Chapter 4

Part Four: Representative Cases of Basic Education Reform

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(1)Qingdao's Citywide Advancement of Inclusive and High-Quality Kindergarten Education: Pioneering a New Path for "Nurturing Every Young Child"[30]

Qingdao has thoroughly implemented President Xi Jinping's key directives on education and resolutely carried out the decisions of the Party Central Committee and the State Council on kindergarten development. Leveraging the opportunity presented by the national initiative to establish counties with universal and inclusive kindergarten education, Qingdao has focused on enhancing policy effectiveness, improving care and education quality, and increasing resource supply. These efforts have laid a solid foundation for nurturing socialist builders and successors with well-rounded moral, intellectual, physical, aesthetic, and labour development.

Efforts have been made to strengthen policy support and improve the efficiency of inclusive kindergarten education development. Key policy documents such as the "Administrative Measures for the Planning and Construction of Supporting Kindergartens in Urban Residential Areas of Qingdao" have been issued. A model involving land allocation and free proxy construction has been adopted to facilitate the building of supporting kindergartens. The "six simultaneous steps" principle ensures that kindergartens are planned, constructed, and delivered simultaneously with residential areas. To address demographic shifts, kindergarten site planning has been enhanced in areas undergoing urban renewal or experiencing population inflows. Weak kindergartens are being merged or phased out in an orderly manner, while the overall layout of kindergarten facilities is being scientifically adjusted. The number of affordable public kindergarten places is being expanded by accelerating the construction of public kindergartens. Under the "one principal, multiple campuses" model, new kindergartens are operated as branches of high-quality public institutions. Districts and municipalities are encouraged to increase public kindergarten capacity by renting back or purchasing private kindergartens and by procuring student places. State-owned enterprises are also supported in running kindergartens and registering them as public institutions.

Qingdao has vigorously supported the development of affordable private kindergartens by establishing a tiered management system and linking government subsidies to evaluation ratings. Timely per-student subsidies have been issued to effectively boost the enthusiasm of private operators. Over the past three years, Qingdao has added 211 public kindergartens and 56,000 new public preschool slots. The city has also implemented a "siblings enrolled together" policy, enabling children

30. Source: Ministry of Education of the People's Republic of China | Qingdao City Advances High-Quality and Inclusive Preschool Education Development Across the Entire Region, Pioneering a New Path for "Quality Early Childhood Education for All"

from the same family to attend the same kindergarten, benefiting over 2,000 children. To ensure effective implementation of universal and inclusive kindergarten education goals, the city has established a leadership accountability system, along with strengthened supervision and inspection. A smart oversight platform, "One-Stop Supervision," has been launched, coupled with a dynamic monitoring system that collects real-time data, providing strong momentum for the robust development of inclusive kindergarten education.

Qingdao has also prioritized improving kindergarten quality and strengthening kindergartens' internal development. Reforming the "kindergarten alliance" system, the city encourages top public kindergartens to open branches or partner with others through various alliance models, including township integration and development consortia. At the municipal level, 12 project-based alliances and 15 urban-rural alliances have been formed, facilitating the flow of educational philosophies, personnel, funding, and management resources among institutions. Teacher development has been prioritized through academic qualification upgrades and the creation of structured development paths for master teachers, principals, backbone educators, and new teachers.

Currently, over 700 individuals hold titles such as provincial and municipal master teachers, teaching experts, or academic leaders. A three-tiered evaluation system—internal review, district-level evaluation, and municipal-level sampling—has been implemented to ensure quality and downgrade underperforming institutions. Supervision and incentive mechanisms have been strengthened by incorporating key indicators of universal and inclusive kindergarten development into the performance assessments of district-level governments. An annual public disclosure system tracks key progress metrics such as the proportion of public and high-quality kindergartens.

Additionally, a dedicated supervisory team has been established, consisting of kindergarten specialists from education authorities, researchers, experienced principals, and early childhood experts from universities. Leveraging pilot zones for play-based learning and early primary transition, the initiative seeks to advance curriculum design, play-based teaching, and transitional research, thereby deepening scientific approaches to early childhood education and strengthening kindergarten development in substance and quality.

A strong emphasis has been placed on increasing the supply of resources to accelerate the development of kindergarten education. Over the past three years, the municipal government has allocated a total of 280 million yuan in special funds and national transfer payments specifically for kindergarten education. These funds have been used to support the establishment of

public kindergartens, the creation of high-quality schools, the renovation of rural kindergartens, and the improvement of care and education quality across districts and municipalities. For three consecutive years, the renovation of under performing rural kindergartens has been included as a key livelihood initiative, with combined investments of 69.34 million yuan at both municipal and district levels, resulting in the improvement of 183 rural facilities. To further encourage excellence, newly established high-quality kindergartens are awarded municipal subsidies—80,000 yuan for provincial model kindergartens and 50,000 yuan for first-tier kindergartens. These incentives are linked to fee structures and the recognition standards for inclusive private kindergartens, thereby stimulating quality enhancement from within.

The city also actively supports the expansion of public welfare services by encouraging eligible kindergartens to offer toddler care classes. Subsidies are provided for both caregiver wages and per-child expenses. So far, 283 kindergartens have successfully registered toddler programs, addressing the needs of families requiring early childcare. Furthermore, a shared training resource system for kindergarten education has been established, spanning municipal, district, and institutional levels. A hybrid training model combining online and offline methods maximizes the accessibility and effectiveness of high-quality training resources.

(2)Hebei Province Steadfastly Advances Balanced Development of Compulsory Education[31]

Hebei Province has thoroughly implemented the spirit of the National Education Conference, treating the balanced development of compulsory education as a foundational project to guarantee people's livelihood improvements through government efforts and striving to deliver education that satisfies the public. In December 2019, all regions in Hebei Province passed the national supervisory assessment for basic balanced development of compulsory education at the county (city, district) level, achieving the goals outlined in the Memorandum on Balanced Development of Compulsory Education—signed between the provincial government and the Ministry of Education—one year ahead of schedule.

Highlighting "Three Strengthenings" to Unwaveringly Advance Balanced Development Initiatives. Strengthening Organizational Leadership: The provincial government incorporated the balanced development initiative into its annual work plans and performance evaluation metrics, establishing a comprehensive institutional framework centered on documents such as Basic Standards for Compulsory Education Schools and Operational Standards for Primary School Teaching Sites. Local governments prioritized balanced compulsory education development as a key "top-leader" project at the county level, clearly defining the responsibilities of Party and government officials. Strengthening Coordinated Implementation: In 2011, the provincial government signed Letters of Responsibility for Promoting Balanced Compulsory Education Development with municipal governments, specifying tasks and deadlines for each county (city, district) to accelerate progress. The Provincial Party Committee's Deep Reform Commission reviewed the initiative multiple times, and the provincial government held nine dedicated meetings to assign phased tasks, oversee accountability, and ensure policy implementation, forming a robust advancement mechanism led by Party and government leaders. Strengthening Funding Guarantees: The province adopted multiple measures to allocate funds, increase education investment, and refine the financial support mechanism, ensuring stable growth in education expenditure. Since 2013, total investment in balanced compulsory education development reached 159.2 billion yuan. Over the past five years, the province's general public budget education spending grew by 13.99%, with per-student allocations for primary school education and operational

31. Ministry of Education of the People's Republic of China | Hebei Province Solidly Advances Balanced Development of Compulsory Education

expenses rising by 11.84% and 10.99%, respectively.

