

Mapping the Evolution of Professional Learning Communities in Education

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Abstract

Professional Learning Communities (PLC) have become a strategic approach for developing teacher professionalism and improving the quality of learning in schools. This study aims to map the development of the PLC concept in the global literature and identify trends, gaps, and research opportunities through a Systematic Literature Review (SLR). The conceptual framework draws on the six PLC dimensions developed by Olivier and Hipp, comprising shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, and supportive conditions covering relationships and structures. The SLR was conducted by identifying, selecting, and synthesizing 20 internationally reputable scientific articles retrieved from Google Scholar between 2010 and 2024. The findings show that (a) the PLC concept has evolved significantly from a practice-based collaborative approach toward a more complex learning organization framework integrated with leadership, school culture, and improvements in teacher performance and student learning outcomes; and (b) recent research trends point to the importance of distributed leadership, the use of data in decision-making, and the strengthening of a sustainable collaborative culture. Research gaps remain in the holistic integration across PLC dimensions, the implementation context in developing countries, and the measurement of long-term impact on learning quality. The theoretical implications of this study reinforce the relevance of the six PLC dimensions as a comprehensive analytical framework and offer more integrative, contextual directions for future research.

Keywords: Professional Learning Communities; Teacher Professional Competence; PLC Dimensions; PLC in Education.

INTRODUCTION

Continuous teacher professional development is a key factor in improving the quality of education. Over the past two decades, Professional Learning Communities (PLC) have emerged as a promising approach for facilitating collaborative learning among teachers and improving teaching practice in schools (DuFour & Eaker, 1998; Stoll et al., 2006). PLC is defined as a professional community that continuously investigates teaching and learning practices together to improve student learning outcomes (Hord, 1997; DuFour et al., 2006).

The PLC concept was first introduced by Shirley Hord (1997), who identified five major dimensions of professional learning communities. The conceptual framework was then developed more comprehensively by Olivier and Hipp (2010), who identified six key dimensions: (1) shared and supportive leadership, which emphasizes distributed and collaborative leadership; (2) shared values and vision, which describes shared agreement on educational goals; (3) collective learning and application, which covers shared learning and its application in practice; (4) shared personal practice, which involves sharing

teaching practice among teachers; and (5) and (6) supportive conditions, which cover the aspects of interpersonal relationships and organizational structure (Olivier & Hipp, 2010).

A range of studies has shown the positive impact of PLC implementation on multiple aspects of education. Vescio et al. (2008), in their literature review, found that PLC contributes significantly to changes in teaching practice and improvement in student learning outcomes. The longitudinal study by Louis and Marks (1998) showed a positive relationship between professional community and teacher pedagogical quality. Bolam et al. (2005) identified that effective PLCs require strong structural and cultural support from school leadership.

Although the PLC literature continues to grow, several research gaps remain. First, most existing systematic reviews tend to focus on certain aspects of PLC in isolation, such as leadership or collaboration, without integrating the six PLC dimensions holistically (Harris & Jones, 2010; Hiron et al., 2017). Second, the majority of PLC studies have been conducted in the context of developed countries such as the United States, the United Kingdom, and Australia, while understanding of PLC implementation in the context of developing countries, including Indonesia, remains limited (Zhang & Pang, 2016; Salleh, 2016). Third, existing literature reviews have not comprehensively explored the conceptual evolution of PLC over time, or how the six dimensions interact in supporting teacher professional development (Vangrieken et al., 2017).

Based on these gaps, this study aims to (1) map the development of the Professional Learning Communities (PLC) concept in the global literature; and (2) identify trends, gaps, and research opportunities through a Systematic Literature Review (SLR) approach, drawing on the six-dimension PLC framework developed by Olivier and Hipp (2010). Systematic Literature Review was selected as the research method because it enables comprehensive, systematic, and replicable analysis of the existing literature (Kitchenham & Charters, 2007; Petticrew & Roberts, 2006).

METHOD

This study uses the Systematic Literature Review (SLR) method, drawing on the PRISMA protocol (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) (Moher et al., 2009). SLR is a systematic, explicit, and replicable research approach for identifying, evaluating, and synthesising relevant research works (Kitchenham & Charters, 2007). This method was selected because it allows researchers to comprehensively map the development of the PLC concept and identify existing research gaps.

Search Strategy. The literature search was conducted in Google Scholar using the keywords “Professional Learning Communities,” “PLC in education,” “teacher professional learning communities,” “collaborative teacher learning,” and their combinations. The search was restricted to English-language articles published between 2010 and 2024 to ensure the relevance and currency of the literature reviewed.

