

A Study of Strategies for Teacher Education Practice from the Perspective of Community of Practice Theory

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Abstract: This paper analyzes and summarizes the research on the theory of community of practice, exploring its application in teacher education practice. Firstly, through the analysis of relevant literature from abroad, the core keywords and hot topics in the research on community of practice theory are identified. Secondly, the theoretical development and conceptual definition of the community of practice are elaborated, explaining its concept and significance from a sociological perspective. Then, through the description of two stories of teacher growth, the application and impact of the community of practice in teacher education practice are demonstrated. Finally, strategies for improving teacher education practice are proposed, including increasing interactivity, providing personalized support, strengthening teacher training, creating a positive learning environment, and collecting student feedback.

Keywords: Community of Practice, Teacher Education Practice, Teacher Growth, Teaching Methods, Educational Research

1. Introduction

1.1. Analysis of the Foreign Hotspots on "Community of Practice"

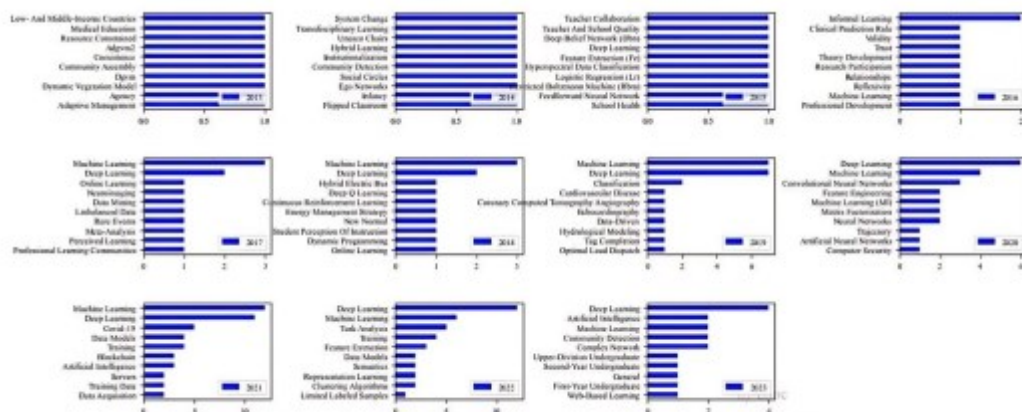


Figure 1: Annual Attention of High-frequency Keywords on "Community of Practice"

Through academic search engines such as Google Scholar and Web of Science, a retrieval was conducted. This study selected 150 highly cited papers from the past 10 years. The collected literature was then screened and filtered to remove duplicate and irrelevant papers, generating high-frequency keywords and related analysis results. Firstly, high-frequency vocabulary was analyzed to understand the frequently mentioned keywords and concepts in the research on community of practice theory. The high-frequency keywords include "computer science," "deep learning," "machine learning," and "educational research," which reflect the core concepts and themes of the research on community of practice theory. Secondly, in terms of research hotspots, it was found that the hot topics in the research on community of practice theory mainly focus on the formation mechanism of the community of practice, the development process of the community of practice, and the impact of the community of practice on learning outcomes. Finally, by analyzing the temporal distribution of nodes, it was observed that the research on the practical application of community of practice theory has shown a growing trend in the past decade, indicating an increasing research interest and importance in this field.

1.2. Development of Theory and Conceptual Definition

The learning community originally emerged as an interdisciplinary concept from sociology. Therefore, in order to clarify the concept of a learning community, it is necessary to first trace its origins and then define the concept. In Western intellectual tradition, Aristotle began to emphasize the significance of "community," and people's pursuit of shared "good" led to corresponding benefits [1]. The American Educational Research Association advocated shifting the metaphor of schools from "organizations" to "communities" [2]. The concept of "community" can be traced back to Tönnies' book "Gemeinschaft und Gesellschaft" (Community and Society), in which he separated the concept of community from that of society [3]. Based on the three-stage structure of school reform proposed by Huffman and Hipp, the structure framework of "professional learning community organization" was developed by introducing five dimensions of professional learning community defined by Hord [4].