Adhering to "Three Integrations" to Vigorously Enhance the Level of Compulsory Education Development. (1) Integrating balanced compulsory education development with poverty alleviation efforts to improve school conditions. From 2018 to 2019, the construction of schools in underdeveloped areas was consecutively included in the provincial Party committee and government's "People's Livelihood Projects." The "Mountain Region Education Poverty Alleviation Project" was implemented, focusing on supporting contiguous poverty-stricken counties and key poverty alleviation counties to narrow regional development gaps. Over the past seven years, 14,000 schools were newly built or renovated, adding 14.1 million square meters of sports facilities, 1.3 million specialized classrooms, 2.1 million computers, 46.2 million books, and 31,000 GB of digital education resources, along with 3.77 million new student placements—significantly improving basic school conditions across the province. (2) Integrating balanced compulsory education development with teacher workforce reforms to optimize teacher allocation. Reforms in teacher management systems have been deepened, with efforts to enhance teacher recruitment, exchanges, and rural teacher benefits while improving teaching capabilities. A long-term rural teacher recruitment mechanism was established, including initiatives like the Special Post Teacher Program, Tuition-Free Teacher Trainees, and Generalist Primary School Teacher Training, adding 61,000 rural teachers in the past three years, 16% of whom specialize in arts, music, and physical education. The province also promoted the flow of urban teachers to rural schools through reforms like "County-Managed School Employment" and teacher rotation programs. In 2019, 30,100 compulsory education teachers and principals participated in exchanges, including 6,876 key teachers. Rural teacher benefits were increased, with location-based living subsidies and township work allowances of up to 800 yuan, prioritizing those with 25+ years of service to stabilize the rural teaching workforce. (3) Integrating balanced compulsory education development with innovative education models to elevate overall standards. The "Four Models"—new schools, joint schools, branch campuses, and school mergers—were adopted to expand access to quality resources. Reforms in school management models, such as district-based and group-based schooling, school alliances, balanced teacher allocation, and education informatization, strengthened support for rural schools and advanced urban-rural integration in compulsory education. Leveraging the Beijing-Tianjin-Hebei Collaborative Development initiative, the province actively engaged with high-quality educational resources from Beijing

and Tianjin. It established the Beijing-Tianjin-Hebei Basic Education Curriculum Reform Alliance, organized shadowing and training programs for principals and teachers in Beijing, and introduced advanced educational concepts and resources to improve management and teaching quality across the province.

Establishing "Four Mechanisms" to ensure effective implementation of balanced development goals. (1) Improving the guarantee mechanism for educational development. Based on the distribution of school levels, urban-rural and regional distributions, it is necessary to refine the working mechanism for eliminating large class sizes in compulsory education. By the end of 2019, the number of classes with 56 or more students and 66 or more students in the province had decreased by 51.5% and 66% respectively compared with 2018 (14,000 classes with 56 or more students and 1,131 classes with 66 or more students), with a total reduction of more than 12,000 large class sizes. We have vigorously promoted the nutrition improvement program for rural compulsory education students, and allocated 357 million yuan in subsidy funds to ensure that rural primary school students in 103 counties can receive free nutritious meals, achieving full coverage of the nutrition improvement program for rural primary schools in compulsory education. We have introduced school safety regulations and accident disposal measures, established a "double control" mechanism for school safety, and developed the "Hebei Provincial School Safety Grid Management Platform." Through these efforts, 386,000 potential hazards have been investigated and addressed, effectively enhancing the level of campus safety management. (2) Strengthening the education equity guarantee mechanism by adhering to the "Two Priorities, [32] Three Equalities" principle,so as to effectively ensure the guarantee of schooling and academic advancement for children of migrant workers. We have implemented special education enhancement plan for full coverage of disabled children. Regarding dropout prevention and school attendance, we have taken it as a major political task for achieving the "Two No Worries, Three Guarantees" and winning the battle against poverty. We have improved the joint control and mutual guarantee mechanism, monitoring mechanism, and assessment and accountability mechanism to ensure that the nine-year compulsory education retention rate remains stably above 97%. We have also Increased educational funding for students from financially disadvantaged families. The subsidy policy for students from poor families in the compulsory education stage has been implemented, with 620 million yuan allocated as living allowances for impoverished

32. The "Two Priorities" principle refers to taking the government of the inflow area as the main responsible party and public schools as the main channels for enrollment. The "Three Equalities" principle means that children of migrant workers enjoy the same access to schooling, the same opportunities for academic advancement, and the same tuition-free policies as local children.

compulsory education students, benefiting 620,000 students. (3) Optimizing the education quality improvement mechanism. We have strengthened mechanisms to enhance education quality, tightened management of teaching and learning, and made efforts to promote the connotative development of schools. Adhering to the principle of cultivating virtue through education, we have established a moral education community spanning pre-school, primary, secondary, and tertiary education stages, and improved a vertically integrated teaching, learning, and research system for moral education that facilitates connection and mutual promotion across different school levels. Taking advantage of hosting the 2022 Winter Olympics, we integrated ice and snow sports into physical education curricula and activities, established 193 Olympic education demonstration schools and 108 campus ice and snow sports characteristic schools, and achieved 100% coverage of free after-school services for 2.67 million primary students. (4) Perfecting the supervision and evaluation mechanism. We have improved the supervision and evaluation mechanism for the balanced development of compulsory education, using supervision as a key means to promote equilibrium. A "Nine-Year Compulsory Education Re-inspection" system has been established to consolidate and enhance the achievements of universal nine-year education. Leveraging the functional role of educational supervision, we have established and improved a performance evaluation system for city and county governments in fulfilling their educational responsibilities, incorporating the promotion of balanced compulsory education development at the county level into the evaluation of government educational duties and the assessment of Party and government leaders at the city and county levels. This has achieved full coverage of educational supervision across 168 counties (cities, districts). Through supervision, evaluation, and assessment, we ensure the effective implementation of all educational policy investments and have effectively addressed practical challenges in the balanced development of compulsory education.

(3)Shandong Province Implements "Strengthening Disciplines and Fostering Excellence" Initiative to Advance High-Quality Development of General High School Education[33]

Shandong Province has earnestly studied and implemented the important remarks on education by General Secretary Xi Jinping, thoroughly carried out the fundamental task of fostering virtue through education. By implementing the "Strengthening Disciplines and Cultivating Excellence" initiative as the main focus, the province has deepened reforms in key areas and crucial aspects of high school education, promoted distinctive and diversified development of regular senior high schools, facilitated all-round growth of students, and strived to cultivate socialist builders and successors with all-round development of moral, intellectual, physical, aesthetic and labor education.

Systematic Design and Policy Framework Enhancement

The Implementation Opinions on Carrying out the Strengthening Disciplines and Cultivating Excellence Initiative to Promote Diversified Development of Regular Senior High Schools has been officially issued. This document focuses on talent cultivation objectives and school operational realities, guiding the transformation of general high schools from stratified operations to categorized development models. The initiative further reforms educational approaches to enhance teaching quality. Substantial improvements have been made to campus infrastructure through the revision of *Standards for School Facilities in Regular Primary and Secondary Schools,* with detailed construction criteria being established. Ample space allocation has been ensured for specialized subject classrooms and distinctive teaching activities. A comprehensive evaluation mechanism has been institutionalized, incorporating the development of specialized high schools and discipline bases into governmental education performance assessments. This ensures strict implementation of responsibilities at all administrative levels. Support for specialized high school development has been integrated into the classification assessment system for undergraduate institutions as a key component of higher education's service to regional socioeconomic development. This strategic move facilitates the transition of provincial high schools from standardized operations to high-quality, distinctive development models.

