

Reform of Institute Management in Higher Education in China

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Abstract: How should higher education be developed in a developing country? It is not only a matter of the quantity of enrolments. As the expansion of higher education in any country is heavily constrained by country's economic development, it is necessary that attention should be given to how higher education contributes to economic development in its process of expansion. Industrial modernization and agriculture progress are the most of important economic developments for developing countries. What higher education can contribute to these developments is by training and channeling large numbers of technical and management personal. This is a long process and it will take several dozen of years for the remarkable results to be obtained. This paper explains how higher education in China has been developing in view of institute management. As to the contributions made to country's economic development by higher education in China are not detailed because of the length of paper.

At time when the People's Republic of China was founded in 1949, its total population was 540 millions in number and 80% of population were illiterate. Referring to the backward economic situation prevailing then in the country, Mao Zedong, then Chairman of the People's Republic of China said, what can China manufacture? It could make desk and stool, it could make teapot and teacup, and it could also grow crops and grind it into flour. However, it is not able to make cars, airplanes and tractors.

In the past 50 years higher education in China has made important contributions to country's industrialization, agriculture progress, peoples' health improvement and education development. Continuously reform on the management of education institute in accordance to the need of development has played a critical role.

1. Classification of institution of higher learning and its programs

This part of content is to prepare a kind of standard for making analysis on the development of higher education in China.

There were altogether 205 institutions of higher learning in 1949 when new China was borne, out of which 124 are public, 60 private and 21 missionary schools. Institutional reform had been carried out right away from the founding of new republic. By 1952 all institutions of higher learning have become public and there were altogether 211 institutions of higher learning, out of which 49 comprehensive universities that house 3 or over colleges, 91 independent institutes of higher learning that are with one or two professional programs, 71 colleges that have only programs of two or three years in length.

Therefore, universities and colleges have been classified into 11 kinds of institutions; they are comprehensive, engineering, agriculture, forestry, medicine, teacher training, language, finance and economy, politics and law, physical education and art. One of strong features for this classification regarding institutions of higher learning is that most of institutes of higher learning are in fact single-profession institutes. Table 1 shows the distribution of different kinds of institutions in early years of the new republic. Comprehensive universities usually have programs in liberal arts, science, finance and economics, politics and law, and some comprehensive universities are engineering universities that have more than two engineering programs. However, as the numbers of comprehensive universities are very small at time, their impact among higher education is limited. For instance, there are only 17 comprehensive universities that accounts only for 7% of total institutions of higher learning available in 1957.

Table 1 Changes by type of institutions during 1947 1957

	A	B	C	D	E	F	G	H	I	J	K	L	Tot al
1947	55	18	18	-	23	22	4	10		5	15	37	207
1952	22	43	25	3	31	33	8	12	3	2	15	4	205
1957	17	44	28	3	37	58	8	5	5	6	17	1	229

Note: **A:** comprehensive university; **B:** engineering institute; **C:** agricultural

institute; **D:** forestry institute; **E:** medical institute; **F:** teacher training institute; **G:** language institute; **H:** finance and economic institute; **I:** Political and law institute; **J:** physical education institute; **K:** art institute

Because the program offered by most of institutions of higher learning is in single-profession such as graduates from engineering institutes would naturally become engineers, graduates from teacher training institutes would certainly become teachers, and graduates from agriculture institutes would work in the field of agriculture. Therefore, the classification of programs offered by institutions of higher learning is somewhat identical with the classification of institutions of higher learning. The programs offered by institutions of higher learning are classified into 11 fields; they are engineering, agriculture, forestry, medicine, teacher training, liberal arts, sciences, finance and economics, politics and law, physical education and art. Table 2 shows enrolment distribution among these 11 fields.

