

Education

The Significance of China's Education and Teaching Research System

A Key Driver of Chinese Basic Education

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China has the largest-scale education system in the world. Its five-level education and teaching research system has had far-reaching effects in promoting its basic education, enhancing the quality of education, and upgrading the nation's talent pool. The system has been in constant improvement, playing an irreplaceable role in school and teacher development and the national curriculum reform. This article focuses on discussing the significance of this unique research system, with a view to providing valuable insights for sustaining development of education worldwide.

Keywords: Education and Teaching Research System; Basic Education; China

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Introduction

CHINA has the largest-scale education system in the world. According to the Report on China National Education Development 2022, there were approximately 513,000 basic education schools of various types in China, with 247 million students and 16.8258 million full-time teachers (1). To support such an extraordinary-sized basic education, the five-level education and teaching research system (ETRS) emerged in China with the purpose of enhancing its quality and advancing teacher professional development.

The five-level ETRS is an innovative institution in the history of Chinese education and has become an integral part of the Chinese education system. Amid social advancements, the system has undergone continuous improvement, playing crucial

roles in national curriculum reform, high-quality education development, and teacher development (2). The Chinese government has placed a high premium on the construction of the system. In 2019's "Opinions on Strengthening and Improving Educational Research for the New Era's Basic Education," the Ministry of Education of China reaffirmed that education and teaching research (ETR) work has been a fundamental pillar of Chinese basic education and recognized its importance in advancing curriculum reform, guiding teaching practices, promoting teacher development, and facilitating educational decision-making over the years (3). This article focuses on evaluating the significance of the ETRS in Chinese basic education in an effort to provide a useful reference for global education development.

Components of China's ETRS

The educational research system of a country or territory is typically an institutionalized research system for promoting its educational development (4). China's ETRS in basic education was committed to increasing the quality of education and promoting teacher professional development by undertaking education and teaching research and experiments. Its responsibilities include researching curriculum and teaching material development, teaching methods, assessment, and tests, as well as providing relevant directions in these areas to ensure the realization of scientific and effective education and instruction (5). It is also accountable for summarizing and popularizing excellent educational and instructional experiences and promoting the sharing of high-quality educational resources (6).

Organizational Structure

A Five-Level ETR Network

China's ETRS at the basic education level is a network consisting of five levels of institutions: the central ETR institutions, provincial-, municipal-, and county-level ETR offices, and school-based teaching research groups (7). There is an explicit division of responsibility among the five levels of research agencies. The central educational research institution at the top level is primarily responsible for conducting macro-level research and decision-making on national education and teaching, transmitting educational ideas through government papers, and providing directions for national ETR work (8). The provincial-level ETR office carries out education and teaching research, educational research planning and project management, and evaluation and monitoring of disciplinary instruction quality within the provincial administrative region (9). The municipal-level ETR office has responsibility for organizing education and teaching research, evaluation and monitoring of disciplinary instruction quality, and teacher in-service training for schools throughout the city. The county-level ETR office is responsible for organizing education and teaching research, evaluation and monitoring of disciplinary instruction quality, and teacher in-service training in the county region (10). The bottom-level school-based teaching research group undertakes subject-specific teaching research, organizes collective lesson preparation, and conducts lesson observation and evaluation within the school (9).

Specialized Research Staff

In China's ETRS, there is a specialized group of researchers staffed by the five levels of institutions. Generally, they have accumulated rich experiences in education and teaching before they became dedicated to research and are now more professionally competent than ordinary teachers (10). Their job responsibilities are multi-faceted, including teaching material screening, curricular development, teaching plan preparation, instructional quality evaluation, etc. In the meantime, they need to closely watch the latest research dynamics and results in the educational community and translate them into teaching practices. In addition, they are responsible for the duties of teacher professional development under their jurisdiction, such as novice teacher in-service training, management of research project

implementation, and organization of specific research activities (3).

To ensure the functioning of the system, screening standards have been established for selecting research staff at each level. In 2019's "Opinions on How to Deepen Education and Teaching Reform and Comprehensively Improve the Quality of Compulsory Education," the Ministry of Education set forth the professional criteria for ETR staff and stipulated mechanisms of entry and exit, evaluation and incentives, and professional development for them (11). In "Opinions on Strengthening and Improving Educational Research for the New Era's Basic Education," the Ministry of Education reaffirmed the principles of "stringent professional criteria, rigorous selection, and sustaining professional development" for research personnel staffing (3).

