Chapter 4

The National Concept of Education Quality

Zhenguo Yuan

Education quality has long been debated by education philosophers as what education is good (Burbules 2004). In the global practices, many countries have engaged in exploring how to make learners acquire good education. In the Education Policy Outlook 2015 published by OECD (2015), about 16% of education reform measures by the OECD member countries focused on education quality and equity.

“Improving education quality” has become a strategic education reform theme in China since 2013. It is also the overarching requirement for education in China’s 13th Five-Year Plan for Economic and Social Development.¹ The period covered by the Plan is crucial for improving education quality and allowing China to become a major country in terms of educational scale and impact. It is also the time² when education quality improvement is deemed a key task as China reaches a new stage of development.³

¹The 13th Five-Year Plan for Economic and Social Development refers to China’s plans and arrangements for the major activities of the national economy, science and technology, education, and social development between 2016 and 2020. It is a major programmatic document that guides economic and social development.

²In the past four decades, China’s development mainly relied on investment and consumption, but with the development of the economy and the progress of society, especially the upgrading of industry, China’s future development is increasingly dependent on high-quality workers. Because high-quality education cultivates higher quality workers, it is very important for China to improve the quality of its education system at this stage.

³According to the data released by the Chinese Ministry of Education, the gross enrollment rate for the first three years of pre-school in 2016 was 77.4%, which represents an increase of 12.9% since 2012, surpassing the average level of middle- and high-income-earning countries. Also during this period, the primary school net enrollment rate was 99.9%, and the junior high school gross enrollment rate was 104.0%. Additionally, the 9-year compulsory education consolidation rate was 93.4%, which is 1.6 percentage points higher than in 2012 and higher than the average for high-

Z. Yuan (✉)

Faculty of Education, East China Normal University, Shanghai, China

e-mail: zgyuan@admin.ecnu.edu.cn

Since the beginning of China's Reform and Opening-up in 1978, the Chinese government has released several historic documents of vital importance on education, such as the Decision of the Central Committee of the Communist Party of China on the Reform of the Educational System (1985), the Guidelines for the Development and Reform of Education in China (1993), and the National Medium- and Long-term Education Reform and Development Plan (2010). In the three documents mentioned above, the word "quality" appears four times, 20 times, and 51 times, respectively, reflecting that education quality has become a policy focus in China. At present, China is going through a significant period of accelerating education development as it transitions from a "big country of education" to a "strong country of education." It is necessary and timely to focus more on quality to achieve better development of education in this new era, which features a more complex world, fiercer international competition, and increasingly rapid innovation.

"Education quality" is a rich and contentious term, and how to define and improve education quality may receive contesting answers among students, teachers, schools, regions, and countries. Therefore, the ways to improve education quality may vary accordingly. The quality of education can be viewed either from a national perspective or a local government or school's perspective. For example, a school may be most concerned about quality in terms of the school's academic achievement, enrollment, and graduation rates. From a macro perspective, such as the national perspective, the quality of education is more concerned with quantity, structure, equity, teachers, and innovation. This chapter focuses on the latter perspective, which is framed as "national concept" of education quality.

4.1 Ensuring Appropriate Education Quantity Is the Foundation of Improving Education Quality

The core of education quality ultimately depends on the cultivation of talent (Hill et al. 2003). Two criteria for quality talent cultivation from the national perspective may be particularly useful: (1) whether the education system can adapt to the needs of economic and social development, which is to say, both meet society's current demand for talent in specific areas in specific amounts and also anticipate and prepare adequate talent for future development; and (2) whether the education system can support individual development, that is, both ensure the fostering of students' habits of mind and skills and provide space for personalized development. On the national strategic level, there are five key factors that influence and determine education quality. Thus, enhancing education quality entails deepening reform to achieve continuous improvement of the following five factors.

income countries. The gross enrollment rate in high school was 87.5%, which represents an increase of 2.5 percentage points from 2012, while gross enrollment in higher education was 42.7%, which represents an increase of 12.7 percentage points from 2012, both of which surpass the average for middle- to high-income countries.

