managers of these universities spend a lot of energy raising funds at the expense of improving the quality and level of research and teaching. The presidents and professors (especially senior professors) look for projects from the governments, or cooperation with factories and companies. Moreover, the institutions of higher education devote themselves to "high-tech development and industrialization". Indeed, high-tech enterprises are becoming larger and stronger. According to 2001 statistics, 22 national university scientific gardens have been set up and have absorbed some RMB 13 billion of investment (Zhou, 2002).

The gap between the intention of developing top-class universities and the actual practice.

In the 1990s, the government concentrated all its available resources on implementing a plan known as "211 Project". The purpose of the Project was to identify and invest in 100 universities so that these universities could reach the goal of being world-class or advanced higher education institutions in China by the 21st century. This project was conducted by the Ministry of Education's "211 Project" Office with assistance from the "211 Project" Offices set up inside provincial departments of education. An initial evaluation was necessary in order to select these universities. The assessment was done on the basis of applications. After assessing institutions on their self-report and development plans (Xu, Qi and Wang,2001), the MOE selected the 100 universities according to quality criteria. However, by selecting so many universities and granting them an equal share of the expenditures, the governments, in practice, ranked the value of equality over that of quality, the logic of "egalitarianism". If, however, the governmental educational expenditure would be distributed more according to the criteria of quality, thus supporting only top-class universities, the plan could become more effective.

The same model of operation mechanism and the diversity of universities

History can teach the Chinese institutions of higher education some lessons about adjusting and changing their management and organizational structures. The changes involving the schools and faculties were guided by central governmental prescriptions, which divided comprehensive universities into small special universities or colleges. The strong central control and interference of the government had resulted in the single model. In recent years, however, the educational reform went the opposite way, i.e. the smaller universities and schools or faculties merged into comprehensive, large-scale universities.

Of course, the merging of several Chinese top universities and schools or faculties permits coordinated resource sharing in the allocation and the development of disciplines and also increases their composite strength and produces more competitive, expanded

universities with their own characteristics and style. This has been proved to be a good measure in the reform of higher education as it has contributed to the optimization of the disciplinary and curricular structure, improves the conditions for promoting education, and permits fuller utilization of limited educational resources (Jian, 1998). This has enabled the new Chinese high quality comprehensive universities to compete with other high quality comprehensive universities worldwide.

But this movement towards more comprehensiveness is not necessarily the best one for each distinctive university or college. Sometimes it is better for them to stay apart and develop their distinctive qualities, such as their educational quality or their disciplinary characteristics. Jian (1998) suggested in a paper on the reform of the higher education that the government and universities should emphasize research and investigation, and seek truth from facts, never engage in "doing things all at once like a fad" or "making everything uniform". Instead, the government and universities should proceed from reality and adopt different methods for different circumstances (Jian, 1998). Otherwise, there is overlapping and reduplication of disciplines, an increase of inner consumption, declining effectiveness and work efficiency, rising management costs, and even merging in name but separation in reality. All these things are, of course, contrary to the original intention. For example, the new Jilin University was created through the merger of five different-sized universities. In 2000, Jilin University, Jilin Industry University, Baiqiouen University of Medical Sciences, Changchun University of Science and Technology, Changchun College of Postal and Communication were merged into a new Jilin University. At present, it has the largest student enrollment in China: some 46,000 full-time resident students, 130 undergraduate programs, and 180 postgraduate programs including 71 doctoral programs (Chen, 2000). Before the universities merged, five presidents, many university and college governing bodies, and similar disciplines had existed in five campuses. The formation of the new management and discipline-based organizational structure, and the improvement of efficiency and effectiveness were not easy.

Parallel operations and different research and teaching systems in universities and research institutions

After the founding of the new China, apart from the higher education system, China established a system of independent scientific research institutions such as the Chinese Academy of Sciences, ¹⁷ The Chinese Academy of Agricultural Sciences, ¹⁸ and The China

¹⁷ The Chinese Academy of Sciences (CAS) was founded in Beijing on 1 November 1949. It is a leading academic institution and comprehensive research and development center in natural science, technological science and high-tech innovation in China. It is administered by the National Council. It has five academic divisions, 108 scientific research institutes, over 200 science and technology enterprises, and more than 20 supporting units including one university, one graduate school and five documentation and information centers. They are distributed over various parts of the country. 12 branches of the CAS are in Shanghai, Nanjing, Hefei, Changchun, Shenyang, Wuhan, Guangzhou, Chengdu, Kunming, Xi'an, Lanzhou and Xinjiang. The CAS has a total staff of over 58,000 of whom 39,000 are scientific personnel according to figures for the year 2000. In the CAS, there are 123 units that award master's degrees and 104 units that award doctoral degrees. From 1978 to 2001,

Textile Academy. ¹⁹ Large amounts of money were put into such research institutions, and they account for 7% of the graduate students in China. Because of the lack of attention to the research force of the institutions of higher education and insufficient investment in higher education over the long term, universities and colleges do not always have enough advanced research facilities or the necessary information materials. China's institutions of higher education cannot be assumed to be in the forefront of science and technology of the country.

