

Original article

Teacher allocation as a global concern: China's policy experience over nearly three decades

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Abstract:

Ensuring a sufficient supply of high-quality teachers at the compulsory education stage is a globally shared concern. To achieve this goal, countries worldwide have adopted various intervention measures for teacher allocation, in addition to market mechanisms. As a centralized country, China has assumed a more prominent role in teacher allocation than many western countries, accumulating a wealth of policy and practical experience that remains underexplored internationally. Therefore, this study employs policy text analysis to reveal China's teacher allocation policies and practices over the past three decades at the compulsory education stage, aiming to offer insights for other contexts. The study finds that China has implemented various teacher allocation measures, which can be categorized into four stages, each reflecting the key educational priorities of its period: 1) the quantity supplementation (1998-2005); 2) the quality development stage (2006-2013); 3) the stage balancing quality and equity (2014-2020); and 4) the strong teacher stage for further promoting high-quality education development (2021-present). The policy experiences identified in this study may inform other countries seeking to adapt effective approaches to their unique developmental needs and stages.

1. Introduction

Teacher resource allocation is one of the key factors in achieving educational equity and high-quality education. Around the world, many countries face teacher shortages caused by uneven distribution, high attrition rates, and other related issues. For example, in England, the teacher vacancy rate more than doubled between 2011 and 2016 (Organization for Economic Cooperation and Development, 2020). This issue is especially prominent in low-income and underdeveloped regions. According to the UNESCO *Global report on teachers: Addressing teacher shortages and transforming the profession* to meet the Sustainable Development Goals by 2030, the world needs to recruit an additional 44 million primary and secondary school teachers. Sub-Saharan Africa alone has 90% of secondary schools experiencing teacher shortages, with an estimated need for 15 million additional teachers by 2030 (United Nations Educational, Scientific and Cultural Organization, 2024). While 86% of primary school teachers globally

meet minimum qualification requirements, only 69% in Sub-Saharan Africa do (United Nations Educational, Scientific and Cultural Organization Institute for Statistics, 2023). OECD data indicate that 86% of principals in Vietnam report teacher shortages, while the figure is 53% in Colombia (Organization for Economic Cooperation and Development, 2019). Furthermore, rural schools tend to face more acute shortages than urban schools (Organization for Economic Cooperation and Development, 2022). These statistics highlight the pressing issue of global teacher resource scarcity and call for effective policies to improve and optimize teacher resource allocation.

Against this backdrop, various countries have explored diverse strategies based on their distinct governance philosophies and national contexts. Some countries, for instance, emphasize market-based or incentive mechanisms for regulation, such as the UK government's strategy of recruiting teachers from overseas to fill subject-specific and regional shortages (The Guardian, 2024). Others, in contrast, prioritize an elitist model of pre-service training to guarantee a high-quality supply of

teachers, as exemplified by Finland and South Korea, which enforce stringent selection criteria for top-tier students entering their teacher education systems (Darling-Hammond, 2017; Choi, 2022). However, a noteworthy phenomenon is that these policy frameworks predominantly concentrate on a specific stage of a teacher's career path—either “pre-service” training or “post-service” allocation.

In contrast to the aforementioned models, China's teacher allocation policy, within the context of its large-scale education system, exhibits a salient characteristic: a system characterized by strong government leadership that closely integrates “pre-service” training with “post-service” allocation. Since the Reform and Opening-up, the Chinese government has progressively established and refined this system through a series of interlocking policies to address the challenges of different developmental stages—shifting its focus from resolving the issue of teacher quantity to pursuing both quality and equity.

However, existing research tends to focus on the evaluation of specific Chinese policies, such as the Special Post Teacher Program, while lacking a macro-perspective that examines these policies as a coherent and continuously evolving holistic system. This fragmented understanding hinders the international community's ability to grasp the internal evolutionary logic of China's teacher allocation policy system and its associated governance experience. Therefore, the key contribution of this study lies not only in systematizing and periodizing China's teacher allocation policies into four stages, but more critically, in analyzing them as a continuously developing and self-perfecting policy system.

2. Literature review

To better understand the overall picture and specific measures of China's teacher allocation policies at the compulsory education stage, this section reviews existing literature from two dimensions: teacher roles and competence, and teacher resource allocation.

2.1 Teacher roles and competence

Teachers are not only the main agents of knowledge transmission but also critical factors in cultivating students' abilities, shaping their values, and guiding their socialization processes (Hattie, 2009). Understanding teachers can be explored at two levels: the quality of individual teachers and the overall caliber of the teaching workforce. Studies have shown that teachers' professional competence, instructional strategies, and professional ethics exert a profound influence on students' learning outcomes (Darling-Hammond, 2000). Variations in the number and quality of teachers across different educational stages, subjects, and regions have become critical factors affecting educational equity and quality (Hanushek & Rivkin, 2010). However, due to historical and practical reasons, teacher resources are not evenly distributed across different regions and schools. In particular, underdeveloped regions and low-performing schools face serious shortages of qualified teachers. France's education priority development zones (ZEP) are a typical example of this phenomenon, where teacher turnover rates are higher in disadvantaged schools

and impoverished areas, and the overall quality of teaching is generally lower. This uneven distribution further exacerbates educational stratification and social inequality (Delga & Breton, 2013).

