PEREZ-GUERRERO TRUST FUND Project

INTERNATIONAL COOPERATION CONFERENCE OF POPULARIZATION OF HIGHER EDUCATION IN DEVELOPING COUNTRIES AND THE POLICY OF REFORM AND INNOVATION

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FINAL REPORT

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The project of “International Cooperation Conference of Popularization of Higher Education in Developing Countries and the Policy of Reform and Innovation” will address the cooperation problem in the field of higher education and accelerate of research result exchange between developed countries and developing countries, and between developing countries. While the platform for research result exchange is constructed, the application field will aim at key problems during popularization of higher education processes from typical developing countries, such as Morocco, Sudan, Russia, India and China. It is easy to see that the execution of the project will lead to the

guaranteed balance and general benefits for the member countries of the Group of 77.

As to a country, the achievement of the higher education scale along with the innovation knowledge is the vital measure of the level of a country’s higher education and the future of technology, economy and culture development.

In order to better promote the popularization of higher education together with the reform and innovation, we must have a clear understanding of the law of higher education and learn some advanced experiences of some countries at the same time.From the macro-level of the law, higher education must adapt to and promote social development, including economic, political and cultural development and disciplines development, including the aspects of the subject classification and discipline construction. From the micro-level of the law, higher education must adapt to and promote human development, namely, to promote the development of students' overall quality. In addition, through a number of exchange activities at different levels, the research and comparison of related policy issues can be promoted. Through these references for reform of higher education, the national government can explore a development path of higher education suited to their own conditions.

During years of cooperation studies organized by the SRCOCI, the office constructs stable foundation of cooperation study platform for famous universities (such as Tongji University) in Shanghai and SRCOCI, and the research results are attracting attention in recent years. The project organizers will establish regular communication channels such as conferences and internet platform for all members.

This cooperation platform construction work has already been done by SRCOCI, but because of financial problems, further improvement of the study in China and further cooperation between China and other developing countries to achieve balanced development should be taken into account. The

SRCOCI believes that the financial support of the government from China and UNDP will help a great deal to the developing countries, and it will also be of great importance for developed countries and the UN.

The outputs generated are described in details as follows.

T01 Higher education review: the characteristics including functions, stages and the typical forms in developed countries and developing countries

The relationship between higher education and social development is developing with time, and it varies with different social systems and cultural traditions. Generally, the relationship between the two are increasingly closer. Unlike the previous stage of development, not only the level of economic development determines the level of development of higher education, but also the economic development needs, especially the needs for cientific and technological progress and top creative talents due to economic development, is becoming an important force to decide the direction and momentum of higher education development.

As there are many experiences and technology support the developing countries can learn from the developed countries, it’s necessary to hold such a Conference to provide a platform and a general mechanism for them.

This section first introduces the general concept of higher education and its main characteristics, including functions and stages. As to the higher education, the United Kingdom and the United States are always the world leaders. Germany also has a long history of higher education, which can also give some valuable experiences. Besides these developed countries, the higher education in many developing countries is also developing well, such as South Africa. China and India, as countries with most population, also have some experiences and some problems to be solved. The higher education in these two countries will be introduced in detail.

T01.1 Concept of higher education and its functions, stages

1. Higher Education

Higher, post-secondary, tertiary, or third level education refers to the stage of learning that occurs at universities, academies, colleges, seminaries, and institutes of technology. Higher education also includes certain collegiate-level institutions, such as vocational schools, trade schools, and career colleges that award academic degrees or professional certifications. (from Wikipedia)

2. Functions of Higher Education

The history of the development of higher education can be traced back to medieval university and later after the development and continuous transformations of the University of the United Kingdom, Germany, United States, there formed three functions of higher education: training specialized personnel, doing scientific research and service to the society.

Personnel training are the fundamental mission of higher education while scientific research is an important function of higher education and service to the society is an extension of the functions of higher education.

The educational function of higher education is mainly reflected in two aspects: the promotion of individual socialization and individual personalized. Individual socialization is the process that individuals accept the social culture and act as social beings, which includes two aspects: the individual gain social culture and learn to play a role in society; individual personalization is the process that individuals form the unique nature, which mainly includes providing conditions for students personality development and guiding students to develop a reasonable unique psychological quality.

In colleges and universities, there are a lot of talents and the academic thinking is active. Besides, there are complete professions, which give the advantage

of carrying out a comprehensive subject and exploring new areas. The scientific research is the basic way to improve the quality of teachers and the effective means for students to working independently and empower the creative ability. At the same time, research is also the basic way of efficient service to the society.

University social service means the direct, regular, specific service activities for social development in the process of education in addition to teaching and research tasks, including various forms of staff training, advisory services for the community, opening libraries, laboratories and other resources, students' work-study program and other social welfare activities.

In addition, higher education also has a political function to maintain social and political stability, to promote political development; also, it has the economic function, including promoting economic development by improving the quality of workers and the development of technology and by promoting economic structural adjustment.

3. Stages of Higher Education

In general, when the higher education enrollment rate is below 15%, it belongs to Elite Education and 15%-50% for the stage of Mass Higher Education, more than 50% for the stage of Universal Higher Education. It should be noted that the gross enrollment rate of higher education refers to all types of higher education students in the ratio of total population 18-22 years of age.

The Mass Higher Education is a unified concept of quantity and quality. The quantity growth means the higher education enrollment rate should reach 15% -50%. The qualitative change includes changes in educational

philosophy, the expansion of the function of education, diversification of the training goals and educational model and all other changes of curriculum, teaching ways, entry requirements, management and so on.

T01.2 Research results of the developed countries, taking the United Kingdom, the United States and Germany as an example

As to the higher education, the United Kingdom and the United States are always the world leader. Germany also has a long history of higher education, which can also give some valuable experiences.

1. Higher Education in the United Kingdom

UK emphasizes on education, where there are not only the world's most famous and oldest schools and universities gathered, but also some new style and most innovative institutions. The UK government still put education as a pillar industry in the UK education policy.

Higher education is provided by three main types of institutions: universities, colleges and institutions of higher education and art and music colleges. All universities are autonomous institutions, particularly in matters relating to courses. They are empowered by a Royal Charter or an Act of Parliament. Most universities are divided into faculties which may be subdivided into departments. Many colleges and institutions of higher education are the result of mergers of teacher training colleges and other colleges. The Department for Education and Skills is responsible for all universities. Non-university higher education institutions also provide degree courses, various non-degree courses and postgraduate qualifications. Some may offer Higher Degrees and other qualifications offered by most non-university higher education institutions are validated by external bodies such as a local university or the Open University. An institution can also apply for the authority to award its own degrees but it must be able to demonstrate a good record of running degree

courses validated by other universities.

There are three stages of the university level in the university study in United Kingdom.

a. University level first stages: Undergraduate stage

This stage lasts for three or four years and leads to the award of a Bachelor's Degree in Arts, Science or other fields (Technology, Law, Engineering, etc.). In some Scottish universities the first degree is a Master's Degree. The Bachelor's Degree is conferred as a Pass Degree or an Honors Degree where studies are more specialized.

In some universities students must follow a foundation course before embarking on the course leading to the Bachelor's Degree. Students of foreign languages are sometimes required to study or work for an additional year in the country of the target language.

It is now rare for the class of degree to depend entirely on student performance in final examinations. Most institutions base a component of the degree class on examinations taken during the period of study, especially those taken at the end of the second year, and many also use some form of continuous assessment. The majority of degree courses also involve the research and writing of an extensive thesis or dissertation, normally making up around 50% of the final year assessment.

b. University level second stag: Master’s Degree, Master of Philosophy

Study at master's level is at the forefront of an academic or professional discipline. Students must show originality in their application of knowledge and advancement of knowledge. The normal entry requirement for a Master's degree is a good Bachelor's degree. A Master's degree is normally studied over one year. Some Master's programs, including the M. Eng, are integrated

in undergraduate programs and result in a postgraduate qualification, not an undergraduate one, after four years of study. At a university, after two years of additional study and the successful presentation of a thesis, students obtain the Master of Philosophy (M. Phil) degree.

c. University third stage: Doctor of philosophy, Higher Doctorate

After usually three years' further study beyond the Master's Degree, the candidate may present a thesis for the Doctorate of Philosophy (D.Phil. or Ph.D.).A further stage leads to Higher Doctorates which may be awarded by a university in Law, Humanities, Science, Medical Sciences, Music and Theology after a candidate, usually a senior university teacher, has submitted a number of learned, usually published, work.

2. Higher Education in the United States

The cause of higher education in the United States is well developed. There are two main features: First, its scale and variety is large and complex. Across the United States, there are more than 3000 institutions of higher education, 800 thousand teachers, more than 20 million students in school. The second is to focus on students acquiring new knowledge, developing students' analytical skills and creative spirit. This kind of education does not encourage students to rote, but encourage them to challenge the concept that has been generally accepted with a comprehensive analysis to what have learned so as to solve new and unfamiliar problems.

a. The type of higher education

The first category is the Research Institute, famous for basic and academic research and the number is more than 450. The most notably ones are Harvard, Princeton, Stanford, Massachusetts Institute, California Institute of Technology, Johns Hopkins, Berkeley, California Cornell and so on. Around these universities, there formed many high-tech industrial centers which

combines teaching, scientific research, development and emerging industries as one, such as Boston - Cambridge -128 road center in the eastern United States, the "Silicon Valley" center in the western part, the southern space Center, all of these centers make the links between teaching and production closer.