Building on Disciplinary Strengths to Enhance Educational Outcomes

The cultivation of specialized disciplines

33. Ministry of Education of the People's Republic of China | Shandong Province Solidly Implements the "Strengthening Disciplines and Fostering Excellence" Initiative to Advance High-Quality Development of General High School Education

has been prioritized, with 371 disciplinary development centers having been established and 127 specialized high schools having been developed across fields including humanities, STEM, arts and sports, technology, and practical education. Emphasis has been placed on the cultivation of students' moral character and core competencies, while integrated curriculum, teaching, evaluation, and management systems have been systematically constructed. These efforts have driven the reform of educational models in general high schools, contributing to the creation of a diversified and high-quality development landscape throughout the province. A collaborative education mechanism between higher education institutions and high schools has been implemented, with disciplinary center development having been aligned with university-level foundational discipline construction. 61 pilot schools have been selected to actively explore cooperative models including "High School + Undergraduate University" and "High School + Vocational College + Enterprise Partnerships." Through this initiative, the professional teaching strengths of higher education institutions are being utilized to guide high schools in the development of specialized curricula and discipline-specific practical activities, enabling the shared development and utilization of educational resources. For the advancement of disciplinary development, schools with disciplinary centers are being encouraged to strengthen exchanges of successful practices, with exemplary cases being identified in areas such as specialized curriculum development, innovative teaching models, and disciplinary teaching team building. This approach aims to foster an environment conducive to mutual learning and a culture of excellence.

Enhancing Educational Effectiveness Through Discipline-Based Development

Guided by the principle of cultivating specialized disciplines, the province has designated 371 discipline-based development centers and established 127 specialized high schools focusing on humanities, STEM, arts and sports, technology, and hands-on learning. Emphasizing the development of students' moral character and core competencies, we have systematically developed integrated curriculum, teaching, evaluation, and management systems. These efforts have driven reforms in high school education models, fostering a diverse and high-quality development landscape across the province. A collaborative education mechanism between universities and high schools has been established, aligning discipline-based centers with higher education foundational discipline development. 61 pilot schools have been selected to explore cooperative models such as "High School + Undergraduate University" and "High School + Vocational College + Enterprise."

Universities leverage their academic strengths to guide high schools in developing specialized courses and discipline-focused practical activities, enabling shared teaching resources. Discipline-based centers are encouraged to strengthen exchanges of best practices and highlight exemplary cases in specialized curriculum development, innovative teaching models, and subject-based teacher team building. This fosters a culture of mutual learning, healthy competition, and excellence across schools.

Strengthening Support to Consolidate Educational Foundations

The province continuously increased financial support, establishing a diversified funding mechanism for regular senior high schools with government investment as the mainstay, supplemented by multiple financing channels. For secondary vocational education, we have improved a funding mechanism that legally pools resources from governments, industries, enterprises, and other social forces. A dedicated funding guarantee mechanism for discipline-based development has been established, with special allocations to ensure its implementation. An annual fiscal allocation of 20 million yuan provides strong support for the construction of provincial-level specialized discipline bases. We have refined tuition fee policies for senior high schools, introducing a dynamic adjustment mechanism where tuition standards are reviewed every three years in principle. For public specialized high schools recognized at the provincial or municipal level, tuition fees may be appropriately increased by up to 30% of the current baseline. To strengthen research-driven leadership, we actively implemented projects for reforming basic education teaching methods. Focusing on high school reform and development, 37 research projects, such as the study on teaching implementation and assessment of core competencies in high school biology, were initiated, with 19 achieving national-level teaching achievement awards.

Coordinated Advancement to Enhance Education Quality

We launched the "Strengthening Schools and Expanding Excellence" initiative, closely integrating specialized school development with the revitalization of county high schools. A collaborative development mechanism was established between specialized high schools and underperforming county schools, with 70 provincial and municipal discipline bases set up in county high schools, radiating support to 114 schools and achieving comprehensive coverage of county-level discipline bases. We innovated talent cultivation mechanisms by refining high school entrance exam policies and course selection systems, guiding localities to optimize the distribution of specialized schools. Schools were granted greater autonomy, including the authority to set their own admissions criteria, to build a cohesive talent development system integrating enrollment, training, and evaluation. Reforms in school quality evaluation were implemented, adhering to

educational and talent growth principles. A quality-oriented evaluation system was established, focusing on school development, curriculum and teaching, teacher development, school management, and student development. Standards for assessing senior high school quality were formulated to drive high-quality development. Pilot programs for diversified school models were introduced, including 48 new digital schools, 36 pilot schools for autonomy reforms, and 10 comprehensive high schools. With a practical application focus, cities and counties were encouraged to develop integrated digital campus platforms, deepening the use of cloud computing, big data, and IoT in school management, resource development, teaching administration, student evaluation, and home-school collaboration—providing robust support for sustained improvement in senior high school education quality.

(4)Zhejiang Province Advances Integrated Ideological and Political Education Across Primary, Secondary, and Higher Education[34]

Zhejiang Province has thoroughly studied and implemented General Secretary Xi Jinping's important expositions on education, earnestly implemented the guiding principles of the National Conference on Party Building in Higher Education Institutions, and remained firmly focused on the fundamental mission of cultivating virtue through education. Through comprehensive reforms and innovations in institutional mechanisms, educational platforms, and pedagogical systems, the province is vigorously promoting the integrated development of ideological and political education across primary, secondary, and higher education. The province also strives to build a "holistic ideological and political education" brand, continuously enhances the guiding power of ideological and political education, aiming to cultivate more new-era talents who are trusted by the Communist Party of China, patriotic, dedicated, and capable of shouldering the mission of national rejuvenation.

Zhejiang province has been strengthening organizational coordination to build an integrated ideological and political education framework. It thoroughly implements the Party's educational policies and focuses on the fundamental mission of fostering virtue in the new era. Through systematic coordination of working mechanisms, teaching resources, and brand development, the province has created a cohesive educational system that combines top-down guidance with multidimensional collaboration, forming a unified ideological and political education pattern that integrates internal and external resources. First, efforts have been focused on improving the working mechanisms. Under the unified leadership of the provincial Party committee, Zhejiang has established a coordinated leadership system with the Education Work Leading Group taking the lead and relevant departments fulfilling their specialized roles. Across the province, municipal coordination groups have been formed, comprising education authorities, key universities, and primary/secondary schools, significantly enhancing interdepartmental cooperation and information sharing. The province has established two major alliances-one led by universities and another by municipal education bureaus-which have systematically organized province-wide activities including model lesson demonstrations, teaching team evaluations,

34. Ministry of Education of the People's Republic of China | Zhejiang Province Advances Integrated Ideological and Political Education Across Primary, Secondary, and Higher Education

research projects, and academic seminars, effectively promoting resource sharing and improving the relevance and effectiveness of ideological and political education. Second, we have focused on tapping into unique advantages and characteristics. We have thoroughly explored local cultural resources and coordinate the compilation of a series of ideological and political education textbooks for primary, secondary, and higher education institutions, such as *"The Imprint of Zhijiang," "The Craftsmanship of Zhijiang," and "The Practice of Zhijiang,"* as well as a series of local ideological and political education textbooks with contemporary and regional characteristics, such as *"The Taste of Truth" and "The Collection of Outstanding Local Sages in Zhejiang."* This will enrich the local characteristic textbook system and teaching system. Two sets of model lesson resources, titled "Lucid Waters and Lush Mountains Are Invaluable Assets" and "The Taste of Truth: Zhejiang's Practice of Chinese-Style Modernization," have been launched. In collaboration with the Provincial Archives and 18 universities, an exhibition titled "Stories of Original Aspirations in the Archives: A Display of Precious Red Archives and Documents" has been organized to further integrate President Xi Jinping's major practices and important statements during his time in Zhejiang Province into textbooks, classrooms, and the minds of students. Third, efforts have been made to enrich the brand's content. We have firmly grasped the requirements of ideological and political education in the new era, actively encouraging localities and schools to explore a comprehensive ideological and political education mechanism that integrates classroom and extracurricular activities, on-campus and off-campus collaboration, and online and offline integration, and launch a series of thematic ideological and political education courses such as the "Red Boat Spirit," the "Two Mountains" philosophy, The "Eight-Eight Strategy", "Common Prosperity," and the "Fengqiao Experience," while refining and developing the "Taste of Truth" and "Comprehensive Ideological and Political Education Course" brands. Huzhou has integrated successful cases of great transformations into ideological and political education through a systematic approach, launching the "Lucid Waters and Lush Mountains · Huzhou Ideological and Political Education" project. Through methods such as teacher lectures, student presentations, and revolutionary heritage-themed field studies, it has created the "Lakefront Propaganda," "Lakefront Research," "Lakefront Enjoyment," and "Lakefront Action" initiatives, achieving deep integration between the school's small classroom and society's larger classroom.