In China, regional and urban-rural disparities are significant factors constraining educational equity. Teacher resources are disproportionately concentrated in the eastern coastal areas, while the western and rural regions face acute shortages and lower instructional quality, posing a pressing challenge for educational reform (Gong, 2019). Faced with problems such as insufficient teacher recruitment in certain areas, teacher attrition, and persistent shortages, relying solely on market mechanisms cannot effectively address these issues. In these circumstances, macroeconomic regulation and targeted policy intervention by the government are particularly important. The government needs not only to increase financial investment but also to optimize systems for teacher training, recruitment, and mobility mechanisms to ensure that all students have access to high-quality educational opportunities.

2.2 Teacher resource allocation

Teacher resource allocation policies refer to a series of measures adopted by governments to balance the distribution of teacher resources among different regions and schools, and have emerged as a key policy lever for promoting educational equity on a global scale (Chen & Qin, 2022). In response to the universal challenge of teacher shortages and imbalanced distribution (Organization for Economic Cooperation and Development, 2018), the policy practices of various countries have gradually diverged, leading to the formation of three ideal types: the government-led administrative allocation model, the market-driven incentive model, and a hybrid model that combines the two (Wang & Luo, 2024). Market-driven and hybrid models have been extensively discussed in the literature. Their core principle is to guide rather than compel teachers' career trajectories through a diverse range of incentive tools and project-based interventions. These policies often tend to precisely target specific junctures of a teacher's career path. For example, to attract talent into the teaching profession, the “Grow Your Own” (GYO) programs implemented in multiple U.S. states effectively alleviate teacher shortages in specific communities by recruiting and training teacher candidates from within those same communities (Gist et al., 2019). At the teacher retention stage, the UK's Department for Education provides new teachers in shortage subjects such as mathematics and physics with a Teacher Student Loan Repayment plan, supplemented by generous scholarships (bursaries) and early-career payments, forming a stratified and multifaceted financial incentive system (Worth & De Lazzari, 2017). To broaden the supply channels for teachers, the Netherlands, in turn, offers special subsidies to support teaching assistants in primary and secondary schools in pursuing teacher education programs, providing them with financial support to become certified teachers (Ministry of Finance, 2023). A common thread among these policies is that they respect market mechanisms, using financial levers and programmatic innovations to enhance the attractiveness of specific posts or regions. Yet,

their effectiveness is often constrained by market volatility and the complexities of individual choice.

In contrast, the government-led model places greater emphasis on achieving an equitable distribution of teacher resources through top-level design and systematic administrative planning. Its policy instruments are typically more compulsory and are deeply embedded within the national personnel management system. For instance, in highly centralized France, the government has established an annualized and rule-based teacher mobility mechanism. Teachers' inter-regional transfers and inter-school rotations are primarily determined by a nationally unified points system (*barème*), which integrates factors such as seniority, family status, and the location of their post. This system thereby achieves a nationwide "peak-shaving and valley-filling" effect while safeguarding individual teachers' rights (Directorate of Evaluation, Foresight and Performance, 2016). In Asia, South Korea's long-standing system of regular rotations and intra-regional transfers, supplemented by allowances, accommodation, and training incentives for teachers in hardship areas, is regarded by the international academic community as an effective practice for systematically improving urban-rural balance (Li, 2023). Japan, at the central government level, implements macro-level institutional adjustments aimed at "securing a teacher workforce" by relaxing age restrictions and creating pathways for professionals from other fields to become teachers, thereby addressing teacher shortages (Ministry of Education et al., 2021).

In China, the teacher allocation in compulsory education is reflected in three key mechanisms—mobility, training, and recruitment, with the main goal of achieving balanced teacher distribution: first, promoting urban-rural teacher mobility; second, enhancing rural teacher training; and third, implementing targeted recruitment strategies, such as expanding the scale of special post teachers, raising their benefits, extending their service periods, and implementing the "Silver-Age Lecture Plan (*Yinling Jiangxue Jihua*)" (Liu & Lu, 2022). However, existing research on China's teacher allocation policies is largely confined to the evaluation of single policies, such as the supplementary effects of the Special Post Teacher Program (*Te Gang Jihua*), or to preliminary discussions on the relationship between policies like the Excellent Teachers Program (*You Shi Jihua*) and the Tuition-Free Normal Education program (*Gongfei Shifan Sheng*) (Guo, 2022). This body of research lacks a macro-perspective that views these disparate policy points as a coherent, continuously evolving, holistic governance system. Furthermore, the majority of these studies are published in Chinese for a domestic audience, which has prevented this unique "China model" from being sufficiently discussed within the international academic community. Therefore, this study aims to systematically review China's teacher allocation measures and analyze them as a holistic system, in order to distill effective lessons and provide insights for the international community.

3. Methodology

The core objective of this study is to analyze China's teacher allocation policies over the past three decades as a

continuously evolving and self-refining governance system. Accordingly, this study aims to answer the following core research questions:

1) How has China, through three decades of policy iteration, gradually constructed and refined its unique, government-led teacher allocation policy system?

2) What are the core logics and underlying mechanisms that have driven the evolution of this system across its different stages?

To provide in-depth answers to these questions, this study employs the qualitative method of Policy Document Analysis. This method focuses not only on the surface content of policy documents but is also dedicated to uncovering the underlying policy goals, value orientations, and evolutionary logic embedded within the texts (Bowen, 2009).

