



# Teacher needs for data-related professional learning



Jeffrey C. Wayman<sup>a,\*</sup>, Jo Beth Jimerson<sup>b</sup>

<sup>a</sup>Wayman Services, LLC, United States

<sup>b</sup>Texas Christian University, United States

## ARTICLE INFO

### Article history:

Received 14 June 2013

Received in revised form 7 November 2013

Accepted 12 November 2013

Available online 15 December 2013

### Keywords:

Data use

Data informed decision-making

Professional learning

Data informed inquiry

Teacher education

Data-based decision-making

## ABSTRACT

Educators are expected to use data to improve teaching and learning. Yet data use is complex: Even after decades of accountability pressures, teachers still struggle with using data to inform instructional practice, often because they receive inadequate data-related professional learning. In this study, qualitative data from 110 participants were used to address two questions: (1) What skills do teachers need to use data effectively? (2) How should teachers receive data-related professional learning? Findings are viewed in light of previous research to suggest avenues to improve data-related professional learning.

© 2014 Jeffrey C. Wayman. Published by Elsevier Ltd. All rights reserved.

## Introduction

Since the early 1980s, the school accountability movement in the United States has grown from the efforts of a few states to establish minimum testing requirements for graduation to an encompassing nationwide effort to leverage improved academic outcomes through state- and federal-testing requirements (Beadie, 2004; Thomas & Brady, 2005; Wells, 2009). As policy actors attempted to leverage improvement through accountability mechanisms, technological advances improved the speed and ease by which teachers could generate, analyze, and respond to various educational data (Burch & Hayes, 2009; Wayman, 2005; Wayman, Stringfield, & Yakimowski, 2004). Due to technological advances, as well as to public expectations and policy pressures, teachers across the United States are expected to use a variety of data to inform and improve classroom practice (Anderson, Leithwood, & Strauss, 2010; Means, Padilla, DeBarger, & Bakia, 2009; Wayman, Cho, Jimerson, & Spikes, 2012).

Still, research indicates that educators struggle with using data to inform practice, citing issues such as data systems, principal leadership, time, and a lack of knowledge about how best to use data to improve instruction (Anderson et al., 2010; Earl & Fullan, 2003; Goertz, Olah, & Riggan, 2010; Means, Padilla, & Gallagher, 2010; Valli & Buese, 2007; Wayman, Cho, et al., 2012). Specific to knowledge, this same research base often indicates that a lack of

quality data-related professional learning opportunities contribute to this knowledge gap. *Quality* is an operative word here – teachers are often exposed to plenty of professional learning about data use, but often report that little of it meets their practical needs (Means et al., 2010; Wayman, Cho, & Johnston, 2007; Wayman, Cho, Jimerson, & Snodgrass Rangel, 2010).

Despite these proven challenges, studies rarely examine data-related professional learning directly. Research on data use sometimes addresses professional learning, but usually as a smaller piece of a larger study (Anderson et al., 2010; Datnow, Park, & Wohlstetter, 2007; Supovitz & Klein, 2003; Wayman, Jimerson, & Cho, 2012). Further, the professional learning literature is robust when it comes to characteristics of effective professional learning in a broader sense, but supporting teachers in becoming better users of educational data is not a focus of this body of research (e.g., Desimone, Porter, Garet, Yoon, & Birman, 2002; Penuel, Fishman, Yamaguchi, & Gallagher, 2007; Wei, Darling-Hammond, Andree, Richardson, & Orphanos, 2009).

Consequently, the goal of the present study was to examine the intersection of professional learning and educational data use. In pursuit of this goal, we focused on two research questions:

- (1) What skills do teachers need to use data effectively?
- (2) How should teachers receive data-related professional learning?

## Research on data use and professional learning

Before providing some background on pertinent research literature, it is important to define some terms used throughout

\* Corresponding author.

E-mail addresses: [jeff@waymandatause.com](mailto:jeff@waymandatause.com) (J.C. Wayman), [jjimerson@tcu.edu](mailto:jjimerson@tcu.edu) (J.B. Jimerson).

this paper. First, we consider *data* to be any information that helps educators know more about their students and which can be codified in some manner. Examples include state achievement tests, benchmark assessments, locally developed periodic assessments, quizzes, disciplinary information, parental information, and teacher observations. Second, we consider *data use* to be the actions in which educators engage as they collect, organize, analyze, and draw meaning from these data in efforts to inform practice. Third, we often use the term *effective data use* to distinguish between data use practices that benefit educators in their practice from other data use practices that have been shown to actually hinder educational work (Earl & Fullan, 2003; Valli & Buese, 2007; Wayman et al., 2010; Young, 2006). Finally, we define *data-related professional learning* to mean the activities in which educators participate to learn various skills for effective data use.

Two streams of research inform our thinking about data-related professional learning: the literature base on educational data use and the literature base on professional learning. In the following two sections, we provide overviews of these two bodies of research.

#### Research on data use

Several studies have identified conditions that facilitate faculty use of data (e.g., Datnow et al., 2007; Lachat & Smith, 2005; Marsh, McCombs, & Martorell, 2010; Schildkamp & Kuiper, 2010; Wayman & Stringfield, 2006; Wayman, Cho, et al., 2012). In this section, we first provide a section that discusses the conditions themselves. Next, we provide two sections that discuss critical supports for these conditions: leadership and computer data systems.

