

# Generation of Teacher's Practical Knowledge<sup>\*</sup>

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The research on teachers' practical knowledge follows the basic requirements of the practice-reflective pedagogy paradigm, which believes that teachers are not only professionals who need to develop continuously but also reflectors and practitioners who can actively reflect on practice. For front-line teachers, pedagogical knowledge is not only an abstract theory but also professional wisdom with practice; educational practice is not only an action under the guidance of theory but also a component and embodiment of teachers' reflective knowledge. Under the guidance of the practice-reflective pedagogy paradigm, scholars Li Lichun and Wei Ge follow the framework of practical epistemology and combine it with China's education reform practice to explore the relationship between knowledge and action, theory and practice in the process of education and teaching of primary and secondary school teachers. Li Lichun's research explores the essence of teachers' practical knowledge, and Wei Ge's research explores the generation mechanism of teachers' practical knowledge. The two scholars have conducted in-depth discussions on the future direction of teachers' professional development and teachers' professional subjectivity in combination with the research on teachers' practice in China's basic education stage, and strive to provide explanations and reform plans for China's teacher education policy reform, teacher professional development, and training from a theoretical perspective.

**Keywords:** teachers' practical knowledge, the nature of teachers' practical knowledge, the generation of teachers' practical knowledge

Teacher knowledge research is considered to be part of how educators view the classroom practice revolution (Shulman, 1986). Teacher knowledge research focuses on what teachers know and how they express the knowledge they have mastered in teaching. Research shows that teachers' knowledge content and knowledge expression methods have a vital impact on student learning (Connelly & Clandinin, 1997). More and more studies have confirmed that teachers are one of the critical factors in the success or failure of education reform (Fullan, 2009). Therefore, promoting teacher knowledge development, especially the practical knowledge development of primary and secondary school teachers, is of great significance to improving teacher quality and shaping a

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high-quality teaching team. This is not only the core focus of international education research and education policy reform (Ariffin, Bush & Nordin, 2018) but also an important practical issue that education managers and education researchers need to face in the process of China's essential education reform.

Li Lichun and Wei Ge are the members of the Peking University Education Qualitative Research Team. In the past three decades, the Peking University Education Qualitative Research Team has been rooted in the reality of China's primary education. By collecting a large amount of information, data, and other empirical materials in primary and secondary schools, they have tried to explore educational research results that are suitable for China's national conditions, accepted by teachers in the primary education stage, and have practical help and influence on China's educational practice reform. Based on many empirical studies, the Peking University Education Qualitative Research Team proposed the "Practice-Reflective Pedagogy" theory as a representative academic achievement of Chinese teachers' practical knowledge research. Li Lichun and Wei Ge's research uses "Practice-Reflective Pedagogy" as a theoretical guidance framework. This theory responds to Western philosophical theories on teachers' practical knowledge research and is rooted in China's local culture and philosophical theoretical foundation: "Practice-Reflective Pedagogy" is based on China's local educational and teaching practices. Researchers need to understand the phenomena and problems being studied and constantly monitor the changes that occur in themselves and practitioners during the research process, as well as the mechanisms for the occurrence and development of these changes. That is, while researchers pay attention to the authenticity and complexity of teachers' practice, they also need to have a reflective awareness and ability to understand the occurrence and development of the research process.

Based on her research on college English learners during her master's degree, Li Lichun believes that the ideal English quality education model should be "knowing and doing" and "thinking and becoming" to achieve the purpose of quality training. Combined with her later practical experience of the whole-person education concept of "emphasizing the integration of disciplines, individual needs, and social needs" in the national primary education curriculum reform as a college English teaching staff (Zhang, 2000), she began to think about the role of teachers in curriculum reform and how teachers' professional knowledge develops in the process of teachers' professional development. She pays close attention to the relationship between teachers' knowledge and practice in the teachers' professional development process. In order to explore teachers' knowledge and reflection in practice, Li Lichun's research questions focus on: First, what is teachers' knowledge in action? That is, what exactly happens inside and outside the classroom? Faced with similar situations, how do different teachers deal with them differently? How do they deal with the relationship between presupposition and generation in the classroom? Second, what do teachers show the relationship between the various forms of knowledge in action? Can a representative model be proposed? Third, how is the process of teachers' reflection in action? Fourth, what is the relationship between knowledge in action and reflection in action? How do we describe the generation and growth process of teachers' practical knowledge? (Li, 2021, p. 6).

