

Dynamic CGE Study on Development Process and Change of Physical Education Teacher Team since the Founding of New China

Yin Fei

Sports Art Department
Chengde Petroleum College
Chengde, Hebei 067000 China

Zuo Dong

School of Economics
Sichuan University
Chengdu, Sichuan, 610207 China

Abstract—Since the founding of new China, physical education industry has made considerable achievement in China, and physical education teacher team has also obtained a long-term development. In order to explore the development path of P.E teacher team and provide basis for the exploration and accumulation of physical education development, this paper conducts the survey statistics and dynamic CGE study for the physical education teacher team quantity and quality since the founding of new China. It is found that, the quantity of physical education teacher team continues to grow since the founding of new China, and the teacher strength has obtained great progress. The age structure is more reasonable, with overall improvement of high-degree P.E teacher proportion, and the gender and age structure of P.E teachers have an obvious improvement. But we also find that the development of PE teachers still have some problems, which don't adapt to physical education development. Based on analysis on reasons of the problems, this paper puts forward the corresponding solutions.

Keywords- P.E teachers; team; development; change;

I. INTRODUCTION

Physical education is one of the important education activities. P.E teachers are participators and organizers of physical education work, and construction level of P.E teacher team is directly related with the success or failure of physical education development. Constructing P.E teacher team with enough quantity, good quality and excellent qualification is of great significance for improving the overall physical education level, enhancing students' physical fitness and cultivating high-quality talents. Since the founding of new China, P.E teacher team has made considerable achievement in China through many years of development. Dynamic CGE study on development change of P.E teacher team in China shows the changing trend of P.E teacher team, which provides effective basis for optimizing and improving P.E teacher team.

II. BRIEF REVIEW OF P.E TEACHER TEAM DEVELOPMENT

In the early years of founding, physical education industry showed the rapid development trend. In temporary situation, P.E teachers were in shortage, and usually normal college students and senior high school students with a

certain P.E specialty worked as P.E teachers. In the period, it was also the rapid development period of normal colleges and P.E colleges in China. During the period of more than ten years, the newly built P.E colleges had cultivated a large number of physical education talents for physical education industry. However, with the arrival of ten years' catastrophe, P.E teachers have been seriously affected. The national P.E colleges have been reduced from 30 colleges in 1957 to 5 colleges in 1970, and the education level of P.E teacher talents has also been greatly reduced. Since the reform and opening up, the construction of P.E teachers has gradually been into scientific and standardized track, and various training classes, teaching assistant classes, correspondence classes and refresher classes effectively compensate for the quantity and quality gap of P.E teachers. Until 1995, more than ten thousand high-quality P.E teachers were cultivated every year. In recent years, the cultivation of physical education talents has been more scientific and standardized. However, due to the historical inertia formed by decades, the development of P.E teachers still has bottleneck. The phenomena of low education level of P.E teachers and P.E culture disconnect still widely exist.

III. DYNAMIC CGE ANALYSIS ON DEVELOPMENT OF P.E TEACHER TEAM

This study uses Chinese dynamic CGE model, and based on this, it conducts quantitative simulation and analysis.

A. Age Change Situation of P.E Teachers

TABLE I. AGE STRUCTURE SITUATION OF P.E TEACHERS SINCE THE FOUNDING OF NEW CHINA

	1949-1966	1967-1979	1980-2000	2001-now
Age(below 30)	48.7%	25.7%	25.9%	36.2%
Age (31-50)	31.5%	60.2%	42.7%	43.3%
Age (over 50)	19.8%	14.1%	31.4%	20.5%

From Table 1, we can see, from 1949-1966, P.E teachers under 30 years old accounted for the majority, reaching 48.7% of the proportion. The P.E teachers between 31-50 accounted for 31.5%, and over 50 years old accounted for 19.8%. During the Cultural Revolution, most P.E teachers were between 31-40 years old, accounting for 60.2%. After the reform and opening up, the age structure of P.E teachers has become more rational, and the age gap shrinks. From 2001 till now, the proportion of young P.E teachers has

increased. It is visible that P.E teacher team has a lot of new teachers for complementation, and the age of P.E teachers shows the old, middle and young balanced and rational distribution trend.

B. Title Change Situation of P.E Teachers

TABLE II. TITLE CHANGE SITUATION OF P.E TEACHERS SINCE THE FOUNDING OF NEW CHINA

	1988-1995	1996-2005	2006-2014
<i>Junior</i>	75.8%	46.8%	31.2%
<i>Intermediate</i>	20.8%	45.1%	54.1%
<i>Senior</i>	3.4%	9.1%	14.7%

From the title situation, in 1988, the professional technical title evaluation and recruitment were not popularized in China. This study takes 1988 as the starting research point. From 1988 to 1995, junior and intermediate titles of P.E teachers accounted for 75.8%, and intermediate and senior titles accounted for 20.8% and 3.4%. In some regions, there are no P.E teachers with senior title in the cities and the P.E team structure was unreasonable. From 1996 to 2005, this situation improved. Junior titles of P.E teachers accounted for 46.8%, and intermediate titles accounted for 45.1%, but senior titles only accounted for 9.1%. In recent years, title improvement of P.E teachers has been better. Senior titles account for 14.7%, and intermediate titles account for 54.1%. However, we still need to be aware that, senior teachers are the leading people of P.E teaching and P.E subject, and the proportion is still insufficient. Currently, senior titles of P.E teachers are still distributed in key schools of big cities, and many grassroots P.E teachers still have larger space for improvement in teaching ability, teaching experience and P.E science and research.

