Efficiency or Deliberation? An Analysis and Re-imagination of Professional Development's Promise and Purpose

Efficiency or Deliberation?

An Analysis and Re-imagination of Professional Development's Promise and Purpose

Qualifying Paper

Submitted by

James Noonan

February 2014

Acknowledgments

Beginning with my own experiences as a participant and facilitator of professional development, I have been turning over the ideas in this paper for more than 10 years. In that time, many people have shaped the ways I thought about teaching and learning. These acknowledgments represent the merest fraction of them

First, for the inspiration behind the ideas, thanks to Steven Brion-Meisels, with whom I worked for eight years and whose mentorship and friendship has only deepened since we stopped formally working together. After leading my first PD – which might charitably have been called a disaster – he patiently and compassionately helped me to re-think my assumptions about teaching, learning, expertise, and human relationships. His gentle critique of my own teaching and learning forms the foundation of this paper.

Second, for help with the heavy lifting of writing and revising, thanks to my writing partner, Sarah Fine, and to my Committee. Sarah read innumerable early drafts and memos, always with an empathetic but critical eye. My committee members – Meira Levinson, Jal Mehta, and Howard Gardner – also read several drafts and their comments and questions were always in the service of making abstract ideas more concrete and relevant. Special thanks to Meira, who spent hours with me testing my arguments and challenging my assumptions. Although her critiques were not always easy to hear, I welcomed them and this paper is stronger as a result.

Finally, for her encouragement and reality-testing, thanks to my wife, Heidi Fessenden. Heidi is not only a source of love and support to me (and to our daughter, Mia, born just weeks before the final draft was complete). As a teacher for more than 10 years, she is also deeply committed to and in love with the craft of teaching, and she has

an uncommon comfort with the disequilibrium that accompanies learning. It is all too easy to traffic in the academic arena of Big Ideas without also living in the day-to-day uncertainties of classroom. I feel grateful that around our dinner table, we get to do both and we are both better for it.

Table of Contents

In 1913, Joseph Mayer Rice, an early and prominent booster of the Progressive Education movement, reflected on the woeful state of teacher training and professional development:

> Now, if the problem of successful teaching has resolved itself into the problem of developing the ability to attain results, and if experience has shown that the study of psychology and pedagogy, even when combined with culture, has not sufficed to bring about the desired development, then we cannot avoid the conclusion that *the methods of development thus far employed have not sufficed… and that something more must be done before training can be made to hit the mark*. (Rice, 1912, p. 230; italics mine)

By 2009, it seemed that little had changed. Former North Carolina governor James Hunt, writing a preface to a National Staff Development Council report on teacher learning practices, was more blunt than Rice in his belief that prevailing teacher training and support models in the U.S. had failed, calling them "episodic, myopic, and often meaningless" (in Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009). These two reflections, written 94 years apart, represent the merest tip of the iceberg when it comes to discouraged commentary on the state of teacher learning.[1]

It is hardly an understatement to say that professional development (PD) for teachers is pathologically problematic and has been for decades. Among policymakers, researchers, and teachers themselves, there is shared conviction that the quality of professional development, despite its considerable potential for positive impact on teacher practice and student learning, is persistently poor. Emblematic of the static nature of PD is McLaughlin's (1991) observation after studying it for more than 10 years: "Teachers," she wrote, "evaluate staff development

[1] One widely cited synthesis of PD literature stated flatly that "[p]rofessional development, as we know it… has almost no defenders who argue that it substantially improves student learning" (Hawley & Valli, 1999, pp. 133-134). For more on the beleaguered state of professional learning for teachers, see among others: Borko (2004) (2004), Duncan-Andrade (2004), Grossman et al. (2001), Kennedy (1998), Lieberman (1995), Little (1982, 2012), Opfer and Pedder (2011), Webster-Wright (2009), and Wilson and Berne (1999).

efforts in much the same critical terms they did more than a decade ago – as activities planned and developed far from the school site, with insufficient relevance to their classroom practices and inadequate follow-up" (p. 62).

The problem of PD's persistent ineffectiveness is not for a lack of consensus about its goals. Most policymakers, researchers, and teachers agree that good PD – like any well-designed education intervention – ought to lead ultimately to improved student learning (Guskey, 1986; Hill, 2009; Kennedy, 1998; Yoon, Duncan, Lee, Scarloss, & Shapley, 2007). For example, Yoon et al. (2007), summarizing research for the U.S. Department of Education, named professional development as "a key mechanism for improving classroom instruction and student achievement" (p. 1). Similarly Guskey (2003), reviewing several attempts to improve PD, asserted that effective professional development must be defined ultimately by its ability to deliver "demonstrable improvements in student learning outcomes" (p. 15).