4.2 Quantity: Appropriate Education Quantity Is the Foundation of Improving Education Quality

In nearly 40 years since Reform and Opening-up, the rapid increase of educational capacity is the most striking feature and achievement of educational development in China. During this period, China has fully realized a system of providing 9 years of compulsory education, with the high school enrollment rate rising from 20 to 87%; at the same time, the higher education enrollment rate has risen from 3 to 40%.⁴ Due to this rapid development, China has transformed from a country known for having a large population to one known for having skilled workers in many sectors, with the largest scale of education and the largest number of college students in the world. In addition to enrollment rates, there have been increases in graduation rates, passing rates, and excellence rates at all levels of education⁵; particularly noteworthy is the fact that the duration of compulsory education has been adequately extended.

However, China has not completed its task of quantity development in education, which undermines education quality from the perspective of producing future high-quality national workforce. The number of years included in compulsory education largely determines the quality of education received by students and the overall skill level of a nation's workforce. Internationally, the average number of years of compulsory schooling is 9.24, and in high- and middle-income countries is 9.5, but, as noted, it is only 9 in China (Yuan 2013). An analysis of countries that have successfully escaped the "middle-income trap"⁶ reveals that lengthier period of compulsory education is a shared contributing factor to their national success. As China is undergoing this transition, it will be critical to extend compulsory education lower to preschool education and higher to senior secondary education. With extended period of compulsory education, the quality of national manpower will be increased accordingly. However, implementation can be phased, with careful consideration of rural and remote areas during the expansion.

⁴These statistics are taken from the National Statistical Bulletin on National Education Development in 2016 and do not include data for the Hong Kong Special Administrative Region, the Macao Special Administrative Region, and Taiwan.

⁵The graduation rate is the number of persons who completed school divided by the total number of children of official graduation age. The passing rate is the number of persons who passed a grade divided by the total number of students in the grade. The excellence rate is the number of students attaining "excellent" status divided by the total number of students.

⁶The World Bank's East Asia Economic Development Report (2006) sets out the concept of the "middle-income Trap." Its basic premise is that few middle-income economies succeed in becoming high-income countries. Instead, most middle-income economies experience stagnant economic growth because they cannot compete with low-income countries on wages and cannot compete with rich countries in terms of cutting-edge technological development.

4.3 Education Structure: Appropriate Structure Is the Framework of Education Quality

Education structure refers to the coherent conjuncture of the various parts of education, including school types, education levels, layout, disciplines and programs, and so on.⁷ Ill-structured education would lead to social waste or even social disaster (e.g., a massive structural unemployment); well-coupled structure of education–employment–industry would help accelerate social economic development and improve national competitiveness (Jia and Chu 2012). Thus, from the perspective of the appropriate education structure, more high-level education does not necessarily imply better outcomes. The overall structure conditions education quality. Take South Korea as an example: its higher education enrollment rate reached 84% in 2012, but the country experienced both (1) a large number of unemployed graduates and (2) a severe shortage of skilled workers, due primarily to a mismatch in skills. To defuse this issue, the government of South Korea cut its enrollment rate to 73%. As the South Korean government recognized, education structure is optimal when it produces skilled personnel in ratios that best suit socioeconomic development needs (Yuan 2013).

An appropriate conjuncture of basic education and higher education, general education and vocational education, and public education and private education is fundamental to optimizing education structure. As China moved into the 2000s, it made great efforts to promote the balanced development of compulsory education⁸ and the diversified development of high schools; in higher education, China has focused on the development of “Double First-Class” (project of world-class universities and the first-class disciplines in China)⁹ to enhance quality. Thus, both elementary and higher education have made great progress. Governments at all levels have given additional attention to vocational education and continuing education,

⁷School types include public education, private education, public–private education, and so on. Education levels refer to pre-school education, basic education, secondary education, higher education, and so on. Layout refers to the layout of educational development between different regions, cities, and rural areas. Disciplinary structure mainly refers to the proportion of each discipline necessary for balanced development. Programs refer to the proportion of professional talents in the population.

⁸The balanced development of compulsory education means that in the compulsory education stage, the government needs to allocate educational resources reasonably, improve the overall quality of teachers, and narrow the gap between the levels of education in schools, urban and rural areas, and regions. The basic objectives of the balanced development of compulsory education are as follows: each school meets the standards for operating a school in the country, and the funds for operating a school are guaranteed; education resources meet the needs of teaching, and curriculum are fully developed; and teachers’ allocation is reasonable, and teachers’ overall qualifications are improved.