3.1 Sampling and data collection

This study employs a purposive sampling strategy, focusing on teacher allocation policies for the compulsory education stage issued by the central government. To ensure the systematicity and representativeness of the sample, our screening process adhered to the following rigorous steps: First, an initial database comprising 58 relevant national-level policies was constructed through a systematic search. Second, to focus on the substantive evolution of policies rather than on administrative repetitions, we established clear inclusion and exclusion criteria. Only key texts that marked policy initiation, major adjustment, or possessed milestone significance were included, while annual implementation notices or routine documents with highly repetitive content were excluded. Adhering to these criteria, we ultimately refined the selection to 24 core policy texts (see Table 1), which constitute the foundational sample for our analysis.

3.2 Data analysis

To answer the research questions, this study, drawing on the principles of Thematic Analysis, conducted a systematic three-stage coding of the 24 policy texts using NVivo software. The analysis commenced with open coding, involving a line-by-line deconstruction of the texts to generate hundreds of initial conceptual labels. Subsequently, through axial coding, these discrete labels were compared and synthesized, clustered into more encompassing core categories such as "supplementing teacher numbers." The pivotal third step was theme construction: we situated these core categories on a historical timeline and observed that they formed distinct temporal clusters—that is, certain policy logics dominated in specific periods before being replaced by new ones. This "four-stage" evolutionary framework, therefore, was not pre-conceived but was rather a direct product of this data-driven analytical process, revealing the underlying logic of China's teacher allocation policy evolution.

4. Findings

Preliminary analysis reveals that: 1) In terms of core content, China's teacher allocation policies primarily encompass seven key strategies, including the China's Tuition-Free

Table 1. Background information of China's main teacher allocation policies.

Policy Name	Year of promulgation	Document Name
China's Tuition-Free Normal Education program (<i>Gongfei Shifan Sheng</i>)	2007	Notice from the General Office of the State Council on the Implementation Measures for Free Education of Normal Students at Ministry of Education's Directly Affiliated Normal Universities (Trial)
	2018	Notice from the General Office of the State Council on the Implementation Measures for Public Service Education for Normal Students at Ministry of Education's Directly Affiliated Normal Universities
	2020	Notice from the General Office of the State Council on the Implementation Measures for Public Service Education for Normal Students at Ministry of Education's Directly Affiliated Normal Universities
	2021	Notice from the General Office of the Ministry of Education on the Implementation of the Teacher Qualification Reform Work for 2021 Education Graduates and Public Service Normal Students
	2022	Notice from the General Office of the Ministry of Education on the Employment Work for Graduates of Public Service Normal Universities in 2023
The Teacher Rotation Policy (TRP) (<i>Jiaoshi Jiaoliu Lun gang</i>)	2014	Opinions on Promoting the Exchange and Rotation of Teachers and Principals within County (District) Schools by the Ministry of Education, Ministry of Finance, and Ministry of Human Resources and Social Security
	2014	Notice from the General Office of the Ministry of Education on Organizing the Application for the First Batch of County Managed School Employment Reform Demonstration Areas for the Compulsory Education Teacher Team
	2015	Notice from the Ministry of Education on Determining the First Batch of County Managed School Employment Reform Demonstration Areas for the Compulsory Education Teacher Team
	2017	Notice from the Ministry of Education on Determining the First Batch of County Managed School Employment Reform Demonstration Areas for the Compulsory Education Teacher Team
Take community-level posts in education, agriculture, health care and poverty relief (<i>San Zhi Yi Fu</i>)	2006	Notice from the Ministry of Organization, Ministry of Personnel, Ministry of Education, Ministry of Finance, Ministry of Agriculture, Ministry of Health, and the State Council Poverty Alleviation Office on Organizing College Graduates to Engage in Supportive Teaching, Supportive Agriculture, Supportive Medical Care, and Poverty Alleviation Work in Rural Areas
	2006	Opinions from the Ministry of Education on Promoting Urban Teachers' Support for Rural Education
	2007	Opinions from the Ministry of Education on Promoting Normal Students' Internship Support for Teaching Work
	2023	Notice from the General Office of the Ministry of Education and the General Office of the Ministry of Finance on the Implementation Work of the 2023 "Three Districts" Talent Support Plan for Teachers
Special Post Teacher Program (<i>Te Gang Jihua</i>)	2006	Notice from the Ministry of Education, Ministry of Finance, Ministry of Personnel, and the Central Compilation and Translation Bureau on the Implementation of Special Post Teacher Plan for Rural Compulsory Education Schools
	2012	Notice from the General Office of the Ministry of Education on the Issuance of the "2012 Work Points" by the Ministry of Education Talent Coordination Group
	2020	Notice from the Department of Teacher Work of the Ministry of Education on the Typical Cases of the Special Post Teacher Plan Implementation for Rural Compulsory Education Schools
	2023	Notice from the Department of Teacher Work of the Ministry of Education on the Typical Cases of the Special Post Teacher Plan Implementation for Rural Compulsory Education Schools
Silver-Age Lecture Plan (<i>Yinling Jiangxue Jihua</i>)	2018	Notice from the Ministry of Education and Ministry of Finance on the Issuance of the "Implementation Plan for the Silver Age Teaching Program"
	2023	Notice from the Ministry of Education and Ministry of Finance on the Issuance of the "Implementation Plan for the Silver Age Teaching Program"
	2023	Notice from the General Office of the Ministry of Education and the General Office of the Ministry of Finance on the Implementation of the 2023 Silver Age Teaching Program
The Excellent Teachers Program (<i>You Shi Jihua</i>)	2021	Notice from the Ministry of Education and Other Nine Departments on the Issuance of the "Targeted Teacher Training Plan for Outstanding Teachers in Underdeveloped Areas in Central and Western China"
	2023	Notice from the Ministry of Education and Other Nine Departments on the Issuance of the "Targeted Teacher Training Plan for Outstanding Teachers in Underdeveloped Areas in Central and Western China"