Inclusion and Exclusion Criteria. The inclusion criteria covered: (1) peer-reviewed articles published in reputable international journals; (2) articles that explicitly address Professional Learning Communities in the context of education; (3) articles available in full-text format; and (4) articles relevant to PLC dimensions. Exclusion criteria covered: (1) articles in the form of book reviews, editorials, or conference abstracts; (2) articles

that mention PLC only in passing without in-depth analysis; and (3) articles in languages other than English.

Selection Process. Article selection was carried out in three stages. The first stage was a title and abstract screening to identify articles potentially relevant to the review. The second stage was full-text reading to assess article suitability against the inclusion criteria. The third stage was data extraction and quality assessment of the articles. From an initial search that yielded 156 articles, the selection process identified 20 articles that met the criteria and were eligible for analysis.

Data Analysis. Data from the selected articles were analyzed using thematic analysis, drawing on the six-dimensional PLC framework of Olivier and Hipp (2010). The analysis was conducted in three stages: (1) data coding based on PLC dimensions; (2) identification of patterns and themes; and (3) synthesis of findings to address the research questions. Table 1 presents the list of articles analyzed in this study.

Table 1. Articles Analyzed in the Systematic Literature Review

No	Author (Year)	Journal	Focus
1	Stoll et al. (2006)	Journal of Educational Change	PLC conceptual framework
2	Vescio et al. (2008)	Teaching and Teacher Education	Impact on teaching practice
3	Olivier & Hipp (2010)	Demystifying PLC (book chapter)	Six dimensions of PLC
4	DuFour & Fullan (2013)	Solution Tree Press	PLC and school reform
5	Harris & Jones (2010)	Improving Schools	Distributed leadership in PLC
6	Hairon & Dimmock (2012)	Educational Review	PLC in the Singapore context
7	Vangrieken et al. (2017)	Teaching and Teacher Education	Systematic review of PLC
8	Hargreaves & O'Connor (2018)	Corwin Press	Collaborative professionalism
9	Marsh (2012)	Teachers College Record	Data use in PLC
10	Schildkamp & Poortman (2015)	Teachers College Record	Data team and PLC
11	Lee et al. (2011)	Teaching and Teacher Education	Leadership and PLC
12	Lomos et al. (2011)	School Effectiveness and School Improvement	PLC and student achievement
13	Goddard et al. (2015)	American Journal of Education	PLC effectiveness measurement
14	Owen (2014)	Australian Journal of Adult Learning	PLC maturity model
15	Little (2003)	Teachers College Record	Collaborative practice
16	Ermeling & Graff-Ermeling (2016)	Corwin Press; Learning Forward	Lesson study in PLC
17	Zhang & Pang (2016)	The Asia-Pacific Education Researcher	PLC in Chinese schools
18	Salleh (2016)	Asia Pacific Journal of Education	PLC facilitation in Singapore
19	Hairon et al. (2017)	Professional Development in Education	PLC research agenda
20	Harris & Jones (2017)	School Leadership & Management	Leadership for PLC

RESULTS AND DISCUSSION

Evolution of the Professional Learning Communities Concept

The literature analysis shows that the PLC concept has undergone significant evolution since its introduction. In the early phase, from the 1990s through the early 2000s, PLC was understood as a form of informal collaboration among teachers to share teaching practice (Hord, 1997). The focus during this period was on building communities that supported collaborative learning at the school level. Stoll et al. (2006) extended this understanding by emphasizing that PLC is not merely a group of teachers working together but a community that systematically investigates teaching practice to improve student learning outcomes.

In the 2010s, the PLC concept evolved into a more complex, integrated learning-organization framework. Olivier and Hipp (2010) developed the Professional Learning Community Assessment-Revised (PLCA-R) instrument, which operationalized the six PLC dimensions in measurable form. This framework allows schools to evaluate and develop their capacity as professional learning communities. DuFour and Fullan (2013) then integrated the PLC concept with systemic school reform, emphasizing that effective PLCs require a comprehensive transformation of school culture.

Recent developments from 2015 to 2024 show the integration of PLC with the concepts of instructional and distributed leadership. Harris and Jones (2017) argue that distributed leadership is a prerequisite for PLC sustainability because it distributes responsibility for learning across the organization. Research by Vangrieken et al. (2017) also shows a shift from a focus on input (structure and process) toward outcomes (impact on student learning). This finding aligns with Owen's (2014) argument that mature PLCs focus not only on teacher development but also on measurable improvements in student learning outcomes.

Recent Research Trends

Analysis of recent literature reveals several prominent research trends. First, attention to the role of leadership in PLC success has grown. Hairon and Dimmock's (2012) study in Singapore shows that supportive school leadership is a critical factor in building and sustaining PLCs. In line with the shared and supportive leadership dimension outlined by Olivier and Hipp (2010), school leaders need to create conditions that enable teachers to participate actively in learning communities. Lee et al. (2011) further found that effective leadership in PLC contexts is facilitative rather than directive, encouraging teacher initiative while providing the structural support required.