Table 2 Enrollments by fields during 1947-1983 (000)

	A	B	C	D	E	F	G	H	I	J	K	T.
1947	28	10	-	12	21	16	10	18	38	0.	3	154
										6		
% of t.	17. 8	6. 6	-	7.7	13. 5	10. 2	6. 4	11. 4	24. 4	0. 4	1. 6	
1952	67	13	2	25	32	14	10	22	4	03	4	191
% of t.	34. 8	6. 9	1. 1	13. 0	16. 5	7.1	5. 0	11. 5	2.0	0. 2	1. 9	
1957	163	34	6	49	115	20	29	12	8	3	3	441
% of t.	37. 0	7. 7	1. 4	11. 1	26. 0	4.4	6. 5	2.7	1.9	0. 7	0. 6	
1983	419	68	14	140	313	68	80	71	18	10	6	120 7
% of t.	34. 7	5. 7	1. 1	11. 6	26. 0	5.6	6. 6	5.9	1.5	0. 8	0. 5	

Note: **A:** engineering; **B:** agriculture; **C:** forestry; **D:** medicine; **E:** teacher training; **F:** liberal arts; **G:** sciences; **H:** finance and economics; **I:** politics and law; **J:** physical education; **K:** art

From 1980s, reform on institute management has been carried out regarding programs offered by institutions of higher learning. Then universities and colleges were allowed to offer programs according to the need of society and their own ability to do so. As the result, engineering institutes started offering programs other than that of engineering; teacher-training institutes started offering programs not for teacher training. And then changes have been made regarding the classification of programs offered by universities and colleges accordingly. Therefore, the programs offered by institutions of higher learning have been reclassified into 10 fields; they are philosophy, economics, law, education, literature,

history, science, engineering, agriculture and medicine. Comparing with program classification before 1980, there is no field in Table 3 as teacher training, but education field is added; field of liberal arts in new classification is detailed into three fields such as literature, history and philosophy. However, the field of education is not equal to the field of teacher training and that teacher training is no longer regarded as a field does not mean that teacher training is no longer important. It is because that as the reform regarding programs offered by institutions of higher learning since 1980s, more institutions of higher learning are engaging in training teachers and teacher training institutions also offered programs not for teacher training.

Table 3 Enrollments by fields during 1995-2000 (000)

	A	B	C	D	E	F	G	H	I	J	Total
1995	5	461	10 5	12 2	384	48	315	121 3	10 6	26 3	302 1
% of t.	0. 2	15. 3	3.5	4.0	12. 7	1. 6	10. 4	40. 2	3.5	8.7	
2000	6	876	27 2	23 6	819	62	537	214 8	18 2	42 3	556 1
% of t.	0. 1	15. 8	4.9	4.2	14. 7	1. 1	9.7	38. 6	3.3	7.6	

Note: A: philosophy; B: economics; C: law; D: education; E: literature; F: history; G: sciences; H: engineering; I: agriculture; J: medicine

2. Engineering education has been given high priority

The first five-year plan of economic construction in China started in 1953 that put emphasis on country's industrial development. Large scale of industrial construction in various fields of industry was planned and large numbers of technical manpower serving industrial development were demanded. For implementation of national development plan in various fields of industry, quite a number of industrial ministries at central level were set up, such as ministry of mining, geology, machine building, coal industry, petroleum industry, hydrology, hydraulic power, civil construction, iron and steel industry, electronic industry, chemical industry, textile industry, light industry, railway, highway and so on. Carrying out industrial development programs, these central ministries not only need financial support for the projects, but also need technical manpower to implement the projects. Combining the need of technical manpower and their training, the government decided to put the

institutions of higher learning in engineering directly under the jurisdiction of engineering central ministries. And this has become a system that quite a number of institutions of higher learning were put under the jurisdiction of central ministries, including ministries of public health, culture and other non-engineering ministries. And this administration system has been maintained in China until late 1990s.

Table 4 Institutions of higher learning by administration (1995)

	A	B	C	D	E	F	G	H	I	J	K	Total
Total	79	280	63	123	232	15	75	26	45	12	82	1032
Central	14	204	17	21	11	8	38	11	17	5	0	346
Local	65	76	46	102	221	7	37	15	28	7	82	686

Note: **A:** comprehensive university; **B:** engineering institute; **C:** agricultural and forestry institute; **D:** medical institute; **E:** teacher training institute; **F:** language institute; **G:** finance and economic institute; **H:** Political and law institute; **I:** physical education institute; **J:** art institute; **K:** 2- or 3-year college.