Normal Education program(*Gongfei Shifansheng*), the Excellent Teachers Program(*You Shi Jihua*), the Teacher Training Program for Master of Education in Rural Schools(*ShuoShi Jihua*), the Special Post Teacher Program(*Te Gang Jihua*), the Take Community-Level Posts in Education, Agriculture, Health Care, and Poverty Relief Program(*San Zhi Yi Fu*), the Teacher Rotation Policy[County-managed School Hiring System](*Jiaoshi Jiaoliu Lun gang*[*Xian Guan Xiao Pin*]), and the Silver-Age Lecture Plan(*Yinling Jiangxue Jihua*). These policies cover the entire process from pre-service teacher training to post-service mobility. 2) A chronological review shows that China has been exploring this issue for nearly 30 years, beginning with the implementation of the *Opinions on the Implementation of the Youth Volunteer Teaching and Poverty Relief Relay Plan* by the Central Committee of the Communist Youth League and the Ministry of Education in 1998. A further analysis reveals that based on the promulgation of landmark policies or the occurrence of educational reform events, China's teacher allocation policies can be classified into four distinct developmental stages. Each stage has specific goals and defining characteristics for teacher allocation, and the effectiveness of policies varies across these stages. More details are provided below:

4.1 1998–2005: The quantity supplementation stage

The period from 1998 to 2005 was a key phase for China's promotion of universal compulsory education, with the main goal of teacher allocation policies being to address severe teacher shortages. The core initiatives during this stage focused on achieving the two goals of "universal nine-year compulsory education" and "basic elimination of illiteracy among young and middle-aged adults" (the "Two Basics" goal). Specifically, the policies emphasized ensuring equitable access to educational resources for all school-age children and addressing the shortage of qualified teachers in rural areas. According to the 1998 *National Education Development Statistical Bulletin*, by the end of 1998, the coverage rate of "universal nine-year compulsory education" had reached 73%, but rural areas still faced significant teacher shortages (Ministry of Education, 1999). By 2000, the country had largely achieved the "Two Basics" goals, but the coverage rate in western regions was only 77%, and 410 counties still failed to meet the standards (People's Daily, 2007).

During this stage, representative teacher allocation policies included the Volunteer Teaching and Poverty Alleviation Relay Plan (*Zhijiao Jieli Jihua*) launched in 1998 and the Teacher Training Program for Master of Education in Rural Schools (*ShuoShi Jihua*) implemented in 2004. The core objective of these policies was to supplement teacher resources in underdeveloped regions through diversified measures and promote educational equity. The Volunteer Teaching and Poverty Alleviation Relay Plan (*Zhijiao Jieli Jihua*), organized by the Central Committee of the Communist Youth League, adopted a "regular rotation, relay service" model, mobilizing urban young teachers to serve in impoverished areas for one to two years (Central Committee of the Communist Youth League &

Ministry of Education, 1998). The success of this plan lay in its ability to rapidly mobilize a large pool of teachers, helping to alleviate teacher shortages in some regions. As of October 2018, the program had recruited and dispatched 20,500 master's and doctoral students from over 190 universities to serve as volunteer teachers, covering more than 600 primary and secondary schools in over 300 counties across more than 20 provinces (Zhang, 2021). The Teacher Training Program for Master of Education in Rural Schools (*ShuoShi Jihua*), initiated by the Ministry of Education in 2004, adopting a "teaching + master's degree" model aimed at strengthening the teacher workforce in high schools in impoverished counties. Selected teachers were required to commit to five years of service in poor areas and complete their master's degree during this period (Ministry of Education of the People's Republic of China, 2004). This policy effectively promoted teachers' professional development while providing strong support for education in impoverished areas, particularly in the training of high-quality teachers and the enhancement of regional educational standards.

The teacher allocation policies during this stage exhibited three characteristics. First, the policies primarily addressed teacher shortages through administrative mobilization and flexible mechanisms such as short-term volunteer teaching. Second, during the implementation process, division of responsibilities between central and local governments became increasingly clear, ensuring the effective execution of the policies. Third, the policies began to explore the institutionalization of teacher recruitment mechanisms, laying the foundation for subsequent policy adjustments and refinements. While these measures helped mitigate teacher shortages in some regions, they also provided valuable experiences for the improvement of subsequent policies. After 2006, building on these early initiatives, policies gradually evolved toward a more institutionalized and standardized framework.