The second category is the undergraduate colleges, with a four-year study. Most of these universities are State University and the aim is to train intermediate technology, academic and professional talents who can get the bachelor degree after 4-year study. The number of this kind is over 1600.

The third category is the Community College, including the popularity of 2-year colleges and technical Academy which recruit high school graduates with low scores.

The fourth category is the Open University, also known as “University without walls” , including air and correspondence university, the Summer School, part-time colleges, experimental University, Free University and so on, which are open to the citizens with all levels, all ages. The persons who can pass the examination can get the degree.

These four categories of universities form a complete higher education system. The ratio among them is a reflection of the economic, cultural, and political development in education.

b. Higher education services

To serve the community is the basis of the survival and development of American higher education, also a fine tradition. As most of the university funding is from social contributions, the lead agency for the school board of the University is not subject to government leaders and the board members are from all sectors of society, which ensures the close contact between the

university and society.

The service in colleges and universities includes:

(1) adjust the course content and research directions according to the needs of society change;

(2) develop new projects and new products with enterprises, which will benefit both;

(3) service for the government, providing a basis and new thinking for national policy;

(4) organize adult education, carrying out various forms of long, short-term training, to help the group of social enterprises, workers, teachers at all levels to improve the culture, and update their knowledge.

c. Higher education research

The University is the main base of the U.S. research, which undertakes more than 60 percent of the country's basic research task.

University research institutions are mainly in the following forms:

(1) research centers or institutes, laboratories, primarily by the University of their own or jointly with businesses and other universities,

(2) industrial or agricultural experiment station which is the main applied research institute of Engineering and Agricultural University. The funding for research is provided by all levels of government.

d. Higher Education teaching

U.S. Undergraduates today attach more importance to liberal education than specialized education. The specialized education is positioned as a master or a doctor's task. The educational method adapts the compulsory and elective combination method, which is relatively free and easy to mobilize the enthusiasm of the students and the interests and specialties. Also there are a large number of elective courses, which can reflect the latest scientific and technological achievements.

3. Higher Education in Germany

Higher Education in Germany has a long history, with many world famous universities, like the old University of Heidelberg, which was established in 1386, and the Humboldt University, which cultured 25 great scholars who have won the Nobel Prize. German higher education is a model of the World Higher Education Development in the 19th century. At present, the cause of Higher Education in Germany is under reform and innovation on the traditional basis and many of the ancient universities began to revitalize.

a. Higher education system

The German highly education system mainly consists of some 400 universities that are majority state ownership, otherwise in church and private sponsorship.

The main task of universities is to research, the creation of new knowledge, teaching, imparting knowledge and skills in the study and training, as well as imparting academic degrees. For this, the universities in different faculties or departments are differentiated, combining the related sciences in themselves. In addition, many administrative and service facilities are at each university.

The German highly education system also includes vocational colleges and technical schools and technical colleges, which are outside the higher education sector. In the cooperative education is half of the study period instead of the company. At the school, special education, which lead some to the technician or master, is to be visited.

The program structure itself is controlled in accordance with the laws of the State Higher Education study and examination regulations, which are set by the autonomous universities. The degrees that can be purchased depend on

the degree program. The most important are the masters, the diploma, state examination, the Bachelor and the statements of the postgraduate studies, such as the master and the doctor. Access to the professorship will depend on a habilitation. The Bologna process currently many master's and diploma courses disappear in favor of stepping into bachelor and master programs. Among the programs with state exams such as the teaching careers, law or medicine, the development is completely unpredictable.

b. Some issues to be solved

The university teaching was improved. A glaring example of the law curriculum is strongly supported by foreign university tutors. The bachelor's program is characterized by a strong over-schooling, apparently catching concentrated around school deficits. Thus, the study should be reduced dropout rate, which is apparently not yet succeeded.

The financing of higher education is increasingly becoming a core issue. The cash-strapped government wants universities to solicit external funding for other high government finance pots, industry and foundations. The backers also include semi-public institutions such as the German Research Foundation. The funding shifts run from a state funding on a fluctuating project financing, which in the opinion of critics often call or propagandistic fashion label is dizziness.

The features of most universities with staff and premises are well below the requirement, so that the study takes place in the operation of mass university rather impersonal and only get worse care. The current debate centers on tuition fees with a stronger self-interest of students and increased federal funding, such as the Excellence Initiative. The federalism reform of 2006, the grand coalition has strengthened the rights of states in higher education, yet. It remains unclear whether many good universities and a few top universities are

the better way. Many fear a lack of concentration of resources in a competitive world-class research by the federal structure. Politically sensitive, the south-north gradient in the evaluation of higher education is a top performer. The cutting-edge research currently threatened in the South to concentrate. In addition, top researchers prefer to go for example to the Max-Planck-Institute, where they are largely relieved of the mass teaching. Another part is migrating to other countries (e.g. USA, Switzerland), where better conditions are met (brain drain). This is offset by a constant return migration of scientists.

In Germany, just over 22 percent a year can complete higher education. Although this value increases over time, it seems too many too small to compete in science, research and development in high technology countries to keep up. They demand a massive increase in the student rate, which could be achieved by more high school graduates and a higher rate of new entrants in this and the opening of the universities for working adults without a diploma. In addition, fewer drop-outs could increase the graduation rate. Argue against the other, an increase of low-skilled students do not create higher quality. In addition, the financing of the universities already had arrived on a fiscally reasonable minimum. The comparison with other countries does not consider that many degrees of training are achieved through a study elsewhere.

T01.3 Research results of the developing countries, taking South Africa, India and as an example

Besides these developed countries, the higher education in many developing countries is also developing well, such as South Africa. China and India, as countries with most population, also have some experiences and some problems to be solved. The higher education in these two countries will be introduced in detail.

1. Higher Education in South Africa

The higher education system in South Africa is inherited from the West, especially Britain. College is a separate school entity and the government and the organization among universities plays the macro-control role on the educational quality.

The collaboration organizations and intermediary organizations are well developed in all levels of higher education in South Africa, which embodies the characteristics of the management of higher education, reflecting the characteristics of the university as an academic and educational organization.

a. Maintenance of quality assurance in education

The maintenance of quality assurance in education is primarily the responsibility of three state-run agencies: The Council of Higher Education, the Higher Education Quality Committee, and the South African Qualifications Authority.

The Council on Higher Education (CHE) was appointed in June 1998 and provides informed, strategic advice on higher education issues to the minister of education. CHE is also responsible for maintaining quality assurance within higher education and training, including program accreditation, institutional audits, program evaluation, and quality promotion.

The Higher Education Quality Committee (HEQC) is a permanent sub-committee of the CHE and is responsible for promoting quality assurance in higher education, monitoring the quality assurance mechanisms of higher education institutions, and accrediting programs of higher education.

The South African Qualifications Authority (SAQA) is comprised of 29

members appointed by the ministers of education and labor. The members are identified as national stakeholders in the education and employment sectors. SAQA accredits all higher education degrees and qualifications based on the guidelines and criteria laid out in the National Qualifications Framework (NQF).

b. Public and private higher education

Public higher education institutions enjoy a large degree of autonomy although they are heavily funded and controlled by the state. The Department of Education promotes the educational policies of the government and provides a national framework for their implementation.

Although public higher education accounts for the lion's share of student enrollments in South Africa, a private sector has emerged in the last ten years. The 1997 Higher Education Act contains provisions that allow private institutions to offer degree programs for the first time provided they are registered with the South African Council on Higher Education (CHE) and accredited by the Higher Education Quality Committee (HEQC). Following the country's first democratic elections in 1994, this sector expanded rapidly to meet the growing demand for higher education while the public education sector struggled to reform itself in the post-apartheid era. With the ending of sanctions, a number of foreign-based educational providers entered the market to take advantage of the growing demand for higher education.

The 1997 Higher Education Act contains provisions that allow private institutions to offer degree programs for the first time provided they are registered with the South African Council on Higher Education (CHE) and accredited by the Higher Education Quality Committee (HEQC).

By 2000 there were four main types of institutions providing private higher education in South Africa: foreign institutions; colleges offering tuition-based

distance learning courses; private technical and vocational institutions; lifelong learning centers set up by private companies to train their staff

c. Road to reform

The higher education sector is currently being transformed through a series of mergers and incorporations aimed at collapsing 36 universities and technikons (polytechnics) into 22 institutions. As a result, there are now three types of public higher education institutions in South Africa: traditional universities, universities of technology and comprehensive universities.

According to the Department of Education, the objective of the restructuring is to establish institutions that are better capable of meeting current job market demands, equalizing access and sustaining student growth.