Table 4 shows that among 1032 institutions of higher learning in 1995, 346 of them are under the jurisdiction of central ministries including Ministry of Education, (hereafter central ministries are referred as central government) 686 of them are under the jurisdiction of governments of provinces, municipalities and autonomous regions, (hereafter referred as local government, total number of provinces, municipalities and autonomous regions is around 30. there is a minor change from time to time.) Out of those 346 institutions of higher learning that are under the jurisdiction of central government, there are 204 engineering institutions. It means that most of institutions that are under the jurisdiction of central government are engineering institutions. And out of all 280 engineering institutions, there are only 76 of them that are under the jurisdiction of local government. That is to say that most of engineering institutions are under the jurisdiction of central government. This is one of strong features regarding engineering institutions in China in past 50 years.

Another feature of engineering institutions of higher learning in China is that they rank the highest regarding quantity among all institutions of higher learning in China. 27% of institutions of higher learning in 1995 are engineering institutions.

The third feature regarding engineering education in China is that its enrolments have not only been the most among the enrolments in different fields, but also the percentage of enrolments in the field of engineering has been maintained at level of about 40% for past 50 years, though the total enrolment of higher education in China in 2000 is already more than 12 times of that in 1957. (Table 5)

Table 5 % of enrolments of engineering (000)

	Total	Engineering	% of total
1947	154	28	17.8
1957	441	163	37.0
1965	674	295	43.8
1975	501	186	37.2
1980	1144	384	33.5
1995	3021	1213	40.1
2000	5561	2148	38.6

3. Institutes of agriculture, medicine and teacher training have been emphasized

From Table 1 it can be seen that the numbers of institutions of higher learning in the fields of agriculture, medicine and teacher training are among the most in addition to engineering institutions. From Table 2 it can be seen that the enrolments in the fields of agriculture, medicine and teacher training are also among the most in addition to the enrolment in the field of engineering. From Table 4 it can be seen that in contrary to engineering institutions that mostly are under jurisdiction of central government ministries, most of institutions of agriculture, medicine and teacher training are under the jurisdiction of local governments. It is a rule in China regarding the setting up of institutions of higher learning that, in addition to some of institutions of agriculture, medicine and teacher training that are under jurisdiction of central government, there is at least one institution of agriculture in every province, municipality and autonomous region; there is at least one medical institution in every province, municipality and autonomous region, and many of them have two, one western medicine, the other is Chinese traditional medicine; there are a number of institutions of teacher training in every province, municipality and autonomous region, some with more population may have a dozen of them, others with less population may have several of them.

Table 3 shows that in 1990s the percentage of enrolments for agriculture, medicine are no longer among the highest among different

fields. And the percentage of enrolments for economics, sciences and literature all are higher than that for agriculture and medicine. However, the enrolments for agriculture and medicine still keep increasing.

It is, therefore, demonstrates that both central and local governments attach much more importance to higher education for agriculture, medicine and teacher training.

Those institutions in the fields of agriculture, medicine and teacher training that are under the jurisdiction of central government are usually of high quality. They enroll students all over the country by quota and their graduates would go to work all over country as well.

Those institutions in the fields of agriculture, medicine and teacher training that are under the jurisdiction of local government enroll students within their own provinces, municipalities and autonomous regions and their graduates are usually working within their own provinces, municipalities and autonomous regions.

Making comparison between engineering institutions and institutions of agriculture, medicine and teacher training regarding institute management, engineering education has been more centralized and higher education of agriculture, medicine and teacher training are more localized.