4.2 2006–2013: The quality development stage

With the revision of the *Compulsory Education Law* in 2006, which for the first time included "promoting the balanced development of compulsory education" in the law, and its elevation to a national strategy in the 17th National Congress report in 2007, the allocation of teacher resources became central to achieving educational equity. Against this backdrop, teacher allocation policies from 2006 to 2013 primarily focused on quality development, aiming to enhance the overall competence and teaching standards of the teaching workforce. This period saw the implementation of the following four policies: the Special Post Teacher Program (*Te Gang Jihua*), launched in 2006, which used central government funding to recruit university graduates to teach in rural areas in the western regions, particularly in counties focused on achieving the "Two Basics" goals (i.e., universalizing nine-year compulsory education and eliminating illiteracy among young and middle-aged adults). This program was also linked with the Teacher Training Program for Master of Education in Rural Schools (*ShuoShi Jihua*), allowing special post teachers to have their practical requirements for a master's degree

waived during their contract period (Ministry of Education et al., 2006); the Take Community-Level Posts in Education, Agriculture, Health Care, and Poverty Relief Program (*San Zhi Yi Fu*), implemented in 2006, which annually recruited 20,000 university graduates each year to serve in grassroots education, with a service period of two to three years. This program was open to graduates from all majors and served as a complement to the Special Post Teacher Program (*Te Gang Jihua*) (Ministry of Education et al., 2006); the China's Tuition-Free Normal Education program (*Gongfei Shifansheng*), implemented in 2007, which offered exemptions from tuition and accommodation fees, along with a living stipend at six directly affiliated normal universities, requiring graduates to work in primary and secondary education for at least 10 years, with 2 years of service in rural schools (General Office of the State Council, 2007); and the "Three Districts" Talent Support Plan for Teachers (*"San Qu" Ren-cai Jihua*), launched in 2012, which selected outstanding teachers to teach in remote, impoverished areas, frontier ethnic regions, and revolutionary base areas for one year, with preferential treatment in areas such as professional title evaluations (Ministry of Education et al., 2012). This stage witnessed a significant leap in the academic qualifications of the rural teacher workforce. In rural primary schools, for instance, the proportion of full-time teachers with a junior college degree or higher dramatically jumped from 53.61% in 2006 to 98.7% in 2023; the proportion with a bachelor's degree or higher also reached 71.1%. Meanwhile, the "Special Post Teacher Program" continued to inject young talent into rural areas, with the average age of newly recruited teachers in 2023 being just 24.8 years old (Du, 2025).

The teacher allocation policies during this stage reflected characteristics such as the gradual improvement of the policy system, the increasingly sound guarantee mechanisms, and the clearer incentives and constraints. The Special Post Teacher Program (*Te Gang Jihua*) addressed the issue of teacher shortages, the China's Tuition-Free Normal Education program (*Gongfei Shifansheng*) provided high-quality teachers, the Take Community-Level Posts in Education, Agriculture, Health Care, and Poverty Relief Program (*San Zhi Yi Fu*) provided diverse human resources, and the "Three Districts" Talent Support Plan for Teachers (*"San Qu" Ren-cai Jihua*) promoted teacher exchange. Together, these policies gradually formed a multi-dimensional policy network, while establishing an input model of "central finance takes the lead, and local finance provides support" and a collaborative working mechanism involving multiple departments. The policy's incentives and constraints, such as staffing guarantees and mandatory service terms, further enhanced their attractiveness and effectiveness.

4.3 2014–2020: The stage of high-quality and balanced development

Against the backdrop of rapid urbanization, China's teacher allocation in compulsory education faced new structural challenges. From 2014 to 2020, the urbanization rate increased by an average of 1.5 percentage points per year, reaching 63.89% in 2020 (National Bureau of Statistics of China, 2021).

This change profoundly impacted the urban-rural educational landscape: On one hand, by 2014, the number of children of migrant workers in compulsory education reached 12.947 million (Ministry of Education of the People's Republic of China, 2015), placing pressure on urban schools to expand. On the other hand, data shows that since the 21st century, an average of 46 rural primary schools have closed daily (Zhang, 2024), resulting in an increasingly severe situation of "tight urban educational resources and scarce rural educational resources." This trend exacerbated the structural contradictions of rural teachers being "unable to go, unable to stay, and unable to teach effectively", which forced policies to shift from mere quantity supplementation to a greater focus on quantity supplementation to structural optimization. In this context, the Rural Teacher Support Program (2015-2020), introduced in 2015, aimed to alleviate the teacher imbalance caused by urbanization by establishing an incentive mechanism where "the farther you go to the basic level, the higher the rewards" (General Office of the State Council, 2015). During this stage, improving teacher quality and optimizing the teacher workforce structure became the main focus of teacher allocation policies. The key teacher allocation policies during this period were:

