REVIEW

The Five-Level Education and Teaching Research System: A Distinctively Chinese Research Mechanism for Basic Education

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***Abstract**: China's five-level education and teaching research system (ETRS) has been instrumental in advancing Chinese basic education. It includes the central-, provincial-, municipal-, and county-level education and teaching research institutions and school-based teaching research offices, which jointly contribute to the enhancement of the quality of education and teacher professional development. There is close collaboration as well as a clear division of responsibility among these institutions. This article expounds on the ETRS's functions and characteristics, shedding light on its significance for Chinese basic education with a view to providing implications for global education development.*

Science Insights Education Frontiers 2024; 21(1):3349-3361.
DOI: 10.15354/sief.24.re342

How to Cite: Zhou, Y. (2024). The five-level education and teaching research system: A distinctively Chinese research mechanism for basic education. Science Insights Education Frontiers, 21(1):3349-3361.

***Keywords:** The Five-Level Education and Teaching Research System, Teacher Professional Development, Quality of Basic Education, China*

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***Conflict of Interests**: None*

EDUCATION and teaching research (ETR) plays a crucial role in enhancing the quality of education and promoting teacher development by driving curriculum reform, guiding teaching practice, serving teachers' needs for professional growth, and supporting educational decision-making (Mou, 2022). The Chinese government puts a great value on ETR work. Based on the actual situation of China's basic education, an education and teaching research system (ETRS) with distinctively Chinese characteristics was established after nearly 70 years of exploration and experimentation (Luan, 2022). China's ETRS at the basic education level consists of five levels of institutions: the central-, provincial-, municipal-, and county-level ETR institutions, and school-based teaching research offices. The system is distinctly hierarchical, but with intensive collaboration and coordination between various levels of agencies. With its research focus on instructional practice, the ETRS has made substantial contributions to the development of Chinese basic education (Yang, 2023). This study aims to present the functions of ETR institutions in the system and features of China's five-level ETRS, shedding light on its significance for education quality enhancement and teacher professional development.

The Evolution of China's ETRS

An ETRS is an integral part of a nation's educational system, entailing the ETR organizational framework, ETR activities, and applications of research results. It requires the active participation of all educators as well as backing from schools and education departments (Jiang, 2023). Each country runs the ETRS in its own way. In the United States, for instance, the ETRS is managed by the education departments of each state, emphasizing the autonomous development and professional growth of teachers (Jiang, 2021). The UK's ETRS is carried out by local education departments under the leadership of the central educational authorities, with a focus on the applicability and creativity of ETR (Wang, Q., 2022). Likewise, Japan's ETRS is led by the national education administrative department and implemented by local education departments. It places more emphasis on improving the professional competence and teaching skills of teachers (Wang, H., 2022).

China's ETRS has undergone progressive improvement amid its educational reform and development. On the founding of New China, the Ministry of Education (MoE) held a conference on the national education work at the end of 1949, seeking to advance the educational cause to guarantee the right of ordinary people to education. It was proposed at the conference that ETR institutions should be established at the provincial, municipal, and county levels, drawing on the useful experience of the prior education systems of China and the Soviet Union's education systems. The teaching research group first emerged with the reform of higher education curricula in

1950 and 1951, subsequently spreading to basic education (Mao, 1989). In 1952, the MoE released the Provisional Regulations for Secondary Education and the Provisional Regulations for Primary Education, affirming that the primary purpose of teaching research groups was to improve teaching outcomes. As a result, the primary and secondary teaching research groups were officially set up, with the majority of researchers being frontline teachers. In 1955, the MoE issued a series of papers through its official journal, People's Education, reaffirming that the role of ETR institutions was to improve the quality of instruction and declaring that all ETR activities were under the direct leadership of education departments. By the mid-1960s, the three-level ETR framework for basic education had been successfully established (Li & Jiang, 2022).

The ETRS in China was suspended during the ten-year Cultural Revolution. With the resumption of the college entrance examination (Gaokao) in 1977, China endeavored to restore order in education and launched ETR efforts regarding textbook compilation and curriculum program formulation. In those days, however, the ETRS only ran at the provincial, municipal, and county levels, lacking overall organization and regulation from the state (Li & Jiang, 2022). To address this issue, the National Education Science Planning Panel was established in 1983 for the across-the-board planning of nationwide ETR work. In the meantime, the MoE's Basic Education Curriculum and Teaching Materials Development Center were held responsible for guiding ETR at the basic education level (Wang & Hu, 2020). In 1990, the National Education Commission (the precursor of the present MoE) released "Several Opinions on Improving and Strengthening the Work of Teaching Research Offices," affirming the important position of teaching research offices in ETR. This paper not only clarifies the responsibilities of ETR institutions but also increases their functions, highlighting their roles in teaching research, instructional direction, and teaching management. Consequently, a five-level ETRS that constitutes central, provincial, municipal, county, and school-based ETR agencies was progressively developed.