The merger process is being carried out in two phases: many institutions were merged or incorporated with other institutions on January 1st, 2004, while the second phase is scheduled for January of 2005.

2. Higher Education in India

India's higher education system is the third largest in the world, after China and the United States.

a. Structure

The institutional framework consists of Universities established by an Act of Parliament (Central Universities) or of a State Legislature (State Universities), Deemed Universities (institutions which have been accorded the status of a university with authority to award their own degrees through central government notification), Institutes of National Importance (prestigious institutions awarded the said status by Parliament), Institutions established

State Legislative Act and colleges affiliated to the University (both government -aided and -unaided) .

As of 2011, India has 42 central universities, 275 state universities, 130 deemed universities, 90 private universities, 5 institutions established and functioning under the State Act, and 33 Institutes of National Importance. Other institutions include 16000 colleges as Government Degree Colleges and Private Degree Colleges, including 1800 exclusive women's colleges, functioning under these universities and institutions.

b. History

India's modern higher education in the British colonial period had been established, but before Independence, access to higher education was very limited and elitist, with enrolment of less than a million students in 500 colleges and 20 universities. It gained rapid development after the independent, and made remarkable achievements-----a large number of world-class talents, a considerable number middle-class, stimulating economic development, to earn foreign exchange to improve India's comprehensive national strength, highlighting India's international prestige. The rapid development of higher education in India is rare in developing countries. It not only has far-reaching implications for India, but also provides a full reference for other developing countries.

After 50 years of development, high-quality elite education and the poor popularity public education coexist in Higher Education in India. Elite education are mainly concentrated in the disciplines of engineering, medicine, agriculture, education, and law; public education is concentrated in the three disciplines of the arts, sciences and business studies and more than 80 percent of the students attend the three disciplines. Although India is a poor developing country, the government invests a great in education. All public

primary and middle schools are funded through the government and even the funding of private colleges are also provided by the Government.

c. Characteristics

(1) Elite education---famous IT industry

The Indian elite education has cultured many world-renowned figures, and most people accepted higher education in India. Professor K. N. Battle, the Vice-Chancellor of the University of California; A. Premji, “Bill Gates of India”, Wipro CEO; Collie, who was once the Chairman of the Institute of Electrical and Electronic Engineering, the father of Indian software etc., are all trained through Indian elite education. India's elite education is mainly implemented among the key state institutions, the key scientific research institutions, as well as the focus of university faculties. Almost among all public engineering colleges, medical schools and agricultural colleges in India, the quality of education is very good. The establishment of the seven Indian Institutes of Technology has made tremendous contributions to the development of the IT industry and their graduates are gradually becoming the elite to create the building of the Indian IT industry.

India's successive governments, all give priority to the development of IT industry to lead the improvement of the country's overall technological strength.

(2) Mass Higher Education---Affiliated College System

In the process of promoting the popularization of higher education, the mainly colleges and universities can hardly bear the arduous task of popular national popularization and there is not huge funding. Therefore, the affiliated colleges of India in practice continuous developing and growing.

The distinctive Indian University system, Affiliated College system, is known

as "the world's initiative of higher education". Affiliated Colleges in India refer to the colleges which are affiliated with the university, examinations organized and degree granted by the university. University itself is only the regulatory agencies, rather than the sponsoring entity. It is only responsible for the development and review of the teaching plan and outline of the affiliated colleges, organizing examinations of affiliated colleges' students, developing standards for degrees and degree-granting.

The affiliated colleges universally implement commuting system, convenient for local students to attend, which is conducive to the expansion of Higher Education. Affiliated College System not only produced a positive role but also brought some negative impacts. First, the affiliated colleges are in the strict control and supervision of the parent university, and they do not have any autonomy. The curriculum, syllabus, teaching materials are arranged by the parent university and regardless of whether they meet local needs, the college has no right to change them. The highly concentrated internal power in this school system strangled the incentive to innovate of the affiliated colleges. Second, the power of the affiliated colleges are concentrated at the university, but a university often has dozens or even hundreds of affiliated colleges, the university does not have sufficient capacity for effective management and guidance on the colleges, which will reduce the quality of education and teaching.

(3) Internationalization of Higher Education

Besides, the India government emphasizes the Internationalization of Higher Education.

Higher education in India, with its unique features, flexibility and quality is attracting more and more international students to Indian universities.

India's higher education vigorously prompts English as medium of instruction

and research, which provides a convenient language advantage for opening.

English is a good helper for the development of software. Western high-tech companies generally believe that the Indian IT professionals are low prices, enthusiastic, and most importantly, they can speak English. Higher education in India has long been with international standards, in addition to retaining some professions like native language and literature, history, other professionals are consistent with the United States and Europe in the curriculum, textbook selection and its college graduates needn't have professional certification or qualifications certification, as most developed countries recognize that. This is a manifestation of the internationalization of higher education in India.

(4) Distance learning and open education

Distance learning and open education is also a feature of the Indian higher education system, and is looked after by the Distance Education Council. Indira Gandhi National Open University is the largest university in the world by number of students, having approximately 3.5 million students across the globe.

d. Challenge

While there are some achievements they have gained, there are some challenges for them.

Our university system is, in many parts, in a state of disrepair...In almost half the districts in the country, higher education enrollments are abysmally low, almost two-third of our universities and 90 per cent of our colleges are rated as below average on quality parameters... I am concerned that in many states university appointments, including that of vice-chancellors, have been politicised and have become subject to caste and communal considerations,

there are complaints of favouritism and corruption.

— Prime Minister Manmohan Singh's address at the 150th Anniversary Function of University of Mumbai, June 22, 2007

While the level and growth of these numbers are impressive, the quality of this education remains uncertain. Measures of quality are difficult to come by. India is supposed to do well in technical education. Yet, according to a World Bank-Federation of Indian Chambers of Commerce and Industry (FICCI) survey, 64 percent of employers are “somewhat,” “not very,” or “not at all” satisfied with the quality of engineering graduates’ skills, presumably because of the low quality of their education. India’s reputation for the high quality of its educated workforce is built on the few hundred thousand graduates of its elite institutions who have excelled in India and abroad.

The challenges of quality in Indian higher education include: inability to attract sufficiently large number of talented young to lives of teaching and scholarship; the inadequate financing; the short-term profit orientation on education in a large part of the business community and so on.

3. Higher Education in China

a. Introduction

Chinese higher education is divided into four levels including specialist college students, undergraduate students, master students and doctor students.

In 2010, there were all together 2358 Higher Education Institutions (HEIs), among which 1112 were universities and 1246 were non-university higher institutions (1113 were higher vocational schools). There were also 365 higher education institutions for adults and 836 private institutions of higher education. In 2010, the total number of new entrant admitted by and the total enrollment of

the regular HEIs were respectively 6.618 million and 22.318 million. The total number of graduate students newly admitted by HEIs and research institutions was 538 thousand. The total enrollment for graduate students was 1.538 million in 2010.

Since 2007, China has become the sixth largest country in hosting international students. The top ten countries with students studying in China include: Korea, Japan, USA, Vietnam, Thailand, Russia, India, Indonesia, France and Pakistan.The total number of international students studying in China often range around two hundred thousands.

b. Classification

There are various principles of classification in China on the university's position. According to more common standards at the university level, that's the real or potential energy level that the corresponding colleges and universities in personnel training, academic research, technological development has, China colleges and universities can be divided into four types.

(1) Research University

Research University we are talking about here refers to the university with a graduate school, or some universities without the Graduate School but more doctoral degrees can be conferred. The proportion of graduate and undergraduate students in these universities is about 1:2.5. This type of university is equivalent to the U.S. Research I universities, accounting for about 10 percent of the undergraduate university. This type of university is to cultivate and foster a large number of high-quality creative talent.

(2)Teaching and Research University

Such universities refer to these universities that can confer the Dr. Degree but

with the relatively few number and the master’s degree. The graduate and undergraduate ratio is greater than 1:3. The University which can award a doctorate is equivalent to U.S. research II universities. They play a special role as a connecting link, accounting for 60 percent of the undergraduate colleges and are the backbone of high-level specialized personnel training. Their scientific orientation and sound development has an extremely important strategic significance to China’s higher education.

(3) Teaching University

Teaching university refers to these universities that do not have graduate education, training the undergraduate as a fundamental task. Many of them are upgraded from the College to the undergraduate college in recent years. Most of these institutions are distributed among the medium-sized cities outside the capital cities and they often become the only university in the region to provide intellectual security and technology services to support the region's economic construction.