⁹To propel a group of high-level universities and disciplines into the first-class ranks in the world and at the same time to improve the level of student training, scientific research, and social service in higher education, the Chinese government proposed a new policy on higher education reform called “Double First-Class.” This policy was launched in 2015 and formally implemented in 2017.

which has narrowed the gap between vocational and general education, and school education and continuing education. Meanwhile, private education has also been developing, but—compared with general education, pre-service education, and public education—vocational education, post-vocational education, and private education are clearly in a disadvantaged position, leaving room for improvement.

The importance of vocational education has gradually understood by Chinese government and society. However, while the government demonstrates great enthusiasm for vocational education, the private sector often fails because it can be difficult to obtain benefits. Theoretically, vocational education and general education are simply two different but equal types of education, but in fact vocational education is sometimes still treated inferior schooling. In the last decade, due to the dramatic increase in funding for vocational education, the difference in per-student educational expenditure between vocational education and general education in high school has become rather small. According to education statistics released by the Chinese government, the total investment in vocational education from 2006 to 2013 increased from 114.1 billion RMB to 345 billion RMB, with an average annual increase of 17.1%. However, vocational education still faces certain policy barriers and is far from being respected by all or from being chosen voluntarily by students. The difference is much more remarkable when it comes to higher vocational education,¹⁰ and thus, it is important to adjust relevant policies, improve standards for vocational school operations, increase financial investment, and reduce tuition.

Post-employment education,¹¹ to a great extent, has not yet been incorporated into the national education system by the Chinese government, and thus when education is discussed, people generally refer to pre-service education.¹² As a society moves to one of knowledge and intelligence, the number of people engaged in the knowledge economy grows and the significance of post-vocational education becomes more evident. A report by the Organization for Economic Co-operation and Development (OECD) (2012) shows that during times of economic crisis, the employment rate of young people generally declines and most employees' incomes decrease, while the incomes of high-skilled workers rise and the number of jobs available for them exceeds worker supply. This research demonstrates that the key competitiveness of a nation lies not in its economy, technology, or population size, but rather in the skills of its employees and their training. Despite the great importance of post-employment education, however, the attention devoted to it is insufficient in China. There is still a lack of a clear legal framework for post-employment education, and it has long been marginalized in the Chinese education system.

¹⁰Vocational education is divided into secondary vocational education and higher vocational education.

¹¹Post-employment education is mainly designed to help workers gain access to professional knowledge, skills, and professional ethics necessary for them to achieve greater success and productivity at their jobs.

¹²Pre-service education is aimed at people who are about to embark on their jobs. The main contents cover three aspects: basic working ability, psychological quality, and social common sense and basic etiquette.

Worse still, provisions for the funding, professional personnel, and government responsibility for post-employment education remain very vague. Post-employment education is currently not even an explicit item in most financial budgets.

The relationship between private education and public education in China has been evolving in complicated ways. Now their relationship manifests as the private sector retreating while the state advancing. Through regulation and management, the government circumscribes rather than supports the development of private education. From 1995 to 2005, educational funding in China rose noticeably, and its source channels were greatly diversified due to the reform of the school operation and fund-raising system. The proportion of overall educational investment to GDP increased from 3.09% to 4.55%, of which fiscal and non-fiscal input¹³ contributed 0.47%, and 0.99%, respectively. During the following 9 years, from 2005 to 2014, the government strengthened funding for education at all levels, with fiscal investment greatly increasing, while non-fiscal investment continuously declined: the ratio of total educational investment to GDP grew from 4.55% to 5.15%, among which fiscal input contributed 1.36%, while non-fiscal input fell by 0.76%. According to the *China Statistical Yearbook*, the Engel coefficient of Chinese urban residents in 2013 fell by 4.4% compared with 2000, and in rural areas by nearly 12%. However, the structure of Chinese residents' consumption over the past 10 years shows the opposite trend: during 2000–2013, Chinese residents' spending on health care, transportation, communication, and clothing was on the rise, while education expenditures trended downward, with urban residents' expenditures declining from 7.3% to 4.7% and rural residents' expenditures reducing in half from 10.5% to around 5% (National Bureau of Statistics of China 2013). At present, the government expects to place emphasis on encouraging and supporting private education in policymaking to fulfill the 13th Five-Year Plan commitments of supporting and regulating the development of private education and encouraging social forces and private capital to provide diversified education services.¹⁴ But great importance should be attached to boosting the development of for-profit and non-profit private education so as to meet the rising demands of Chinese parents.