Focusing on platform collaboration, we have established a unified ideological and political education platform. Tailored to the characteristics of students at different schooling stages, ideological and political

elements are integrated throughout the entire educational process through competition projects, practical guides, and online platforms, forming a unified ideological and political education system. This approach ensures that the content of ideological and political education remains up-to-date and the forms are appealing and engaging.

First, organize "one competition." For seven consecutive years, the "Karl Marx Cup" Trophy Zhejiang Province University Students' Theoretical Knowledge Competition has been held, with Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era as an important component. The competition serves as both training and learning, encouraging students to enhance their political literacy, build their knowledge, and theoretical proficiency. Since its inception, the competition has attracted over 500,000 college students annually, effectively stimulating their enthusiasm and initiative in studying and applying theoretical knowledge. Second, create "two maps." Focusing on the five core competencies outlined in the standards for ideological and political education in primary, secondary, and higher education—political identity, moral cultivation, legal awareness, sound personality development, and sense of responsibility—we have systematically organized the corresponding teaching content for the four educational stages of primary school, junior high school, senior high school, and university. This has resulted in the compilation of the *"Zhejiang Province Integrated Ideological and Political Education Mind Map for Primary, Secondary, and Higher Education,"* which promotes effective connection and seamless integration across educational stages, ensuring that ideological and political education aligns with students' developmental needs. Compile the *"Zhejiang Province Ideological and Political Education Practical Map,*" which centrally displays five major themes—tracing historical roots, the Zhejiang cultural heritage, revolutionary heritage exploration, ecological prosperity, and cutting-edge technology—along with 105 routes and 459 practical sites, to achieve the goal of "one map encompassing all ideological and political education resources and one click directly accessing educational sites." Third, we have established "three platforms." Focusing on key areas such as studying and implementing Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, telling compelling ideological and political stories with a "Zhejiang flavor," and uncovering ideological and political resources within current events, we have actively developed ideological and political online platforms. We have established the "Taste of Truth" ideological and political online platform for teachers, featuring over 1,000 high-quality teaching resources for ideological and political education courses. We have also established the "Taste of Truth" WeChat official account and the "Loves the Taste of Truth in ZheJiang Province" Bilibili video account targeting primary, secondary,

and university students, launching a series of "Cloud Ideological and Political Education Open Courses" for primary and secondary schools to create favorable conditions for students to learn at any time and foster a strong ideological and political education atmosphere.

Focus on innovative approaches and explore a "one-chain" ideological and political education system. Fully leverage the primary role of ideological and political courses, actively mobilize all stakeholders to take the initiative and exercise creativity in "studying and teaching ideological and political education well," and strive to create a positive atmosphere of full participation, seamless integration, and comprehensive immersion. First, leaders should take the lead in setting an example. Issue the *"Notice on Further Promoting Leading Cadres to Teach Ideological and Political Education Courses on Campus,"* establishing it as a routine institutional practice for leading cadres to teach courses such as "An Overview of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era." Innovate in the forms of lectures, utilize effective platforms and tools, expand the scope of influence, and enhance the appeal and impact of lectures through methods that resonate with the public. Second, school teachers should focus on delivering lectures in the classroom. Before class, collective lesson preparation meetings for ideological and political education courses are organized to design and develop a series of model "Golden Courses" in ideological and political education, continuously improving teachers' capabilities in this area. During class, forms such as reciting classics, watching videos, and on-site visits are used to deepen young students' understanding and recognition of the content of ideological and political education. After class, through micro-course competitions,"The Taste of Truth" same-course different-structure display activities, and teacher promoting publicity activities, a group of outstanding ideological and political education teachers and outstanding ideological and political education courses are identified and reported on, reinforcing exemplification and leadership. Third, young teachers and students should be engaged in frontline outreach. Emphasize having young people speak to young people and influence young people, as well as organizing young teachers and students to go to the front lines to conduct theoretical lectures on the new era. In enterprises, communities, farmlands, bases, venues, and online platforms, create lecture points with breadth, depth, and enthusiasm for different groups, forming a precise coverage of ideological and political lectures through "theoretical main classrooms + practical large classrooms + online new classrooms." Diversify lecture formats by hosting series of activities such as "Youth Perspectives on the Third Plenary Session," "The 'Eight-Eight Strategy' in Our Daily Lives," and "New Arrivals: The 00s

Talkers." Using formats like "open mic" and "stand-up comedy" that resonate with young people's language systems, we conduct vivid and multi-dimensional ideological and political education from a youth perspective. This achieves a "mutual pursuit" between youth and theory, guiding students to comprehend the power of truth through practice and strengthen their ideological refinement.

(5)Shanghai's Baoshan District Strengthens Scientific Literacy Education and Builds Bridges Across Learning Stages[35] — Nurturing "Sci-Tech Savvy Kids" Who Love Science and Explore it Bravely

"From scientific mini-projects in junior high to innovative research topics in high school, and then the all-round nurturing through the 'Baoshan 100' program, I've been able to grow up doing things I love." At Shanghai's Baoshan District "First Lesson of the Semester" event this autumn new semester, Wang Zhimin, a Ph.D. candidate at Fudan University's Shanghai Medical College, shared his growth experiences during his secondary school years in Baoshan.

Baoshan District has cultivated many "Sci-Tech Savvy Kids" like Wang Zhimin – children full of enthusiasm for science who actively explore and delve into research. As Shanghai's northern gateway adjacent to the Yangtze River and the sea, Baoshan District is currently driving regional transformation through scientific and technological innovation, with its science education also gaining momentum and gathering strength.

President Xi Jinping emphasized at the National Education Conference the need to "consolidate the achievements of the 'Double Reduction' policy, comprehensively improve the quality of classroom teaching, and enhance after-school services." In recent years, Baoshan District has adhered to the principle of "Fostering Virtue Through Education", focusing on adding quality science education within the context of "Double Reduction." "Integrating various resources and pooling efforts from all sides, we aim for every student to experience scientific inquiry at least once," explained Zhang Zhi, Director of the Baoshan District Education Bureau. The district has launched a three-year action plan jointly formulated by fourteen departments to strengthen and improve science education in primary and secondary schools, innovate the science education model, and create a new ecosystem for youth science education that integrates schools as the main front with the broader community as the 'Great Classroom'.

Scientific Enlightenment Begins with Learning to Ask "Good Questions"

"How should the batteries of new energy vehicles be disposed of after they are scrapped?" Walking along the street and seeing increasingly more new energy vehicles around her, Liu Yimeng, a student at Baoshan High School, found herself asking this question.

In June last year, the Baoshan District People's Government and the Shanghai Municipal Education Commission jointly held the inaugural "Tianwen Cup" Student

35. Ministry of Education of the People's Republic of China via China Education News | Baoshan District, Shanghai Intensifies Scientific Literacy Education and Bridges Learning Stages — Cultivating "Sci-Tech Savvy Kids" Who Love Science and Explore Bravely

Good Question Collection Activity. Finding it intriguing, Liu Yimeng submitted her question in a 'why not give it a try' spirit. To her surprise, this sudden flash of inspiration was selected as a "Good Question." She was also invited to participate in a summer research camp, visiting laboratories at Southeast University to gain an in-depth understanding of hydrogen energy and fuel cell technology.