Thus far, attempts to improve PD have tended to focus on tweaking its design – who facilitates it, how and where it is delivered, when and how long it is offered – without altering core beliefs about where expertise lies and how that expertise is distributed that underlie the design. These attempts at improvement are frequently linked to a long-running impulse among PD researchers and practitioners to distill and disseminate lists of "best practices" (Abdal-Haqq, 1996; American Federation of Teachers, 2008; Corcoran, 1995; Garet, Porter, Desimone, Birman, & Yoon, 2001; Hawley & Valli, 1999; Kennedy, 1998; Learning Forward, 2012; Loucks-Horsley, Stiles, & Hewson, 1996; Putnam & Borko, 2000).[2] The problem with this approach, I argue in this paper, is that even seemingly radical shifts in PD design and implementation remain mired in a shared set of fundamentally misguided beliefs about teaching

[2] In many cases I am sympathetic to the findings in these lists. As this essay I hope makes clear, I am more concerned that the lists may be solving the wrong problem, focusing narrowly on design elements rather than addressing sociopolitical frameworks that affect the design, implementation, and effectiveness of PD.

and learning, as well as about how human beings ought to be in relationship with one other. Taken together, these assumptions are embedded in a pervasive *sociopolitical framework* – so called, because they reflect broader beliefs about how society should be organized and how political decisions get made. The sociopolitical framework in education has considerable – if often unnoticed or unacknowledged – influence on how policymakers, teachers, and researchers undertake the work of school improvement, including professional development.

The sociopolitical framework dominant in the education sector for the last 100 years – and as strong today as it was decades ago – is an *efficiency* framework that sees teaching and learning as linear, predictable processes of transferring expert knowledge to novices and that likewise values hierarchical human relationships with duly appointed experts at the top. Within this efficiency framework, PD designers, providers, and researchers may tweak what kind of knowledge gets disseminated from expert to novice, how experts present knowledge to novices, or how the novices interact with the knowledge and each other. These are the "best practices" of PD that come under scrutiny and undergo continuous, frenetic redesign. But the basic premise remains untouched – namely, that there are two distinct and unequal classes of participants: facilitators (who are seen as experts with valuable knowledge) and teachers (who are seen as novices in need of receiving expert knowledge).

By contrast, I argue that improving PD requires that we first adopt a new sociopolitical framework: the sociopolitical *deliberative* framework. Unlike the efficiency framework, the deliberative framework sees teaching and learning as dynamic, fluid, and relatively unpredictable processes where increased learning demands a capacity for collaborative problem solving. The deliberative framework similarly values human relationships characterized by relative egalitarianism and mutual engagement. Viewed through this framework, PD facilitators and

teachers would each be seen as having valuable expertise and would be jointly responsible for each other's learning. Rather than focus on the discrete design elements that make up the "best practices" lists, designers and researchers aligned with the deliberative framework would emphasize interpersonal dynamics and process. In addition to its educational consequences, I contend that the deliberative framework is also better for cultivating reciprocal human relationships, which are civically more desirable.

To advance this argument, I examine an empirical claim – that PD has been persistently problematic despite numerous attempts to improve it – from multiple theoretical perspectives, building on a long and respected tradition of educational thinkers who have articulated theoretical arguments in response to empirical claims (e.g., Counts, 1932; Dewey, 1904; Gutmann, 2000). Specifically, I draw on empirical and theoretical literature from three research domains: 1) the literature describing the current landscape of professional development; 2) the research on how people learn; and 3) historical and theoretical literature on the sociopolitical contexts and purposes of education. Each of these literatures is rich. The first two have been used to previously demonstrate PD's ineffectiveness and propose solutions (e.g., Hawley & Valli, 1999; Putnam & Borko, 2000; Wilson & Berne, 1999). I extend the literature on PD and learning by analyzing them both with a historical look at efficiency models in education (e.g., Au, 2011; Callahan, 1962; Mehta, 2013) and then again from a deliberative democratic frame (Gutmann & Thompson, 1996, 2000, 2004; Gutmann, 1995).

If successful, this essay will offer provisional evidence that the sociopolitical context has considerable influence on the design, implementation, and outcomes of professional learning environments. Furthermore, this essay will advance the case that learning environments designed from a deliberative framework are more compatible with principles of effective

learning – and therefore more likely to improve learning at all levels and at scale – than those designed from an efficiency framework.

Professional Development and the Principles of Effective Learning

As noted above, an essential characteristic of effective professional development must be its capacity to improve student learning.[3] Among researchers and policymakers who disagree about many things, this point is one where consensus is relatively clear. One corollary of this is that in order for PD to contribute meaningfully to improved student learning, it must be an effective learning environment for teachers.