Community of Learning Theory was first proposed by American scholar Ernest Boyer in his research report "Basic School: A Learning Community" in 1991. It provides a theoretical framework for describing the process of social learning and knowledge construction. This theory posits that learning is a part of social practice, and individuals collectively construct knowledge and practice skills through participation in shared learning activities and communities. Currently, the definition of learning community mainly focuses on group relationships and social organization, referring to groups that construct knowledge as "learning communities." In the field of education, the theory of learning community has been widely applied to instructional design, teacher training, and student learning. In early research, scholar Roeser presented a case study of his own journey as a developmental and educational psychologist, highlighting the importance of individual adolescent case studies for curriculum and instructional methods [5]. By outlining the basic characteristics of PLC, PLC is established on the premise of improving student learning through enhancing teaching practices and is regarded as an initiative supported and valued by educators [6]. With further research, PLC have emerged as valuable spaces. In terms of significance, by examining the role of PLC in changing teachers' beliefs and practices, PLC has been found to foster teacher transformation through coherent development structures, a culture of collaboration, and effective learning activities [7]. In terms of research methods, qualitative methods of data collection, including interviews, teacher teaching videos, and PLC dialogue records, have formed the data set. The study indicates that video-based reflection provides important opportunities for teachers to reflect on and modify their teaching practices [8]. In terms of theoretical models, a Framework for Online Learning Communities (FOLC) was proposed as an extension of teacher-learning community models to address knowledge and

motivation deficits. The effectiveness of the model was demonstrated through interviews with participants to analyze their experiences [9]. In terms of technological applications, virtual technology has been utilized to connect educators in similar disciplines, collecting qualitative data from multiple sources to understand the impact of virtual technology practices on rural teachers, effectively expanding boundaries [10]. The core idea of learning communities is that learning is a social process, not merely an individual's internal cognitive activity.

1.3. Research Innovations

Research indicates that although foreign scholars emphasize the role of communities in promoting teacher development and effectively avoiding "individualism," "factionalism," and isolation, there is a lack of qualitative research that deeply explores the professional development of teachers within communities and identifies effective and mature teacher development paths. In recent years, online development activities have become a steadily growing field in teacher education research, where teachers' internal factors are crucial in their dynamic interactions with content, facilitators, and peers [11].

Currently, research in China on learning communities has gradually focused on practice-based communities, emphasizing that practice communities are participatory activity systems that establish learners' legitimate roles through community participation. This study refers to the collaborative practice community approach in organizational environments [12], emphasizing that learning is a social and participatory process. Teachers acquire knowledge, skills, and cognitive abilities by participating in the practical activities of social communities. The study explores teachers' learning motivation, psychological regulation, and interaction styles within the community.

2. Relationship between Teacher Education Practice and Learning Community Theory

2.1. Proposing Research Hypotheses

This study aims to "explore" the mechanisms of teacher professional development by utilizing two teacher growth case studies and seeks to answer three questions: 1. What are the characteristics of educational practices that enhance teachers' professional competence? 2. How does a learning community promote teacher professional development? 3. What are the main factors influencing the promotion of teacher professional development within a learning community? These conclusions are beneficial for the restoration of the functions of teacher studios and the implementation of the value of learning communities. Finally, feasible recommendations are provided for frontline teachers from a practical perspective.

2.2. Description of Teacher Growth Stories

T1 is a mid-career teacher with 10 years of experience. She is burdened with busy administrative work such as communication and resource integration, which makes it difficult for her to maintain enthusiasm for teaching. She feels that her abilities are inadequate and lacks a foundation in teaching research. When she learned that the college was establishing a teacher-learning community, she decided to participate together with T2, who is responsible for the national quality course in English. Initially, the two teachers participated in a 14-week international online teacher training course organized by the British Embassy's Cultural Department in China and planned to collaborate on a teaching research project. However, due to divergent research interests, T2 eventually took over the project. Subsequently, T1 took a different approach and applied the "real-time online teaching skills" she learned in the international online course to her own classroom. She identified the research topic of "Internet interactive teaching strategies" and, through interactions with coordinator B1 within the

community, developed a growing interest in teacher education development, especially in the research direction pursued by coordinator B1, who was pursuing a doctoral degree. After participating in the community for over a year, T1 finally seized the opportunity to pursue a doctoral degree abroad. Her doctoral thesis topic, "Construction of Chinese Language Teachers' Identity in the United States," belongs to the field of teacher development. Looking back on her developmental journey, T1 reflected that her past experiences were always "draining," but now she has finally overcome all obstacles and achieved her dream of pursuing a Ph.D.