Table 6 shows the changes of the enrolments of agriculture, medicine and teacher training in past 50 years. It shows that the enrolments for agriculture programs in 1980 accounted for 7.2% of total enrolments and stood at 82,000 in number, but in 2000 it accounted for 3.3% of the total and stood at 182, 000 in number that is more than a double of that in 1980. It also shows that the enrolments for medical programs in 1980 accounted for 12.2% of the total and stood at 140,000 in number, but in 2000 it accounted for 7.6% of the total and stood at 423,000 in number that is three times of that in 1980. And it shows as well that the enrolments for teacher training program in 1980 accounted for 29.6% of the total and stood at 338,000 in number, but in 2000 it accounted for 11.2% of the total and stood at 621,000 in number that is almost two times of that in 1980.

Table 6 Enrolments by agriculture, medicine and teacher training (000)

	T o t a l enrolment	Agriculture and forestry		Medicine		Teacher training	
		Enrolment	%	Enrolment	%	Enrolment	%
1947	154	10	6.6	12	7.7	21	13.5
1957	441	40	9.1	49	11.	115	26.0

					1		
1965	674	63	9.4	83	12. 3	94	14.0
1975	501	42	8.4	86	17. 2	97	19.4
1980	1144	82	7.2	140	12. 2	338	29.6
1995	3021	106	3.5	263	6.9	468	15.5
2000	5561	182	3.3	423	7.6	621	11.2

4. Reforms on institute management for higher education since 1980

Three important reforms on institute management for higher education since 1980 have great impact on higher education in China.

4.1 Academic degrees

There had been no academic degree system for higher education in China until 1981, though the institutions of higher learning in China offered programs for undergraduate and graduate students during the 30 years of 1949-1980.

Regulations of the People's Republic of China on Academic Degrees was adopted and promulgated by National People's Congress in 1980 and effective as of Jan. 1, 1981. Implementation of the regulations has resulted in much increase of enrolments of graduate students and emphasizing formal education by institutions of higher learning.

Total enrolments for graduate education in China in 1981 were only 18,800 in number and it increased to 300,000 in 2000. Regarding the emphasis on formal education by institutions of higher learning, more students are enrolled for the programs of Bachelor or Diploma and more institutions of higher learning have been approved to offer programs of Bachelor or diploma.

4.2 Tuition charge

During more than 30 years of 1949-1982 no tuition were charged for any student studying in institutions of higher learning in China. This prevents institutions of higher learning from further expanding enrolments as the financial support from both central and local governments are limited. However, the demand for having higher education in China is very great. For instance, the institutions of higher learning in China in 1981 enrolled only 315,000 fresh students, but the numbers of senior high school graduates in the same year was 4.86

millions, only less than 6% of them would have chance to go to higher education. Tuition payment has become a rule for all students going to study in institutions of higher learning. At same time the governments of both the central and the local have worked out a policy to support those students who have financial difficulties. The total enrolments in regular institutions of higher learning had already increased to 5,561,000 in 2000 that is almost 18 times of that in 1981. And the rate of senior high school graduates going to institutions of higher learning for 2000 went up to 70%.

4.3 Institutions of higher learning enjoy autonomy regarding programs offered

As mentioned above that what programs the institutions of higher learning in China could offer had not only to be approved by authority, but also to be constrained by institute classification. For instance, while engineering institutions of higher learning have to have approval from government for offering a new program in the field of engineering, they, as institutions of higher learning, are not allowed to offer any program other than that in the field of engineering.

The reform in this regard is to give institutions of higher learning autonomy to decide the programs they are going to offer. As the result of this reform, former engineering institutions are offering programs in liberal arts and social science, former teacher training universities and colleges are offering programs not for teacher training. Therefore, many former institutes of engineering and teacher training have become universities as the programs offered have increased. As market economy is practicing in China and more manpower with economic, finance and law knowledge is needed, enrolments in the fields of finance, economics and law have increased enormously. For example, the enrolments in the field of finance and economics in 1983 was 71,000 and accounted for 5.9% of the total; but the enrolments in the fields of finance and economics in 1995 increased to 461,000 and accounted for 15.3% that is second highest among enrolments in all fields for higher education. In 2000 the enrolments in the field of finance and economics are 876,000 that is almost a double of that in 1995 and accounted for 15.8% of the total, also the second largest among enrolments in all fields for higher education. Table 7 shows the changes of enrolments for finance and economic programs in the institutions of higher learning in China.