¹³ Fiscal input means that the government allocates funds raised from social products or national income to all sectors of the national economy, which is an important part of its fiscal expenditures. Non-fiscal input refers to the investment by enterprises and individuals that are qualified as independent legal persons.

¹⁴ In The 13th Five-Year Plan for Economic and Social Development of the People's Republic of China (2016–2020), published by Central Compilation and Translation Press.

4.4 Education Equity: Equity Is Integrated to Education Quality

Education equity is the social justice in the field of education. It has become a wide belief that a country's education system should be accessible not just to elites but to all citizens. Quality and equity exist in a kind of partially symbiotic, partially antagonistic relationship. Without quality, education equity only involves equal access to a shoddy good, while without equity, high-quality education is only open to a minority. In fact, equity and quality are two sides of a coin, interdependent and complementary to each other. Education equity is a goal requiring constant effort, and its development is recognized as having four stages: opportunity equity, fair conditions, process equity, and outcome equity (Yuan 2015). Coleman (1968) put forward that one role played by the modern education was to confer valuable certificates independent of their social-economic status, i.e., the opportunity of social mobility. Following this argument, Pfeffer (2015) proposed to evaluate education quality from the provision of equal opportunity to education.

The essence of opportunity equity is that schools can be accessed by everyone—education for all, without discrimination (Youjiao Wulei有教无类). The core of fair conditions is operating every school well—balanced development (Junheng Fazhan均衡发展); the key to process equity is to treat each student equally—to make no exceptions (Yishi Tongren一视同仁); and the essence of outcome equity is to provide suitable education for every student—to teach students in accordance with their aptitudes (Yincai Shijiao因材施教). These four stages are interrelated, complementary, and mutually reinforcing.

“Education for all without discrimination (Youjiao Wulei有教无类)” is an educational principle that was proposed by Confucius 2500 years ago. In the Education Law of the People's Republic of China,¹⁵ it is stipulated that “citizens shall enjoy equal access to education irrespective of their ethnicity, race, gender, occupation, property status, religious belief, etc.” Education equity starts with the premise that each child should enjoy access to school education, because without it, a child's ability to acquire equal opportunity and welfare will be severely limited.

However, there is a great difference between merely having access to schools and obtaining quality education. Although 9 years' compulsory education is offered in China, different schools may have completely disparate performance. In the last few years, China has made great efforts and achieved remarkable progress in promoting education equity in this regard, but the phenomenon of school choice¹⁶ in primary and secondary schools is still widespread, reflecting the disparity of schools'

¹⁵The Education Law of the People's Republic of China was promulgated and implemented in 1995.

¹⁶School choice means that if education resources are insufficiently balanced, parents should be able to choose a good school for their children to enjoy a quality education. This requires parents to pay extra, and in many cases, only families with good financial situations can afford to go to school.

operating conditions. Different schools teach differently, and even students on the same campus or sitting in the same classroom do not necessarily receive the same education. One main government measure to promote education equity is to allocate public education resources to narrow the educational gaps between urban and rural areas, as well as between different regions and schools, thereby creating a fair educational environment.

For students, inequity in the school and classroom has a greater and more direct negative impact on individual development. In this context, the realization of process equity involves at least two important issues: how to realize the basic principle of modern education that every citizen receives an equal education, and how to ensure equal treatment of every student to guarantee a fair opportunity for learning and development. This requires meticulous work and greater progress in updating educational concepts and teacher quality.

As for result equity, it is unrealistic for all students to obtain the same grades and reach the same level of achievement. Education equity does not mean dragging people from a high level to a lower one, for instance; on the contrary, it refers to providing appropriate, individualized education to enable each student to obtain the best personal development possible and to offer non-discriminatory education to students from all family backgrounds to weaken the impact of social disparities and intervene the intergenerational transmission of poverty.