"The 'Good Question' Collection Activity is not a competition; it is a science popularization activity aimed at encouraging more children to learn to ask questions," explained Zhang Zhi. In his view, fostering students' ability to formulate questions is fundamental to science education.

Centered on cultivating this "problem-based" thinking, the "Tianwen Cup" activity invited over 30 academicians and experts to serve as scientific advisors. These advisors provided guidance throughout the process, and activities like the online "Ask Me Your Question" thematic salon series encourage students to learn the art of inquiry.

In recent years, Baoshan District has focused on transforming learning approaches, actively exploring diverse learning models in primary schools. Through methods such as "Problem-Based Learning" and "Project-Based Learning," the district guides the cultivation of students' foundational scientific literacy. At Gaojing Science & Innovation Experimental Primary School, each class has established its own "Class Q&A Hub"; at Baoshan Experimental Primary School, three science labs are filled with plant and animal specimens crafted by students themselves; at Shanghai University Affiliated Primary School's "Junior Lanbao Young Scientists Academy," students embark on a millenia-spanning "Museum Chasing Journey" exploring the Sanxingdui archaeological site through collaborative group learning; during weekend sessions at Gucun Central Primary School's "Children's Palace," students across different grades engage in "Community Ecological Exploration Tours," becoming knowledgeable "Young Volunteer Guides" able to answer any question...

To expose more students to science, the Baoshan District Youth Activity Center organizes Science Experience Camps for all primary and secondary school students across the district. This initiative ensures every child gains firsthand experience in scientific innovation at least once during their primary or junior secondary education, fully immersing them in the wonders of science.

"Passing on Experience through Mentorship" Rooted in Maker Spaces

"Take apart this drone – how many screws did they use?" At Xingzhi High School's Drone Maker Center, technology instructor Jia Chunlong is teaching his class. In this course, students must disassemble and reassemble drones themselves, independently design aircraft models, and complete research projects.

"Beyond school teachers, we also collaborate with universities, science museums, and other institutions, inviting professional mentors to teach students and guide their research projects," Jia Chunlong told reporters.

Xingzhi High School hosts over 10 such maker centers covering various fields like drones, robotics, and geography/astronomy, providing an innovation platform for every student.

"The most crucial aspect remains hands-on practice. Students must learn through trial and error, discovering and solving problems as they work," said Yang Rong, lead instructor of Xingzhi High School's Intelligent Robotics Maker Center. Yang has guided students to win more than 400 awards in national and international science competitions.

" 'Passing on experience through mentorship' is also vital. Senior sophomores guide freshmen, and students with different strengths form teams for collaborative learning," Yang Rong emphasized.

Reporters noted that those learning alongside Yang Rong at the Maker Center include not only students but also young teachers from other schools across the district. In response to the uneven distribution of science education resources between urban and rural areas, Baoshan District has promoted the development of Science Education Innovation Consortia since 2008. Through collaborative professional development, resource sharing, and incorporating community partners, these consortia drive coordinated improvement in science education throughout the district. As the leading school in the Intelligent Robotics Consortium, Yang Rong has guided numerous young teachers who have now become key faculty in regional science education.

Today, Baoshan District has established comprehensive inquiry laboratories and dedicated maker spaces in every school, while also forming 18 Science Education Innovation Consortia. Furthermore, Baoshan actively supports the development of family and community maker workshops. The Baoshan District Youth Activity Center organizes specialized training programs like the Family Maker Course for parents and guardians. To date, the district boasts over 16,000 active family makerspaces and has launched more than 40 sessions of its "Family Maker Carnival" initiative.

Seamless Cultivation: Providing Fertile Ground for Budding Sci-Tech Talent

As science popularization education deepens in Baoshan District, many outstanding "Sci-Tech Savvy Kids" who love science and explore bravely have emerged. How can we better support the growth of their innovation competence?

In 2016, the "Baoshan 100" Future Innovator Growth Initiative was officially launched. Following an educational philosophy of "Follow Interests, Unlock Potential, Develop Expertise, Incubate

Talents, and Study Developmental Patterns," this program employs an operational model of "Seamless Learning Stages, Shared Resources, and Collaborative Talent Development." It enables the "Early Identification and Cultivation" of the district's top innovative talent. The "Baoshan 100" program encompasses 11 scientific fields, bringing together students with shared interests for year-long, progressive training. By integrating resources from both within and beyond schools, it helps "Future Scientists" Spread Their Wings on their journey of growth.

Zou Yiming, a student from Gaojing No.1 High School, has loved chemistry since childhood. After being selected for the "Baoshan 100" program, his research project on the "Preparation of Reversible Photochromic Coatings Using Methylene Blue" received guidance from two mentors: Professor Zheng Gengfeng from Fudan University and Teacher Wang Xia from the Shanghai Youth Academy of Sciences (Baoshan Branch). Following the successful completion of this project, he shifted his focus to the UV-absorbing properties of Chinese medicinal herbs. The "Baoshan 100" program then recommended him to the Chemistry Practice Workshop at East China Normal University, where he completed his investigation into the "Preparation Process of UV-Absorbing Agents from Three Chinese Medicinal Herbs". Today, he has achieved his goal and enrolled in a chemistry department to continue his scientific research.

"Over its eight-year operation since establishment, the 'Baoshan 100' program has extended its reach to more than 150 schools across the entire district, covering all educational levels from elementary to junior and senior high school, nurturing over 6,800 outstanding students," said Yu Haizhou, Director of the Baoshan District Youth Activity Center.

A similar experiment in seamless cultivation across all educational levels is also underway within the Xingzhi Education Group. Jia Chunlong told reporters that the group has developed a cohesive curriculum system for early aerospace talent development. This system implements creativity enlightenment education at the kindergarten stage, focuses on hands-on skills development at the primary level, enhances comprehensive scientific literacy in junior high, and commences project-based research during the high school years.

"As vital showcases and progression pathways for sci-tech talent, programs like the 'Junior Scientist Training Program' and competitions such as the 'Youth Innovation Competitions' also play critical guiding and driving roles," added Yu Haizhou.

In recent years, Baoshan District has further advanced its digital transformation, allowing sci-tech talent cultivation to accelerate via "digital expressways." Zhang Zhi noted that "Baoshan 100" has developed an online nurturing platform enabling

seamless online-offline interaction. Moreover, he spearheaded the research and development of a Massive Open Online Research-based Learning Intelligent Support System Platform (MOORs). This system facilitates adaptive learning and conducts scientific evaluations through a "Comprehensive Quality Evaluation System Based on Digital Profiles." The platform delivers tailored support in students' most passionate and promising domains, providing more scientific and personalized cultivation solutions for nurturing top-tier innovative talent.

(6)Hebei Province Strengthens Science Education in Primary and Secondary Schools with "Four Reinforcement"[36]

Hebei Province earnestly studies and implements General Secretary Xi Jinping's important expositions on education, focusing on the fundamental task of cultivating virtue through education, and comprehensively advancing science education in primary and secondary schools through holistic planning, internal-external coordination, resource integration, and competition-based activities. It strives to cultivate young students with the potential to become scientists and the dedication to pursue scientific research, laying a solid foundation for accelerating the development of an education powerhouse, a sci-tech powerhouse, and a talent powerhouse.

Strengthening Overall Design and Building a Strong Organizational System

First, establish multi-departmental collaborative linkages. A province-wide leading group for primary and secondary school science education has been established, creating a collaborative framework involving nine departments including education, science and technology, and scientific associations. The *Implementation Plan for Strengthening Primary and Secondary School Science Education in the New Era* has been issued to systematically coordinate science education initiatives across the province.

Second, provide multi-level demonstration and guidance. Building upon the foundation of two national science education experimental zones and 30 pilot schools, the province has designated 19 provincial-level experimental zones and 84 pilot schools. Cities like Shijiazhuang are encouraged to establish municipal experimental zones and pilot schools to drive science education reform in primary and secondary schools throughout the province.