After decades of research on cognition and learning, we can say with some confidence what makes for an effective learning environment. In a thorough analysis of empirical literature, the National Research Council (2000) – in work led by John Bransford, Ann L. Brown, and Rodney R. Cocking – highlighted three broad findings that were both well-supported by research and had clear implications for teaching children *and* adults (pp. 14-19):

- First, learners come to learning environments with preconceptions and ideas about what is being taught. If prior knowledge is not addressed – and linkages from learners' preconceptions to new ideas are not made – then students are more likely to revert back to their preconceptions once the class is over. *Facilitators of effective PD, therefore, must draw out and build upon teachers' preexisting knowledge and beliefs*.
- Second, knowing a lot and knowing it deeply – that is, having command of both factual knowledge and conceptual frameworks to help organize those facts – help students learn

[3] Obviously, there are fierce disagreements about what represents student learning and how it can be measured. However, I believe that those who disagree on the proper measurement of student learning nevertheless tend to agree in principle that PD, like any other educational intervention, ought to be judged in some manner on its ability to improve what they understand to be student learning.

more and to learn content more deeply. An important implication of this is that *PD facilitators must have a strong command over their content and be prepared to provide numerous examples of what mastery looks like*. This is in contrast to the too often "mile wide and inch deep" scope of many curricula and a plurality of PD content.

- Third, metacognition – or being able to think about how we learn – enables learners to take control over the learning process and to become autonomous and self-directed. This means that *PD facilitators must not only teach content, but they must also model how they* think about *the content and the dilemmas they encounter*. In this way, *facilitators become model learners as well as teachers*.

Building on these three findings, Bransford and his colleagues laid out four design principles for optimal learning environments (National Research Council, 2000), which can be used as standards against which to assess the effectiveness of PD learning environments. In order to maximize learning, schools and classrooms should be learner-centered, knowledge-centered, assessment-centered, and community-centered. (See **Table 1** for a list of how these principles could be enacted in a PD environment).[4]

In a *learner-centered* PD environment, facilitators would pay attention to knowledge, beliefs, and values that teachers bring with them, as well as to their ideas about what it means to be a learner. This is a tall order, given that learners – teachers, as well as the students in their classroom – bring with them to any learning environment their collective and sometimes conflicting past experiences, nascent theories about the ideas being taught or about learning itself, beguiling questions on all manner of subjects, and conscious or unconscious biases about themselves and others (Dewey, 1897, 1938/1997). It is not necessary for a facilitator to know all of these things immediately when teachers step through the door, but they do need to have

[4] All figures and tables can be found in the Appendix.

sufficient awareness of themselves and others to tailor their facilitation to accommodate diverse ways of knowing (Brion-Meisels, Brion-Meisels, & Hoffman, 2007). Additionally, the practice of using open-ended explorations of problems or questions generated by learners as a departure point for learning has deep roots across subject disciplines and developmental stages (see Ballenger, 1997; Duckworth, 1987; Hammer & Zee, 2006; Warren & Rosebery, 1995).

Related to this, in a *knowledge-centered* PD environment, facilitators would pay attention to what they teach (information), why it is important (understanding), and what it looks like to achieve mastery. What Shulman (1986) called "subject matter content knowledge" goes beyond mere facts to include the structures of how knowledge is organized. He also noted that teachers – and presumably also facilitators of PD – must acquire subject-specific "pedagogical content knowledge" that defines how knowledge is presented and re-presented to learners in ways they can understand (Shulman, 1986, 1987). Many other theorists and researchers have affirmed the need for teachers to have deep, subject-specific content knowledge and pedagogical content knowledge (e.g., Ball & Bass, 2000; Borko, 2004; Grossman, Wilson, & Shulman, 1989; McDiarmid, Ball, & Anderson, 1989). To ensure that teachers have a deep understanding of their subjects means that PD facilitators need to convey not just the what but also the why of what they are teaching (Perkins & Blythe, 1994; Perkins, 1993). Teaching for understanding also means that what gets taught may not be learned right away. In other words, teaching often leads to re-teaching, sometimes many times and in many ways.

To re-teach a lesson effectively, PD facilitators must incorporate regular formative evaluations to document and make visible teachers' learning. Thus, in an *assessment-centered* PD environment, facilitators would use what they know about what mastery looks like to design opportunities for teachers to demonstrate progress toward mastery (Perkins, 1993; Wiske, 1998).

Formative evaluations are different from the summative assessments that determine whether or not learners have absorbed content – like end-of-unit tests or high-stakes standardized tests (which, not coincidentally, are often used as evidence of both student learning and teacher effectiveness). Rather, teacher- or facilitator-generated formal and informal assessments check for understanding (and misunderstanding) throughout the learning process and allow teachers or facilitators to adjust their practice. Adjusting teaching practice is not just good teaching; it is also evidence of good learning on the part of the teachers. Teachers who use what they know about their subject area and their students to adopt new pedagogical approaches demonstrate what Argyris and Schön (1974) called "double loop learning" – the flexibility to step beyond their lesson plans, question so-called proven practices, and think differently about what should be done in order to generate innovative approaches to their work.