(4) Vocational Colleges

Higher professional education and vocational and technical education are two different types of Chinese higher education system in the same level and they are generally collectively referred to as vocational education. Positive development of vocational education is not only the economic and social development needs but also the needs of the popularization of higher education. Because it can not only provide a new growth point for China's higher education development, but also culture the local practical talents.

c. Higher education reform and development plan

(1) Situation in the development of higher education

Since the reform and opening up 20 years ago, the development of higher education is generally in a steady growth. Before the Enrollment Expansion in

1999, the total size in the university attendance reached over 6 million with the gross enrollment rate of 9.8%. In 2009, the total size is 29.79 million, ranking first in the world, with the gross enrollment rate increasing to 24.2%. China initially formed a number of research universities, high-level universities and key disciplines to world-class, and cultivated a large number of cutting-edge emerging disciplines and interdisciplinary. The numberof graduates from college and university is from less than one million to five or six million and the technological innovation and social services capacity is growing.

However, we should also see that there are still many difficulties and problems in the development of higher education in China. First, the cultivation of top creative talents is relatively weak. Second, the condition for the higher education development is inadequate and unstable. The Education Expenses is only about 7500 yuan per student, which is 1/5 of the statistical coverage of that in the developed countries in the same period and the difference between different provinces can reach as much as six times. Third, the graduates are facing much competitive pressure after the Enrollment Expansion, which calls for new and higher requirements for the disciplinary structure optimization and the enhancement of the students' social adaptability. Fourth, many structural and institutional obstacles that hinder the development are still quite prominent, reflected in the training model, the examination and enrollment system, school system, management system and so on. The scientific development of higher education is still facing many new challenges.

(2) Chinese higher education development goals in 2020

Facing the critical period of building a moderately prosperous society, especially in response to the deepening economic globalization, technological advances and intense competition for talent challenges, the "Plan" proposed that from 2009 to 2020, the total size in the university attendance should increase from 29.79 million to 35.50 million, with the gross enrollment rate

increasing from 24.2% to 40%, the proportion of highly educated in the prime working age population (20-59 years) increasing from 9.9% to 20%. These objectives reflect the steady growth trend after the scale of higher education achieving a high point.

As for the proportion of prime working age population with higher education, if it can jump more than 20%, it will mean China's high-end human resource development has reached worldwide top 1/3, which will lay a solid foundation for the construction of human resources power.

(3) China's higher education development task orientation

In accordance with the requirements of the "Plan", the future task of development of higher education will be positioned to comprehensively improve the quality, including the quality of personnel training, the level of scientific research, the ability of social services and so on. This indicates that the scale of higher education expansion will not be the focus, and the higher education will enter the new stage of strategic change of development concept and comprehensive focus on the quality of education before 2020.

d. Enrollment system reform

Colleges and universities will have more ways to enroll students.

Multi-admission means the basic principles of admission is admiting only those who are best qualified, based on a comprehensive evaluation, including college entrance examination scores, the high school proficiency test and the overall quality of assessment of merit. Colleges and universities should gradually expand the proportion of self-admission, recommended admission, orientation admission and admission with an exception, so that students with special talents can be enrolled. This can break the limitations of the evaluation by the College Entrance Examination system, which means a student can

have a variety of ways to access to higher education. This is a new proposed idea about the College Entrance Examination system.

T02 Information on the Conference: organizing & program committees and the conference program

T02.1 Conference organization

International Coordinating Committee

Mengchu Zhou：USA
Derong Liu: USA
Amir Oyoun: Egypt
Mikhail: Morocco
Moawia Ali: Sudan
Junior: Haiti
Mary: Russia
Rainhan: Bangladesh
Yilak: Ethiopia
Amjad: Syrian
Enrica: Italy
Kais: Tunisia
Muhammad: Morocco
Papiya: Bangladesh
Yasin: Morocco
Herman: Gabon
Mu Ketan: Sudan

Program Committee from China and USA

Chairman

Wu Qidi: Former Vice Minister of Education, Members of the NPC Standing Committee and the Education, Science, Culture and Health Committee of the National People's

Congress, President of Chinese Association of Automation

Shao Zhiqing: Deputy director of Shanghai Economic and Information Technology Commission

Members

Mengchu Zhou: Professor of New Jersey Institute of Technology, IEEE Fellow

Derong Liu: Professor of Electrical and Computer Engineering, University of Illinois–Chicago, Director of computational intelligence laboratory and graduate of electrical and computer engineering, IEEE Fellow

Wang Genxiang: Leader of the Asia-Pacific Cooperation Office for City Informatization, Director of Shanghai Asia-Pacific region informatization talent training center, Deputy Director of Internet Economy Consulting Center Part-time researcher of Shanghai Academy of Social Science, Chinese South-South Cooperation Committee member of the United Nations Development Programme

Wu Yugang: Deputy Director of Shanghai Asia-Pacific region informatization talent training center, Director of the exchange and training department of Shanghai Internet Economy Consulting Center

Jiang Changjun: Vice-president of Tongji University

Xiao Yunshi: Professor of Tongji University

Shao Shihuang: Vice Chairman of Shanghai Association of Automation

Xi Yugeng: Chairman of Shanghai Association of Automation, Professor of Shanghai Jiaotong University

Wang Xingyu: Former vice president of East China University Of Science And Technology

Zhu Zhongying: Vice Chairman and Secretary General of Shanghai Micro-computer application Institute, Parttime member of the Shanghai Science Association

Lin Jiajun: Professor of East China University Of Science And Technology

Xu Honghai: party secretary and vice president of the Industrial Institute of Automation Instrumentation

Huang Huixiong: Automation of the Director of the East China Electric Power Design Institute

Fei Minrui: Director of Chinese Society for Instrument and Meter, Director of Chinese Association for Artificial Intelligence(CAAI), Vice president of Chinese Association for System Simulation(CAAS)，Director of Shanghai Association of Automation

Li Shaoyuan: Secretary-General of Shanghai Association of Automation, Chinese Association of Automation Control Theory special committee member

Feng Jiali: Professor of Shanghai Maritime University

Wang Xiaofeng: President of Automation College of Shanghai Maritime University

Xie Hong: Vice-President of Automation College of Shanghai Maritime University

Wang Wanliang: Director of Chinese Association for Artificial Intelligence (CAAI), Deputey Director of Intelligent Systems Engineering Committee, Member of Intelligent Control and Intelligent Management Committee, Director of Chinese Association for System Simulation(CAAS)

Zhanghao: Member of Electric Automation Specialization Committee of Chinese Association of Automation, Member of Application Specialization Committee, vice chairman of Chinese Electromechanical Society of Automation and Computer Applications Specialization Committee, Director of Shanghai Information Society

Gu Xingsheng: Professor of East China University Of Science And Technology

Ding Yongsheng: Vice-President of Information Science and Technology College of DongHua University, Director of Digital Textile and Apparel Technology Engineering Research Center

Chen Ming: Vice-President of Sino-German Engineering of Tongji University

Miao Duoqian: Vice President of College of Electronics and

Information Engineering, Tongji University

Zhao Weidong: Vice President of College of Electronics and Information Engineering, Tongji University

Xu Weisheng: Department Head of the Control Science and Engineering, Tongji University, Deputy Director of Community Information and Intelligent Building Research Center,

Wang Jianhua: Vice-President of Shanghai Educational Evaluation Institute

Lang Yanhuai: Professor of Shanghai University of Finance and Economics

Wang Chao: Secretary of IEEE Shanghai Section, Professor of Shanghai University

Organization Committee from Shanghai

Song Qiong: Head of Shanghai Regional Cooperation Office for City Informatization, Assistant Directorof the exchang and trainning department of Shanghai Internet Economy Consulting Center

Lu Jinshan: Economic and Information Technology Committee of Shanghai, Adjunct Professor Senior Engineer of Shanghai Electrical Apparatus Research Institute

Yue Jiguang: Director of Personnel Division of Tongji University

He Pengfei: Director of Shanghai Science and Technology Venus Association

Xiao Hui: Party Secretary of College of Electronics and Information Engineering of Tongji University, Director of Shanghai lighting Institute

Qiao Fei: Vice-Party Secretary of College of Electronics and Information Engineering of Tongji University, Director of Chinese Association of Automation

Chen Qijun: President of College of Electronics and Information Engineering, Tongji University

He Bin: Deputy Director of Science and Technology Department of Tongji University, Director of Shanghai Science and

Technology Venus Association

Dong Bianlin: Vice-Party Secretary of College of Electronics and Information Engineering of Tongji University

Wan Jian: Director of CIMS Center of Tongji University

Lu Jianfeng:Vice Director of CIMS Center of Tongji University

Chen Xiong: Vice Professor of Fudan University

Peng Daogang: Vice Professor of Shanghai University of Electric Power

Wang Jun: Vice Head of the Department of Control Science and Engineering, Tongji University

Zheng Xiaomei: Shanghai Normal University

Zhang Wei: College of Foreign Languages, Tongji University

Zhang Lun: College of Traffic and Transportation Engineering, Tongji University

Wang Zhongjie: Professor of College of Electronics and Information Engineering of Tongji University , Deputy Secretary General of Shanghai Association for System Simulation

Li Guozheng: Professor of College of Electronics and Information Engineering of Tongji University

Su Yongqing: Vice Professor of College of Electronics and Information Engineering of Tongji University

Yu Youling: Deputy Director of Control Science and Engineering Department of College of Electronics and Information Engineering of Tongji University

