

Developing collaborative data use through professional learning communities: Early lessons from Delaware



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ARTICLE INFO

Article history:

Received 25 March 2013

Received in revised form 16 September 2013

Accepted 17 September 2013

Available online 25 October 2013

Keywords:

Educational policy

Leadership

Data

Decision-making

Faculty development

Communities of practice

ABSTRACT

In 2010–2011 the Delaware Department of Education (DE DOE) mandated that all grade or subject area teachers have 90 min weekly to engage in professional learning communities (PLC) in which collaborative data use was the central activity. The purpose of this research is to learn from the early implementation experiences of four elementary schools in two districts, with particular attention to whether and how schools' implementation fostered collaborative use of data. Findings suggest the mandate resulted in the establishment of scheduled collaborative time and teachers' collaborative use of data in all schools. However, the nature of collaborative work and the ways in which data were employed varied in ways that relate to key school and district differences.

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Introduction

Globally, educators face growing expectations to utilize data to improve instruction and need supports to achieve that goal. In the United States, these expectations are embodied in federal, state, and local educational policies. At the federal level, *No Child Left Behind* and *Race to the Top (RTTT)* reinforce the need for education agencies to collect and act upon various forms of data for accountability purposes.

States and local educational agencies have responded to these federal calls by increasing access to data through the development of data systems and tools and by supporting educators' use of data through the development of a range of data support interventions (Coburn & Turner, 2012; Marsh, 2012; Means, Padilla, DeBarger, & Bakia, 2009). In this paper, we explore one such response in order to better understand the potential for mandates to leverage data use.

As part of its RTTT funds, the Delaware Department of Education (DE DOE) mandated that all grade or subject area teachers have 90 min weekly to engage in professional learning communities (PLC) in which collaborative data use was the central activity. We begin by discussing the initiative's theory of action and supporting literature. Drawing on data from a mixed methods study of data

use in four schools and two districts, we then explore school and district implementation of the mandate and the nature and extent of collaborative data use developed across sites. Throughout these findings we attend to how schools and districts differ in their approach to the mandate and how those differences explain outcomes for teachers' collaborative use of data.

The Delaware approach to data-informed PLCs

The DE DOE was awarded funds through the 2010 RTTT competition. PLC time was specifically included to address the RTTT-required section on development of data systems to support instruction. PLCs were part of a larger strategy for increasing data-informed decision-making statewide. Other components, including RTTT funded Data Coaches, a new state longitudinal data system, and partnership with Harvard University's Strategic Data Project, were not fully implemented at the time of this study. However, it is important to note the state context of the study is one with strong commitment to the use of data to drive improvement and that PLC's are just one aspect of these efforts.

The DE DOE articulates its approach to PLCs through the RTTT plan,² a "hip pocket" reference,³ and through ongoing support to

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² Available at http://www.doe.k12.de.us/rttt/DE%20RTTT%20Narrative%20Final%20-%20100119_0116.pdf.

³ Available at https://www.google.com/url?q=http://www.doe.k12.de.us/rttt/lea_pages/files/HipPocket_CPTR.pdf&sa=U&ei=gTn4UOitNMry2gWPulBw&ved=0CAcQF-jAA&client=internal-uds-cse&usg=AFQjCNGS7Kg2DLiDhLD6b3p3SEp4R8gUyA.

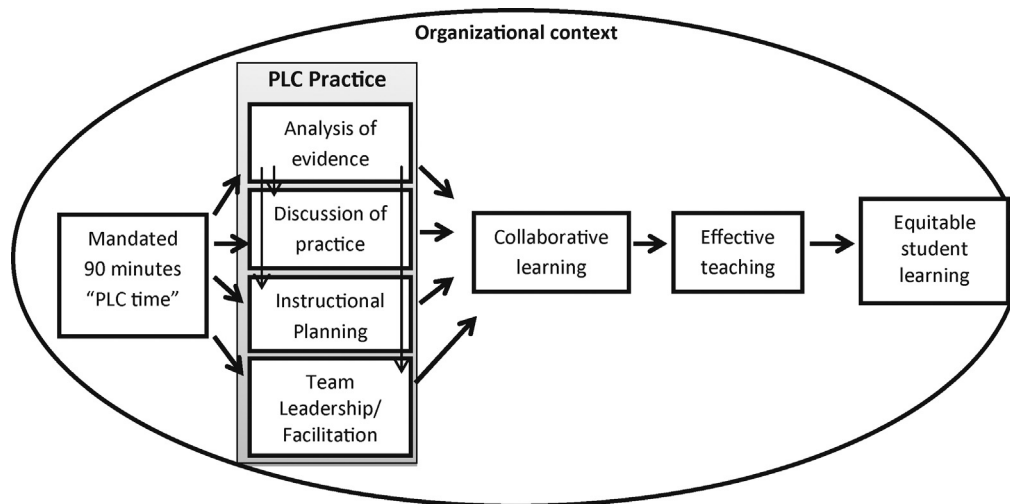


Fig. 1. The theory of action underlying the Delaware mandate.