In 2014, the *Opinions on Promoting the Exchange and Rotation of Principals and Teachers within County (District) Schools* was issued, which, through the "County-managed School Hiring" reform, removed barriers to teacher mobility and facilitated teacher movement, especially toward rural and underdeveloped schools (Ministry of Education of the People's Republic of China, 2014). This reform promoted a more balanced distribution of teacher resources between urban and rural areas, increased teacher supply in rural schools, and enhanced teacher mobility within the system. In 2018, the Silver-Age Lecture Plan (*Yinling Jiangxue Jihua*) was launched to recruit retired teachers to support rural education, particularly in the "Three Districts" areas. Silver-Age teachers contributed to classroom teaching, lesson observation, and evaluation, while receiving financial subsidies (Ministry of Education of the People's Republic of China & Ministry of Finance of the People's Republic of China, 2018). This program strengthened teacher capacity in underserved areas, utilizing the expertise of retired senior teachers to improve the quality of rural education, especially in remote and poverty-stricken regions. Also in 2018, the *Implementation Measures for the Tuition-Free Education Program for Normal Students at Ministry of Education's Directly Affiliated Normal Universities* was issued, upgrading the Tuition-Free Normal Education Program (*Mianfei Shifansheng*) to the Public Service Normal Education Program (*Gongfei Shifansheng*), shortening the service period to six years and enhancing employment guarantees (General Office of the State Council, 2018). This policy ensured a sustainable supply of high-quality teachers, promoted the stability and mobility of rural teachers, and effectively alleviated teacher shortages in rural education. Statistically, the state has continuously advanced the "Rural Teacher Support Plan" and implemented the "Special Program for Teacher Talent Support and Assistance." Through these initiatives, a cumulative total of over 221,000 teachers have been dispatched to teach in

rural and central/western schools. Furthermore, the “Paired Assistance” program for education talent in key counties for rural revitalization was launched, selecting 247 outstanding principals from eastern regions to support 160 targeted counties, helping each build a quality general high school and a vocational high school (China Education News, 2022).

The teacher allocation policies during this stage exhibited three notable characteristics: 1) a shift from basic resource balancing to quality enhancement. The Teacher Rotation Policy (*Jiaoshi Jiaoliu Lun gang*) optimized teacher allocation, the Silver-Age Lecture Plan (*Yinling Jiangxue Jihua*) supplemented high-quality teacher resources, and the China’s Tuition-Free Normal Education program (*Gongfei Shifansheng*) ensured a sustained supply of qualified teachers. 2) a transition from administrative promotion to institutional guarantees, with the establishment for staffing, professional titles, and benefits, which increased the sustainability of the policies; and 3) a multi-pronged approach, shifting from single actions to a comprehensive framework of “mobility + supplementation + training” effectively addressing the issues of rural teacher teams.

4.4 2021–present: The strong teacher stage for further promoting high-quality education development

With the start of the “14th Five-Year Plan” period, China’s educational development entered a new phase. According to the “14th Five-Year Plan,” China aims to build a high-quality education system, with a key focus on improving the professional quality of the teaching workforce. This transformation is driven by three main factors: first, demographic changes have led to “stable overall education demand, with structural differentiation”; second, the rise of the digital economy has reshaped education delivery, with a significant increase in the popularity of online and blended learning; and third, the Rural Revitalization Strategy requires further strengthening the teacher workforce in poverty-stricken areas. Based on these factors, teacher allocation policies have shifted their focus towards enhancing teacher quality and driving improved educational outcomes.

Key policies during this period include: First, the Excellent Teachers Program (*You Shi Jihua*) and the National Outstanding Teacher Program (*Guo You Jihua*) have become key policies. The Excellent Teachers Program (*You Shi Jihua*) adopts a “targeted training” model, aiming to train approximately 10,000 normal university students annually for 832 poverty-stricken and border counties in central and western China (Ministry of Education et al., 2021). Meanwhile, the National Outstanding Teacher Program targets graduate-level teacher preparation at 30 “Double First-Class” universities, encouraging outstanding students to enter the teaching profession (Ministry of Education of the People’s Republic of China, 2023). Second, existing policies have been continuously refined. For instance, the scale of the China’s Tuition-Free Normal Education program (*Gongfei Shifansheng*) has been expanded, while the targeted training initiatives for rural revitalization and the County-managed School Hiring System

(*Xian Guan Xiao Pin*) have also been deepened, facilitating teacher mobility and inter-school collaboration. The Silver-Age Lecture Plan (*Yinling Jiangxue Jihua*) has been extended to basic education, higher education, and vocational education, forming the policy framework of the *National Silver-Age Teacher Action Plan*. Additionally, new system-level guarantee policies have been accelerated. For example, the teacher training system of the National Smart Education Platform has been scaled up to support teachers at all levels, and the Teacher Education Collaborative Quality Improvement Plan has advanced the teaching standards of normal universities in central and western China. Furthermore, the salary guarantee for teachers in compulsory education has been further reinforced, ensuring that teacher salaries are “not lower than” the established standards.

The policy innovations during this stage have several distinct characteristics: First, the strategic goals have become clearer. The aim of the policies is no longer limited to addressing localized teacher shortages but is aligned with the strategic goal of building a “leading country in education”. For example, the National Outstanding Teacher Program (*Guo You Jihua*) clearly aims to cultivate “outstanding teachers for the future,” meaning that the policy goal has shifted from “meeting demand” to “driving future-oriented development.” Second, resource allocation has become more precise. Through the use of big data analytics, a teacher supply and demand early warning mechanism has been established to ensure that teacher training dynamically aligns with regional needs. Third, the policy system has become more systematic, covering teacher training, mobility, exchange, and continuing professional development, while also strengthening the construction of guarantee mechanisms to support a stable supply and balanced distribution of teacher resources. The implementation of these policies places greater emphasis on enhancing teacher quality, promoting regional educational equity, and ensuring professional development and welfare, thereby laying a solid foundation for the advancement of high-quality education.

5. Discussion

Teacher allocation is a concern for many countries, and this study shares commonalities with existing international research, which can be summarized three key dimensions.