Third, deliver multi-field expert support. A provincial expert database for science education in primary and secondary schools has been established, recruiting specialists from government agencies, enterprises and institutions, higher education institutions, research institutes, and social organizations. These experts regularly analyze domestic and international science education trends along with provincial development challenges, while providing guidance and assessment for national and provincial experimental zones/schools to ensure effective science education reform implementation.

Strengthening Internal-External Coordination to Consolidate Educational Resources

First, leverage classrooms as primary learning platforms. The *Compulsory Education*

36. Ministry of Education of the People's Republic of China Department of Education of Hebei | Hebei Province Strengthens Primary and Secondary School Science Education Through "Four Key Enhancements"

Curriculum Plan (2022 Edition) has been fully implemented, with science-related courses offered comprehensively. Experimental teaching has been strengthened, and diversified learning methods such as inquiry-based learning and hands-on practice have been promoted. STEM teaching experiments have been actively implemented to enhance the quality of science education in primary and secondary schools throughout the province.

Second, maximize the complementary role of extracurricular training. The *Guidelines for Non-Academic Extracurricular Training Institutions to Participate in School After-School Services in Hebei Province* have been issued, with 31 districts and counties selected as pilot regions. Priority has been given to engaging science and technology training institutions in school after-school services, effectively addressing the shortage of in-school science education resources and the lack of motivation for extracurricular science and technology training.

Third, harness the leadership of scientists. The *Directive on Further Promoting the "Scientists (and Their Spirit) Entering Campuses" Initiative in Hebei Province* has been issued to guide all regions in mobilizing cross-sectoral efforts to provide high-quality science education services for primary and secondary schools through diverse channels and forms. Areas such as Cangzhou have invited scientists to deliver special lectures through " invitation and outreach" programs, while institutions like the Provincial Science and Technology Museum have collaborated with primary and secondary schools to conduct scientific exploration and experiential activities for youth, significantly boosting science popularization efforts.

Strengthening Resource Integration to Cultivate Fertile Ground for Science Education

First, integrating venue resources. The Provincial Department of Education, together with the Provincial Association for Science and Technology, Hebei Publishing and Media Group and other partners, has launched the "Zhile Science Popularization Map" mini-program, which regularly updates information about science and technology museums, scientific research institutes, and science education bases that are open to primary and secondary schools across the province, along with their scientific activities. This initiative facilitates scientific practice activities for schools. Currently, nearly 300 science and technology museums and scientific research institutes across the province have been included in the "Zhile Science Popularization Map".

Second, leveraging university resources. The *Guidelines on Opening University Laboratories and Other Facilities in Hebei Province to Primary and Secondary School Students* have been issued, enabling access to more than 30 universities and over 200 practice bases for primary and secondary school students. Institutions such as Yanshan

University and Hebei Agricultural University have hosted students from nearly 1,000 primary and secondary schools in their laboratories. The National Key Laboratory at Shijiazhuang Tiedao University has deployed science popularization volunteers to explain cutting-edge scientific advances. Zhangjiakou City has made accessible 24 university laboratories, including provincial and ministerial key laboratories, and developed carefully designed scientific practice courses, all of which have generated positive public response.

Third, consolidating book resources. Through collaboration with Hebei Publishing and Media Group, science education reading areas have been established in Xinhua Bookstores across different levels, with experts curating recommended science education book lists to supply high-quality reading materials for young students. Off-campus training institutions are being guided to develop science education content with local characteristics through the integrated approach of "science education + reading + experiment + intelligent creation", thereby delivering high-quality science education resources and training services to children and adolescents.

Strengthening Competition Organization to Support Talent Development

First, standardizing competition events. While strictly regulating social competitions, Hebei Province has published the White List of the 2023-2025 Approved List of 34 extracurricular competitions for primary and secondary students, including 22 science and technology events. The province prioritizes developing over 10 science and technology competitions covering youth scientific and technological innovation, robotics design, artificial intelligence, and scientific and technological achievements exhibitions.

Second, optimizing the competition framework. The province has effectively organized national science and technology competitions while extending the Ministry of Education's 23 natural science literacy competitions to local levels. A four-tier competition system (provincial-municipal-county-school) has been established, attracting over ten million participants from 2023 to 2024 and significantly enhancing students' innovation and practical skills.

Third, advancing "competition-integrated education". Through regular science and technology competitions, the initiative identifies students demonstrating exceptional talent, potential, and dedication. Key programs such as the "Secondary School Talent Development Plan", "Top Student Training Plan for Basic Disciplines", and "University Science Camp" have been implemented. Notably, provincial students' national competition awards have shown consistent annual growth in recent years.

(7)Comprehensively Implementing the School Aesthetic Education Immersion Initiative to Advance High-Quality Development of Aesthetic Education in Liaoning's Schools for the New Era[37]

In recent years, Liaoning Province has upheld the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, has integrated aesthetic education into the entirety of talent cultivation across schools at all levels, took the lead in issuing a comprehensive implementation plan for the School Aesthetic Education Immersion Initiative, and has driven high-quality development of school aesthetic education.

I. Adhering to the Integrated Development of Five Educations and Strategically Advancing School Aesthetic Education from a High Position

Liaoning Province places high priority on school aesthetic education. The provincial Party committee and government have jointly issued multiple measures to comprehensively strengthen and improve school aesthetic education in the new era, establishing solid institutional guarantees. Following the Ministry of Education's issuance of the "Notice on Fully Implementing the School Aesthetic Education Immersion Action", Liaoning Province responded promptly. The chief responsible comrade of the Provincial Education Department personally oversaw deployment and implementation. Through thorough study and accurate comprehension of the document's essence, while adhering to problem-oriented and goal-oriented approaches, the province intensified research on school aesthetic education initiatives. By aligning with Liaoning's "New Six Bases" construction and considering actual school aesthetic education conditions, it formulated working guidelines. The province organized experts from the National Aesthetic Education Steering Committee, university aesthetic education specialists, primary / secondary school teaching researchers, and front-line teachers for consultation, effectively implementing the eight actions proposed in the national document. Through comprehensive implementation of the School Aesthetic Education Immersion Action across all aspects, Liaoning has established a multi-dimensional policy system covering all facets of school aesthetic education. After extensive solicitation of opinions from primary/secondary schools, universities, and education administrative departments, the guidelines were officially issued as the education system's "No. 1 Document" in 2024.

II. Maintaining Goal Orientation to Achieve "Four Full Coverages" in School

37. Ministry of Education, Department of Education of Liaoning Province | Comprehensively Implementing the School Aesthetic Education Immersion Initiative to Advance High-Quality Development of Aesthetic Education in Liaoning's Schools for the New Era

Aesthetic Education

We must firmly grasp the goals of integrating aesthetic education among students, teachers, and schools. First, we will strengthen teacher training by incorporating aesthetic education courses into the humanities literacy curricula for normal university students, ensuring full coverage of aesthetic education courses in all normal university programs. Second, we will implement basic requirements for university public art courses by incorporating them into undergraduate talent cultivation plans across all majors, ensuring full coverage of public art courses in higher education institutions. Third, we will deepen aesthetic education curriculum reform and enhance aesthetic education practices, ensuring full coverage of "one school, one characteristic" programs in primary and secondary schools. Fourth, we will leverage the educational function of school environments by actively promoting art practice club activities, ensuring full coverage of "three teams and two groups" initiatives in all central schools and above.