T3 comes from an intellectual family and has always set high standards for herself. Since childhood, she has had a strong interest in literary research and immediately applied for an on-the-job doctoral program in Chinese literature upon entering the teaching profession. After taking on teaching management responsibilities in 2012, she started developing new courses. In terms of research, she considers herself to have faced many setbacks, mainly due to the scarcity of literature in her research field and the limited availability of high-quality resources. She once applied for a postdoctoral study but gave up due to the inability to find a suitable mentor. She decided to join the learning community because she believed that "as long as it involves learning, it is meaningful." In order to better serve teaching, she made efforts to shift her focus from literary research to teaching skills research and chose "project-based teaching method" as her research topic within the learning community. After participating in two semesters of community learning, T2 felt that she had "preliminary inspiration" for teaching research.

2.3. Analysis of Characteristics of Teacher Education Practice

The background story of T1 reflects her dual difficulties in teaching and research. She lacks enthusiasm in teaching and faces challenges in research progress. T1's teaching difficulties mainly manifest in the mismatch between teaching methods and the current context ("good teaching methods cannot be well implemented"); her research difficulties mainly stem from weak research foundations, lack of subjective dedication, and limited objective opportunities ("stalled doctoral plans"). With the encouragement of others ("planned collaboration with T2"), she gained a preliminary understanding of research methods ("took a different approach and identified a research topic") and gradually developed an interest in teacher development as a research direction, finally seizing the objective opportunity to pursue a doctoral degree abroad. T3's learning story reflects her success in teaching and the bottleneck she faces in research. The research difficulties are primarily due to the specificity of her research field, her personal drive for growth ("hoping to enhance her own value" in learning), the influence of the learning community's atmosphere, and her subjective dedication ("transition in research direction") and active research involvement, resulting in a preliminary understanding of research methods ("gained preliminary inspiration"). In terms of participation in the learning community, T1 initially showed a more passive involvement, similar to being "a frog in warm water." Therefore, T1's growth experience in the community can be summarized as "leaping out of warm water." On the other hand, T3 demonstrated an active attitude of participation in the learning community, which can be summarized as "seeking self-value," ultimately leading to proactive initial growth.

Table 1: Analysis of Teacher Growth Stories and Characteristics of Educational Practice

| Teacher | Story Theme | Dilemma in Joining the Learning Community | | Development after Joining the Learning Community | Analysis of Characteristics of Learning and Educational Practices in the Community | |
|---------|---|--|--|---|--|-----------------------------|
| | | Teaching | Research | Teaching and Research | Participation Status | Growth Characteristics |
| T1 | The Frog That Jumps Out of the Warm Water | Mid-career Transition, Heavy Teaching Load, Insufficient Abilities | Stagnation in the Doctoral Program, Weak Research Foundation | Establishment of Research Topics, Fulfillment of the Desire to Pursue a Doctorate | Passive Participation | Passive Initial Self-growth |
| T3 | The Path of Self-development | No Obvious Challenges | Mid-career Transition, Unsuccessful Researcher, Lack of Sense of Value | Shift to Teaching Research | Continued Active Participation | Proactive Initial Growth |

The teacher's growth presented in the story mainly focuses on five aspects: improvement of teaching and research awareness, development of interest in teaching and research, mastery of practical research methods, dedication to research practice, and recognition of teaching and research achievements. The most significant aspect is the mastery of practical research methods. As research achievements are also included in the evaluation of teachers' research growth, obtaining and being acknowledged for research achievements becomes an indispensable part of teachers' research growth.

3. Application of Learning Community Theory in Teacher Education Practice

3.1. Characteristics of Teacher Education Practice

A learning community is a social group connected by common interests, goals, and practices. In a learning community, members solve problems, share experiences and knowledge through interaction and collaboration, and the educational practice characteristics that influence teachers' professional level are as follows:

(1) Reflectivity: Promoting teachers' professional level in educational practice emphasizes teachers' reflection and self-assessment. Teachers need to continuously reflect on their teaching practices, consider their teaching goals, methods, and effectiveness, and conduct self-evaluation and adjustment.

(2) Practicality: Promoting teachers' professional level in educational practice focuses on integrating theoretical knowledge with actual teaching. Teachers need to apply the theoretical knowledge they have learned to practical teaching, and through practice, validate and improve their teaching methods and strategies.

