



A Retrospect of the Development of Preschool Education in China from 2010 to 2020

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Abstract. Since the 21st century, China has introduced a series of measures to alleviate the problems of “kindergarten crunch” and “high fees charged by kindergartens” with the goal of maintaining social fairness. Based on China Education Statistics Yearbook and China Education Expenditure Statistics Yearbook from 2010 to 2020, this paper expounds the development and changes of education in the past 10 years, and analyzes the existing problems of early childhood education in China.

Keywords: China’s preschool education development, kindergarten crunch, affordable education

1 Introduction

As an important part of the national education system, China’s preschool education has made remarkable achievements since the founding of the People’s Republic of China in 1949 and the introduction of the reform and opening up in 1978. However, from the overall perspective, compared with other education stages, lots of issues persist in preschool education such as the shortage of educational resources, insufficient investment, poor teaching staff, and the uneven distribution of teachers. It can be said that preschool education is even weaker at all levels and types of education. The gross enrollment ratio (GER) of primary schools and middle schools in 2009 was 104.8% and 99% respectively, while that of preschool education only reaching 50.9%. In this context, the Central Committee of the Chinese Communist

Party and the State Council issued the Outline of the State Medium- and Long-term Program on Education Reform and Development (2010-2020)[1] in 2010 (hereinafter referred to as the Outline), proposing the goal of making preschool education universal basically by 2020. At the same time, it aimed to achieve a higher level of universal preschool education, with the development direction of providing fair education benefiting the public, offering abundant quality education, and building a complete and sound education system, including a life-long education system. In the same year, the Proposals on the Development of Current Preschool Education from Development [2](hereinafter referred to as the Proposals) were published to develop preschool education and mainly focused on solving the “kindergarten crunch”. It clearly stipulated that each province should implement the three-year action plan for preschool education by counties and put forward the following suggestions to meet the demand of school-age children enrollment and promote the scientific development of preschool education. These suggestions include raising the awareness of governments at all levels on the importance and urgency of developing preschool education, expanding the resources and investment for preschool education, standardizing the management of fees and charges to enable every family to afford the schooling. In addition, it also suggested that teachers’ qualifications should be improved, preschool education and safety regulations should be strengthened and standardized, the working mechanism should be optimized, caring work and education should be promoted scientifically, preschool education should be enhanced comprehensively, and high-quality education and caring should be offered to children.

The year 2020 is the last year to achieve the goals listed in the Outline. The effect evaluation of the medium- and long-term development from 2010 to 2020 is of guiding significance to China’s preschool education development in the future. It is advisable to explore problems and shortcomings and analyze favorable trends to better guide future development. Based on China Education Statistics Yearbook 2010-2020 and China Education Expenditure Statistics Yearbook 2010-2020, this paper expects to gain an understanding of the changes and trends in preschool education over the past decade.

2 Access to Kindergartens Has Been Greatly Improved, and The “Kindergarten Crunch” Has Been Eased

Access to kindergartens is evaluated by multiple factors, such as the number of kindergartens and the school capacity. In terms of preschool education, it shows whether each child has access to kindergartens. A three-year action plan for the development of preschool education was launched from 2011 to 2013 in response to the “kindergarten crunch” in China, which focused on increasing the number of kindergartens and enhancing the availability of preschool education (table 1).

Table 1. Number of kindergartens and the school capacity (unit : ten thousand)

Year	New population	The number of children in the kindergarten	Number of classes	Number of kindergartens	Number of degrees	Number of children should be in kindergarten	Gross enrollment rate
2010	1588	2976.67	97.15	15.04	2914.58	5259.13	56.60%
2011	1600	3424.45	125.58	16.68	3767.45	5496.71	62.30%
2012	1635	3685.76	126.65	18.13	3799.49	5714.36	64.50%
2013	1640	3894.69	134.3	19.86	4029.13	5769.91	67.50%
2014	1687	4050.71	138.22	20.99	4146.74	5745.69	70.50%
2015	1655	4264.83	146.05	22.37	4381.41	5686.44	75%
2016	1786	4413.86	152.74	23.98	4582.06	5702.66	77.40%
2017	1723	4600.14	161.29	25.5	4838.70	5779.07	79.60%

2		4656.4	167.		5036.	5699.4	81.
018	1523	2	89	26.67	77	1	70%
2		4713.8	172.		5185.	5652.1	83.
019	1465	8	86	28.12	81	3	40%
2		4818.2	177.		5316.	5655.2	85.
020	1200	6	23	29.17	94	3	20%

(Table data from China Education Statistics Yearbook 2010-2020)

2.1 A Steady Increase of The Number of Kindergartens

As China has increased attention on preschool education, in order to develop preschool education and improve the education environment, the Chinese government launched the first three-year action plan in 2011, giving priority to kindergartens. In this context, the number of kindergartens has increased steadily from 150,400 to 198,600, registering an annual increase of 6.87%. Besides, the number of classes in kindergartens has also increased, from 971,500 to 1,343,000, with an increase of 38.24%. Such increases have provided children with more opportunities to get enrolled in kindergartens. The number of children studying at kindergartens increased at an average annual rate of 5%, with the most significant growth from 2010 to 2011. And compared with 2010, 2011 saw an increase of 15.04%. The “kindergarten crunch” has been relieved to some extent and the GER has increased.