Second, the use of data in decision-making has become an increasingly integral component of PLC practice. Marsh (2012) and Schildkamp and Poortman (2015) demonstrate that effective PLCs use various types of data, including student learning data, Classroom observations, and peer feedback, to inform improvements in teaching practice. This trend reflects the strengthening of the collective learning and application dimension, which emphasizes evidence-based learning and collective reflection.

Third, sustainable collaborative culture has become an increasingly important focus of research. Hargreaves and O'Connor (2018) introduce the concept of collaborative professionalism, which distinguishes between surface collaboration and deep collaboration that affects practice. Their research shows that transformative PLCs require

professional norms that support openness, trust, and shared responsibility. This finding reinforces the relevance of the shared values and vision dimension and the supportive conditions-relationships dimension within the framework by Olivier and Hipp (2010).

Fourth, the sharing of teaching practice (shared personal practice) has developed from sharing teaching tips into a more systematic deprivatization of practice. Little (2003) and Ermeling and Graff-Ermeling (2016) document that mature PLCs involve reciprocal Classroom observation, lesson study, and collective analysis of student work. These practices allow teachers to critically evaluate and improve their teaching based on concrete evidence.

Research Gaps and Future Opportunities

Although the PLC literature continues to grow, this analysis identifies several significant research gaps. First, there are limitations in research that integrates the six PLC dimensions holistically. Most studies tend to focus on one or two specific dimensions, for example, only leadership or only collaboration, without exploring how those dimensions interact and influence one another. Longitudinal research that investigates the dynamics of interaction across PLC dimensions is needed to understand the mechanisms underlying PLC success (Vangrieken et al., 2017).

Second, there is a significant gap in PLC research in developing-country contexts. Most existing literature comes from the United States, Europe, and Australia, with limited representation from Asia, Africa, and Latin America (Zhang & Pang, 2016). Studies by Salleh (2016) on Singapore and by Hairon et al. (2017) show that PLC implementation is influenced by local cultural and educational contexts. More research is therefore needed to explore the adaptation and effectiveness of PLCs in diverse educational contexts, including Indonesia.

Third, the measurement of the long-term impact of PLC on learning quality remains limited. Although several studies have shown a positive correlation between PLC and student learning outcomes (Vescio et al., 2008; Lomos et al., 2011), there is still relatively little research that uses longitudinal or experimental designs to establish causal relationships. Goddard et al. (2015) emphasize the need for more methodologically rigorous research that measures the impact of PLC on student learning in measurable and sustainable ways.

Fourth, the supportive conditions-structures dimension requires more focused research attention. Although the literature acknowledges the importance of structural support, such as time, space, and resources, for PLC (Bolam et al., 2005), there remains relatively little research that systematically investigates how these structural conditions can be optimized across different school contexts. Future research needs to explore structural models that enable PLC sustainability within the resource constraints that schools often face.

Theoretical and Practical Implications

The findings of this study have several important implications. Theoretically, they reinforce the relevance of the six-dimensional PLC framework from Olivier and Hipp (2010) as a comprehensive analytical framework for understanding and evaluating professional learning communities. The framework provides a useful lens for analyzing various aspects of PLC in an integrated manner, from leadership to supportive conditions.

However, this study also proposes the need for a more dynamic theoretical framework that can capture interaction across dimensions and the evolution of PLC over time.

In practice, the findings provide guidance for school leaders and policymakers on developing and sustaining PLCs. Distributed and supportive leadership, a culture of systematic practice sharing, and adequate structural support are key components that need attention. The use of data in decision-making and the development of professional norms that support deep collaboration must also be priorities in PLC implementation.

CONCLUSION

This Systematic Literature Review has mapped the development of (a) the PLC concept in the global literature and identified trends, gaps, and research opportunities in this field. The findings show that the PLC concept has undergone significant evolution from a practice-based collaborative approach toward a more complex learning organization framework integrated with leadership, school culture, and improvements in teacher performance and student learning outcomes; and (b) recent research trends point to four important aspects: the critical role of distributed and supportive leadership; the use of data in decision-making; the strengthening of a sustainable collaborative culture through collaborative professionalism; and the deprivatization of teaching practice through reciprocal observation and collective analysis. These four trends reinforce the relevance of the six PLC dimensions developed by Olivier and Hipp (2010).

That said, research gaps remain to be addressed. Future research needs to explore holistic integration across PLC dimensions, implementation contexts in developing countries, including Indonesia, and the measurement of long-term impact on learning quality using more methodologically rigorous designs. The theoretical implications of this study reinforce the six-dimensional PLC framework as a comprehensive analytical instrument while offering more integrative, contextual directions for future research in the development of professional learning communities in education.

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