Finally, and perhaps most critically given that PD learning environments often lack this component, good learning environments are *community-centered*. In a community-centered PD environment, facilitators and teachers would consider which norms and expectations foster "intellectual camaraderie" (National Research Council, 2000, p. 25). In fact, reciprocal environments like these – whether they are districts, schools, or classrooms – are places where learning is a goal shared by all members, where all learners assume responsibility for the learning of others, and where learning is understood to involve risk-taking and uncertainty (Barth, 2001; Noonan, 2013; Schön, 1983). Long understood as a proven practice in elementary school classrooms, community building among teachers is more and more being seen as a way for them to develop their professional identities, question assumptions about teaching and learning, and deepen their content and pedagogical knowledge (Duncan-Andrade, 2004; P. Grossman, Wineburg, & Woolworth, 2001; Little, 1982, 2012; Mitchell, 1950).

The Sociopolitical Efficiency Framework

The current and dominant way of thinking about teaching, learning, and human relationships more broadly – what I have called the sociopolitical efficiency framework – is incompatible with the essential characteristics of good learning environments. The belief that teaching and learning is a predictable and linear transfer of expertise suggests that teaching can – and should – be reduced to a series of replicable procedures. A charitable interpretation of the efficiency framework could concede its consonance with the knowledge-centered and assessment-centered principles – in that the efficiency framework assumes that there is core knowledge about teaching and pedagogy and that mastery of both requires regular coaching and monitoring. However, the efficiency framework is at odds with the learner-centered and community-centered principles. Prioritizing learners' ideas and seeing all learners as jointly responsible for each other's learning assumes that expertise is distributed broadly in a learning environment – a notion that muddies the predictable and linear transfer of knowledge from experts to novices.

Seen from the efficiency framework, professional development is predicated on four key assumptions about teaching. First, and most fundamentally, the efficiency framework assumes that *it is possible to precisely define the elements of "good teaching."* The proliferation and pervasiveness of detailed, scripted curricula – for example, Success for All (see Slavin, Madden, Chambers, & Haxby, 2009) or Open Court (see Bereiter & Adams, 2002) – suggest a belief that teaching complex concepts like reading can be reduced to a series of carefully designed procedures (Au, 2011). More recently and more boldly, Lemov (2010) has suggested that effective teaching in any subject and at any grade level can be distilled into a toolkit of 49

demonstrated "teaching moves."[5] Second, *the effects of "good teaching" can be measured in student learning*. For at least a century, tests have been used to assess student learning and hold teachers accountable for the results. As Mehta (2013) documents, in the Progressive Era, city superintendents used tests of basic skills to compare teachers; in the mid-20th century, policymakers called for closer scrutiny of student outcomes when the Coleman Report unexpectedly demonstrated little correlation between school inputs and outputs; and in 1983, *A Nation At Risk* ushered in a new era of high-stakes testing and accountability at the state and federal levels, culminating in 2002's No Child Left Behind legislation. Third, despite scientific advances that have uncovered so-called proven teaching practices, the efficiency framework assumes that *outdated or unsubstantiated teaching practices are rampant*. According to Lortie (1975/2002), many teachers develop their values and skills first and most enduringly through the "apprenticeship of observation" (p. 61): that is, they learn to teach by replicating the way that they themselves were taught. The apprenticeship of observation, viewed from an efficiency framework, has led to a cycle of ineffective teaching rolling uninterrupted from one generation to the next. Finally, linking the first three assumptions, the efficiency framework assumes that *by targeting these ineffective practices and replacing them with proven practices through interventions like professional development, district- or school-leaders can achieve large increases in student learning*. Given these assumptions, I contend that the *purpose* of professional development when viewed from an efficiency framework is to spread proven teaching practices at scale as a way to improve the efficiency of the system. In other words, expertise primarily flows in one direction: from the PD intervention to teachers. (See **Figure 1** for representative examples).

[5] Regarding PD, even highly scripted curricula or books like Open Court or Lemov's *Teach Like a Champion* are often accompanied by training components that instruct teachers how to correctly apply the methods in their classroom.

This purpose – and the beliefs about teaching that accompany it – made sense given the context in which they were created. Inspired in part by the scientific management movement (often referred to by its more familiar shorthand, "Taylorism"), the sociopolitical efficiency framework had its origins in the industrial revolution. Frederick W. Taylor originally promoted his ideas among engineers in the late 19th century, but once they became popularized in the early 20th century they became widespread across numerous sectors of American life, including education (Callahan, 1962). Taylor asserted that businesses had an imperative to produce persistently high quality output at a faster pace and a lower cost.[6] The trick to achieving this, he said, was to observe the manufacturing process and break it into its component parts (Taylor, 1911). Once this was done, greater efficiency was a matter of training workers to become "expert" in a single component by repeating it over and over again. Always on the look-out for innovations that could quicken the process without sacrificing quality, managers had a responsibility to analyze, plan, and control the entire manufacturing process in detail. In this sense, the worker's job was to trust management's view of the big picture and "do what he was told to do" (Callahan, 1962, p. 27).

