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ANALYSIS OF EQUILIBRIUM DEVELOPMENT OF HIGHER EDUCATION IN CHINA BASED ON THE HIGHER EDUCATION DEVELOPMENT INDEX

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Abstract

Equilibrium development is the basic requirement of global education quality assurance. The balance of the quality is becoming an important subject on higher education development day by day. This paper sorts out design and assessment cases of education development index in China and abroad, summarizes relevant research analyzing Chinese higher education equilibrium development by calculating the chief indicators such as higher education opportunity, education input, education qualityõ etc. Further inquiries into the applicability of education development index. Throughout a suggestion on improving the assessment of Chinese higher education equilibrium development, pointing at merits and drawbacks of these indicators.

Key Words

Education development index; Equilibrium development; level of higher education development

Introduction

Equilibrium development has been a basic requirement of current quality assurance of global education. It has been an important subject to actualize the assessment of education development level, with the ceaseless development of higher education level of each country. How do we assess the level of education development of one country or district? Which indices do international organizations choose normally? How do we design the development index? It is with great significance for higher education equilibrium development of our country to structure a higher education development index, which is suitable to China.

This paper throws out relevant suggestions about the equilibrium development of higher education of our country, according to comparing and analyzing the designs of education development indices both home and abroad, sorting out the structuring principle and computational formula of the higher education development index, comparing and analyzing the level of higher education development of all provinces, and analyzing the districts diversities of higher education development level in each province.

1. The Summary of Education Development Index

Education development index (EDI) is an aggregative index structured by a number of single indicators. It shows and assesses the education development level of a country or a district.

Many international organizations use EDI to assess and monitor the level of international education development. For example, "Program on institutional management in higher education" which was aimed at promoting contributions to district development made by universities and other institutions of higher education launched by OECD in 2004.

Some international organizations, countries, and higher education institutions also released indicators in order to assess the higher education development, and pursued it in practical work of assessing. An overview of cases about the designs researches of EDI and the assessing of international education development level are listed in the table below (see Table 1).

Table 1. The summary of education development index designs at home and abroad.

International	OECD	"Education at a Glance, OECD", which is published by OECD yearly, uses a series of education indices to show the education development conditions in OECD and their partner countries, and relation between education and income.
	UNESCO	UNESCO publishes "Global Education Digest" yearly. The EDI uses 16 statistic tables and hundreds of statistic indicators data, in order to make statistics about the education development conditions of each country in the world.
	The World Bank	The World Bank publishes "World Development Indicators" yearly, which provides statistics data on economics, population, environment, education, etc. Five indicators are touched upon in the education section, specifically educational input, educational participation, efficiency of education, education completion rate, and equal access to education.
	Indian Planning Commission	Indian Planning Commission commissioned a research team of institute of applied human resource led by Anil K, Yadav to design an EDI. It compares and evaluates basic education development level of each district. To point at the problems in the compulsory education stage of each district in India, They designed an EDI with 4 Level II indicators, including educational opportunities, educational facilities, educational resources, and educational output, and 22 Level III indicators.
Internal	Tan Songhua Yuan Bentao	They structured "modern education evaluation indicators of China" with 7 indicators including literacy rate for more than 15-year old, expected years of schooling, gross enrollment rate of secondary education, gross enrollment rate of higher education, a number of students at institutions of higher learning for every 100 thousand people, public education funds proportion of GDP, public education expenditure per capita.
	Chu Jiangting	He structured an EDI with 7 Level II indicators including educational background, educational input resources, educational opportunities, teaching orders and securities, referring to OECD's education index system.
	Wang Shanmai	Referring to the domestic and international research and combining the development of education in China, he structured an EDI with 3 Level II indicators and 18 Level III indicators, and separated it to index of educational opportunity, index of educational input, and index of educational equity.

According to sorting out the EDI assessment cases of domestic and international, we can discover that the research and applications of assessing education development level with EDI were mainly in the field of basic education. However, the applications and evaluations of the higher education development level is less.

Most of the higher education encouraged universities through some policies, such as projects. Most of those policies benefit a small number of high-level research universities, with obvious orientation. Other universities can only flinch, so that the development gap between them is growing. It exacerbates the diversities of higher education development level among provinces.

China is a great country of higher education. Disequilibrium appears among the higher education development of each province, because of the effects of politics, economy, culture, geography, etc., even polarization situation. How to raise the input, expand the entrance opportunity, increase the quality of higher education is mostly paid close attention to by educational administrative department. Both the EDI design and whole analysis of higher education equilibrium development level are less. Educational administration evaluation mostly focused on the allocation of external resources, less focused on internal factors, such as gross enrollment proportion of higher education, level of teachers, etc.

2. Data Description of the Level Development in Higher Education

The per capita cost of college students indicates the higher educational input index, the gross enrollment proportion of higher education indicates the higher educational opportunity index, the proportion of full-time teachers in college who have doctor's degree and the proportion of key colleges to the total quantity indicate the educational equity index during the EDI system above.

2.1 The Level of Higher Education Opportunity

Most international organizations and districts use "gross enrollment rate of higher education" to indicate the level of higher educational opportunities. According to "China's education monitoring and evaluation index system" revised edition by China's Ministry of education in 2015, the rules and formulas for the gross enrollment rate of higher education is: *"Gross enrollment rate of Higher Education (%) = Higher Education in the total size / School age 18 to 22 population *100% . The optimal value of gross enrollment rate of higher education in China is set to 50%"*

2.2 Higher Education Input Index

Normally, the level of economic development directly affects the level of input in Higher Education. The college student fees (including infrastructure fees) can be applied to indicate the level of input in higher education. The highest one can be selected as the optimal value, resulting in higher education input index formula:*"The university student career index = College in the province of the national student career fees/ the highest fees in China."*(E.g. China's colleges and universities input in Beijing is the highest level reached RMB46, 515 yuan in 2010.)