To answer the above questions, Li Lichun's research was guided by the theoretical framework of Polanyi's theory of personal knowledge and Schön's theory of practical epistemology (Li, 2021, p. 48). Five Chinese and English teachers were selected as research subjects. Three of them were expert teachers (who had been awarded the title of special-grade teacher Beijing critical teacher or subject teaching leader) and were over 45 years old. Two were critical teachers in the school who were in their prime and over 30 years old, with about 10 years of teaching experience. The five teachers' teaching styles were classified into three categories:

First, the “suspense” type of teachers have a relatively comprehensive grasp of the subject and related humanities knowledge. They believe they have the most appropriate way to let students learn subject knowledge. They use great enthusiasm and confidence to implement a set of carefully designed teaching plans, create an atmosphere where everyone is deeply attracted and cannot stop, use all means to grab students’ attention, and strictly control the class time and rhythm. Second, the “inaction” type of teachers tend to regard teaching and student development as natural growth, believe that knowledge is a typical study, believe in the development potential of students, be an assistant to student development, fully trust and respect students, create a learning atmosphere in and out of class, and help students establish a learning community. Third, the “integration” type of teachers are between the “suspense” type of teachers and the “inaction” type of teachers. They tend to inherit classics, control the classroom, and pursue efficiency but are also willing to try a more open and generative classroom teaching style to seek self-breakthrough (Li, 2021, pp. 90-167).

Through observations and in-depth interviews with three types of teachers’ classroom teaching, Li Lichun believes that teachers’ practical knowledge is the knowledge and action of teachers’ unity of body and mind driven by the passion for realizing their personal, educational image. Teachers’ practical knowledge is a dynamic mechanism of knowing in action and reflecting in action. Li Lichun believes that knowing in action is an intuitive and embodied cognitive style embedded in teachers’ routine actions. It is an educational action with overall significance and consistent style that teachers take under the guidance of their personal, educational image, driven by their inner educational passion, and integrated with their body and mind. Teachers’ knowing in action integrates teachers’ educational views of “what they identify with and what they can do”. Teachers’ beliefs, actions, and knowledge become a whole throughout the entire process in teachers’ practical knowledge.

Wei Ge also researched practical knowledge. His research was mainly based on confusion in practice: mainstream teachers and professional development programs mainly focus on theoretical content and adopt concentrated teaching methods and top-down development paths, which front-line teachers do not generally welcome. Instead, they are regarded by teachers as a burden outside of their daily work in schools. However, in reality, most teachers are able to “stand firmly on the podium”, “write their teaching plans”, and “carry out a series of research courses” within three to five years after joining the job, making significant progress in professional development. If front-line teachers are dissatisfied with this imposed theoretical training and are more willing to participate in the teaching and research practice activities organized in the school (Chaharbashloo et al., 2020), how do they achieve professional development? To answer this question, Wei Ge’s research mainly revolves around four questions: What are the typical situations for teachers’ professional learning in real education and teaching work? What types of teachers’ practical knowledge generation mechanisms do the above situations constitute? What kind of practical knowledge is ultimately created by different knowledge-generation processes? How do we re-understand the essential attributes of teachers’ practical knowledge?