As mechanized as it seems, Taylor's system and the efficiency framework it inspired have an alluring elegance: if you could uncover the component parts to any process, then you could make it better. This allure is apparent in the ongoing relevance and application of scientific management techniques in education, beginning in the Progressive Era and continuing through the present day (Mehta, 2013). One common link between education reformers in Taylor's time and today is an unyielding focus on results: that is, a conviction that the efficiency

[6] Unlike many critics, I do not mean to dismiss Taylorism out of hand. Rather, I aim to illustrate the historical roots and endurance of the sociopolitical efficiency framework especially as it relates to education in general and PD in particular. In fact, in many ways I am sympathetic to the goals of scientific management insomuch as greater efficiency can make more public resources available to put toward other worthy objectives.

of a system can and must be judged by its output (Welch, 1998). In the case of education systems, the outcome of interest is educated students, and so a more efficient education system is one that produces the greatest number of educated students in proportion to the total number of students in the system, at the lowest cost.

However alluring it may be in the abstract, the sociopolitical efficiency framework does not work in practice when applied to professional development, because it does not enable the consistently effective learning environments that would in turn lead to improved student learning. As evidence, we need only look at some of the most rigorously evaluated programs designed to scale up "best practice" teaching. In 2001, a research team surveyed over 1,200 teachers on characteristics of professional development that had significant effects on their practice; from this, the researchers identified six core features of effective PD (Garet et al., 2001).[7] These features included a focus on content knowledge, opportunities for active learning, coherence with other district learning activities, collective participation with other teachers, and an extended duration. With these core features in mind, some of the same researchers helped to design and oversee two federally-funded experimental design studies that looked at the effect of PD on teacher knowledge, teacher practice, and student achievement in early reading and middle school math (Garet et al., 2008, 2011). In the early reading intervention (Garet et al., 2008), teachers increased their knowledge of scientifically-based reading instruction and their use of one of three discrete instructional practices promoted by the study. However, the study found that *neither* one of two carefully designed PD interventions had statistically significant effects on student learning. The findings of the middle school math study (Garet et al., 2011) were even

[7] Of all the lists of PD best practices, this is perhaps the most well known and influential. Given its scale and sound statistical analysis, this study is cited by almost every contemporary researcher or policymaker seeking to improve PD. At the time of this writing in November 2013, according to Google Scholar, it had been cited 2,378 times.

more discouraging: after two years of implementation, the researchers found *no* statistically significant effects at all on either teacher knowledge or student achievement.

What could explain these dismal results? After all, in contrast to many PD interventions, these were far from haphazard and invested considerable time in developing teachers' knowledge and skills. In line with the learning principles discussed in the last section, facilitators employed multiple modes of presenting and re-presenting information (*knowledge-centered*) and offered numerous opportunities to try out and refine techniques (*assessment-centered*). On the other hand, the Garet interventions overlooked other dimensions of effective learning environments: they did not account for teachers' prior preconceptions or expertise in that they were not factored into the PD design (*learner-centered*); facilitators did not have the opportunity to adjust their instruction since they needed to ensure fidelity of implementation (*assessment-centered*); and the learning process seemed to prioritize knowledge and skill acquisition over deliberation and risk-taking (*community-centered*). In fact, rather than promote open-ended thinking the interventions seemed designed to *narrow* teachers' thinking.[8]

One way of making sense of this is to say that the interventions must have been missing some of the best practices, and so therefore designers should endeavor to make it more learner-, assessment-, and community-centered and then try again. I contend, however, that this approach to PD improvement misses the forest for the trees. The more fundamental problem is that the efficiency framework underlying the design of these interventions is not compatible with the principles of deep and enduring learning. That is, it is difficult to maintain a conception of knowledge and skill flowing in a linear fashion, from expert to novice, and teach in a multi-centric manner (that is, in a way that is learner-, knowledge-, assessment-, and community-

[8] For example, in the middle school math study, the authors note that "the PD program design emphasized *using precise definitions* and the properties and rationales underlying common procedures used with rational numbers" (Garet et al., 2011, p. xvi; italics mine).

centered). For example, an attentiveness to context and to learners' preconceptions is not easily reconciled with breaking teaching down into discrete component parts and then viewing teachers as conduits for knowledge transfer. In this respect, the efficiency framework is emblematic of a hierarchical conception of human relationships. In a framework predicated on a clearly defined class of experts and driven by a pressure for them to discern and scale up best practices, reciprocal learning as embodied by the NRC community-centered principle is difficult if not impossible to sustain. The Garet interventions – examples of PD meticulously crafted to adhere to best practices – were nevertheless decidedly top-down enterprises, with policymakers and researchers attending to every detail of the PD intervention and then deploying it to teachers in the hopes of improving discrete teaching behaviors and therefore student achievement. Even though teachers were encouraged to discuss common student misperceptions and apply what they learned in their classrooms, they still had little role in influencing the overall direction of the PD sessions. When teachers are excluded from the design and delivery of PD, it is not surprising that they resist the expertise of researchers and policymakers (carefully calibrated though it may have been). Duncan-Andrade (2004) observed that conventional PD models "can give rise to teacher resentment if they strip teachers of their professional expertise, placing it in the hands of so-called experts that are often out of touch with the day-to-day challenges of the classroom" (p. 348).