GER refers to the proportion of the number of students in a certain level of education to the corresponding total number of the school-age population in a given school year. It is a hallmark of the relative scale of education and education opportunities and is also a significant indicator of measuring the level of education development. During a three-year action plan, the GER grew at an average annual rate of 3.63% and reached 67.5% in 2013. According to data provided by OECD[3], in 2020, the enrollment ratio of children aged three, four, and five in preschool education in Japan was 85.4%, 100%, and 99.4% respectively, with a total enrollment ratio of 94.9%. Meanwhile, the global average enrollment ratio for preschool education also reached 77%, 89.8%, and 95.8% for children aged three, four, and five respectively, with a total enrollment ratio of 87.5%. However, the total enrollment ratio of kindergartens in China in the same year was only 85.2%, showing a gap

between itself and the global average. All this demonstrated that there is still much to be improved in terms of increasing the enrollment ratio.

2.2 From Severely Insufficient School Capacity to The Full Meeting Of The Demand For Enrollment

The school capacity refers to the number of places that a kindergarten can offer to outsiders, and the maximum number of students that a kindergarten can receive, assuming that each class is the “large-class”. According to the standard number of students per class in a kindergarten prescribed by the Ministry of Education, there are 20-25 students in a small class, 26-30 students in a medium class, and 31-35 students in a large class. And then we calculate the school capacity of a kindergarten by assuming each class is “large-class” and taking the average number of 30. The increase of the number of kindergartens and classes has led to significant growth of school capacity, from 31,088,800 to 56,714,000, with an increase of 82.43%. The period from 2010 to 2011 witnessed the most significant rise, 29.26% in one year. However, the growth rate declined to 0.85% from 2011 to 2012, and the growth rate of the number of classrooms and that of the school capacity has maintained consistent. When comparing the school capacity with the number of children who should be enrolled in kindergartens in the same year, it can be found that 23,444,200 degrees were missing in 2010 and the number of degrees increased at an average annual rate of 6.45% over a period of 10 years. The gap has shrunk year by year, and the number of degrees has surpassed the number of children in kindergartens in the same year, with the school capacity basically meeting the demand of enrollment.

3 Inclusive Preschool Education Resources are Expanded, and The Government Mainly Deals With The High Fees Charged by Kindergartens

The Proposals released by the State Council in 2011 suggested that the priority should be given to the public welfare and inclusiveness when the government develops preschool education. The government should pay more attention to the investment of preschool education. Compared with the minimal effect of individual families’ investment in preschool education, the change brought about by the government investment is tantamount undoubtedly.

3.1 The Number of Affordable Kindergartens Increases, With Access To Them Also Growing Significantly

Kindergartens are divided into affordable kindergartens and privately-run kindergartens, with the former focusing on serving the public. Therefore, affordable kindergartens of the same level charge far lower than private kindergartens. Affordable kindergartens aim to provide inclusive services for the public. The increase of the number of kindergartens can improve children’s access to schools, reduce family burdens and solve issues such as the “kindergarten crunch” and “high fees charged by kindergartens” essentially [4-6].

Table 2. Number of afford-able kindergarten (unit : ten thousand)

Year	Number of kindergarten	Number of affordable kindergarten	Percent of affordable kindergarten
2010	15.04		
2011	16.68		
2012	18.13		
2013	19.86		
2014	20.99		
2015	22.37		
2016	23.98		
2017	25.5	16.45[7]	64.51%
2018	26.67	18.29[8]	68.58%
2019	28.12	20.29	72.16%
2020	29.17	23.41[9]	80.25%

(Table data from China Education Statistics Yearbook 2010-2020)

With the government’s strong support for privately-run non-profit kindergartens and the development of government-funded kindergartens, the number of affordable

kindergartens increased from 146,600 to 290,100 with an annual average growth of 7.09%. By the end of 2020, the number of affordable kindergartens accounted for 80.25% of the total number of kindergartens. The first three-year action plan for preschool education was launched from 2011 to 2013, and the government has expanded investment in developing government-funded kindergartens and supporting privately-run non-profit kindergartens with making preschool education universal more rapidly as its basic principle (table 2).