In 2010's "Opinions on Intensifying the Reform of Basic Education Curricula and Advancing Competence-focused Education," the MoE called for improving the ETR work mechanism to innovate ETR patterns (Ministry of Education of China, 2010). "Opinions on Strengthening and Improving Educational Research for the New Era's Basic Education," released in 2019, emphasized that ETR should serve school education and instruction, teacher professional growth, student holistic development, and educational management and decision-making (Ministry of Education of China, 2019). In response to the calls in this paper, local ETR institutions accelerated the reform of the ETRS by innovating ETR mechanisms and diversifying ETR contents. New ETR experiments included online ETR, collaborative ETR, thematic ETR, instructional demonstrations, on-site mentoring, and project-

based research, among other ETR practices (Li & Jiang, 2022). During this period, the ETRS underwent continuous improvement and a transition towards a service-oriented education and teaching research system.

Organizational Structure of the ETRS

The five levels of institutions in China's basic education ETRS include the central-, provincial-, municipal-, and county-level ETR institutions and school-based teaching research offices (Yang, 2023), with each level bearing its own special responsibilities.

The central ETR institutions are primarily responsible for macro-level educational research and decision-making, as well as for transmitting educational ideas from the government and directing the development of ETR through publishing government papers (Su & Liang, 2015). For example, the MoE released "Opinions on Strengthening Science Education in Primary and Secondary Schools in the New Era" in 2023, aiming to enhance science education at the basic education level and increase students' scientific literacy. The paper stresses the importance of basic science education and proposes specific measures such as improving the curriculum framework, advancing teacher professional development, and promoting practical science and technology activities (Ministry of Education, 2023). Through circulating and interpreting government papers like this, the central ETR institutions deliver the state's educational propositions and decisions to local ETR agencies to ensure their effective functioning.

The provincial-level ETR institution manages the ETR work and makes educational decisions within the provincial administrative region. They support educational reform by formulating developmental strategies, managing the implementation of major national and provincial scientific research projects, organizing professional training for staff in the provincial education community, undertaking basic education teaching research, and providing guidance to lower levels of ETR institutions (Zhou, 2021). For instance, while undertaking ETR, the Shanxi Academy of Educational Sciences also bears the responsibility for managing scientific research in education in Shanxi Province. The academy has its own research projects to fulfill and, at the same time, needs to manage the ETR of primary and secondary schools on behalf of the provincial education department (Li, 2018).

The municipal-level ETR institution is responsible for basic education and secondary vocational education research, ETR planning and ETR project management, disciplinary instruction evaluation and monitoring, teacher in-service training, curriculum design research, textbook and course resource construction, educational research, and ETR information exchange within the municipal region (Wang, 2022). Taiyuan Education Research Center, for example, has ten basic functions to fulfill: i) providing advisory

services to education administration departments in their decision-making; ii) researching theories associated with education and teaching and classroom teaching reforms; iii) conducting surveys to serve grassroots education and teaching practices; iv) organizing forums on teaching and lesson demonstrations for subject teachers; v) implementing monitoring, evaluation, and feedback on student academic quality; vi) directing schools to carry out teaching research; vii) selecting outstanding teaching cases and promoting successful teaching experiences; viii) publishing the journal Taiyuan Education to present the city's educational dynamics; ix) providing professional counselling for schools and student parents as public goods; x) undertaking relevant work delegated by the municipal education bureau (Li, 2018).

The county-level ETR institution focuses on investigating and researching the most important and pressing practical issues arising in basic education, summarizing and popularizing excellent teaching practices, and guiding teachers to improve their instruction accordingly (Wang, 2022). For instance, Qingxu County's "Regulations of Instruction for Compulsory Education Schools" stipulate detailed provisions on how to direct teachers in teaching plan creation, classroom teaching implementation, lesson observation, teaching research, exam question setting, and academic evaluation. According to this paper, research staff with the county-level ETR institutions need to observe 60 lessons, organize seven ETR events, deliver one subject-specific lecture and one thematic research lecture, conduct three lesson studies, and give one demonstration lesson each semester as the minimum requirement (Li, 2018).