Song Chunlin: College of Electronics and Information Engineering of Tongji University

Ding Zhijun: Vice Head of the Department of Computer Science, Tongji University

Yu Xiaoyan: Associate Professor of College of Electronics and Information Engineering of Tongji University

Zhang Shuanghong: College of Electronics and Information Engineering of Tongji University

Li Li: Associate Professor of College of Electronics and Information Engineering of Tongji University

Fan Liuqun: Professor of College of Sino-German Institute of Tongji University

Wu Jiwei: Doctor of College of Electronics and Information Engineering of Tongji University

Yao Jing: Doctor of College of Electronics and Information Engineering of Tongji University

Pan Deng: Doctor of College of Electronics and Information Engineering of Tongji University

Kang Qi: Doctor of College of Electronics and Information Engineering of Tongji University

Wang Lei: Professor of College of Electronics and Information Engineering of Tongji University

T02.1.1 Conference Signature of International Friends

In the JPG documents we can find that the International Friends with signature are listed below: (Some friends in the International Coordinating Committee not attending the conference)

Mengchu Zhou：	USA
Raihan	Bangladesh
Moawia Ali:	Sudan
Junior:	Haiti
Mary:	Russia
Rainhan:	Bangladesh
Papiya:	Bangladesh
Yasin:	Morocco
Herman:	Gabon
Mu Ketan:	Sudan
Steven	Camaroon
Annamaria	Italy
Zak	Morocco
Oma	USA

Alexandre Ariza Spain

T02.1.2 Conference Signature of Chinese and USA Friends

Program Committee from China and USA with signature

Mengchu Zhou: USA
Wang Genxiang: China
Wu Yugang: China
Shao Shihuang: China
Zhu Zhongying: China
Li Shaoyuan: China
Feng Jiali: China
Xie Hong: China
Zhanghao: China
Ding Yongsheng: China
Chen Ming: China
Miao Duoqian: China
Wang Jianhua: China
Lang Yanhuai: China
Wang Chao: China

Organization Committee from Shanghai with signature

Lu Jinshan: Shanghai
Yue Jiguang: Shanghai
He Pengfei: Shanghai
Wan Jian: Shanghai
Chen Xiong: Shanghai
Peng Daogang: Shanghai
Zhang Lun: Shanghai
Fan Liuqun: Shanghai

Unfortunately, many committee members are very busy in the conference

and have no time to give signature, for example, Professor Wang Lei and Kang Qi from Tongji University.

T02.1.3 Conference Signature of Reporters

The Conference has attracted some Reporters to come, including Jin Lin from Shanghai Commercial News, Cao Linjuan from People's Daily, and Zhou Yidong from Shanghai People's Broadcasting Station.

T02.2 Conference program

Conference Organizer： Shanghai Regional Cooperation Office for City Informatization (SRCOCI)

Conference Hosts： Tongji University

Shanghai Artificial Intelligence Association

Shanghai Microcomputer Application Society

Shanghai System Simulation Association

IEEE Shanghai Branch

Natural Computation and the Digital Smart City Association of Chinese Artificial Intelligence Committee

Date: December 18, 2011

Time: 10：30-12：30

LOCATION: Conference Room 401, Sino-French Center, Tongji University

Participants: Experts and Researchers of different nations on higher education and the related economic and information management areas

Registration Time : December 18, 2011 10：00-10：30

Meeting agenda : December 18, 2011 10：30-12：30

◇10：30-10：35：Start the meeting, introduce the leaders, guests and the main participants

◇10：35-11：15：Speeches

(1) Speech of the leader of Shanghai Regional Cooperation Office for City Informatization

(2) Speech of host, Tongji University executives.

◇11：15-11：30: tea break, participants take group photo

◇11：30-12：30: speech of national experts、scholars and researchers

◇12：30: meeting ended

T03 Conference record: Conference in Shanghai with participants from developing countries and developed countries.

10：30-10：35: the meeting started, Xu Weisheng hosted and introduced the leaders, guests and the main participants

10：35-11：00：speech of Leaders

(1)A Viewpoint Presentation was given by the leader of Shanghai Regional Cooperation Office for City Informatization Wang Genxiang

Wang Genxiang: Dear experts and all the leaders, welcome to attend the forum this morning. This is our cooperation project that's joint constructed with Tongji University and supported by the United Nations. This forum will mainly focus on higher education and the issues of reform and innovation.

I saw a piece of news on television that's very enlightening: some family in a rural area northwest of China, to solve the problem of university employment of

the only college student in the village, the parents sold both the house and land. Besides, they have to go to the city to look for jobs. On the other hand, the student can not even find a job after graduation or not earned as much as his father did who haven't received the higher education. As a result of these facts, there is a reading useless point of view arisen.

The story not only has great implication to us the higher education workers, but also is meaningful on how to assess the higher education reform. In fact, the employment structure is closely related to the structure of our education structure. At present, China's economy investment structure has started to adjust and I believe we all have seen the central economic conference content about restructuring. As I once worked in the university, and now in government, some of the comment may not be so very accurate. I will talk about the case of foreign universities, for your reference.

The first is the establishment of the Polish model of employment of university graduates, employment standards and employment databases, and so on. In fact, these measures are constructed to guide the teaching methods to strengthen the investigation of the required capacity of the enterprises' development. This can not only help the teachers to adjust and improve teaching methods, but also help college students to plan their own learning. After two decades of development, their college education philosophy, teaching methods and teachers have undergone great changes, which are also worthy of all of you to explore. A complete, clear structure of entrepreneurship education is also established. As we all know, the structure of education should keep up with the times. The former structure of education under China's planned economy system, has greatly improved ever since the three decades of reform and opening up, but there are still some problems. Poland's approach is that of the four years' university study, the first three years will be used to study basic courses while in the fourth-year one can

choose different directions based on interest. This is similar to our university education, but the requirement of entrepreneurship is relatively clear, including the classroom lectures and student assignments. A set of data show that business kind of education accounted for 12% of the total credits with 59 courses for students to choose. This is a very large proportion for employment, training students according to the market.

Secondly, there are a lot of teaching methods we can learn. On one hand, we can invite some entrepreneurs for teaching. As to this aspect, it has been realized in the EMBA, with little realized among undergraduate students. On the other hand, during the practice and practical training session in entrepreneurship education, the concept of the entrepreneur's entrepreneur can be passed to the students through site visits and discussions twice a year, thus enriching the classroom teaching, expanding the student's ability and inspiring the students' entrepreneurial passion. As the economic increasing speed slowdown in China, the employment pressure will increase, with more business required to improve employment. With the development of cultural industries, there are fairly good business opportunities available to students. Shanghai has also established a number of college students' venture capital funds. Besides, the economic and entrepreneurial organizations should be established in the university, which can provide the opportunity for students to discuss with local entrepreneurs face to face, so as to facilitate students to understand new ideas of the entrepreneurs, and also through solving the confusion about the business to improve the students' ability of analyzing and solving problems and developing their teamwork spirit. At the same time, the teacher development should also be strengthened. The key of entrepreneurship education lies in the establishment of a team of full-time and part-time teachers who have both theoretical knowledge and practical experience. The country is also facing the problem of shortage of teachers, a reason causing the results of entrepreneurship education not obvious. The

state should support the teacher training for entrepreneurs, guide the professional teachers work on business cases and research actively, hire some experts to lecture in colleges and universities, help the students with business practices, and strengthen the discussion and research on entrepreneurship with domestic and international experts, so as to cultivate a team of personnel with high-level knowledge.

Finally, the theoretical research and exchange of experience should be strengthened. This seminar is very good, which can strengthen this area of study and exchange.

I hope that we can continue to promote higher education reform and innovation in developing countries using the support projects in this area provided by the United Nations Foundation, explore the establishment of entrepreneurship education with Chinese characteristics, and develop the practical ideas of the development of entrepreneurship education, so as to guide the business education efficiently.

(2) Professor Yue Jiguang , Director of Personnel Department of Tongji University gave a welcome speach

11：15-11：30: tea break, participants take group photo

11：30-12：30: Typical Viewpoint Presentation of national experts、scholars and researchers

The representative of Sudan Mu Ketan：

Sudan is not developed and there were wars once. For a long time, the education is very dangerous. In the past, there are not so many universities, and we only have three or four well-known universities such as University of Sudan, which are all in the capital and we do not have so many universities.

Now I want to say three aspects. One is about the environment. Great changes in education have taken place in Sudan these years. In the past, the environment is really not good, with the small classroom and not so great constructions and fewer teachers. I think there are better and better teachers now and the government can consider the issue of education standing on our position. After getting a good degree, most students have returned to Sudan. That is why Sudan has some very good universities. Now there are more than 25 universities in Sudan. Once when you were in college, there are only two majors for you to choose, but now we have a lot of new skills. This is our

country's major development, especially in higher education. In the 1990s, we already have new equipment and new ideas. The last point is that our education is based on national language education.