Research Practices

Under this system, various research practices have been carried out to promote inter-teacher communication and collaboration to raise the overall level of education and teaching. Popular among them are collective lesson preparation, lesson observations, lesson demonstrations, project-based research, and in-service training.

Collective lesson preparation: This is a common form of teaching research conducted by a group of teachers with the same disciplinary background, in which teaching materials, methods, and resources for a lesson are thoroughly discussed. In the joint effort to develop teaching plans, teachers share their teaching experiences and techniques, resulting in a shared enhancement of the quality of teaching (12).

Lesson observations: After watching the teaching process of a lesson carried out by a colleague, teachers make discussions and observations about it, through which they can exchange ideas about the implementation of teaching plans and put forward constructive suggestions for further improvement (13).

Lesson demonstrations: Lesson demonstrations are usually conducted by seasoned or anchor teachers to showcase their unique teaching methods and techniques so that their peers have the opportunity to be exposed to abundant classroom styles and strategies (14).

Project-based research: Project-based research typically focuses on practical issues or issues of common concern in education and teaching. Teachers can explore solutions to these issues through research and experiment with novel teaching methods and paradigms. It helps teachers increase their scientific research capacities and instructional competences and contributes to innovation in education and teaching (15).

In-service Training: This is a form of educational research that focuses on enhancing teachers' professionalism. Through in-service training, teachers can learn new educational concepts and teaching methods, understand the latest developments in their respective disciplines, and understand the recent dynamics of research in education and teaching. At the same time, it also provides them with opportunities to communicate, interact, and share teaching experience and resources with peers, promoting their common growth and development (6).

The Significance of China's ETRS in Basic

Education

Enhancing Teachers' Levels of Education and Teaching

The ETRS is of vital significance for teacher professional development in that ETR activities give teachers the chance to conduct in-depth examinations of educational and instructional theories and practices and constantly upgrade their educational notions and approaches (16).

In 2021, Zhou conducted a survey on school-based teaching research in three primary schools in Q County, Hainan Province. Regarding the value of school-based teaching research, the majority of teachers surveyed claimed that it enabled them to gain a better understanding of educational goals and had significant effects on improving their teaching ability and level. They also agreed that school-based teaching research was an avenue for ongoing access to fresh knowledge, with which they could circumvent senses of aimlessness and job weariness. For example, mathematics teachers in S1 primary school found in their mathematic culture-themed research that there were multiple approaches to teaching the same teaching material and that mathematic knowledge had a wide range of practical uses in life that they had never thought of before. This novel understanding motivated them to innovate their teaching practices (17).

According to constructivist theory, knowledge is generated in the process of interpersonal interaction. Education and teaching research can serve as a useful platform on which teachers construct and share knowledge while interacting with each other (18). In the enhanced exchange and cooperation under the ETRS, teachers can learn from the experiences of their colleagues and resolve issues encountered in teaching in collaboration with them (19). In Zhou's 2021 survey, W from S2 primary school said that just as the student needed mentors, the teacher also needed someone who could often give hints and directions, saving them a lot of time and unnecessary trials (17). Learning from colleagues with valuable teaching experience can substantially advance teachers' professional growth.

The ETRS encourages reflections on ongoing teaching practices among teachers (20) and often brings about changes in their notion of education. According to Principal L from S1 primary school, school-based teaching research led to marked transitions in educational ideas among teachers, from rote learning to inquiry-based learning and from teacher-dominated to student-centered classrooms (17). Educational research also helps teachers acquire a better understanding of students' needs and challenges in learning. That drives them to develop novel teaching strategies (21). In 2021, schools in Pudong District in Shanghai conducted a joint research project on junior secondary mathematics teaching. In the later "National Compulsory Education Quality Monitoring" program, a survey of 15106 students from 135 junior secondary schools in Pudong District showed that this teaching research project had successfully heightened students' problem-solving ability (22).

Driving the Advancement of Curricula and Disciplinary Instruction

The ETRS contributes to the quality of basic education by supporting the development of curricula and disciplinary instruction.