3.2 Despite The Increase of Financial Investment in Preschool Education By The Government, The Burden of Household Expenditure Also Grows

Table 3. Educational Expenditure

Year	Unit : ten thousand		Proportion	Unit : Yuan
	National funding for education	National funding for preschool education		Per capita expenditure on education
2010	18796.13	718.20	3.82%	3622.12
2011	23085.78	994.93	4.31%	4419.92
2012	18687.62	588.33	3.15%	6166.77
2013	29430.66	1721.15	5.85%	6503.81
2014	31017.84	2007.59	6.47%	6601.46
2015	34497.39	2386.17	6.92%	7437.56
2016	30106.83	2787.54	9.26%	8629.68
2017	41211.72	3234.85	7.85%	9775.00
2018	45044.64	3652.87	8.11%	10648.56
2019	49396.42	4080.89	8.26%	11869.42
2020	52231.55	4279.57	8.19%	12956.61

(Table data from China Education Statistics Yearbook 2010-2020)

Table 4. Per capita disposable income and family education expenditure

Year	Unit : Yuan	Proportion
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	Per capita disposable income	Family education expenditure	
2010	19109.44	1290.70	6.75%
2011	21809.78	1438.85	6.60%
2012	24564.72	1704.29	6.94%
2013	26955.10	1940.23	7.20%
2014	28843.85	2424.47	8.41%
2015	31194.83	2711.67	8.69%
2016	33616.25	3036.37	9.03%
2017	36396.19	3342.89	9.18%
2018	39250.84	3716.07	9.47%
2019	42358.80	4126.1	9.74%
2020	43833.80	3153.87	7.20%

As the proportion of investment in preschool education to the total educational expenditure shows (table 3), the government has increasingly attached importance to preschool education. In 2010, the above proportion was only 3.82%, while it reached 8.19% in 2020, increasing every year basically. Though there was a decline in 2012, it grew rapidly later. The proportion in 2016 was the highest over the decade, peaking at 9.26%. It reduced to 7.85% in 2017 and maintained above 8% since then.

Educational spending includes school operation, staff salaries, and school construction. Such an increase can improve the educational environment and education resources, meet teachers' teaching needs in terms of resources supply, and enhance teaching standards and quality. Per pupil educational expenditure is granted by the Ministry of Commerce to relevant education departments based on the number of students in schools according to the economic development level and education development. The increase in educational spending also leads to a significant growth of per pupil educational expenditure, improving the educational resources and educational environment enjoyed by each student. The per pupil educational expenditure in 2010 was only 3,622.12 yuan, and it has increased to 12,956.61 yuan in 2020, with an average annual increase of 16.20% in a decade. 2012 witnessed the fastest growth of per pupil educational expenditure, from 4,419.92 yuan to 6,166.77 yuan with an increase of 39.52%. According to the data released by OECD[10], the

per pupil educational expenditure in 2019 in Japan was \$8,118 and the world average was \$10,878, and that of China in the same year was only 11,869.4 yuan (\$1,826).

The increase in the number of government-funded and privately-run non-profit kindergartens has reduced the pressure on enrollment, and the cost of education that families bear has not decreased despite a significant increase in investment by the government. Per capita disposable income often refers to the sum of the final consumption expenses and savings available to residents, i.e., the discretionary income for them. A comparison between the per capita disposable income and family educational expenditure can show how much the educational expenditure accounts for a family's expenditure, which was 6.75% in 2010 and has increased since then. It peaked in 2019 at 9.74% and decreased in 2020. It shows that family educational expenditure remains a heavy burden on per capita disposable income (table 4).

4 With the Quality Of Preschool Education Improved, The Demand Of “Being Enrolled in Excellent Kindergartens” Has Been Met

As an important part of China's national education system, preschool education lays a good foundation for future school education and life-long education. High-quality preschool education has a direct bearing on children's growth and the long-term and stable development of society. In order to better improve the overall quality of preschool education, in 2012, the Learning and Development Guideline for Children Aged 3 to 6 (hereinafter referred to as the Guideline) and Interim Measures for the Regulation and Evaluation of Preschool Education were released by the Ministry of Education, and the Regulations on Educational Supervision[11] was published by the State Council to guarantee the healthy development of preschool education. The Guideline was implemented during the third three-year action plan to strengthen the training of teaching staff and advance education quality.

4.1 With a 154.6% Increase of The Number Of Teachers Over The Decade, Teachers' Qualifications Have Been Improved

Whether the number of full-time teachers is sufficient is a prerequisite for the quality of preschool education. Only when the number of teachers is proportional to that of children, can the demands of preschool education for children be met. Since the

implementation of the three-year action plan, the number of full-time teachers has markedly increased, from 1,144,300 to 2,913,400 from 2010 to 2020, with an increase of 154.6% and an annual average growth of 9.8%. The early period saw the most significant growth of the number of full-time teachers, with an increase of 73.19% from 2011 to 2016.