For professional development to succeed in improving both teacher and student learning, it must not only align with principles of effective learning environments; it must also re-imagine the purposes of PD and recast assumptions about teaching in a way that engages stakeholders across levels of a school system. I believe that a new sociopolitical framework is required to do

the heavier lifting of eliciting consensus on the purpose and structure of PD and thus improving PD at scale.

The Sociopolitical Deliberative Framework

We have a good understanding of the conditions necessary for powerful learning to take place, but the efficiency framework traps people into seeing these conditions as *action steps* to be implemented by experts for the enlightenment of novices. We are socialized to look for proven procedures and "best practices." However, if we step outside the efficiency framework, we can see that multi-centric principles of learning, as articulated by the NRC, require fundamentally reconfigured modes of social relationships and interactions. These re-imagined relationships are characterized by reciprocity, not hierarchy. By disequilibrium, not stability and predictability. By procedural divergence, not convergence. By process, not products. I suggest that these features are best found not in efficiency but in deliberation.[9]

In applying the concepts of deliberative democracy to PD, I draw on the theoretical work of Amy Gutmann and Dennis Thompson (Gutmann & Thompson, 1996, 2000, 2004; Gutmann, 1995).[10] Political theorists by training, Gutmann and Thompson (2000) explain that "[t]he principles of deliberative democracy… express, in various forms, the idea of *reciprocity*" (p. 167; italics mine). A decision making process (or learning environment) that considers different perspectives and forms of expertise is a concrete enactment of reciprocity.

---

[9] These features, while not expressed in precisely the same way, are all discussed to varying degrees by the NRC. For example, in discussing the benefits of metacognitive instructional strategies that can increase transfer, the authors explain that an essential component of reciprocal teaching is "a social setting that enables joint negotiation for understanding" (National Research Council, 2000, p. 67).

[10] The theoretical basis for deliberative democracy is collectively constructed and derived from numerous political theorists and philosophers, including Jürgen Habermas and John Rawls. However, rather than try to detail the full genealogy of deliberative democracy, in this paper I am limiting myself to the distillations of the theory by Gutmann and Thompson, because their ideas are well-formulated, represent some of the commonly articulated core principles, and have been subjected to a healthy critique from their peers.

The deliberative framework is compelling because it is based on the ideal that when people are treated more as equals it is possible to improve society through open deliberation. Gutmann and Thompson (2004) describe the characteristics of this process in more detail. For instance, in a deliberative environment, members of a group must demonstrate respect by *justifying* their positions to one another, whether directly or through their representatives. These reasons must be *accessible* and delivered in a way that is easily understood. In addition, any decisions made in a deliberative environment are *binding*. Debates are not abstract: decisions lead to action and presumably this action is designed to improve mutually agreed upon outcomes. And yet, even though decisions may be made, deliberation continues. This is because deliberative environments are assumed to be *dynamic*, where sociopolitical circumstances are fluid and citizens must have the capacity to manage ever-changing and often uncertain circumstances.

Furthermore, there is good evidence that deliberative environments promote many desirable outcomes. Broadly speaking, Gutmann and Thompson (2004) lay out several benefits for individuals and the groups to which they belong. First, deliberation promotes the *legitimacy of collective decisions*. That is, even those who may not get what they want will be more likely to accept the outcome if they have deliberated about it. Second, deliberation encourages *broader perspective-taking*. Rather than having individuals advocate only for themselves, a deliberative process is more likely to generate public-spirited or altruistic perspectives where all people – district-leaders, administrators, and teachers – see the "big picture." Third, deliberation promotes *mutually respectful decision making* in which people on opposing sides of a debate are nevertheless able to appreciate the conviction of someone they disagree with. Brighouse (1998) described this capacity as "mutual civic respect" (p. 722) and explained that it was the ability not

only to tolerate an opposing opinion but to take it seriously and engage with it. Finally, deliberation is useful insomuch as it can *help correct the inevitable mistakes* that groups make. Group decision making is not flawless, but by convening in deliberative spaces groups are able to reflect on and – when necessary – revise their decisions. This capacity for correcting mistakes also enables greater risk-taking, since risks may be seen as testing out ideas that could then be amended or rescinded.

The benefits of deliberation are evident across sectors. Gutmann and Thompson (2004) presented examples in politics and health care, including the work of the Oregon Health Services Commission. In the early 1990s, the Commission was attempting to set priorities for its Medicare spending and generated a rank-order of treatments and conditions, primarily based on cost-benefit analyses (which dictated that expensive procedures affecting relatively few people, like an appendectomy, be considered less of a priority than relatively affordable procedures affecting many people, like capping a tooth). The list generated great public outcry over what was perceived as a bureaucratically cold rationing scheme affecting the state's poorest citizens. In response, the Commission undertook a complex and iterative process of public deliberation involving community meetings and multiple revisions, resulting in a list considered an improvement over the original (see Gutmann & Thompson, 2004, pp. 17-20).