III. Balancing Tradition and Innovation to Strengthen the "Four Integrations" Framework for School Aesthetic Education

To implement the requirement of "incorporating aesthetic education into all educational activities.", Liaoning Province has adopted the following measures: First, building an integrated aesthetic education curriculum system. The province has established a K-16 cohesive curriculum system featuring interest- focused courses in primary schools, diverse elective courses in junior high schools, specialized programs in senior high schools, and general education courses in universities. Second, enhancing integrated art performance mechanisms. This involves creating vertically connected art performance pathways spanning primary, secondary, and higher education, while establishing horizontal linkages across school-level, county-level, city-level, and provincial-level curated exhibitions. Third, refining integrated art talent cultivation models. The province is expanding art talent development channels through a comprehensive system featuring early-stage cultivation in primary school, progressive development in junior high, specialization in senior high, and professional output in universities. Fourth, developing integrated aesthetic education research mechanisms. Under this framework: Provincial research departments offer coordinated guidance while city/county-level departments conduct regular activities including demonstration classes, open courses, thematic research, and live-streamed lectures by renowned teachers to foster regional teacher development communities.

IV. Consolidating Foundations and Strengthening Aesthetic Education Teacher Development

Liaoning Province treats teacher team building as foundational work while exploring teacher sharing mechanisms

through the following measures: First, enhancing teacher allocation: The province prioritizes filling aesthetic education teacher positions in primary and secondary schools, particularly in rural schools. Over the past three years, it has recruited 3,338 aesthetic education teachers. Second, strengthening teacher training: Authorities are actively building a four- tier (provincial-city-county-school) coordinated teacher training mechanism. Third, ensuring benefits protection. Aesthetic education teachers receive priority in promotions, academic evaluations, and research achievement recognition. The province has established master studios, launched special cultivation projects, and conducts outstanding teacher selections to motivate educators. For example, 74 aesthetic education teachers (accounting for 20% of the total) were granted senior professional titles in recent years. Fourth, promoting sharing effectiveness. The province has implemented the Aesthetic Education Infiltration Action Pilot with annual special funding of 4.2 million yuan, creating university-school "hand-in-hand" mutual learning and assistance mechanisms. Simultaneously, it integrates social aesthetic education resources using national platforms empowered by digital technologies.

V. Focusing on Outcomes to Establish High-Standard Aesthetic Education Evaluation Systems

Liaoning Province is conducting reform pilots to develop comprehensive evaluation mechanisms. First, implementing student art literacy assessments across the board. Assessment results are being incorporated into junior/senior high students' comprehensive quality evaluations, strengthened through process evaluation management, and combined with a dual-assessment system of daily participation plus art literacy tests. Second, making music and art as graded subjects in secondary school entrance exams, where they serve as reference criteria for high school admissions. Third, maximizing evaluation to guarantee that schools offer complete, high-quality aesthetic education courses. Schools failing to meet course hour requirements must remedy deficiencies. Fourth, enhancing university public art course evaluation mechanisms. Aesthetic education work and outcomes are now key indicators in university operation evaluations and teaching quality assessment systems.

(8)Shenzhen's Reform of Physical Education Curriculum: Ensuring Daily Engagement of Students in Physical Activity[38]

Since the commencement of the spring semester, Shenzhen has fully implemented a "daily physical education class" policy across 871 primary and junior high schools. Upholding a problem-oriented approach, the city is actively constructing a government-led, multi-stakeholder, inclusive system for school-based physical education. The idea that "everyone participates in sports" is becoming a defining feature of education in Shenzhen.

From Quantity to Quality: Enhancing the Professionalism of Physical Education Instructors through Coordinated Efforts

Faced with the challenge of expanding physical education without increasing the instructional hours or the total number of teaching staff, Shenzhen has innovated in resource mobilization. Liu Weiji, Chief Principal of The Affiliated Education Group of Shenzhen University, explains that the school system has introduced specialized sports instructors—such as in rhythmic gymnastics and rope skipping—through strategic collaboration with the School of Sports at Shenzhen University, thereby alleviating shortages in teaching personnel.

According to Zheng Xiuyu, Secretary of the Party Leadership Group and Director of the Shenzhen Municipal Education Bureau, districts in Shenzhen have enhanced the coordination of teacher staffing, optimized personnel structures, and made more effective use of existing teaching resources by rationally redistributing PE teachers' instructional hours. Approaches such as cross-school teaching, job rotation, and cross-subject teaching have also been encouraged.

Notably, staffing policies in many districts now prioritize physical education, with existing positions being reassigned and new hires focusing on sports instruction. As of now, Shenzhen has 8,699 full-time physical education teachers, including those in private schools, and plans to recruit an additional 2,246 full-and part-time PE teachers in 2024. By this fall semester, there will be approximately 11,000 physical education teachers in the city's basic education institutions, an increase of 25.8% from 2023.

Shenzhen has also taken the lead in recruiting high-level athletic talent, backed by a structured qualification training mechanism. For instance, Olympic champion Yu Yang was the first to be integrated into the city's compulsory education schools. Over the past two years, Shenzhen has introduced 58 elite athletes and retired professional athletes into school teaching roles.

Efforts to elevate the overall caliber of sports educators have included professional

38. Ministry of Education of the People's Republic of China, citing China Education Daily. The original title is "Shenzhen vigorously promotes the reform and innovation of physical education curriculum-physical education classes stay with students every day".

development programs in partnership with local universities. Sun Bo, a physical education teacher at The Affiliated High School of Shenzhen University, notes that collaboration has helped him adopt more scientific training methods, such as targeted strength training for muscle groups involved in running, which has significantly improved students' athletic performance and physical fitness.

Qiu Chengyu, Deputy Director of the Education Bureau of Shenzhen Municipality, emphasized the city's comprehensive teacher training system, which combines city-, district-, and school-level initiatives. In districts such as Longhua, physical education teaching communities have been established to facilitate collaborative learning. Tiered training programs are implemented, such as "Seedling Training" for novice teachers and "Pacesetter Guidance" for key teaching staff. Tailored training tracks are provided for new and experienced teachers, promoting individualized professional growth pathways.

Intelligent Education Technologies: Upgrading and Modernizing PE Classes

Innovation also characterizes Shenzhen's curriculum design. At Jinlong Primary School in Pingshan District, regular PE lessons now include parkour, rock climbing, and Monday fitness games.

"In recent years, many districts and schools in our city have optimized physical education curricula, enhancing their engagement, competitiveness, and student participation. This allows students to enjoy the fun of sports, build physical strength, and develop character and key competencies through physical activities," said Zheng Xiuyu. It is noted that Shenzhen has been guiding schools to carefully design physical education curriculum systems and improve a teaching model that integrates health knowledge, basic motor skills, and specialized sports skills.

Shenzhen is leveraging advanced technologies—such as artificial intelligence and big data—to modernize PE instruction by driving pedagogical transformation and offering students personalized physical education experiences. Smart devices and virtual reality tools are increasingly common in classrooms.

At The Affiliated High School of Shenzhen University, for instance, an intelligent screen enables real-time display of instructional videos. Teachers can use tablets to demonstrate movements and track performance, freeing time for individualized feedback.

In order to help primary and secondary school students develop a love for physical education, Shenzhen has encouraged multiple districts and schools to strengthen teaching and research efforts, enabling PE classes to benefit from the momentum of smart education. At the same time, it has also sparked teachers' enthusiasm for innovating physical education lessons. In Longhua District, the principle of "student-centered and

collaborative learning" underpins a region-wide shift toward student-led PE instruction, making students more active participants in their learning experiences.

School-Specific Approach: Optimizing and Expanding Space for Physical Activity

After Pingshan District launched the "One PE Class Per Day" pilot program, challenges such as insufficient sports facilities initially placed significant pressure on Zhengyang Primary School. With strong support from the Pingshan District Education Bureau, the school utilized stilt floors and more on-campus spaces to develop and construct new sports venues. In addition, the school leveraged external resources through various channels to renovate nearby old factory buildings into a table tennis hall and a swimming pool, thereby adding nearly 3,000 square meters of sports facilities.