First, the government is the primary authority responsible entity for teacher allocation. Despite differing political and management systems in various countries, government intervention in the allocation of educational resources is a common practice. For example, in Brazil, the government redistributes funds through education funding balance policies (such as FUNDEB) to ensure that schools in impoverished areas receive sufficient educational resources, thereby reducing regional disparities in education (World Bank, 2020). Similarly, since the reform and opening-up, the Chinese government has taken the lead in teacher allocation through policies such as the Special Post Teacher Program (*Te Gang Jihua*) and the Teacher Training Program for Master of Education in Rural Schools (*Shuo Shi Jihua*), with a particular emphasis on teacher mobility and supplementation in remote and economically

disadvantaged regions.

Second, teacher allocation focuses on teacher quality rather than merely teacher quantity. To ensure high-quality teaching from the outset, Singapore implements a rigorous, elite selection mechanism, recruiting teacher candidates from the top 30% of the country's high school graduates (Schleicher, 2012). Similarly, China fosters high-quality teachers through policies such as the China's Tuition-Free Normal Education program (*Gongfei Shifansheng*) and the Excellent Teachers Program (*You Shi Jihua*), thereby ensuring the continuous improvement of educational quality in educational quality in rural and remote areas. China also strengthens targeted pre-service training to ensure that more outstanding normal university graduates are sent to teach in impoverished regions.

Third, integrated and synergistic measures are critical to achieving policy effectiveness. To maximize outcomes, multiple initiatives often need to operate in coordination and be adjusted dynamically in response to changing educational needs. China's teacher allocation policies have a distinct feature in this regard. For example, the County-managed School Hiring System (*Xian Guan Xiao Pin*) and The Teacher Rotation Policy (*Jiaoshi Jiaoliu Lun gang*), combined with the Silver-Age Lecture Plan (*Yinling Jiangxue Jihua*) and the China's Tuition-Free Normal Education program (*Gongfei Shifansheng*), employ a comprehensive strategy of mobility, supplementation, and training to enhance the balance of educational resources and the quality of the teaching workforce (Wang & Luo, 2024). This policy approach is also evident internationally. For instance, Australia addresses teacher shortages by integrating teacher scholarship programs, teacher mobility policies, and incentives such as cash rewards, housing allowances, and tuition reductions to attract and retain teachers in rural and remote areas (Yang & Liu, 2018).

However, beyond these commonalities, this study reveals a more profound insight into the uniqueness of the Chinese model. This uniqueness is centrally embodied in a "state-led" model, characterized by strong state leadership, backed by central fiscal support, and employing a portfolio of systematic policy instruments for macro-level regulation. From an international comparative perspective, this model exhibits the following distinct advantages and characteristics:

1) Advantage One: Policy Continuity and Robust Implementation. Unlike some countries' short-term interventions, the government's involvement in education in China is enduring and profound. Many countries, in response to teacher resource shortages, implement temporary, market-driven policies, with market mechanisms playing a dominant role in the allocation of educational resources. For instance, in the UK, when facing teacher shortages, the government often implements short-term policy adjustments such as "overseas recruitment" and "loan forgiveness programs" to address teacher attrition. While these measures, driven largely by market forces, may provide short-term solutions, they fail to create sustainable, long-term impacts (The Guardian, 2024). In contrast, policies in China, such as the Special Post Teacher Program (*Te Gang Jihua*) and China's Tuition-Free Normal Education program (*Gongfei Shifansheng*), are not only supported by stable, long-term government funding but also have strong policy enforcement,

ensuring a consistent allocation of teacher resources and gradual quality improvement.

2) Advantage Two: Broad Coverage and Equity Orientation. China's teacher allocation policies not only focus on economically underdeveloped rural areas but also extend to marginalized ethnic regions, the western regions, and others. However, in other countries, such as India, policies mainly focus on addressing urban-rural educational disparities. While there are some teacher recruitment programs targeting specific impoverished areas, policies specifically tailored to ethnic minority regions remain relatively underdeveloped (Xue, 2011). In contrast, China's "Three Districts" Talent Support Plan for Teachers (*"San Qu" Ren-cai Jihua*) specifically focuses on the western and ethnic minority areas. Through targeted professional training and financial subsidies, this program encourages excellent teachers to work in these regions, promoting a more equitable distribution of educational resources and raising regional educational standards.

3) Advantage Three: Systematic Design and Synergistic Effects. China's teacher allocation policies are comprehensive and systematic, covering various aspects such as targeted pre-service training, teacher mobility, and inter-regional teacher resource deployment, ensuring efficient use and fair distribution of teacher resources. For example, the Special Post Teacher Program (*Te Gang Jihua*) ensures that a significant number of high-performing teachers are dispatched to rural and remote areas through targeted recruitment, alleviating teacher shortages in these regions. Additionally, the Teacher Rotation Policy (*Jiaoshi Jiaoliu Lun gang*) facilitates the orderly movement of teachers between urban and rural areas, ensuring that high-quality educational resources are directed toward areas with acute shortages.

The deep-seated reasons behind these differences are rooted in China's unique political system, socio-cultural context, and developmental stage. We acknowledge that, as a study centered on policy review and description, this paper has limitations in terms of its analytical depth and theoretical construction. However, it is precisely through the systematic and panoramic presentation of China's policy practices over the past three decades that we are able to clearly reveal how a powerful state-led model operates and evolves, along with its effectiveness and challenges. This detailed case analysis lays a solid foundation for future comparative research and more profound theoretical explorations.