The roles of ETR in the development of curriculum and disciplinary instruction include spotting and addressing teaching issues, improving the professional competence of teachers, synthesizing practical experience, and providing evidence for curriculum reform (21). ETR is not only about theoretical discussions but also about the examination of practical teaching situations. Particularly, teacher researchers have the chance to observe the frontline instructional practices and gather the first-hand data, which can serve as valuable information for curriculum developers (23). Under the ETRS, the researchers can delve into various issues concerning the choice of teaching materials, application of pedagogies, and student learning challenges; the in-depth investigation and analysis of these issues not only help teachers formulate specific solutions but also contribute to the overall advancement of disciplinary instruction. In the past two decades or so, Chinese basic education has undergone a number of curriculum reforms. In this process, ETRS-based research work has provided colossal amounts of evidence for the reforms to ensure their right directions. In addition, by engaging in ETR activities, teachers can have a better comprehension of the objectives and purposes of curriculum reforms, thus resulting in a smoother implementation of them (24).

In the meantime, the ETRS is beneficial for the development and optimization of educational resources. Certain ETR-induced needs, such as the revision of teaching materials, the development of digital teaching resources, the integration of interdisciplinary learning resources, the collection and sharing of exemplary practices, and the building of online educational research platforms, can help improve and innovate educational resources (25). Amid the advancement of digital education, China's ETR community places heavier emphasis on the building of digital teaching resources. In 2017's "Strategy for the Development of New-Generation Artificial Intelligence," the State Council proposed to develop a new education system for intelligent and interactive learning by leveraging cutting-edge technologies such as AI (26). According to the State Council's "Opinions on Advancing the Reform of Teacher Staffing in the New Era," announced in January 2018, teachers should actively adapt to technological transformation in IT and AI to upgrade education and teaching effects (27). In August 2018, the Ministry of Education launched the first trial projects of AI-assisted building of teaching forces at Ningxia University and Beijing Foreign Studies University to initiate the experimentation of intelligent ETR and teacher training on digital education literacy and to promote the notion of utilizing AI to bolster educational methods (28). Leveraging new technologies to empower teacher professional development has become a trend in the ETR and gives fresh impetus to the advancement of curricula and instruction in China.

Ensuring the Implementation of the State's Educational Policies

Staff with the ETRS are not only co-workers of ordinary teachers but also an important bridge between them and the educational departments. The ETRS serves as an intermediate link in the implementation of the nation's educational policies, responsible for the top-down transmission of policies and the bot-

tom-up transfer of information (21).

The ETRS ensures the timely transmission of educational policies to frontline teachers. Through ETR activities such as in-service training and seminars, the ETRS delivers to teachers the genuine purpose and spirit of these policies. That helps avoid deviations from their original aim in the implementation process. ETRS staff play an important role in transmission by providing interpretations and directions to teachers to guarantee the effective implementation of policies (29).

In the meantime, ETR activities provide educational authorities with first-hand information from all basic education schools, facilitating their making pertinent and reliable policies (30). Also, in the implementation of these policies, teachers may encounter various sorts of issues and challenges and need to report them to policymakers. The feedback and suggestion mechanism in the ETRS suits this need. Regular teacher forums, meetings of school-based research groups, and online feedback platforms, among all forms of ETR, act as smooth channels through which frontline teachers' voice can be heard. Based on the feedback, researchers and other experts can conduct in-depth analysis of the issue and develop workable solutions. Teachers' suggestions contribute to not only the optimization of educational resources but also the adjustment and improvement of educational policies (31). Furthermore, the education quality evaluation and monitoring mechanism in the ETRS is a crucial vehicle for ensuring the effective implementation of educational

policies. Through quality evaluation of discipline-specific instruction, researchers can identify problems and deficiencies in educational policies. The evaluation results provide evidence to policymakers for policy adjustment. The ongoing quality monitoring also improves the distribution and utilization of educational resources, which is beneficial for the successful execution of educational policies (10).

In addition, the ETRS has the potential to balance the interests of all parties in basic education. Educational policies typically involve multiple stakeholders, instigating interest conflicts and disputes within them. The ETRS establishes a platform for communication and negotiation, allowing them to air their opinions and needs. On this basis, it works to seek a balance between their interests and sustain the progression of educational policies (32).

Conclusion

With its five-level network and dedicated research staff, the ETRS has played significant roles in strengthening teacher professional competence and enhancing the quality of basic education. In the ongoing educational reform, it continues to contribute to driving educational innovation and the high-quality development of education. It marks the unique merit of the Chinese education system but can also provide implications for the development of global educational causes. ■

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