The school-based teaching research office has the responsibility to address the issues and challenges arising from day-to-day instruction. The teaching research groups of the school also encourage teachers to devote themselves to researching teaching materials, methods, and issues by means of self-study, teaching journals, thematic debate, lesson studies, lesson observations, teaching forums, professional training, etc. (Wang, 2022). For example, in order to advance the school's physical education (PE), the PE teaching research group of Shuanglou Vocational School in Hai'an City, Jiangsu Province, formulated a detailed work plan to direct all PE teachers to implement PE instruction in an effective and scientific way. Based on the seven modules of the new national course standards, it selected teaching contents that suited the special circumstances of the school and the needs of the students and created colorful sports culture-related activities for them to best support their physical and mental development. Additionally, in order to enhance the professional expertise and skills of PE teachers, it built platforms to facilitate their communication with external agencies by providing them with opportunities for off-campus education and training and inviting elite teachers from other schools to share successful teaching practices (Xu, 2011).

Advantages of the Five-Level ETRS

Close Collaboration between ETR Institutions at All Levels

Despite the stark division of responsibility within the system, China's ETRS is a highly cooperative and collaborative network, with the work of ETR institutions at various levels being closely intertwined (Chen, 2022). While working to fulfill their respective prescribed duties, all ETR institutions pay great attention to inter-level partnerships, which can take various forms, such as joint research projects, resource sharing, and information exchange (Bai, 2021). This collaborative mechanism is a guarantee of the overall effectiveness of the ETRS. First, it helps optimize the utilization of research resources. ETR institutions at various levels have their own advantages in research resources, which can be fully leveraged through cooperation (Tang, 2018). For instance, state-level ETR institutions, with their abundant academic resources and research achievements, can provide theoretical support for their provincial- and municipal-level counterparts; school-based ETR offices have a better understanding of the actual situations of basic education and the needs of frontline teachers, thus having the potential to support higher-level ETR institutions by presenting authentic information. Furthermore, the collaborative mechanism in the ETRS is beneficial for heightening the generalizability and applicability of ETR results. Issues with education and instruction are typically complicated and context-sensitive, requiring multifaceted research and exploration. Through collaborative research, ETR institutions at various levels can contribute their respective perspectives to overcoming common challenges in basic education (Huo & Yu, 2023). Using the subject-specific instructional reform as an example, the municipal-level ETR institution can initiate the program and then engage teaching research groups from concerned schools in it to reach an effective solution through collaborative research.

A successful practice of collaborative research under the ETRS took place in Pudong New District, Shanghai. The district's ETR office initiated a research project on "the effectiveness of primary English writing teaching," which was jointly undertaken by English teaching research groups from the district's primary schools and also involved higher-level ETR institutions. The district's ETR office invited researchers from municipal-level ETR institutions and university professors to give lectures on existing studies of English writing, giving participants a deeper and more comprehensive understanding of English writing instruction. Subsequently, the English teaching research groups from primary schools conducted practical research on the question based on the actual situations of their students and drew effec-

tive methods and strategies for primary English writing teaching from their investigations. The successful implementation of the project can serve as an exemplary experiment that combines theoretical and practical research (Liu, 2018).

Sharing Research Outcomes in the ETR Community

Sharing research outcomes is an important component of the ETRS. ETR institutions at all levels constantly produce research outcomes in various forms, including reports, papers, case studies, and more. They are valuable to the entire ETR community (Hao, 2021). ETR institutions share their research results through academic conferences, ETR achievement exhibitions, and other avenues. These events not only promote academic exchanges but also help enhance the research level of the ETRS as a whole.

The emphasis on the sharing of research outcomes leads to the common growth of the ETR community. Through the sharing of research results, all members of the ETRS are fully informed of the dynamics of ETR in China and around the world. This helps them spot their gaps in ETR and determine the direction of their future research. In his investigation of ETR activity in primary and secondary schools in Zhejiang Province, Hao (2021) discovered that the Chinese language teaching research group of W Primary School successfully stimulated their colleagues' interest and engagement in teaching research by hosting research activities that engaged researchers from the regional education community. Each teaching and research activity has as participants' regional elite teachers, full-time educational researchers, and academics from universities. Such activities facilitate information sharing and mutual support, resulting in the marked advancement of Chinese language teaching research in the region.

Information sharing among ETR institutions also has the potential to promote teacher professional development. Through inter-peer communication, teachers are exposed to more diverse educational and teaching concepts, significantly expanding their horizons and perspectives. Moreover, inter-peer communication stimulates self-reflection in teacher researchers, motivating them to improve their professional competence and teaching techniques. A research mechanism that focuses on mutual learning and common growth helps expand the pool of excellent teachers and improve the quality of education and teaching (Zheng, 2022).