Successful deliberative environments can also be found in the education sector. For example, Local School Councils (LSCs) in Chicago represent a long-running and well-documented exercise in micro-deliberative democracy (Fung, 2003). Formed by the Illinois state legislature in 1988, LSCs are elected bodies of parents and community members who have responsibility for hiring school principals and approving school budgets. Deliberations about these decisions happen publicly and sometimes very vocally. Fung (2003) described how a

district "intervention team" helped to mediate conflict among LSC members and with the principal at one school, opting to support the capacities of people to deliberate successfully rather than rescinding autonomy and thereby building deeper trust among district, school, and community stakeholders. Bryk (2010), summarizing a longitudinal study of school reform in Chicago, observed that improved relationships between parents, schools, and communities – often facilitated by the creation of the LSC – was a critical element at schools that demonstrated significant gains in student learning.[11]

When it comes to deliberative PD, examples at the school and system level also show promising results.[12] At the school level, one model of professional development aligned with the sociopolitical deliberative framework is a "critical friends group" (CFG). At a system level, the government in Singapore – consistently one of the highest performing school systems in the world, according to international assessments of higher-order thinking skills like PISA (OECD, 2010) – has attempted to scale up a model of teacher learning that appears to prioritize deliberation and distributed expertise (Darling-Hammond, 2010).

First piloted in 1995 through the Coalition for Essential Schools and continuing today in small pockets, CFGs are small groups of teachers and administrators – either within a single school or across schools – who commit to at least one monthly facilitated two-hour meeting, during which they jointly develop a practice-oriented goal for improving student learning, reflect on teaching practices that would help them achieve their goal, examine student work for

[11] Successful though LSCs have been in many schools, their autonomy has been steadily eroded over the last two decades by greater external accountability pressure and increased mayoral control. In fact, the dependence of deliberative democracy on the assent of those in power – like the legislature or mayor – is one of the main critiques of the theory, which I address later in this section.

[12] I provide these examples as existence proofs that deliberative PD has been successful at both the school- and system-level. However, I do not mean for them to suggest that deliberative PD would work in all contexts under any circumstance. A full examination of the contextual factors associated with successful deliberative PD is beyond the scope of this paper, but clearly ripe terrain for future research.

evidence of improvement, and discuss school culture issues that might be related to student achievement (Bambino, 2002; Dunne & Honts, 1998). The theory of change undergirding CFGs assumes that the development of community and trust among its members is critical to then drive instructional improvement and schoolwide reform (Curry, 2003). Perhaps in part because CFGs are designed to be closed groups whose members must approve outside observers and whose norms tend to prize confidentiality, the body of empirical research on CFGs and their impact on student learning is rather thin and has tended to be limited to practice-oriented journals like *Educational Leadership* and doctoral dissertations. Nevertheless, researchers and participants who have seen CFGs in practice report positive effects of CFG participation on teachers' practice and anecdotal evidence of improved student learning (Curry, 2003; Nave, 2000; Norman, Golian, & Hooker, 2005; Olson, 1998). This anecdotal evidence is complemented by large-scale empirical research on the positive effect of trust on teachers' willingness to engage in collective reflection and on student learning (Bryk & Schneider, 2002; Goddard, Hoy, & Hoy, 2000; Louis, 2007).

In Singapore, the "Thinking Schools, Learning Nation" movement represents a dramatic shift in Singapore's approach to teaching and learning. Tripp (2004) noted that in the early 1980s teachers in Singapore depended heavily on so-called "teacher-proof" curricula common to a sociopolitical efficiency framework. In a speech in 1997, Prime Minister Goh Chok asserted that "[e]very school must be a model learning organization… Teaching will itself be a learning profession, like any other knowledge-based profession of the future" (Goh, 1997, as quoted in Tripp, 2004, p. 192). To realize this vision required the willingness of decision-makers at the top to risk some of their authority in order to facilitate the expression of diverse expertise throughout the system. This redistribution of expertise and investment in deliberative learning activities

were accomplished through the creation of the Teachers' Network (TN), established to surface and use the often-tacit knowledge of teachers in the service of school improvement. The TN, though funded by the Ministry of Education, was positioned as an independent organization staffed by teachers as a way to demonstrate the value of teachers' expertise.[13] Tripp (2004) described several related TN/AST programs, including teacher-led workshops, a national teachers' conference, and facilitated "Learning Circles" (see also Hairon & Dimmock, 2012; Tan, 2008) Through PD activities like Learning Circles that encouraged collaborative inquiry, the TN sought to "increase teachers' individual capacity to learn, manage knowledge and value diversity, thereby increasing both individual and organizational capacity to manage continuous improvement" (Tripp, 2004, p. 193). Similar to Critical Friends Groups, Learning Circles are small groups of 4-8 teachers, led by a trained facilitator, that engage in an action research cycle designed to surface and then collaboratively solve problems of practice in part by "engaging in critical dialogue and reflection to bring about improved student outcomes" (Ministry of Education, 2012).