Adopting a "district-specific, school-specific" approach, Shenzhen has nearly doubled the total area of PE facilities in compulsory education schools over the past three years to 16 million square meters.

In recent years, Shenzhen has encouraged schools across the city to expand capacity by fully utilizing available resources to increase the supply of sports spaces. Many schools, while ensuring safety, have transformed areas such as corridors, rooftops, walkways, and open floors into creative sports venues. As a result, students now enjoy a broader space for physical activities.

Shenzhen has also promoted a mutually beneficial mechanism for shared access between school facilities and public sports venues. For example, Shenzhen Primary School actively sought support from the park management authorities by breaking down the barriers between the school and Shenzhen People's Park, allowing physical education classes to be held directly in the park.

"We hope to promote full student participation through the expansion of activity spaces and the development of a comprehensive competition system," said Qiu Chengyu. In recent years, the education and sports authorities at both the municipal and district levels in Shenzhen have worked together to break down barriers in organizing sports events, enrich the supply of competitions, and use these events as platforms to promote sports programs and popularize athletic skills.

Currently, Shenzhen has established a competition system that includes championships for university, secondary, and primary school students, as well as class-level leagues for primary and secondary schools. A four-tier sports competition structure—at the class, school, district, and city levels—has been put in place. In 2023, Shenzhen hosted 44 city-level and above competitions across 28 sports, reaching over 2 million students of all educational stages. As a result, many talented young athletes have begun to emerge.

(9)Heilongjiang's “Five-Color” Model: An Innovative Approach to Labor Education[39]

Heilongjiang Province has earnestly implemented the key directives of President Xi Jinping and the National Education Conference, particularly regarding the comprehensive strengthening of labor education in the new era. Labor education is now integrated across all stages of formal education, encompassing primary, secondary, and higher education institutions. The province has pioneered a distinctive “Five-Color” labor education model—featuring red (revolutionary heritage), green (ecological consciousness), blue (scientific innovation), gold (agricultural development), and silver (ice and snow industries)—to cultivate students' appreciation for hard work, a positive work ethic, and practical life skills, thereby fostering their holistic development and healthy growth.

Localized and Systematic Development of a Multi-Level Labor Education Framework. First, provincial leadership plays a central role. The provincial Party Committee and government issued an official Implementation Guideline for strengthening labor education, establishing a coordination mechanism that integrates Party leadership, governmental coordination, and departmental accountability. Online seminars have been held to guide the development of distinctive, school-based labor curricula and localized instructional materials.

Second, clear curricular requirements have been introduced. Labor education is now a compulsory subject, with all schools mandated to allocate at least one hour per week to in-school labor instruction and an additional two hours to family-based labor tasks. A minimum of 20 hours of “labor week” activities are also required annually. Labor education resources are drawn from both inside and outside schools. The province has designated 10 demonstration counties and 100 model schools, opened all off-campus activity centers to students free of charge, and encouraged shared labor-training facilities between primary and secondary schools and universities. Preferential tax policies are used to incentivize societal contributions to labor education. The construction of labor practice centers is included in the province's 14th Five-Year Education Plan, with goals such as “a labor education classroom in every school” and “a practice base in every county.”

Third, the labor education teaching workforce is being strengthened. Each school must employ at least one full-time labor education teacher. A “special appointment” system invites skilled artisans and technical

39. Ministry of Education of the People's Republic of China. Heilongjiang's “Five-Color” Model: An Innovative Approach to Labor Education.

professionals into the classroom. Rotational teaching mechanisms between primary and secondary schools and vocational colleges are being implemented. Labor educators now enjoy equal status with other subject teachers regarding professional advancement, performance evaluations, award selection, and career development. Furthermore, teacher training institutions are beginning to offer dedicated programs in labor education to cultivate qualified personnel.

Fourth, comprehensive evaluation mechanisms are being developed. Labor education is incorporated into students' overall quality assessment. Evaluation criteria and procedures now cover students' labor concepts, attitudes, skills, habits, and moral qualities. Records of labor activities at home, school, and within the broader community are included in students' developmental portfolios, reinforcing the formative and normative roles of labor education.

Full Implementation of the "Five-Color" Labor Education Model Rooted in Local Characteristics. First, the "Red" dimension focuses on fostering correct values toward labor through patriotic education rooted in revolutionary heritage. By promoting the spirit of the War of Resistance against Japanese Aggression in Northeast China, the Beidahuang Spirit, the Daqing Spirit, and the Iron Man Spirit through a series of activities such as thematic education, field visits, volunteer services, and public lectures, students are guided to develop a proper understanding of labor, strengthen their patriotic sentiment, and build long-term aspirations.

Second, the "Green" component centers on ecological education to nurture sustainable development awareness. By leveraging abundant local agricultural, forestry, and water resources, schools organize thematic events like Arbor Day, Harvest Festival, and Labor Day, along with hands-on experiences in waste sorting, water conservation, and wildlife protection. These activities aim to enhance students' sense of environmental stewardship and cultivate respect for life and nature.

Third, the "Blue" aspect emphasizes science and technology education to foster students' scientific literacy and innovative spirit. With the support of universities opening their science facilities, students engage in activities such as robotics design, aerospace simulations, maker projects, and electronics competitions. These initiatives build a coherent system that spans all levels of education, encouraging students to explore high-tech forms of labor and develop innovative thinking through practice.

Fourth, the "Gold" theme is dedicated to agricultural practice as a means to strengthen students' connections with rural development and their sense of social responsibility. Students are brought into fields, farms, and processing plants to participate in real-life production, learning

about planting, animal care, and the use of agricultural tools. These experiences help deepen students' understanding of modern agriculture and cultivate their respect for and interest in rural life.

Finally, the "Silver" strand integrates ice and snow culture to build resilience and strong willpower. By incorporating winter elements into campus life, schools encourage students to enhance physical resilience through winter sports. Students engage in snow-clearing tasks and participate in ice- and snow-themed study programs, which help cultivate their perseverance and grit. Through creative activities such as ice and snow sculpture, students are encouraged to appreciate the artistic and cultural dimensions of winter, while also developing endurance and determination in the face of harsh conditions. In this way, the natural environment itself becomes a "cradle" for labor education and character development.

Improving Collaborative Mechanisms and Ensuring the Implementation of Labor Education Through Multiple Channels. First, a funding mechanism has been enhanced by including labor education expenditures within the scope of public education funding. Both municipal and county-level governments allocate a portion of this funding specifically for labor education, which supports the construction of on-campus labor classrooms and off-campus practice bases. Schools are also encouraged to coordinate and utilize public funds flexibly for labor education purposes.

Second, labor education is subject to strict supervision and evaluation. It has been incorporated into the overall education supervision system, with local authorities and schools monitored for the course offering rate of labor education, the standardization of practice bases, and the rate of actual usage. Local authorities and schools are guided to integrate labor education into the indicator system for high-quality and balanced development, as well as into the broader curriculum structure that promotes well-rounded development. This approach ensures the effective implementation and tangible outcomes of labor education.

Third, a four-tiered research and teaching system is being strengthened. Dedicated departments and positions have been established at the provincial, municipal, county, and school levels to advance academic research, evaluation of educational outcomes, and the development of labor education. The system promotes specialized, regional, online, and school-based teaching research activities to enhance the scientific, standardized, and professional implementation of labor education.

Fourth, safety and order are prioritized throughout the process. Safety protocols, potential hazards, and emergency procedures are incorporated into labor education manuals. A coordinated safety mechanism ensures that relevant departments—including those responsible

for transportation, fire safety, public health, and construction—fulfill their roles in the development and operation of labor education facilities. A labor education insurance system is also promoted, with government support or cost-sharing mechanisms enabling insurance coverage for all students, thereby creating a secure environment for practical labor activities and ensuring the smooth implementation of labor education initiatives.