Wei Ge uses Engelstrom’s third-generation cultural-historical activity theory framework as the theoretical framework for the study, focusing on the relationship between the various elements in the teacher’s educational and teaching activity system. First, taking the “activity system” as the analysis unit, the generation process of teachers’ practical knowledge is regarded as the interaction between multiple systems (Wei, 2020, p. 28). They are secondly, focusing on the role of “mediators”, using the mediators of educational and teaching activities as the starting point to see through the logic of teacher interaction and development, thereby exploring the mediators and their roles in different situations and explaining the endogenous mechanism of teachers’ professional learning. Thirdly, focusing on “contradictions” as the driving force of system change and development, teachers face

various contradictions in their daily educational and teaching process and need to make decisions continuously. This decision-making process just reflects the teachers' practical knowledge. As Dewey said, knowledge turns a dilemma into a solved situation through operation (Dewey, 2005, p. 188). Fourth, paying attention to the cultural and historical nature of behavior, Wei Ge placed the thinking and actions of individual teachers in group environments at different levels, such as teaching and research groups and schools, and accordingly divided the typical cases in teachers' work situations into three categories: traditional classroom teaching by teachers, collective teaching and research based on everyday subjects by teachers, and school-based research with the intervention of university researchers. Through the study of typical cases, he answered the four main questions raised.

Case 1 explores the "nested generation" mechanism of teachers' practical knowledge in the process of "teacher-student interaction" through tracking research on teachers' classroom teaching. Wei Ge believes that the "nested" mechanism of practical knowledge generation reflects the inseparable characteristics of teaching and learning (Tsang, 2004), especially emphasizing that teachers' teaching behavior depends on the understanding of learning behavior. When teaching, teachers will readjust the decision of the course direction according to students' understanding and participation; that is, teachers interact creatively between planning, students' reactions, and teachers' improvisation (Khalil et al., 2010). It also reflects that in the natural process of classroom teaching, teachers' practical knowledge comes to a large extent from students rather than pre-set (Clandinin & Huber, 2005, p. 43), including students' reactions in class, students' learning transformation, etc. Case 2 is based on the local teaching and research activities of the teaching research group, showing the "expanded generation" mechanism of teachers' practical knowledge in interpersonal negotiation and interaction. Using specific lesson examples as carriers, it shows that in teaching research groups, with the help of dialogic speech, teachers form micro-power interactions in different roles, negotiate between individuals and groups, and generate practical knowledge about the balance between the appearance and essence of teaching, reference and innovation, and ideas and reality, helping novice teachers to enhance their professional abilities, activate teachers' different teaching experiences, and deepen the understanding of the essence of teaching by the teacher group. Case 3 is the "circular generation" mechanism of teacher knowledge in an interdisciplinary teacher research group. This is a mechanism for generating practical knowledge in the process of negotiation between a teacher group and teacher educators. The cases in the book present the interaction between university experts and primary and secondary school teachers, teachers of different subjects, and teachers without positions. In the interaction, teachers share their teaching experiences, accept suggestions from others, and enhance their reflections on education and teaching.

Wei Ge studied the generation mechanism of teachers' practical knowledge in three situations and came to the following conclusions: First, teachers' practical knowledge is rooted in the interaction between teachers and students, colleagues and teacher educators, and is reflected in three typical situations: classroom teaching, collective teaching and research, and school-based research. These real educational and teaching works make teachers' professional learning and development possible. Second, teachers' interaction with different groups in three main situations has a "nested", "expanded", and "circular" generation mechanism of practical knowledge. The results of teachers' practical knowledge also have different focuses, pointing to the three aspects of understanding students, teaching, and professional work. Third, teachers' practical knowledge is not only personal and tacit but also a product of social and cultural accumulation and mediation, which is social, historical, collective, and shared (Wieser, 2016).

In summary, although both Li Lichun and Wei Ge's research focuses on teachers' practical knowledge, according to different research questions, Li Lichun's research aims to explore the essence of teachers' practical knowledge. In contrast, Wei Ge's research aims to explore how teachers' practical knowledge is generated. However, both Li Lichun and Wei Ge's research particularly emphasizes the importance of "interaction" to the generation of teachers' practical knowledge. This "interaction" refers to joint activities based on the community. Through interaction with different groups such as students, teachers, and educational researchers, the generation results of teachers' practical knowledge also have different focuses, pointing to three aspects:

- How teachers optimize classroom teaching by understanding students.
- How teachers promote professional development by grasping the essence of teaching.
- How teachers can re-understand their professional work through changes in their minds.