I want to say something about the girls. In Sudan, the 20-year-old girls are not allowed to go to school. It is very difficult for them to go to school, especially college, but now, there are many girls in the University, which for us is a very great progress. Because of our social reasons, the previous view is that women should stay at home and they can not go to school or go to work. But now, many things have changed and some of them are teachers, engineers and doctors. In addition, I want to say something about the new teaching methods. That was once no Power Point or some other things. But now with the new technology, we begin a new approach to teach. A good teacher must have good students. This is also what I want to say to my classmates in the motherland. He is a university teacher and will discuss how to teach in the university in Sudan, because this is our main topic.

Miao Duoqian: China has achieved great success ever since the three decades' reform and opening up, but what is the ultimate goal of reform, I think it is personnel training. Generally, universities have three types of functions: personnel training, scientific research and social services. Among these three functions, personnel training are the most important proposition, also the most important task.

Tongji University has done a lot of reform or many important initiatives in these years, especially in the engineering aspects of the quality of teaching. They built a closed-loop management system through understanding the cultured students to improve the teaching and learning process of students in every aspect. The direction of national education reform is for the industry, for the business community, and to develop the abilities of students in this regard. Tongji University has established a cooperative relationship with many international well-known enterprises to culture students.

In the international context, we attach great importance to international exchanges and cooperation. Tongji University made a lot of projects named the three 300 plans and the three 600 plans. Three ways are taken a year for international exchanges, including the internationally renowned University with a dual degree training, mutual recognition of course credits and short-term exchange programs. In each project, 600 selected students are sent to other international universities per year for international joint training, with a lot of achievement gained. Now the teacher's assessment emphasizes on the research more, which makes the investment in teaching slightly less. I personally believe that the ultimate test standard for any reform and new initiatives is whether the teachers can bring more experience into the training up, into education and the introduction of such a policy is good policy, it should be to insist.

The representative of Morocco Mikhail：

Good morning, everyone. I come from Morocco and I will tell you something about the country's education system. The education system in our country is very mature, and I am proud that we have some very well-known universities.

First, I would like to say something about the teachers. Most teachers have a doctor degree. They are also the management and teaching experts. Besides, some teachers have a business partnership with or own the enterprises.

Second, there are about 20 students in each class, with no more than 30 at most, because in Morocco, student participation is very important in class. Students interpret the learned content to strengthen the impression. That is why 90% of our students have to give a speech and I think being a teacher in Morocco is a very easy task, because they only need to group the students into small groups. When someone in the classroom is giving a speech, the other

students must be prepared to ask questions and the teacher just watch without having to do other things. But I think this approach requires students to carefully prepare their presentations, because other students have the freedom to ask questions, for the student giving his speech is the teacher.

Third, I want to say something about the practice. Practice is a very important aspect in our education system. As to me, for example, every year after ending the semester, I have to practice in a number of places with enterprise practice at least two to three times a year. At the beginning of the second year, I have to submit a report on the practice of the previous year I harvest. In addition, the education in Moroccan is free. No matter whether you are rich or not, you can read there. So many talented people are attracted there to attend the cause. In 2007 some 370,000 students were pursuing various levels of higher education in the country.

Besides all these things, I'd like to cite some other's saying to describe the situation of higher education in Morocco. Morocco is on the good path to improve its higher educational system, notably in financing, on condition that the reforms undertaken so far are reinforced, said the World Bank (WB) and the French Development Agency (AFD) in a joint report presented in Paris.

But there are also some problems to be solved. "There are three important elements which handicap Moroccan higher education science and technology, namely, lack of short, medium and long-term strategies, lack of qualified administrative, academic and technical personnel, and lack of sustainable resources," said Abdeljelil Bakri, head of the insect biological control unit at University Cadi Ayyad. Bakri suggested Morocco should set the goals and the human and financial resources needed to promote human capacity building and continuous training to meet new challenges and needs. He said the curriculum should connect students with active life, encourage creativity and

entrepreneurship, along with continuous monitoring and evaluation with qualified personnel.

The representative of Russia Mary：

Hello, everyone, I would like to say something about the higher education development in Russia these years.

Russia's higher education reform and development was carried out to stabilize the teachers, to improve the quality of education and to promote development of higher education. One important aspect of the Russian higher education reform is structure and academic degree system reform, which is achieved with the implementation of most of the world's higher education system integration, and changing the traditional single academic structure of higher education for the current "multi-level higher education academic structure ",

with international practice, in order to participate in international education and labor market competition, and to adapt to the requirement of different types of talents after the implementation of domestic privatization and market economy.

The first level is incomplete higher education. This is the initial stage of higher education, carried out by the higher institutions in accordance with the basic outline of the implementation of professional education. There are two years of this level, and the students who have completed this phase of learning tasks can continue to accept second-level higher education or choose to receive "incomplete higher education diploma" for employment.

The second level is bachelor's degree education. This level is the basic higher education which is carried out after the first level of incomplete higher education by the universities in accordance with the outline with aiming at training the experts with a bachelor’s degree according to the selected direction, with the educational system (2 + 2) 4 years. The students who have complete a required full course (including internship), passed all exams test, can get a "diploma of higher education", and are granted the appropriate professional "degree." With this "degree", the student can continue to receive higher education. The second level of bachelor education is limited to humanities, social and economic, science and other professionals.

The third level is master's degree education and specialist qualifications education. This level is carried out by the universities with two types of higher education in accordance with the basis for the implementation of professional education programs. One is to develop a "master" experts; the other is to train "engineer", "teacher", "agronomist", "economist" and other qualified experts.

Zhou Mengchu: First, I think the west countries have a long history of higher education with many good things to learn. For our developing countries, we can not blindly copy these good things. But I think we can try some things and many schools and units should be allowed to try to introduce some good things to China, or into some of our education systems in developing countries. One of them is the West's tenure. I think in China, and some other Asian countries, many teachers feel that there is an iron rice bowl once they get into the school and now many schools have begun to try, but I feel it looks they try too far. Yesterday in Zhejiang University in Hangzhou, I heard a professor said that they will assess every two years, if you are not OK, then you will be fired. I think it goes too far of this. As to foreign universities, generally it will take 5-7 years to assess the young teacher whether he/she is able to integrate into our school, capable of his work and form the good habit of research and being a good teacher. If he/she is OK, then we can decide to give him tenure and after that he can continue to do his research. I think this system is very effective, for

it can ensure that those who do stay in school are indeed very good. To evaluate a school, students are very important, but I think the teacher is more important, because if the school has many good teachers, then some good students will come, which will increase the reputation and grade of the school. A few days ago I lectured in South Korea. The best engineering schools in South Korea hired a principal five years ago. The first thing he did is to perform the implementation of appointment, which is still to continue. I think his approach is correct, for he will evaluate you whether to give you the security of tenure after seven years.

The second point is that in American schools, it is not the same between private and public schools. Many good private schools, such as Harvard, you can graduate almost one hundred percent once you entered, but in the public schools, as the school I graduated from, the graduation rate is very low. It allows everyone to come, but the graduation rate is very low, as my professional electrical engineering, its graduation rate is only about 30%-40%, while those who did not graduate may go to another professional or other schools. I think with this system, some thing will happen, at least not as many Chinese students who feel that they can enjoy the life once they entered the university because anyway they can graduate and in my opinion, this is really a bad situation. So, I think the government should explore some of this out of the system to enable students to have their own pressure, not to say that I mixed out. Of course, this system is difficult to develop, but I think it is worth exploring.

The representative of India Rainhan：

India's higher education has gained rapid development in recent years, mainly because there is not much difference between the Indian and prestigious Western universities in the faculty, teaching materials, teaching management, especially the five Indian technology universities along the lines of the Massachusetts Institute of Technology in the period of great development and the directly under the Central College like the University of Delhi, Mumbai University, University of Calcutta, Bangalore Indian Institute of Science and other universities. Through the development, these universities have become the focus universities which are comparable with world-class universities. All of these graduates are more popular with well-known companies in Western countries. Currently, among the emerging 2100 companies in the U.S. Silicon Valley, 820 of them were founded by the Indians. Meanwhile, there are a large number of Indian scientific and technical personnel responsible for the cutting-edge product research in the West well-known large companies. India

key universities attaches great importance to school teachers and students to focus on practical ability, innovation ability and training, following or exceeding the forefront of world science and technology development according to the needs of social development, and they can take full advantages of Indian mathematics and debate, applying the development to teaching and research, so as to build a teaching mode integrated with industry, teaching and also an innovative talents training environment is created .

Zhu Zhongying: Today, I mainly talk about my views on vocational education. For the last 30 years, our nation's teachers have made great progress. One of the big breakthroughs is the type of higher education. I think the type of higher education in our country including not only higher general education, but also higher technical education, or higher technical and vocational education, now it has accounted for half of our country. The number of vocational education students in the school is nearly the same as the general education students in school, almost half and half. Now I say something about this problem.