Table 7 Changes of enrolment for finance and economics

	T o t a l	Enrolments in finance	% of
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	enrolment '000	and economic fields '000	the total
1947	154	18	11.7
1957	441	12	2.7
1965	674	18	2.7
1975	501	07	1.4
1980	1144	37	3.2
1995	3021	461	15.3
2000	5561	876	15.8

5. Adult higher education and adult institutions of higher learning

There are two kinds of institutions of higher learning in China, regular institutions of higher learning that require applicants not over 25 years old in age, and adult institutions of higher learning that enroll students who are not qualified in age to apply to enter regular institutions of higher learning. This age requirement for applicants to institutions of higher learning is cancelled from 2001 and many other reforms on institute management on these two kinds of institutions of higher learning have been carried out. Therefore, the distinction between regular and adult institutions of higher learning will be blurred.

For regular institutions of higher learning there have been unified entrance examination for the whole country in past 50 years except the period of 1971-1978. And for adult institutions of higher learning, separate unified entrance examination was established and has been used for enrollment. Therefore, two-kind institutions system in higher education in China will be maintained for the time being.

There are more than 700 independent adult institutions of higher learning with enrolments of over one million. And regular institutions of higher learning have also provided programs for adult higher education, whose enrolments since 1990s have been more than that in independent adult institutions of higher learning. Therefore, adult higher education play important role in higher education in China. It is worthy explaining it in details.

5.1 Origin of independent adult institution of higher learning

First independent adult institution of higher learning was set up in 1949, the year when new China was founded. Some regular institutions of higher learning started to run evening school for adults from 1952 and started to offer correspondence courses for adults from 1953. Therefore, by 1957, there were 156 adult institutions of higher learning, 94 of them are evening schools and correspondence courses run by regular institutions of higher learning. At this stage, adult institutions of higher

learning run by regular institutions of higher learning are more than independent institutions of higher learning in number.

5.2 Enterprises and factories were encouraged to run institutions of higher learning

Government made it a policy in 1958 that enterprises and factories were allowed to run institutions of higher learning to enroll students from their own enterprises and factories, hoping that such trainings would provide chances for workers to further their study and enhance production. Institutions of higher learning run by enterprises and factories are classified as adult institutions of higher learning. The total numbers of adult institutions of higher learning increased to 383 in 1958, 118 of them were evening schools and correspondence courses run for adult by regular institutions of higher learning. At this stage, the numbers of independent adult institutions of higher learning are more than that by regular institutions of higher learning.

The policy that enterprises and factories run institutions of higher learning was summered up as walking on two legs, meaning that higher education should walk on two legs, one is regular institution of higher learning and other is adult institution of higher learning. Thus adult institutions of higher learning have become an integrated part of higher education system in China since 1958.

In 1965 adult institutions of higher learning was 964 in number, 206 of them were evening schools and correspondence courses run for adult by regular institutions of higher learning. During the period of 1972-1979 while regular institutions of higher learning did not offer any course for adult, there are more than 6000 of independent adult institutions of higher learning; their total enrolments were 1.72 million. There are only on average 270 students in each institution. It is not only that enrolments in these institutions are small in number generally, but also that most of trainings are short-termed.

5.3 Bachelor or diploma programs for adult education have been emphasized

The implementation of the regulations on academic degrees has great impact on adult higher education in China. In this regard one of policies worked out for adult education is that adult institutions of higher learning should also provide formal higher education such as programs for degrees in addition to various other training needed for adult. Then both institutions of adult education run by regular institutions of higher learning and independent adult institutions of higher learning are offering programs for bachelor or diploma.