Both Li Lichun and Wei Ge regard teachers' practical knowledge as an essential achievement of teachers' professional development and regard teachers' educational and teaching practice activities as a natural and continuous learning process. They focus on how teachers generate, inherit, and develop practical knowledge in their practical work and use this as a critical dimension of teachers' professional learning. Li Lichun and Wei Ge both believe that teachers "become" teachers through the process of "doing" teachers in the practice of education and teaching because the teaching situation of teachers goes beyond their knowledge; that is, teachers do not master all the knowledge systems first and then become qualified teachers. On the contrary, they are in the process of "doing" teachers (Clandinin & Huber, 2005). The Netherlands: Springer is constantly forming and improving the role awareness, educational ability, and practical strategies needed to become teachers. This is the relationship between teachers' professional development and practice scenarios, and it is also the value of research on teachers' practical knowledge.

Calderhead argues that teachers' practical knowledge is developed in the process of "interacting with situations" in the teaching environment. This practical knowledge is also related to knowledge from other sources (Calderhead, 1996). Chen Xiangming argues that teachers' practical knowledge is formed after teachers reflect on and refine their own teaching experience, which is the understanding of education and teaching through their actions (Chen, 2013). Li Lichun believes that teachers' practical knowledge is the knowledge and action of teachers' bodies and minds driven by the enthusiasm for realizing their personal, educational image. Its essence is a dynamic mechanism of knowledge in action and reflection in action (Li, 2021, p. 246). Wei Ge also believes that teachers' practical knowledge is inseparable from the environment in which teachers work. There is no practice without situation, and there is no natural situation without teacher practice (Wei, 2020, p. 207). However, Li Lichun's research on the hierarchy of teachers' practical knowledge is insufficient. Wei Ge's division of typical situations for the generation of teachers' practical knowledge also ignores the impact of teachers' situations on the development of teachers' practical knowledge. Connelly and Clandinin (1988, p. 25) proposed that the research on teachers' working environment should include individuals inside and outside the classroom. At the same time, the research of Li Lichun and Wei Ge ignored the influence of personal factors such as teachers' characteristics, knowledge base, educational experience, and planning for teaching careers on the generation of teachers' practical knowledge. Teachers' practical knowledge exists not only in teachers' experience but also in teachers' current bodies and minds and will also exist in plans and actions (Clandinin, 1992). Therefore, the research of Li Lichun and Wei Ge also ignored the negative impact that teachers' practical knowledge may have, such as breeding prejudice and resisting other ideas or actions.

Although the specific issues of Li Lichun and Wei Ge's research are different, their starting points and value positions are consistent. They both follow the basic requirements of the practice-reflective pedagogy paradigm and believe that the acquisition of practical knowledge requires at least two conditions: the execution of "action" and the participation of "reflection" (Biesta & Burbules, 2003, p. 44). Combining the knowledge-action view of Chinese philosophy corresponding to practice and reflection, they both express the following basic views: teachers are not only professionals who need to develop continuously but also active reflectors and reflective practitioners; educational practice is not only action under the guidance of theory but also an organic part of teachers' reflective knowledge, reaffirming the importance of teachers' practical knowledge as the basis of teachers' classroom teaching practice (Connelly & Clandinin, 1988, p. 25). At present, the emphasis on teacher degree certificates and professional qualification standards and the focus on unified degrees have obscured the problem of teachers' practical knowledge (Annala, 2023). Second, how should educational practice be done? In view of the current focus of China's education reform, the focus is placed on "practical knowledge in teachers' classroom teaching activities" and "practical knowledge of individual teachers in response to the 'burden reduction' policy", providing new ideas for China's teacher education curriculum and in-service training and development of primary and secondary school teachers from an academic perspective.

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