First, as to the understanding of the concept on higher technical education, there are many inconsistencies. Particularly in the former stage, we have always believed that vocational education is a hierarchy. But now from the international point of view, vocational education is not only a level, it is also a type. Now from the reality of national development, it is also a type. As to this, I remember Professor Wu Qidi once said that vocational education is a type, which itself is multi-layered in a published article a few years ago. But now the reality is that in our country's traditional values, vocational education is a post-secondary or specialist level. This is not conducive to our development of vocational education. A few days ago I went to Taiwan to inspect the problem in this area, and now from the international point of view, some schools are from other technical education to the college, undergraduate, master, Ph.D., a complete multi-level training. I think in this respect, our country should keep up with the idea of an international trend.

Second, the content of vocational education gives people a general feeling that vocational education is education for employment. Of course, employment is a guide, very important, but we should also provide for students in the development of future employment potential. In fact, as to this, the international reference is called "higher technical and vocational education and training." This is proposed by UNESCO in 1999, considering the technical education and vocational education as one. But the reference in our country is only "vocational education". This is relatively narrow in concept and there is a tendency to weaken the technical education. It should include school education, job training, academic education and non-academic education, pre-vocational education and post-secondary education, and so on. I think we should make change in the concept so as to help our country in this respect.

Finally, I’d like to talk about the fact that our support for the issue of vocational education, which reflects the education fair. Vocational education in our

country is now a relatively low level of education, which is a form of discrimination by the traditional concept of vocational education. In fact now vocational education has made great contribution to the country. Now inside of vocational education, especially private education, there are a lot of confusion even they work very hard, especially the teachers. They are also training personnel for the country, but they are treated quite differently with our public school teachers. Especially after retirement, there is an issue whether they belong to career preparation or non-career preparation. If they are treated as career preparation, now in Shanghai, we are not able to solve this problem. This is the main cause of instability among the teachers in the current private vocational education. I think we should make some changes in policy, stable private teachers, and support the development of private education.

Li Shaoyuan: There is really a big difference. The main problem is that how many teachers and workers a Chinese university should have. There has never been a standard. Professor Chung looks good, and we will introduce him

from the United States. Similarly, any scholar as long as useful to me, I will introduce, especially nearly all schools went overseas to recruit talents recently. So there are a lot of people plans, thousands of people plan and thousands of youth people plan. In this case, it is really difficult to obtain a uniform channel to evaluate a teacher. Besides, many of our own students, like Tongji University, are also very good. Under this situation, it's really hard to compete with the overseas talents and it's also very difficult to evaluate their contribution to the work. So at this stage of China, there is no uniform as to the evaluation systems, each school has its own, even with the salary linked to a variety of assessment. Each school will assess, evaluating a teacher's work of one year or just one week.

But, anyway, I think, in recent years, Chinese universities have been aware of the problem, and the system is developing towards better direction. But from the present situation, there exist a relatively large number of problems. So many young teachers choose to stay and discuss about this career path. Now in Shanghai Jiaotong University and Zhejiang University, the teachers are divided into a lot of categories, some emphasis teaching and training, some emphasis teaching and some emphasis research. Anyway, these three categories belong to the mainstream of university teachers. In addition to these, there are some other categories, like project recruitment, personnel agency, regardless of what channel people are, they belong to the school faculty. The people in USA who are engaged in the control are not so many. But in China, it is normal for an automated department to have several dozens faculty, Tsinghua University with about 130. So at this stage, we can not compare a Chinese university system with certain systems of more overseas universities, at least that they can not be compared from one side. But it may happen like this, now in the stage of our need to development, because there are a considerable number of admissions for numbers of Chinese universities, not as Tongji University, Jiaotong University automatic enrollment, it is not

expanded a lot. But in some other schools, only a professional of automation will be able to enroll a few hundreds of students. So as to the number like this, it requires a lot of teachers, but each school, I believe, is certainly not the official statement that how many staff is needed this year. On such a system concerned, I think every school is not very clear, so at this point, they have a big difference.

In addition, Director Wang just talked about the cooperation with enterprises, which I think in terms of Chinese universities were weak. Of course, as a professor at many universities abroad, some are business professors in name only, like Europe. Because in Europe, the college is to train people, so there is a strong interaction with the business and a professor will be relatively strong in interaction. But in China, the largest cooperation with the business community is through a number of cooperation projects, and almost no exchanging staff is possible. Of course, there will be some other examples like Baosteel, a few of their chief scientists are part-time professors in Shanghai Jiaotong University and they can recruit students from the university. I guess, this business with the university staff on the exchange is still relatively small. I still hope that some companies can establish such a fund, including university professors. There are now university professors leave system. With this system, I also hope to visit overseas. Another more viable channel is going to the big companies to do a number of academic and mutual learning. From my personal point of view, this channel is indeed very good. If I have the time, I am really willing to do months of access or communication in Shanghai Electric or Shanghai Baosteel. From this perspective, some university professors have been aware of the problem. The willing to go abroad for several months is not as strong as previous years if you really have time.

And I think this university teaching system or some aspects of the system, or the target of training students, is also toward the international community. We

are talking about the construction of first-class university. But anyway, now we are toward this goal closer. After several years of efforts, China's universities may be considered representative of all the world, because the Chinese University in addition to academic studies, can satisfy the needs of the community and the country's strategic needs more. Overseas universities are also experiment some systems of the Chinese universities, so this may be a two-way communication. And I think Chinese universities are now at this stage.

The representative of Sudan Junior：

Sudan adopts targeted recruitment approach considering the uneven development of education, social backwardness and economic underdevelopment throughout the remote areas. This initiative greatly increased the state's college enrollment rate, cultured a large number of talented expertise for the region, which also had a positive impact on promoting the political, economic and social progress and development of the

state. As to women accepting higher education, Sudan Government enrolled a substantial number of qualified female students according to the principle of equality and justice. According to incomplete statistics, the enrollment rate of female students in Sudan has exceeded more than 60%. Sudanese government has also set up a multi-disciplinary colleges and universities, including medicine, electronic engineering, information technology, statistics, petroleum, metals, aviation, computers and other various types of tertiary institutions. and provided those students who are youth, the disabled, children of martyrs in the remote distance or rural and mixed areas with opportunities for higher education multi-disciplinary through correspondence teaching, especially for those with good academic results but because of the economic, social and family and other reasons that lack of access to formal education. Besides, they expanded the number of admissions to meet the social demand for higher education. To ensure the smooth development of higher education, the Sudanese government continued to increase financial investment.

Experts agree that to bring back the level of a university education to international standards, and to try and return the campuses to their former open environments, serious change was required. Some key points that pertain directly to higher education in Sudan are as follows. 1) More teachers for higher education institutes are needed. One of the results of the last twenty years of conflict is the shortage of qualified or available professors. 2) More universities and colleges are needed so that they can distribute throughout the country and all the residents have access to educational programs. 3) More technological infrastructures need to be established so that the students can not only have the software resources but also the hardware resources. 4) Vocational schools should also be a part of higher education in Sudan. 5) Admission requirements should be reviewed to better match graduating students with the needs of the economy or required labor market.

Ding Yongsheng： As to the university reform in a developing country, we all know, the state’s policy is the University's evaluation system which is a university baton to guide the university’s development. So now our colleges and universities, after some period of development, should have had some success achievements, but this is not enough. Meanwhile, the baton should not be unified. It’s not appropriate for the development of the university with a comprehensive evaluation system of university rankings. In addition we can see, the government has emphasized the project innovation to a very high a level. In fact, the engineering has been stressed ever since we were in the universities. Later, we feel that to get innovation, it is preferred to do some research on the basis of education, that is, we say that the evaluation of the SI thesis. So I think, we should state full well of this thesis, that is, papers and projects, basic research and applied engineering research, the two should coordinate develop, with no part biased. We can not do like this, now that engineering works well, so engineering is emphasized. 20 years later, we find

the basic research should be emphasized, and we will do basic research. We should know both should be equal.

Another idea is that, our government is sending some students overseas, including some public school teachers, and now there is a tendency to develop high school students this way and I think it is a shock to higher education. We find age of the students going abroad is younger and younger. That is, more and more of our talents went to study abroad. How to deal with this problem? As more and more doctoral students study abroad, fewer and fewer students will do research. That is, so many students went abroad, and that is also an obstacle to our research. Therefore, many of our teachers take the subject from the government, but the study team could be less and less and there are more and more doctoral enrollment quota restrictions from the state. Therefore, the development of the higher education in our country, such a system, is a question worth considering. So we sat in this place to discuss the issue. I think we should form some suggestions to better evaluate the state of our national development, in particular, this multi-species-level university system problem.

The representative of United States Amir Oyoun：

Good morning, everyone. I am XU Mo, from the United States. I am very pleased to speak here, thank you. My Chinese is poor, so I speak some English and some Chinese.