6. Conclusion

This study employs a qualitative research design, focusing on the evolution and characteristics of teacher allocation policies in China's compulsory education stage. Through systematic policy text analysis, this paper reviews and synthesizes the main teacher allocation measures adopted by China over the past three decades in different stages. By analyzing 24 representative policy documents, the study finds that China's teacher allocation policies have progressively evolved progressively from quantity supplementation to quality enhancement, subsequently to high-quality balance and strengthening the teacher workforce. Each phase of policy adjustment closely

Table 2. Summary of the evolution stages of teacher allocation policies in China's compulsory education.

Stage	Core Policies	Characteristics
1998–2005 Quantity Supplementation Stage	Volunteer Teaching and Poverty Alleviation Relay Plan (1998) Teacher Training Program for Master of Education in Rural Schools (2004)	1. Administrative mobilization, short-term volunteer teaching. 2. Gradual clarification of responsibilities between central and local governments. 3. Preliminary exploration of institutionalized mechanisms.
2006–2013 Quality Development Stage	Special Post Teacher Program (2006) Take Community-Level Posts in Education, Agriculture, Health Care, and Poverty Relief Program (2006) China's Tuition-Free Normal Education Program (2007) “Three Districts” Talent Support Plan for Teachers (2012)	1. Gradual improvement of policy system. 2. Central government-led, multi-department collaboration. 3. Balanced incentives and constraints (staffing, service years, professional titles).
2014–2020 High-Quality and Balanced Development Stage	County-managed School Hiring / Teacher Rotation Policy (2014) Silver-Age Lecture Plan (2018) Upgraded China's Tuition-Free Normal Education Program (2018)	1. Shift from administrative push to institutional guarantees. 2. Combined measures: mobility + supplementation + training. 3. Greater focus on quality and structural optimization.
2021–Present Strong Teacher Stage for Promoting High-Quality Education Development	The Excellent Teachers Program (2021) National Outstanding Teacher Program (2023) Expansion of China's Tuition-Free Normal Education Program National Silver-Age Teacher Action Plan Smart Education Platform & Teacher Education Collaborative Quality Improvement Plan	1. Strategic goals aligned with building a “strong education nation.” 2. More precise allocation (big data supply-demand matching). 3. Systematic policy framework covering the entire chain: training → mobility → continuing education → guarantee.

aligned with the changing demands of educational development, particularly in teacher mobility, regional resource optimization, and quality improvement, while adopting diversified and comprehensive policy strategies (see Table 2). Additionally, the research indicates that while other countries also face teacher shortages, China has demonstrated a distinctive, state-led practical model. This model is characterized by sustained government intervention, precise regional allocation, comprehensive full-chain policy design, and strategic prioritization of remote and ethnic minority regions.

It should be noted that this study has certain limitations. First, it primarily relies on policy text analysis, which, while effective in revealing policy content and evolutionary trajectories, provides only limited insight into implementation outcomes, practical challenges during execution, and regional variations. Second, the study does not incorporate all relevant local policies or the specific practices of local governments during implementation, meaning it does not fully capture the on-the-ground dynamics of teacher allocation across different regions. Nevertheless, the study retains substantial research value.

The primary value of this study lies in providing a clear framework for understanding the changes in China's educational policies and establishing a foundation for future research. From an international comparative perspective, China's practical experience—particularly in teacher mobility, regional resource allocation, and quality enhancement—offers valuable insights for other countries facing similar issues, particularly low- and middle-income nations. This clearly demonstrates

the unique advantages and core characteristics of the state-led resource allocation model in rapidly closing educational gaps and powerfully advancing educational equity. Looking to the future, China's experience suggests that the success of this model relies on strong executive capacity and sustained financial investment. However, the future direction should involve exploring how to further stimulate local and individual autonomy while maintaining the advantages of macro-control, seeking a higher-level balance between “equity” and “efficiency.” In the context of the growing global emphasis on educational equity and quality, summarizing China's experiences enables policymakers to more effectively identify and address resource imbalances, fostering balanced and sustainable educational reforms. This study also provides theoretical insights and policy guidance for optimizing teacher resource allocation, enhancing education quality, and promoting educational equity.

To address the limitations of this study, future research can be advanced in three interrelated directions. First, there is a need for a rigorous and systematic evaluation of policy implementation effectiveness. Employing robust mixed-method approaches—such as multivariate statistical analyses, longitudinal case studies, and triangulation of administrative and survey data—can generate nuanced evidence on how teacher allocation policies influence educational quality, equity, and regional disparities. Second, expanding cross-national comparative studies that account for variations in political systems, levels of economic development, and cultural contexts is essential. Such analyses can illuminate both converging trends and context-specific pathways in teacher allocation strategies,

thereby enhancing theoretical understanding and informing more contextually responsive policy interventions. Third, it is critical to explore innovative and optimized pathways for teacher allocation. This entails leveraging advanced digital technologies, including big data analytics and artificial intelligence, to support dynamic modeling of teacher supply and demand, coupled with targeted incentive mechanisms to promote mobility, equitable distribution, and long-term retention.

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Conflict of interest

The authors declare no competing interest.

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