The independent institutions of higher learning have been classified into six kinds of institutions since 1990s. (Table 8)

Table 8 Independent Adult institutions of higher learning

	A	B	C	D	E	F	Total
1990	40	835	5	172	265	4	1321
1992	44	726	5	168	251	4	1198
1994	46	703	4	170	245	4	1172
1996	45	680	4	164	240	4	1138
2000	45	466	3	117	138	3	772

Note: **A:** radio and TV universities; **B:** workers' college;
C: peasants' college; **D:** institute of management;
E: college of education; **F:** independent correspondence college

Radio and TV universities are open to all applicants, especially those applicants living in small cities and town or remote areas. There is central TV University administered by national Ministry of Education and there is a TV University in every province, municipality and autonomous region.

Workers' Colleges are usually located in enterprises and large factories and many of these colleges have become an integrated part of enterprises and factories. Table 8 shows that the numbers of workers' colleges is decreasing because of the changes happened to some enterprises and factories after practicing market economy, and many of workers' college have been incorporated into other institutions of higher learning.

There are only a few peasants' colleges. In fact most of rural area is not able to run peasants' college. These a few peasants' colleges are located in those well-developed rural area.

Colleges of Administrative Cadres are the institutions of higher learning that have been established after the country started practicing open policy and market economy. The purpose of establishing these colleges is to provide training for those working in various offices of all level of governments, and administrative personal in enterprises and factories.

College of Education is to provide further training for in-service teachers. As the quality of teachers working in schools were heavily affected by ten-year cultural revolution of 1966-1976 and many of them didn't have academic qualification for being teachers in school, governments of all levels set up college of education to provide training for teachers already working in schools.

Table 8 also shows that the numbers of adult institutions of higher learning has been decreasing since 1990. The numbers of workers' colleges decreased to 466 in 2000 from 835 in 1990. It means that as formal education for adult institutions is emphasized, some institutions not able to ensure quality have to be adjusted. The numbers of College of Administrative Cadres decreased to 117 in 2000 from 171 in 1990 and the numbers of Colleges of Education decreased to 138 in 2000 from 265 in 1990. This is because of readjustment of institution to strengthen efficiency of institutions.

5.4 Enrolments for adult institutions of higher learning

Since there are two kinds of adult institutions of higher learning, enrolment situation for adult institutions are explained separately. Table 9 shows the enrolment situation for independent adult institutions of higher learning.

Table 9 Undergraduate enrolments by independent adult institutions (000)

	A	B	C	D	E	F	Total
1995	52.7	32.6	0.9	15.4	20.5	1.4	123.5
2000	34.7	33.2	0.4	16.7	25.8	1.3	112.2

Note: **A:** radio and TV universities; **B:** workers' college; **C:** peasants' college; **D:** institute of management; **E:** college of education; **F:** independent correspondence college.

Table 9 shows that enrolments in radio and TV universities have been decreasing. It is because of a policy of expansion of enrolments by regular institutions of higher learning since 1999, more applicants have chance to go to regular institutions of higher learning, causing decrease of enrolments in radio and TV universities. The increase of enrolments in colleges of education is resulted by government policy to upgrade quality of in-service teachers.

Table 10 Enrolments for adult institutions of higher learning by fields (000)

	A	B	C	D	E	F	G	H	I	J	Total
1995	246	5	53	51	19	11	53	46	8	0.5	1227
5				0	4	2					

2000	201	4	91	34	23	10	92	34	6	-	1118
				8	3	8					

Note: A: **engineering**; B: **agriculture**; C: **medicine**; D: **economics**; E: **literature**;

F: **law**; G: **education**; H: **science**; I: **history**; J: **philosophy**.

From Table 10 it can be seen that regarding enrolments among different fields in 2000 for independent adult institutions of higher learning, economics ranks the first, literature second and engineering third. Comparing with enrolments in 1995, enrolments in literature keeps increasing, but both enrolments in economics and engineering decreased. This is also because of enrolment expansion of regular institutions of higher learning.

Table 11 Enrolments for adult education in regular institutions by fields (000)

	A	B	C	D	E	F	G	H	I	J	T.
1995	381	27	128	495	198	69	64	53	14	0.3	1432
2000	632	48	263	605	451	135	166	100	18	0.5	2419

Note: A: **engineering**; B: **agriculture**; C: **medicine**; D: **economics**; E: **literature**; F: **law**; G: **education**; H: **science**; I: **history**; J: **philosophy**.