2.3 Higher Education Quality Index

Under the Higher Educational Quality Index, there are two indicators including the provincial key universities (211 and 985 colleges) accounted for the total number of provincial colleges and universities, and the ratio of full-time teachers who have a Ph.D. degrees.

According to "China's education monitoring and evaluation index system" revised edition by the China's Ministry of education in 2015, the proportion of full-time teachers who have a Ph.D. degree, refers to the percentage of the total number of full-time teachers in colleges and universities. The number of full-time teachers in colleges and universities in the province with a Ph.D. Formula for:

*"The proportion of full-time teachers who have a Ph.D. degree (%) = the number of full-time teachers with college / doctoral degree College of the total number of full-time teachers *100%"*

3. Related Research of Education Development Index: Two Case Studies of China

There are two chief cases of Chinese scholars performed the assessment of education equilibrium development level by calculating EDI. One is Professor Wang Shanmai compared the overall level of educational development, and the levels of education development, education opportunity, education input, and education equity in 2009 among 31 provinces in China (2013). The other is

based on Wangs research Dr. Chen Bin performed statistics and analysis of the level of higher education development in 2010 among 31 provinces in China (2016).

3.1 Case Study of Structure of District EDIin China

A research team led by Professor Wang Shanmai (2013), structured an EDI with 3 Level II indicators and 18 Level III indicators (see Table 2) by combining the education development situation of China. Based on this EDI, they compared and analyzed the levels of educational development, opportunities, input, and equity in 2009, including all the 31 provinces of China.

Table 2. Structure of district EDI

Level I	Education Development Index		
Level II	Educational Opportunity	Educational Input	Educational Equity
Level III	1. Gross enrollment rate of preschool education 2. Gross enrollment rate of compulsory education 3. Gross enrollment rate of senior high school education 4.Gross enrollment rate of higher education	1. Per capita cost of pupils 2. Per capita cost of junior high school students 3. Per capita cost of senior high school students 4. Per capita cost of college students 5. The proportion of full-time teachers in primary schools who have college or above degree 6. The proportion of full-time teachers in juniorhigh schools who have bachelor's or above degree 7. The proportion of full-time teachers in seniorhigh schools who have bachelor's or above degree 8. The proportion of full-time teachers in college who have doctor's degree	1. Urban-rural difference of per capita cost of pupils 2. Urban-rural difference of per capita cost of junior high school students 3. Urban-rural difference of degree of full-time teachers in primary schools 4. Urban-rural difference of degree of full-time teachers in junior high schools 5. Gini coefficient of per capita cost of pupils among counties 6. Gini coefficient of per capita cost of junior high school students among counties

3.2 Case Study of Structure of Higher Education Development Index in China

Chen Bin, a professor of education at Xiamen University, according to the study of China's Higher Education Development among 31provinces, establishes a framework of higher education development index with three secondary indicators and four tertiary indicators, including higher education opportunity, higher education input and higher education quality (see Table 3).

Table 3. Structure of higher education development index in China

Level I	Higher Education Development Index		
Level II	Higher educational input	Higher educational opportunity	Educational equity
Level III	Per capita cost of college students	Gross enrollment proportion of higher education	1.The proportion of full-time teachers in college who have doctor's degree 2.The proportion of key colleges to the total quantity

Based on the framework of higher education development index with three secondary indicators and four tertiary indicators, by calculating the educational development index in 2010 among 31 provinces in China. His findings are summarized as follows: The level of higher education development is higher in eastern China than in western and central China. Specifically, the higher education opportunity index of eastern China is significantly higher than that of western and central China, with no obvious difference between western China and central China; differences in higher education input index between provinces are significant; the higher education quality indices of Beijing and Shanghaiare significantly higher than those of other provinces. The level of higher education development is affected by the level of economic development and population scale to a great extent, as well as by national policies and geographical environment to some extent. (Chen-Bin, 2016)

4. Conclusion and Inspiration

Through the comparative analysis of the design of educational development index can be seen that, the types of indexes and index system for the different areas, different stages of education,

have its characteristics. Therefore, design of index system should tally with the requirement of the area education development and education characteristic in China.

Take the two designs of EDI in India for instance. They have both commonalities with international education index, and obvious characteristics. The same as international organizations, they mostly focus on the education opportunity, teacher resources, education result, and education equity. But they also choose several indicators with Indian characteristics as chief indicators brought into EDI, such as potable water and toilet, class with more than 60 students, educational opportunities for all social classes and tribes, and etc.

In addition, education equity should be paid more attention to, and brought into EDI. It is important that equity is brought into any other index as a chief indicator, with the development of economics, and with the appearance of inequality and the gap between the rich and the poor in social development.

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ACCREDITATION OF JOINT STUDY PROGRAMMES: FROM OBSTACLES TO SOLUTIONS (VIEWPOINT OF A EUROPEAN QUALITY ASSURANCE AGENCY)

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Abstract

The development of joint programmes offered by at least two Higher Education Institutions (HEIs) in different countries has received broad support in the context of the Bologna Process, both from politics and academia. European HEIs often regard such study programmes as a central and very promising element of their internationalisation strategies. However, a number of obstacles became visible, which hamper the development of collaborative programmes. One of the crucial challenges is a problem of external quality assurance and accreditation of joint programmes, which is related to the divergences in higher education legislation across the European Higher Education Area (EHEA). In countries where programme accreditation is obligatory, joint programmes are usually subject to multiple accreditation procedures, which can neglect their joint character and represent an organisational, a bureaucratic as well as a financial burden on the institutions involved. In order to dismantle these obstacles and to ease accreditation of joint programmes, the Eu-