It is noteworthy that across the four stages mentioned above, the question of fairness and justice prevails: special populations must be treated with special care, and education resources should be prioritized for the disadvantaged. During the 12th Five-Year Plan period,¹⁷ the Chinese government adopted a package plan with various measures and took a significant step forward in education equity. Currently, it is a major trend in China for rural farmers to move to urban areas and become city residents. Today's children of migrant workers are tomorrow's city residents, and their education and development will shape the future of Chinese cities. Comparatively speaking, it is more difficult for migrant workers' children to receive equal education. Tackling this issue has been a challenge due to inadequate policies. The free 9 years of compulsory education for the children of nearly ten million migrant workers has not yet been guaranteed. In particular, in major cities with a large number of migrant workers, there is a significant gap between urban and rural students in education quality, owing to restrictions on teaching assignments,¹⁸ school scale, and education budgets. Hence, it is imperative to work with sectors of the community to resolve these problems to ensure equitable social development.

¹⁷ The 12th Five-Year Plan period was 2011–2015.

¹⁸ Teacher assignment is part of the teacher management system in China. Teachers who have teacher preparation are full-time staff of the school, similar to civil servants. Their salary is appropriated from the state budget, and their jobs are guaranteed and stable.

4.5 Excellent Teachers: Teachers Are Key to Improving the Quality of Education

Teachers are key to the twenty-first century education quality (Darling-Hammond and Lieberman 2012). To enhance the quality of education, it is necessary to develop, retain, and perpetuate excellent teaching talent. To cultivate and gather top education talents is essential to educational development as well as to national development. However, it represents great challenge for China that being a teacher is no longer attractive. In a ranking of the 19 major categories of occupations in China, the rank of teachers in terms of income level has been hovering between 10 and 11 for years. In addition, due to long work hours (more than 54 h per week for most teachers) and stressful conditions (lots of repetitive tasks in addition to teaching), teachers now feel less honored and less interested in their profession than before (China's Ministry of Education 2016). The admission scores for students majoring in teaching in universities have been gradually declining over the past 10 years. In rural areas, lagging improvement in teachers' living conditions, serious problems with the aging teachers, and structural disorders have intertwined to severely restrain the quality of rural education. Therefore, it is a great concern for the future of China that teachers' incomes and living and working environments be improved to maintain the teaching profession's appeal to top talent.

Based on the current situation in China, the following aspects are pressing for maintaining and improving education quality through excellent teachers.

First, to lift the overall quality of teachers. At present, there are 15 million teachers in Chinese primary and middle schools. Over the past 20 years, teachers' overall educational attainment has been lifted to a new level: teachers in middle schools are all armed with bachelor's degrees, as are a considerable proportion of teachers in primary schools. However, confronting the ever-changing social situation and further evolution of the innovation economy, information age, and international integration, it is an imperative to strengthen teachers' continuing education and job training, thereby updating professional knowledge so as to improve the overall quality of teachers.

Second, to attract the outstanding talent to join the teaching profession. Since the 1990s, teachers' incomes in China have been rising constantly, and living and working conditions have also been continuously improving. However, teachers' salaries still rank in the lower-middle range of the categories of occupations in China. With increasing work pressure, there has been a reduction in the appeal of the teaching profession, especially in remote areas. Therefore, it is necessary to foster an environment in which teachers are respected and education is valued by the general public, to increase teachers' salaries and protect their welfare, and particularly to guarantee the welfare and working conditions of teachers in poor areas.

Third, to accelerate the growth of educators (Jiaoyujia 教育家). Educators are leaders in education, whose practices in schools are key to improving schools and teaching performance. There has been an increase in the demand for outstanding teachers and school principals. The contemporary era calls for educators equipped

with an educational philosophy and strong, innovative approaches and distinctive styles.