As the first teacher for children, a kindergarten teacher will have a far-reaching bearing on them if he or she is flawed in self-quality[12]. A kindergarten teacher should be equipped with multiple essential abilities, one of which is the cultural quality. Educational qualifications are the most effective criteria for identifying teachers' cultural quality[13]. Currently, it is stipulated that kindergarten teachers are required to graduate from technical secondary schools or above. Some researchers find that the educational level of teachers working for China's preschool education is relatively lower than that of other countries. For example, in New Jersey in 2004, teachers working for preschool education were required to obtain a bachelor's degree[14], and it is found that when kindergarten teachers obtain a bachelor's degree or above, the quality of preschool education is guaranteed most effectively.[15-16]

A retrospect of the development from 2010 to 2020 reveals that the proportion of teachers who work for preschool education with a master's degree is the smallest. But the number has been increasing, and there are 7,206 newly employed teachers from 2010 to 2020, with the fastest growth rate of 26.47% from 2012 to 2013, after which the growth rate declined significantly. However, it rebounded in 2019, keeping the number of teachers with postgraduate degrees growing, with an annual average growth of 14.77%. The number of kindergarten teachers with a bachelor's degree increased from 167,371 in 2010 to 893,003 in 2020, with an increase of 30.65% and an annual average growth of 18.29%. The growth rate declined to 12.94% (the lowest ever), which recovered to 14.32% in 2020 though. During the decade, the number of teachers who graduated from technical secondary schools or below continuously decreased, from 99.24% of total teachers in 2010 to 79.6% in 2020. Besides, the proportion of teachers with a bachelor's degree or above continued to increase. It can be said that the overall educational qualifications of teachers have been advanced, promoting the quality of preschool education.

4.2 Implementation of Preschool Educational Supervision and Evaluation

The Regulations on National Educational Supervision released in 2009 divided educational supervision into comprehensive supervision and special supervision. The period of supervision and evaluation lasts three to five years, during which the county-level educational supervision institutions should conduct supervision and evaluation on kindergartens within their jurisdiction by territorial principles at least once. The supervision and evaluation are based on Kindergarten Working Regulations and Procedures, centering on five aspects including kindergartens' conditions, safety and health, conservation education, teaching staff, and internal management.

The Regulations on Educational Supervision published by the State Council in 2012 centered on enhancing educational quality, putting forward that the law of education should be followed, and it is necessary to seek truth from facts and be objective and just. Besides, the supervision of the government in performing its duties related to education and the supervision of teaching work in schools should be attached to equal importance, and the supervision should be conducted in the principle of stressing both supervision and guidance. In order to promote the universal and inclusive development of preschool education, leading educational institutions should supervise, guide, evaluate, and give feedback to the work of lower-level organs and schools of all levels. The supervisory work can enable the leading institutions to gain an understanding of the actual situation of the development of education at different levels, which will provide a reliable basis for continuous growth and decision-making in the future. In addition, it can play a significant role in helping the grassroots improve their work and enhance the quality of education, teaching, and management.

To take Beijing as an example, according to the standard that each one is responsible for five or so kindergartens, the total number of educational inspectors assigned to each district and county in Beijing in 2014 was 551. By December 2017, there were 835 educational inspectors in 16 districts in Beijing's kindergartens, listed to 917 government-funded kindergartens and 661 approved privately-run non-profit kindergartens, with each one responsible for five or so kindergartens [17]. All kindergartens within the jurisdiction have been placed under supervision and regulation through various methods such as listed supervision and the coordination of the responsibility of educational inspection. According to the Regulations and Procedures on the Educational Inspection and Listed Supervision of Primary and Secondary Schools, educational inspectors conduct supervision of kindergartens at

least once every month [18]. During the inspection, through the verification of relevant data and the inspection of the conditions of kindergartens, the expert panel will carry out a comprehensive diagnosis, examination, and guidance on nursing quality, the implementation of fee standards, the number and size of classes, staffing, teachers' salaries, and the fulfillment of duties of functional departments.[19]

5 Conclusions

China has advanced the development of preschool education since the 21st century, during which the Outline, the Proposals, and the Guideline other documents have been released. Besides, three periods of three-year action plans have also been launched to mainly address problems such as the “kindergarten crunch” and “high fees charged by kindergartens”.

During the decade from 2010 to 2020, the government promoted education development with the aim of safeguarding social equity. In terms of the direction of education development, it guided but not interfered directly, and created a more favorable social environment and conditions for the development of education. After the implementation of three periods of three-year action plans, China's preschool education has become basically “available, affordable, and high-quality”, and children's physical and mental health have also been improved significantly.

However, there are many problems remaining to be solved in preschool education, which therefore is still a weakness during all education stages. For example, the educational resources are distributed unequally, children in remote areas have difficulty being enrolled in kindergartens, and the expenditures of preschool education burden a lot of families. The government will focus on these problems and strive to make preschool education universal and inclusive nationwide.

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