**Conditions that facilitate faculty data use.** Research suggests a number of skill areas important to teacher data use. Four of the most prominent are collaboration, common understandings, triangulation, and time. We offer a brief section on each.

**Collaboration.** Collaboration is one of the most important characteristics of effective data use, enabling educators to bring various perspectives to the table of meaning-making. Educators have been shown collaborating around data in a variety of ways, such as grade-level teams, subject-level teams, or professional learning communities (Kerr, Marsh, Ikemoto, Darilek, & Barney, 2006; Lachat & Smith, 2005; Schildkamp & Kuiper, 2010; Wayman & Stringfield, 2006).

**Common understandings.** It is also important that educators share some common understandings about the goals and purposes of data use (Park & Datnow, 2009; Supovitz & Klein, 2003; Wayman et al., 2007; Wayman, Jimerson, et al., 2012). This research suggests that as educators work together around data, they co-construct a foundation of understandings related to data (goals, purposes, definitions) that permit them to forge ahead in using data in ways that are increasingly complex. When educators participate in the intentional building of common understandings, they are simultaneously participating in valuable learning experiences (Wayman, Jimerson, et al., 2012).

**Triangulation.** Much of the data use literature also highlights the importance of “triangulation,” or of using multiple data elements in the decision-making process (Copland, Knapp, & Swinnerton, 2009; Louis et al., 2010; Marsh et al., 2010; Wayman & Stringfield, 2006). Building the capacity to effectively use multiple elements will require many dimensions of professional learning. One of the most important will be to maintain coherence; teachers must learn to use multiple measures in a way that responds directly to the work they are doing.

**Time.** Finally, research frequently documents effective data use in contexts resourced by sufficient time to perform the above tasks (Ikemoto & Marsh, 2007; Park & Datnow, 2009; Wayman & Stringfield, 2006). Time can be leveraged through existing

structures such that data use can be embedded into everyday work (Datnow et al., 2007; Wayman & Stringfield, 2006). Time for professional learning is a scarce resource for many school districts (Schildkamp & Kuiper, 2010; Wei et al., 2009), so embedding learning about data use into the regular context of work provides a way for district leaders to support teachers in data use-related learning while getting the most out of the time allotted (Wayman, Jimerson, et al., 2012).

**Leadership.** Research is nearly unanimous about the importance of leadership for effective faculty data use (e.g., Datnow et al., 2007; Knapp, Swinnerton, Copland, & Monpas-Hubar, 2006; Louis et al., 2010; Louis, 2007; Park & Datnow, 2009; Supovitz & Klein, 2003; Talbert, Milvea, Chen, Cor, & McLaughlin, 2010; Wayman & Stringfield, 2006). Principal leadership is critical in establishing and supporting school cultures that enable conversations geared toward improving teaching and learning (Anderson et al., 2010; Louis et al., 2010; Wayman, Spring, Lemke, & Lehr, 2012). Park and Datnow (2009) stressed the importance of “...creating an ethos of learning and continuous improvement rather than one of blame” (p. 491), as opposed to a culture marked by misuses of data or an overemphasis on accountability and compliance demands (Earl & Fullan, 2003; Valli & Buese, 2007).

In this vein, several studies suggest a core body of strategies that principals may employ to facilitate faculty data use (Anderson et al., 2010; Marsh et al., 2010; Wayman, Jimerson, et al., 2012). Examples of such strategies included goal-setting, structuring time for collaboration, and helping faculty to know the right questions to ask of data. Thus, a principal might not only structure time for collaboration, but structure what teachers do in that time to include active and contextual learning. Or, a principal might employ an instructional coach to observe teachers individually during teaching, then debrief during team time about questions they might ask from their data based on the lessons they just taught.

**Computer data systems.** Computer data systems that deliver data to educators in an efficient, user-friendly fashion are a critical support for educational data use (Lachat & Smith, 2005; Means et al., 2010; Wayman & Stringfield, 2006; Wayman et al., 2004). Unfortunately, they sometimes are underutilized, often due to lack of educator preparation (Means et al., 2009; Wayman, Cho, et al., 2012; Wayman et al., 2007; Wayman, Cho, & Shaw, 2009).

Prior research has shown educators can work well collaboratively around these systems (Lachat & Smith, 2005; Wayman & Stringfield, 2006), even going so far as to suggest that computer systems can be a facilitator of professional learning (Wayman, Jimerson, et al., 2012). Importantly, this research does not demonstrate teachers learning to use the *system*, but learning to use *data from the system*. This distinction opens myriad possibilities for embedding learning in work, coherence, and other tenets of effective professional learning discussed in the next section.

#### Research on professional learning

In his analysis of the professional learning “knowing-doing gap,” Thomas Guskey noted:

Rather than trying to identify indisputable best practices, we should acknowledge that schools vary greatly, and that few if any professional development strategies, techniques, or activities work equally well in all. A far more productive approach would identify specific *core elements* of professional development that contribute to effectiveness and then describe how best to adapt these elements to specific contexts. (2009, p. 229)

We considered this a wise admonition and read the professional learning literature with an eye toward such areas. This review of the research suggests that educators benefit from professional

Download English Version:

<https://daneshyari.com/en/article/372597>

Download Persian Version:

<https://daneshyari.com/article/372597>

[Daneshyari.com](https://daneshyari.com)