First, before I give some comment on the Chinese educational system, I would like to introduce the American educational system. It does not look so good. I mean that the United States has not do education with heart, without thinking carefully. Only a handful of people become engineers, scientists, and very few people think in new ways to solve the problem. According to my experience about the Chinese education system, some universities in Shanghai are established by the government, such as Tongji, Fudan, these schools are all very good. But some private schools ware not so good and they survive under the environment of public schools. But the opposite is true in the United States. Private schools are more well-known like Harvard, Yale and these are schools young people aspire to private. As far as I know, these schools' graduate students have a clear idea for their future, that's just a job, and they do not think they have the opportunity to have a better future. They just go to class, but not want to learn, just sleep and play games, and they don't want to participate in the classroom. The problem is how to encourage students to participate in the enthusiasm of the contents of the classroom and have the interest to create. But the students are just students, whether in China, the United States, Italy or other countries, these students are the future of every country, so, how to help students and motivate them is the main question.

I think Chinese students spend a lot of time in the exam to get a good result and it takes a lot of time and effort of students, which makes the students lose the motivation and passion to create. As a teacher and educator, I think that many can and should do it.

Zhang Hao： Today we are discussing the popularity, reform and innovation of higher education in developing countries. I think this topic is very good.

The total GDP of China has reached second in the world, but I think our country is still a developing country, because the development is very uneven. The first need of education in developing countries is to support the rapid economic development. In fact, China's higher education over the decades should have done this. A few years ago, when Zhou Ji was Minister (Ministry of Education), I went to the Ministry of Education. I discussed with the ministry of the people. We feel that there are still many problems in China's higher education, but we also see that China’s higher education has supported the rapid economic development of reform and opening up for 30 years. If we can’t see this point clearly, and just talk about the problem, without speaking the contribution of higher education in China, then there is no starting point that we talk about these issues and there is no reform and innovation, because reform and innovation is to further improve on the basis of the original.

Therefore, China's higher education, in my understanding, certainly played a due role. But we should still not exaggerate it, to say that we must keep up with the United States, or with the European universities. I have been a number of elite schools in the United States and Europe, the situation is not the same with US. But there are also some common areas. In general, personnel training, scientific research, social services, as well as cultural heritage of innovation, these are common in Higher education. Therefore, the reform and innovation is to see what we do is not so good in this common ground. In fact, as to higher education in some other Africa and Asia-Pacific countries, there are also a lot we can learn and we can learn from each other.

12：30　The End

T04 Establish a mechanism for research information exchange by conference: Daily information exchange platform

We try to construct further improved academic and application conference exchange platform for the cooperators in typical countries which have signed formal contract with China, so as to introduce their new results in the research field of higher education. Participants are expected from developing countries and developed countries so that they can share research results and form ties for research collaboration. The mechanism is made up of Daily information exchange platform network, coordinating and implementing agency and Coordinating secretariat and it will have a long term impact.

Daily Information Exchange Platform

This agency is mainly responsible for the network communication, especially for some discussion for certain subject.

Office: Room 616, Building for College of Electrical and Information Engineering, Tongji University

Office Add: Cao'an Road 4800

The members are as follows:

Wang Lei	Professor	Tongji University
Wang Zhongjie	Professor	Tongji University
Yu Youling	Vice Professor	Tongji University
Yu Xiaoyan	Vice Professor	Tongji University
Li Li	Vice Professor	Tongji University
Yao Jing	Vice Professor	Tongji University
Wu Jiwei	Lecturer	Tongji University
Kang Qi	Vice Professor	Tongji University
Pan Deng	Lecturer	Tongji University

Coordinating and Implementing Agency

The member organizations are as follows:

Economic and Information Technology Committee of Shanghai

Tongji University

Natural Computation and the Digital Smart City Association of Chinese Artificial Intelligence Committee

T05 The media reports

The Conference has attracted a few journalists to come, including Shanghai Commercial News, People's Daily, and Shanghai People's Broadcasting Station. The reports raised many persons' curiosity about higher education popularization. That reflects the Conference has gained some social influence, which is satisfying.

人民网 >> 上海频道 >> 科教

发展中国家高教普及与创新政策国际合作研讨会举办

2011年12月19日17:09　来源：人民网-上海频道　手机看新闻

打印 网摘 纠错 商城 关注 66.3万 分享 推荐 字号

人民网上海12月19日电 （记者 曹玲娟） 由亚太地区城市信息化合作办公室主办的发展中国家高等教育普及与改革创新政策国际合作研讨会昨日在同济大学举办。各国高等教育及相关经济与信息管理领域的专家及研究人员与会。

随着社会的发展和进步，特别是全球化进程的加快，高等教育的普及化与改革创新逐渐成为世界各国共同关注的热点问题。联合国教科文组织将发展高等教育、高等职业教育与全民教育列为重点发展领域，希望通过举办各层次的交流活动，促进相关政策性问题的研究和比较，为各国政府发展符合国情的高等教育体系提供政策参照和技术支持。

在此背景下，亚太地区城市信息化合作办公室与同济大学联合提出了“发展中国家高等教育普及与改革创新政策研讨”国际合作项目，并由同济大学负责具体组织与实施。本项目将针对各国共同关注的教育热点问题，与相关发达国家和发展中国家的研究和实施人员进行全面的学术交流，以此加强相关发展中国家与发达国家之间，以及发展中国家之间的高等教育普及与改革创新研究交流与合作，为发展中国家的高等教育普及与改革创新事业提供更有效的参考途径。

International Cooperation Conference of Popularization of Higher Education in Developing Countries and the Policy of Reform and Innovation was held

From www.people.com.cn

The International Cooperation Conference of Popularization of Higher Education in Developing Countries and the Policy of Reform and Innovation sponsored by Shanghai Regional Cooperation Office for City Informatization (SRCOCI) was held in Tongji University yesterday. Experts and researchers of different nations on higher education and the related economic and

information management areas attended the meeting.

With the development and progress of society, especially the accelerating process of globalization, the popularization of higher education together with reform and innovation is becoming the hot issues of common concern around the world. The United Nations Educational, Scientific and Cultural Organization (UNESCO) takes the higher education, higher vocational education and education for all people as the key development areas, hoping to promote the research and comparison of related policy issues through organizing the activities of exchanges at all levels, so as to provide policy reference and technical support for national governments to develop the national higher education system.

In this context, the Shanghai Regional Cooperation Office for City Informatization (SRCOCI) with Tongji University jointly submitted the international cooperation project of Popularization of Higher Education in Developing Countries and the Policy of Reform and Innovation, which was organized and carried out by Tongji University in detail. This project will focus on the hot issues of education, conducting comprehensive academic exchanges among the researchers and staffs responsible for implementing from the related developed countries and developing countries, so as to strengthen the exchanges and cooperation for the popularization, reform and innovation of higher education, which will provide more effective ways for popularization of higher education and the policy of reform and innovation in developing countries.

【上海商报 】教育创新论坛聚焦信息化

来源：上海商报　　发表时间：12/26/2011　阅读次数：2988

近日，由亚太地区城市信息化合作办公室主办的发展中国家高等教育普及与改革创新政策国际合作研讨会在同济大学举办。

随着社会的发展和进步，特别是全球化进程的加快，高等教育的普及化与改革创新逐渐成为世界各国共同关注的热点问题。在此背景下，亚太地区城市信息化合作办公室与同济大学联合提出了"发展中国家高等教育普及与改革创新政策研讨"国际合作项目，该项目聚焦教育信息化等热点问题，通过学术交流活动推动教育创新。

Education and Innovation Forum focused on information technology

From Shanghai Business Daily

Recently, the International Cooperation Conference of Popularization of Higher Education in Developing Countries and the Policy of Reform and Innovation sponsored by Shanghai Regional Cooperation Office for City Informatization (SRCOCI) was held in Tongji University.

With the development and progress of society, especially the accelerating process of globalization, the popularization of higher education together with reform and innovation is becoming the hot issues of common concern around the world. In this context, the Shanghai Regional Cooperation Office for City Informatization (SRCOCI) with Tongji University jointly submitted the international cooperation project of Popularization of Higher Education in Developing Countries and the Policy of Reform and Innovation. This project focused on educational information and other hot issues which can promote educational innovation through academic exchange activities.

Annex 1 Work plan.

Work plan for the next [24] months

INT/08/K08 Revision: A

Outcome	Output	Activities and Management Actions	mo/yr	mo/yr	mo/yr	mo/yr	mo/yr	mo/yr
T01 Form the workshop organizing committee	01 Call for papers	Activity 1 (for output 1 of outcome 1) [b/] Action 1: Workshop organizing committee meeting Responsibility: Tongji University	XXX **06/11**	XXX	XXX	XXX	XXX	XXX
Workshop for researchers to share results and form ties for collaboration	Report	Action 2: Workshop in Shanghai with participant from developing countries and developed countries Responsibility: Tongji University			**10/11**			
T01 Form the workshop organizing committee	01 Call for papers	Activity 2 (for output 1 of outcome1) Action 1: Responsibility: Tongji University		XXX **05/12**	XXX	XXX	XXX	
Workshop for researchers to share results and form ties for collaboration	Report	Action 2: Responsibility: Tongji University				**10/12**		
T01	02	Repeat for remaining outputs of outcome 1.						
T02	01	Repeat for remaining outcomes.						