(3) Collaboration: Promoting teachers' professional level in educational practice emphasizes cooperation and communication among teachers. Through collaborative research, teaching teams, and other forms, teachers can share experiences, exchange teaching methods and strategies with other teachers, and collectively improve their teaching level.

(4) Long-term commitment: Promoting teachers' professional level in educational practice is a long-term process. Teachers need to continuously learn and practice, constantly improving their teaching abilities and professional level.

(5) Targeted: Promoting teachers' professional level in educational practice should be targeted. Educational practices should provide targeted training and support based on teachers' specific needs and development directions.

In summary, promoting teachers' professional level in educational practice should be reflective, practical, collaborative, long-term, and targeted. Through these characteristics, teachers' teaching abilities and professional level can be effectively enhanced.

3.2. Factors Influencing Teacher Education Practice

The factors influencing teachers' professional development in the learning community include the following aspects:

(1) Personal factors: Personal factors refer to the characteristics and abilities of teacher-researchers themselves. This includes the academic background, professional knowledge, research interests, and motivation of teacher-researchers. Personal factors play a foundational role in the growth of teacher-researchers.

(2) Social factors: Social factors refer to the influence of the social environment and social relationships in which teacher-researchers are situated on their growth. This includes the academic institutions, research teams, and academic exchange networks in which teacher-researchers are involved. Social factors can provide resource support, collaboration opportunities, and academic recognition, promoting the growth of teacher-researchers.

(3) Learning environment: The learning environment refers to the specific environment and conditions in which teacher-researchers engage in learning and research. This includes the support policies of educational institutions, research facilities, and academic resources. A good learning environment can provide opportunities for academic exchange and collaboration, promoting the growth of teacher-researchers.

(4) Learning activities: Learning activities refer to the learning and research activities in which teacher-researchers participate. This includes attending academic conferences, publishing papers, conducting collaborative research, etc. Through active participation in learning activities, teacher-researchers can continuously accumulate knowledge and experience, enhancing their research abilities.

(5) Feedback mechanisms: Feedback mechanisms refer to the mechanisms through which teacher-researchers receive feedback and evaluation. This includes peer reviews, mentor guidance, and academic evaluations. Through timely feedback and evaluation, teacher-researchers can understand their research level and development direction, further enhancing their research abilities.

3.3. Strategies for Improving Teacher Education Practices

Based on evaluation and reflection, the following suggestions for improvement and optimization can be proposed:

(1) Increase Interactivity: In teacher education practices, promoting interaction and collaboration between students and teachers can be achieved by enhancing interactivity. For example, activities such as group discussions, collaborative projects, and role-playing can be introduced to enable students to work together in solving problems and enhance the effectiveness of learning. Additionally, teachers can actively engage in student discussions and interactions, providing timely feedback and guidance.

(2) Provide Personalized Support: As different students have varying learning needs and abilities, teacher education practices should offer personalized support. Teachers can provide targeted teaching

and support based on students' characteristics and needs through methods like grouping, individual tutoring, and personalized learning plans. Encouraging student autonomy and exploration can also help cultivate their learning abilities and independence.

(3) Strengthen Teacher Training: Teacher education practices require teachers to possess relevant teaching skills and professional knowledge. Therefore, strengthening teacher training is crucial for improving the quality of teacher education practices. Training can include teaching methods, educational technology applications, and professional development for teachers. By providing systematic training and support, teachers can continuously enhance their teaching skills and professional competence.

(4) Create a Positive Learning Environment: Teacher education practices necessitate the creation of a positive learning environment that stimulates students' interest and motivation for learning. Teachers can foster a relaxed, interactive, and supportive learning atmosphere, encouraging active student participation and expression of their viewpoints. Additionally, providing diverse learning resources and activities can cater to students' varied learning needs.

(5) Obtain Student Feedback and Evaluation: Collecting feedback and suggestions from students regarding existing teacher education practice strategies is essential. Through student questionnaires, group discussions, and other methods, understanding the level of acceptance, learning experiences, and needs of students towards these strategies can provide a basis for improvement.

4. Conclusion

Therefore, the theory of learning communities holds significant application value in teacher education practices. Through participation in learning communities, teachers can receive support and guidance for professional development, thereby enhancing their teaching abilities and professional expertise. Future research can further explore the effectiveness of learning communities in various educational fields and among different groups of teachers, aiming to provide more scientific and effective guidance for teacher education practices.

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