LEAs. These resources frequently refer to four components of effective collaborative planning: analysis of evidence of student learning, discussion about teaching practice, instructional planning, and team leadership and facilitation.

Furthermore, DE DOE's definitions of "effective" teams emphasize the role of data in all four components: the use of multiple forms of assessment as evidence of student learning, analysis of evidence of what is and is not working in discussions of teaching practice, differentiated grouping and lessons accompanied by formative assessment during instructional planning, and development of leadership that is analytic, reflective and results oriented.

The initiative emphasizes the development of teachers' instructional capacity through the dual mechanisms of collaboration and data use. More specifically, the underlying logic of the state mandate holds that effective teaching is the "single most powerful lever to impact equitable student learning", and that collaborative learning time is a correspondingly powerful lever for improving teaching. Evidence of student learning – i.e. data – is a central tool in teachers' collaborative learning.

DE DoE documentation also acknowledges that the mandate alone will not foster the outcomes intended. Certain conditions are necessary for fostering effective collaborative planning time, including timely and relevant data provision; curricular and planning tools and resources; protected time for collaboration, and district culture of continuous learning and improvement. In addition, school and district leadership are expected to provide support and resources for the implementation of this mandate. Based on DE DoE documentation, we present Fig. 1 to illustrate the underlying theory of action, which, although not articulated explicitly, has a strong literature base to support it, drawn from research on both data use and PLCs.

Research evidence supporting data-informed PLCs

Research and practice supports the power of professional communities in implementing reform and sustaining instructional improvement (Hord, 1997; Kruse, Seashore Louis, & Bryk, 1994). Based on the early work of Rosenholtz (1989), McLaughlin and Talbert (1993), and Senge (1990) related to collective learning and learning organizations, PLCs were conceived as structured time for teacher learning. McLaughlin and Talbert (2006) explain, "Learning communities provide opportunities for reflection and problem solving that allow teachers to construct knowledge based on what they know about students' learning and evidence of their progress (p. 5)". With the press for increased accountability along with the

increased availability of student learning data, Little (2012) notes that schools and districts are adopting PLCs specifically organized for educators to discuss data as a mechanism for instructional improvement. This is not surprising as prescriptive PLC procedures frequently emphasize the role of data in reflective inquiry and practice (DuFour, DuFour, & Eaker, 2008; Van Lare & Brazer, 2012).

The theory of action underlying Delaware's mandate suggests that the required collaborative time will generate or improve teachers' use of data. Studies of data use indeed suggest that effective practice is often social in nature, (e.g., Datnow, Park, & Wohlstetter, 2007; Kerr, Marsh, Ikemoto, Darilek, & Barney, 2006; Lachat & Smith, 2005; Schildkamp & Kuiper, 2010; Wayman & Stringfield, 2006) and can result in better instructional decision-making and foster deeper use of data (Lachat & Smith, 2005; Supovitz, Merrill, & Conger, 2010; Young, 2006). Furthermore, most prescriptive models of data use incorporate substantial collaborative elements (Supovitz & Morrison, 2011).

Evidence of impact on student learning

While the literature bears out the theoretical importance of PLCs and data use for teacher learning, evidence of their impact on teacher learning, instruction, and student outcomes is more tenuous. A growing body of literature documents the production of teacher knowledge, particularly of student learning, as a result of evidence-based collaboration (Andrews & Lewis, 2007; Cosner, 2011b; Earl & Timperley, 2009). However, research also finds that teachers' coupling of this knowledge to instructional practice varies (Lasky, Schaffer, & Hopkins, 2009; Nabors-Olah, Lawrence, & Riggan, 2010; Timperley, 2009; Young, 2006). Vescio, Ross, and Adams (2008) report few studies documenting effects of PLCs on teacher practices, with only five specifying the change and most reporting teachers' claims about changing their practice. Coburn and Turner (2011) caution that changes in practice are not always positive, but may "game" the system, narrow the curriculum, or change practice superficially.

A small body of evidence supports the impact of PLC or data use on student learning. Vescio et al. (2008) find only eight studies that attempt to connect PLCs to student achievement while a meta-analysis of professional community and student achievement (Lomos, Hofman, & Bosker, 2011) finds only five with measurable effects on learning. There is similarly little evidence in research focusing on data use, with only a few studies making connections between data use, teacher practice and knowledge, and student learning (Christman et al., 2009; Fuchs, Fuchs, Karns, Hamlett, & Katz, 1999; Lai & McNaughton, 2009; Saunders, Goldenberg, &

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