Conclusion

After the Cultural Revolution, Chinese policy makers chose resolutely to give lower levels of the society more responsibility and to distinguish between the CCP, the local government, and enterprises. Each of these elements should have its own responsibilities. The central government wanted step back from the Soviet economic and organizational model, which was no longer deemed to be the only model that could solve economic and societal problems. This opened the way for more decentralization in all parts of Chinese society, a process that had long since been very popular in the West. This development inspired a new policy approach in China and had a tremendous impact on the organization of Chinese higher education. In spite of the establishment of a more market-oriented organization of institutions of higher education and an important decision by the Ministry of Education in 1999 to expand the enrollment in higher education, the actual enrollment as a proportion of the 18 to 22 year olds did not change very much. Although the numbers of students in institutions of higher education reached 12.14 million in 2001 compared with 6.43 million in 1998 (Zhou, 2002), the gross enrollment of higher education²⁰ rose from 11.5% in 2000 to 13.3% in 2001 but did not exceed 15% in 2002 (Department, 2003). In comparison with the developed countries, this gross enrollment in higher education is still low because China has kept the system of selective entrance exams for students intact.

Not only have the political changes played a role in the reform of Chinese higher education and are still doing so, there are other more general processes that had and still have an impact on it. Among them, the development of computerization, globalization, and

the CAS has trained more than 50,000 graduate students. In May 2001, the CAS established its Graduate School with an enrolment of more than 13,000 students, of whom about 6,000 are studying for doctoral degrees (The Chinese Academy of Sciences (CAS), 2003).

¹⁸The Chinese Academy of Agricultural Sciences (CAAS) was established in 1957. The CAAS is China's national agricultural research organization and is directly affiliated to the Ministry of Agriculture. The CAAS has about 10,000 staff members and 39 research institutes located across 17 different provinces, national municipalities and the autonomous regions. The CAAS has a graduate school, 5 state key crop variety improvement centers and sub-centers, 22 national and ministerial level key open laboratories, and 17 national and ministerial commodity quality supervision and testing centers (The Chinese Academy of Agricultural Sciences (CAAS), 2003).

¹⁹ The China Textile Academy (CTA) was established in 1956. It is the biggest comprehensive research and development organization in the textile industry. The CTA has about 1,400 staff members (The China Textile Academy CTA, 2000).

²⁰ The gross enrollment of higher education is the proportion of the numbers of students in HEIs to the numbers of the population from 18 to 22 years in China.

the knowledge-based economy throughout the world are having a strong impact on the development of Chinese society, in a wide area of the economy, science, technology, and culture, and especially on the development of Chinese higher education. During this developmental process, along with the economic transition, all aspects of Chinese higher education have undergone very profound changes to meet the challenge of international competition and to adapt the higher education management to the needs of China's socialist modernization construction. As a consequence, higher education administration has been reformed on three levels: national, institutional, and sub-institutional.

First, on the national level, the government has instituted a framework under which most of the institutions of higher education are administered by provincial governments and are operated jointly by local and central governments. The provincial governments now enjoy greater responsibility, authority and benefits in bringing local higher education under their unified planning. The central government is now trying to restrict itself to the planning and macro-management at the national level.

Second, on the institutional level, the institutions of higher education have been gradually given full responsibility for their operations. They implemented "a president responsibility scheme" under the leadership of the Communist Party. The president takes responsibility for and implements decisions of the University Affairs Committee. He is the member who bears the legal responsibility.

Third, on the level of the internal management, the reforms are proceeding in depth. The traditional rigid and single model of Chinese higher education institutions, the "university – departments – teaching and research groups or offices", has been abolished and replaced by more flexible and varied forms of organization. When levels and organizations are established, many flexible organizations also come into being across faculties, departments and disciplines. More and more universities are promoting the system of faculties to expand the function of teaching and research groups and to upgrade them into departments or research institutions. This shift then leads to the decentralization of authority within the institutions themselves. Compared to the centralization of authority, it has been considered to be more useful to activate the organizations at the grass roots level inside the universities and to initiate the participation of teachers and students into democratic management and supervision.

In retrospect, it can be seen that the Chinese higher-education management system and the organizational structures have been continuously changing and developing. These reforms are likely to continue. With each process of reforming the higher education system, new problems have arisen and will continue to arise. Whether the reforms have been successful is yet to be determined.

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