Chapter 5
The Principal as a Data-Driven Instructional Leader: Using PLCs to Improve Teaching and Learning

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ABSTRACT

The No Child Left Behind Act (NCLB) began an educational reform movement that iterated standardization and accountability. Since the onset of NCLB, educational leaders have focused more attention on using data to guide and inform school improvement efforts. Although most school leaders and teachers have access to a wide-range of data, the examination and interpretation of data to inform teaching and to improve student learning has been a challenge for educators. In this chapter, the authors review the literature on data-driven decision making (DDDM) and elaborate on how the principal, as an instructional leader, uses the professional learning community (PLC) process to support the development of teachers in creating an authentic approach to data analysis in order to improve instruction and support student learning.

INTRODUCTION

In God we trust, all others must bring data. –W. E. Deming

It is about transforming data from passive to active, from static to dynamic - transforming data into insight. –Carly Fiorina

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Leaders in schools across the country have heard the words *data-driven decision-making* (DDDM). Some school leaders have negative reactions every time they hear the word *data*, and others use data as their weapon for school improvement. Some school leaders know how to sort through the plethora of data that is accrued on their students and their schools and make a targeted improvement plan that enhances the learning of the students in their building. However, many school leaders do not know how to use data to transform their schools so that all students are achieving success (Boudett, City, & Murnane, 2005; Diamond & Spillane, 2004; Marsh & Farrell, 2015; Wayman, Cho, Jimerson, & Spikes, 2012). Moreover, many teachers often lack the capacity to use data to improve their instructional practices (Diamond & Spillane, 2004; Ingram, Louis, & Schroeder, 2004; Wohlstetter, Datnow, & Park, 2008). In an era of educational accountability and improvement, it has become necessary for educational leaders to use DDDM as a means to improve their schools.

Data-driven decision-making represents a systematic method of collecting data so that principals can accurately assess student outcomes and make school improvements. As a continuous improvement process, instructional leaders use data to identify strengths and weaknesses in their academic programs and to make informed decisions based on actual data rather than relying on their opinions or the opinions of teachers. Principals who continuously and systematically monitor and evaluate school processes find success with long-term and innovative change (Marzano, Waters, & McNulty, 2005).

Since the onset of *No Child Left Behind* (NCLB), student performance data have been used to identify groups of students who show improvement, as well as those who do not. Consequently, understanding and analyzing data are critical in improving student outcomes (Creighton, 2001). Researchers (Dunn, Airola, Lo, & Garrison, 2013; Messelt, 2004; Scheurich & Skrla, 2003; Wayman, Midgley, & Stringfield, 2006) have indicated that the effective use of data can lead to a reduction of the achievement gap between student groups by improving teaching and learning. When teachers engage in DDDM to improve their instruction, they become better teachers leading to students improving academically.

Although principals engage in DDDM for various school improvement efforts, this chapter focuses on how principals, as instructional leaders, influence teachers to use data-driven decisions to improve their instructional practices. Being an instructional leader involves creating a school culture that supports data analysis (Diamond & Spillane, 2004), supporting initiatives to build teachers’ capacity in data literacy (Marsh & Farrell, 2015), and making choices about the available data that will assist teachers in their instructional practices (Farrell & Marsh, 2016). As instructional leaders, principals work with teachers to collect multiple sources of data, analyze them, and use them to drive decisions on instruction and to address barriers to student learning (DuFour, 2004). Principals play a crucial role in facilitating DDDM. They understand that data must be used to inform and improve instruction and should empower their teachers with the skills to do so.

Teachers and instructional leaders should use data to routinely analyze student performance results to improve their instructional practices. Young (2006) argued that teaching is a continuous improvement process in which “practitioners become proficient—not simply by repeating routines, but by adjusting routines based on systematic input” (p. 522). Likewise, Boudett, City, and Murnane (2005) identified the examination of instruction as one of the eight primary steps in DDDM. These authors advised teachers to recognize problems with student learning in the data and transform them into problems in instructional practice; this shift involved seeing data as a means to improve instruction rather than to identify student failures. One of the goals associated with examining instruction is for teachers to collectively identify effective instructional practice. Teachers should use data to examine instructional practices and identify which practices are effective in improving student learning. Simply having access to student performance

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