Fourth, to encourage the outstanding educational talent to move into the central and western regions, as well as other remote and poor areas of China. The economic underdevelopment in these regions is temporary, but the effects of underdeveloped education are long-lasting. Since the beginning of this century, Chinese government has increased its support for education in underdeveloped areas. However, for economic reasons, outstanding teachers in these regions are moving to more economically developed areas; brain drain in teachers is a major obstacle to the development of these areas. In light of this, efforts could be increased to ensure that cities support rural areas, while the east sends skilled people back to the west. In addition, a variety of flexible and effective mechanisms could be designed and established to attract more outstanding educational talent in these areas.

4.6 Educational Innovation: Innovation Is at the Core of Improving Education Quality

In today's world, the knowledge economy is on the upswing and is beginning to take a leading role in the global economic landscape, continued advances are being made in economic globalization, international competition has intensified, and application of advances in information technology have become increasingly prevalent. As China reaches a crucial phase in its industrial transformation and upgrade, innovation becomes the primary source of development. As stated in China's 13th Five-Year Plan, innovation is at the heart of China's development and the cultivation of creative talent is the key to this innovation. However, insufficient capacity for innovation and poor development of creative talent represents China's greatest weakness and may even be regarded as the country's Achilles' heel.

In 2009 and 2012, certain students in Shanghai participated in the Program for International Student Assessment (PISA) conducted by the OECD and obtained remarkable scores. Topping the rankings in mathematics, science, and reading, these Chinese students received great attention from the international community. However, while Chinese students spent the most hours studying, they scored relatively low in problem-solving and imagination (OECD 2012).

Since the resumption of the National College Entrance Examination in 1977, China has produced more than 3,600 top scorers for all provinces. These students represent the best talent by Chinese selection and assessment standards, and it is reasonable to believe that they should accomplish great things after college and postgraduate education. However, their performance has not lived up to expectations. "High marks but weak competence (Gaofen Dineng 高分低能)" has been frequently used to label Chinese high-score students produced from the examination-oriented education system.

Currently, the highly selective examination system has been reformed to encourage local governments and schools to explore their own characteristics of operating a school. Innovation of curricula, teaching methods, assessments, and school administration are also considered in the recent systemic reforms to nurture students' innovation, which has been taken as a key indicator of quality in the national education system.

References

- Burbules, N. C. (2004). Ways of thinking about educational quality. *Educational Researcher*, 33(6), 4–10.
- China's Ministry of Education. (2016). Survey on the occupational status of teachers in primary and secondary schools: Low income pressure and no small responsibility. *Guangming Daily*.
- Coleman, J. S. (1968). The concept of equality of educational opportunity. *Harvard Educational Review*, 38, 7–22.
- Darling-Hammond, L., & Lieberman, A. (2012). *Teacher Education around the world: changing policies and practices* (pp. 151–169). London and New York: Routledge.
- Hill, Y., Lomas, L., & Macgregor, J. (2003). Students' perceptions of quality in higher education. *Quality Assurance in Education*, 11(1).
- Jia, J., & Chu, H. (2012). Three paths for transforming educational development. *Educational Development Research*, 3, 1–6.
- National Bureau of Statistics of China. (2013). *China statistical yearbook. 2013 (No. 32)*. Beijing: China Statistics Press.
- OECD. (2012). PISA 2012 Results [EB/OL]. Retrieved from https://nces.ed.gov/surveys/pisa/pisa2012/pisa2012highlights_11.asp
- OECD. (2015). *Education policy outlook 2015: Making reforms happen*. Retrieved from https://www.oecd.org/edu/EPO%202015_Highlights.pdf.
- Pfeffer, F. T. (2015). Equality and quality in education. A comparative study of 19 countries. *Social Science Research*, 51, 350–368.
- Yuan, Z. (2013). *The revelation on educational reform of countries crossing middle-income traps*. Beijing: Science and Education Press.
- Yuan, Z. (2015). Promoting education equity with reform. *Basic Education*, 12(3).

Zhenguo Yuan Dean of Faculty of Education at East China Normal University, part-time National Educational Inspector and Vice-President of the Chinese Society of Education (CSE). He once worked for Chinese Ministry of Education for more than 10 years and served as Deputy Head of Department of Normal Education and Department of Social Sciences of Ministry of Education, Dean of Chinese School of Education Science, Committee member and Secretary-general of National Education Advisory Committee, Deputy Director of General Office of the National Education System Reform Leading Group and so on.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.