

Lessons and Challenges in Supporting CS Teachers through Local Communities: CS Teacher Leaders' Perceptions

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ABSTRACT

Effective professional learning communities (PLCs) are important in supporting teacher learning. This study investigated computer science (CS) teacher leaders' perspectives on the lessons and the challenges in supporting CS teachers through local PLCs. We purposefully selected ten CSTA chapters and conducted focus group interviews with the chapter leaders between 2020 and 2022. Our findings indicated that these PLCs offered social-emotional support, continual networking opportunities, and rich professional learning resources. Also, they amplified teachers' voices and supported CS teachers' professional identity building. To engage CS teachers, the teacher leaders built trust, collaborated with other PLCs or organizations, and set an inclusive PLC culture. These PLCs had challenges in recruitment, leadership development and transition and building group identity.

CCS CONCEPTS

• Social and professional topics~Professional topics~Computing education~K-12 education

KEYWORDS

CS Teachers, Professional Learning Communities, Identity

1 Introduction and Background

The rapid expansion of K-12 CS education calls for more professional development (PD) for supporting teachers to develop the knowledge and expertise for teaching CS [1]. Professional learning communities (PLCs) are widely recognized as an effective approach to supporting teachers' professional learning [2]. Computer Science Teachers Association (CSTA), the largest organization for K-12 CS teachers, builds a national PLC and supports CS teachers to develop state- or local-level PLCs as CSTA chapters.

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Previous studies found that CS teachers developed inquiry-based and equity-oriented pedagogy from participating in PD-based PLCs established by teacher educators [2,3]. But little is known about the PLCs primarily organized and sustained by CS teachers. In this study, from CS teacher leaders' perspectives, we seek to answer, 1) What types of support do PLCs provide to CS teachers? 2) How do local PLCs engage CS teachers? 3) What are the challenges in building strong CS PLCs?

2 Methods/Results

Participants were the chapter leaders of ten CSTA chapters across the U.S. in 2020-2022. We purposefully selected the ten CSTA chapters and conducted focus group interviews. We followed a grounded theory approach and thematically analyzed the data.

We found that PLCs supported CS teachers in these aspects: providing social-emotional support and PD resources; offering rich network opportunities and raising awareness of CS teachers' needs within the larger CS education community; developing the teachers' capacity for building a professional identity as a CS teacher. To engage CS teachers, the teacher leaders resorted to building a trustworthy relationship with CS teachers, establishing collaborative relationships with other PLCs and organizations, and creating a welcoming and inclusive culture within the PLC. Meantime, in developing PLCs, the CS teacher leaders still faced challenges in identifying and recruiting teachers of CS, leadership development and transition, and building group identity.

3 Contributions

This study deepened our understanding of the local PLCs run by CS teachers. And our findings called on coordinated efforts from various parties to support CS teachers and these local PLCs.

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