C. Educational Background Change Situation of P.E Teachers

TABLE III. EDUCATIONAL BACKGROUND CHANGE SITUATION OF P.E TEACHERS SINCE THE FOUNDING OF NEW CHINA

	1949-1966	1967-1979	1980-2000	2001-now
<i>Under college degree</i>	95.4%	91.7%	22.3%	2.2%
<i>Above college degree</i>	3.4%	6.4%	45.6%	14.3%
<i>Above Bachelor's degree</i>	1.2%	1.9%	32.1%	83.5%

In early days of foundation and Cultural Revolution, Bachelor's degree or college degree of P.E teachers accounted for a very low proportion. Most P.E teachers were under college degree, and even some P.E teachers didn't have any diploma. Many teachers didn't receive any professional training. After the reform and opening up, various industries gradually come to normal, and P.E teacher team construction gradually become mature. P.E teachers above Bachelor's degree account for 32.1% and P.E teachers above college degree account for 45.6%. In recent years, the educational background of P.E teachers has been further

improved. Bachelor's degree or above account for 83.5% and P.E teachers with Master's degree also show a rapid growth trend. 2.2% of teachers under college degree are mostly old teachers near retirement age. The P.E teachers with Bachelor's degree or above have achieved 100% since they began working in 2010.

D. Change Process of Professional Cultivation Focus in P.E Teachers

TABLE IV. PROPORTION CHANGE SITUATION OF Proportion change P.E MAJOR COURSE SYSTEM SINCE THE FOUNDING OF NEW CHINA

	1949-1966	1967-1979	1980-2000	2001-now
<i>Required</i>	96.2%	94.5%	77.8%	67.4%
<i>Optional</i>	3.8%	5.5%	22.2%	32.5%
<i>Discipline</i>	53.1%	49.5%	59.4%	65.3%
<i>Technical discipline</i>	46.9%	50.5%	40.6%	34.7%

Since the founding of new China, the course systems of P.E major in different periods have been different. The required course shows a gradual downward trend, and optional course shows a gradual rising trend. The proportion of discipline and technical discipline gradually becomes rational, and the cultivation of P.E teachers gradually becomes compound development.

IV. EXISTING PROBLEMS AND COUNTERMEASURES OF CURRENT P.E TEACHER TEAM DEVELOPMENT

Viewing the development process of P.E teacher team since the founding of new China, we can find that, the quantity, professional level, knowledge structure and age structure of P.E teacher team in China have made great achievement. But compared with developed countries, the construction of P.E teachers in China still has gap, which can not meet the demand of P.E development. Now, in the town, 8 teaching classes are equipped with 1 P.E teacher, and in the urban area, 6 teaching classes are equipped with 1 P.E teacher. The quantity of P.E teachers is still insufficient. The professional level and title of some P.E teachers don't match, and P.E teacher team is not stable. The reasons of the problems are mainly that cultivation mode of P.E teachers is single, and it has fault in cultivating primary school and middle school P.E teachers. The higher education training of some P.E teachers is not closely related with actual teaching, which lacks of targeted training. In management and assessment of P.E teachers, it lacks of unified and scientific standards, and vast P.E teachers have large workload, with low salary and poor social recognition, thus, P.E teacher team is not stable. According to the experience and lessons of P.E teacher team construction, it is suggested to solve the problems from the following aspects.

A. Increasing Quantity and Improving Structure Make Teacher Configuration More Reasonable.

Since the founding of new China, although P.E teacher team continues to enlarge and the quantity of P.E teachers

increases significantly, yet in order to better adapt to the demand of P.E course improvement, it is necessary to add P.E teachers and solve the problem of P.E teacher shortage. According to actual situation, we can properly increase the organization and quantity of grassroots P.E and especially rural teachers, enriching more professional P.E graduates into grassroots P.E teachers, in order to alleviate the pressure of shortage of P.E teachers. Also, through effective measures, we should increase on-the-job training work for rural P.E teachers, with guarantee on the learning time and funding. We should constantly enhance the professional level of P.E teachers, establish and improve the training system of P.E teachers, make organic combination of improving education and job training, and conduct knowledge update and supplement of P.E teachers, thus vast P.E teachers can use new knowledge for the brain, in order to better adapt to the development demand of physical education work.

B. Optimizing Methods and Strengthening Exchanges Make Teachers' Ability Improve.

Through multiple means, it can strength the cultivation of P.E teachers' education and teaching science and research consciousness. Through teaching concept update and teaching method improvement and keeping up with the pace of education development, it can achieve full integration of training and teaching of P.E teachers. Also, we should strengthen the exchange and research of P.E teacher team construction. Teaching research unit and education administration department should jointly conduct research for teaching concept, professional content and working method of P.E teachers, so as to constantly improve the ability and level of P.E teachers. We should pay attention to and strengthen the learning and exchange of P.E teachers, meet different levels of P.E teachers' need, establish interactive teaching exchange mechanism and give full play to creativity and initiative of vast P.E teachers.

C. Improving Status and Improving Environment Ensure the Stability of P.E Teacher Team.

P.E teaching and sports training have strong professional features, and the working intensity and energy consumption are large. Relevant units should conscientiously implement the requirement of "sports law" and teacher law", constantly increase the input strength of physical education, improve work and life environment of P.E teachers, improve the status of P.E teachers and arouse working enthusiasm and working passion. In title promotion, excellent selection and refresher learning of P.E teachers, they should have equal treatment with other subject teachers, in order to ensure the stability of P.E teachers. Optimization development of P.E teachers should be in highlighted position, so that they can have a positive attitude towards work, truly experience fun from work and constantly improve P.E teaching quality, in order to adapt to the requirement of P.E teaching in the new period.

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