Table 11 shows that the distribution of enrolments for adult education by fields in regular institutions of higher learning is different in order with the enrolments for independent adult institutions of higher learning. Regarding enrollments for adult in regular institutions in 2000, Engineering ranks the first, economics second, and medicine ranks the third. This is because of strong programs in engineering and medicine available in regular institutions of higher learning.

Comparing enrolments in independent adult institutions of higher learning (Table 10) with that in regular institutions of higher learning (Table 11), while the total enrolments in adult institutions of higher learning decreased in 5-year period of 1995-2000, the total enrolments in regular institutions of higher learning increased by one million in the same period. As more and more adult are to seek degrees and diploma for their further education, they choose to go regular institutions of higher learning rather than adult institutions of higher learning.

Table 12 Enrolments for regular and adult in. by years (000)

	Total	Regular institutions	Adult institutions	
			Enrolment	% of total

1990	3729	2063	1666	44.7
1991	3520	2044	1476	41.9
1992	3663	2184	1479	40.4
1993	4399	2536	1863	42.4
1994	5151	2799	2352	45.7
1995	5476	2906	2570	46.9
2000	9097	5561	3536	38.7

Table12 shows that more than 40% of enrolments are studying in adult institutions of higher learning during the period of 1990-1995. In 2000, this percentage decreased to 38.7% because of enrolment expansion policy practiced since 1999. Anyway, adult higher education plays very important role in higher education in China regarding enrolments.

6. Self-study exams for higher education

As enrolments for institutions of higher learning have been limited, many high school graduates could not have chance to go to institutions of higher learning. However, many higher school graduates failing to have chance to be in institutions of higher learning persist in self-study at home or where they are working. After many years' hard study, they have completed courses available in institutions of higher learning, but they are not recognized academically. Local governments started self-study exams in 1981. Applicants would be conferred degrees or diploma if they take self-study exams and their scores up to standard in all subjects of Bachelor degree or diploma. By 1996, there were 1.3 millions of applicants successfully in having degrees or diploma conferred. And there are 6.7 millions of applicants were registered for taking self-study exams.

These exams have now been widely used by non-public post-secondary institutions. As they are not qualified to offer degree or diploma courses, they arrange their students to take self-study exams after finishing study so that students would likely get degrees or diploma.

7. Private institutions of higher learning

As it is mentioned above that there were private institutions of higher learning before 1949 when new republic was founded. There were no private institutions of higher learning until 1980s when China started practicing open policy and socialist market economy.

According to the statistics of 2000 from the Ministry of Education in China, there are 1,282 non-public institutions at post secondary level with total enrolments of 982,000, out of which 297,000 are studying for

diploma. Out of 1282 post-secondary institutions, only several dozen of them are qualified to offer courses for Bachelor degree or diploma. Most of students studying in these post-secondary non-public institutions have to take self-study exams to be qualified for degrees or diploma.

The government encourages the expansion of non-public post-secondary institutions. A new regulation on non-public educational institutions is under discussion. It is hoped that the newly worked-out regulation will promote the expansion of non-public educational institutions.

1. Conclusions

8.1 It is mentioned at the beginning of this paper that higher education in China, even though its scope had been very small for quite a long period of time, has made very important contributions to industrial modernization, agricultural progress, public health improvement and education development by providing fairly large number of trained personal from institutions of higher learning. The above analysis has demonstrated that high percentage of enrolments for the fields of engineering, agriculture, medicine and teacher training was made it possible because of government policy on them and government financial support to higher education.

8.2 With socialist market economy in force, institutions of higher learning have been given autonomy regarding the programs offered and so on, enrolments for the fields of finance, economics, management, law and related subjects can expand gradually and sometime it can be developing at fast speed.

8.3 For developing countries the demand for higher education is always over supply. This is a contradiction that will exist for quite a long period of time. Government should always try every means to meet the demand for higher education. Adult institution system, self study exams and non-public post-secondary education institutions all are to meet the demand from people for higher education.