Prioritizing Teaching Practice Research

Researching issues associated with practical instruction is the top priority of the ETRS's work (Yang, 2023). The system puts heavy emphasis on the applicability of its research results and the enhancement of teachers' instruc-

tional competence. By engaging teachers in ETR activities, such as lesson observations, teaching forums, case studies, etc., it leads teachers to combine theoretical knowledge with practice to improve teaching efficacy.

The ETRS pays great attention to the practical needs of teachers. ETR institutions at all levels conduct on-site, in-depth communication with teachers to understand the challenges and perplexities they encounter in teaching as well as their most compelling needs. Based on these practical issues, the ETRS makes its research contents closely connected to the teaching practice of teachers, meeting their expectations to improve their teaching ability and skills (Wang, 2022). In Li's investigation on the ETR activity of teachers in A Primary School in Kunming City, 64.9% of the school's teachers claimed that participating in ETR activities contributed to increasing teaching effects and enhancing their professional competence; 20.9% of them noted that participating in ETR activities is a criterion for professional title ratings and award applications; 9% declared that they participated in ETR activities because the school leaders asked them to do so; and the remaining 5.2% reported that they participated in ETR activities to develop interests and hobbies (Li, 2021).

The ETRS also encourages frontline teachers' involvement in the planning of research projects. As major education actors, teachers' involvement in this regard helps enhance the pertinence and applicability of ETR work. By soliciting the opinions and suggestions and combining the practical experiences of frontline teachers, the ETRS makes its work more intimately coupled to the actualities of teaching, providing more directive value to teachers (Jiang, 2023).

Institutional Guarantees for the ERTS

A sustained development of the five-level ETRS requires solid institutional guarantees. The orderly and efficient operation of the system has been supported by a series of policies and regulations. In the past several decades, the central and local governments have issued many papers to ensure the smooth operation and development of the ETRS. In 1990's "Several Opinions on Improving and Strengthening the Work of Teaching Research Offices," the National Education Commission (1990) set forth the nature, functions, and responsibilities of teaching research offices as well as the compensations, research funding, and working rules for research staff in the context of working conditions at that time, which marked the institutionalization and normalization of the work of teaching research offices. In 1993, the Basic Education Department of the National Education Commission held in Beijing a meeting of directors of provincial-level teaching research offices, which came up with opinions and suggestions for improving the work of teaching research offices (National Education Commission, 1993). "Opinions on

Strengthening and Improving Educational Research for the New Era's Basic Education," released by the MoE in 2019, highlighted "strengthening the construction of education and teaching research institutions" and "stipulating the duties of education and teaching research" (Ministry of Education of China, 2019). In response to this paper, 14 provincial governments published policies on regional ETR. Among them, the Department of Education of Shandong Province (2020) issued in March 2020 "Measures to Strengthen Education and Teaching Research for Basic Education in the New Era," putting forward stipulations on "the building of education and teaching research teams, training and incentives for education and teaching research staff, and evaluation of education and teaching research work." The Department of Education of Guangdong Province (2020) released in May 2020 "Opinions on Establishing and Improving the Education and Teaching Research System for Basic Education in the New Era." The paper was divided into several sections, including "optimizing researcher staffing, standardizing professional criteria, heightening key competencies, implementing across-the-board training, and stimulating team vitality."

In the long-term practice of the ETRS, ETR institutions at all levels have formulated effective rules, regulations, and work procedures to specify their respective responsibilities, rights, and obligations and optimize their research methods. With these rules and regulations, the stability and consistency of ETR work have been ensured, and the possible impact of disruptive factors, such as staff turnover and policy adjustments, on ETR work could be circumvented (Wang, 2021).

The institutionalized ETRS is effective in encouraging innovations among research staff and teachers. By establishing scientific evaluation and incentive mechanisms, the system has continuously kindled their enthusiasm for innovation, propelling them to explore new educational concepts, teaching methods, and assessment instruments (Wang, 2010). In addition, institutionalized ETR work increases social recognition of the system. With a transparent and credible system, the public has a better understanding of the roles of the ETR staff and trusts their research outcomes more (Wang & Hu, 2020).

Conclusion

The five-level ETRS has made remarkable contributions to the development of Chinese basic education. The system's hierarchical management has significantly boosted the efficiency and efficacy of ETR work. To look ahead, China's ETRS should continue to harness its strengths in education research, teacher training, and educational recourse integration to further the enhancement of the quality of basic education; in the meantime, it should fully leverage cutting-edge technologies to innovate ETR contents and methods to

better serve the digital transformation of education in the new era. Also, in the context of educational globalization, it is important for China's ETR institutions to actively engage in international exchanges and cooperation in order to learn from worldwide experiences in educational practice and research and to support the sustainable development of education.

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Received: 21 January 2024
Revised: 8 February 2024
Accepted: 1 March 2024