Promising though these deliberative strategies are, one of their most important limitations – raised by those who have critiqued deliberative democracy theory – is that the idealized form deliberation for which Gutmann and Thompson advocate depends on the assent of those in power. After all, the more powerful members of any organization or community have the capacity to "listen to" the less powerful in a way that is impossible in the reverse (see Kohn, 2000; Young, 2001). Given the structural inequality endemic to political systems (and therefore also to the organizations and institutions of these political systems, including schools), deliberation is never a power-neutral exercise. Just as the LSCs in Chicago demonstrated the

[13] In 2010, the Teachers' Network was re-launched as the Academy of Singapore Teachers (AST), but its core mission and activities remain focused on teacher learning and development (X. Pang, personal communication, August 15, 2013).

potential of deliberative democracy, they also illustrate its limitations. In 1995, the state of Illinois returned control of the Chicago Public Schools to the mayor, and although they did not eliminate the LSCs the balance of power clearly shifted and the autonomy of LSCs has been dramatically curtailed (Luppescu, Allensworth, Moore, de la Torre, & Murphy, 2011). In a PD context, decisions about PD funding and content tend to be made at the district and school level (Kileen, Monk, & Plecki, 2002), which means that teachers' perspectives are often bypassed. True deliberative legitimacy depends in part on the capacity of less powerful parties not merely to participate in deliberation already underway but also to *initiate* deliberation on issues that matter to them (Bohman, 1996, 2000, as cited in Young, 2001, p. 686).

It is right to be concerned about the capacity of subdominant groups to participate fully and equally in deliberative environments, but this limitation can be mitigated. Decision-makers or leaders who are willing to take the risks associated with launching a deliberative process – and who are willing to commit the time to see deliberative processes through – have tended to be rewarded by the outcomes. In Singapore, the TSLN movement has been underway for more than 15 years. Despite concerns about entrenched cultural norms that reinforce hierarchy and reward demonstrably efficient practices – as evidenced by governance structures in Singapore generally considered to be highly autocratic – Hairon (2006) finds cause for optimism in its approach to teacher learning. Where government ministers once talked enthusiastically about how elites should lead the nation, contemporary government officials – especially those in the Ministry of Education – talk about "bottom up initiative, top down support" (Tharman, 2005, as quoted in Hairon, 2006, p. 520). Similarly, in a speech in 2004, the Prime Minister said, "We have got to teach less to our students so that they will learn more" (as quoted in Ng, 2008, p. 5).[14] More

[14] Furthermore, the Teach Less, Learn More Initiative (TLLM) spawned a national symposium in 2007 and its own website with teacher resources (see http://www3.moe.edu.sg/bluesky/tllm.htm#tllm2).

importantly, though, the rhetoric has been far from empty, translating into more time scheduled for reflection and a commitment to hire more teachers (Darling-Hammond, 2010; Hairon, 2006). The risk taken on the part of decision makers to have faith in an authentic deliberative process is often strategic. As Willie (2000) explained, "[i]t is because teachers evidence confidence in their students that students risk trusting their teachers" (p. 258). The same is true in a deliberative process, which – when done well – can become a "virtuous circle" that increases in effectiveness over time.

The deliberative framework makes three assumptions about teaching and learning that serve as a fundamental contrast to the efficiency framework. First, where the efficiency framework viewed teaching as predictable and prescriptive, the deliberative framework sees *teaching as dynamic and fluid*. One-size-fits-all curricula or handbooks may be seen as potentially useful tools, but they cannot be reasonably expected to guarantee increased learning for teachers or students since the contexts and circumstances surrounding teaching and learning are unpredictable and continually in flux (Au, 2011; Opfer & Pedder, 2011). Second, the deliberative framework assumes that *teaching well requires a capacity to manage this uncertainty*. Because the circumstances of teaching are difficult to predict, teachers must cultivate and rely on their professional discretion in responding to each new challenge as it occurs (Mitchell, 1950). And third, the deliberative framework assumes that *the best way to cultivate necessary professional discretion is through collective reflection* (as opposed to working in isolation). Collective reflection is preferable to individual reflection, because exposure to the discretion and mistakes of others is more likely to generate creative solutions to complex problems (Wenger, McDermott, & Snyder, 2002). Given these core beliefs, I believe that the purpose of PD designed in accordance with the deliberative framework – rather than

delivering and then scaling up proven practices, as with the efficiency framework – is to improve teacher practice by encouraging open-ended thinking as a way to surface different dimensions of expertise and then solve problems through deliberation. (See **Table 2** for a side-by-side comparison of the assumptions and purposes associated with both sociopolitical frameworks.)

In short, the sociopolitical deliberative framework provides a different way of conceptualizing the "problem" of professional development – seeing it not so much as a failure to find the right *procedures* to achieve predefined learning outcomes as a failure to position stakeholders in *reciprocal relationships* that characterize effective learning environments. The NRC viewed learning as procedural insomuch as it was possible to move from novice to expert over time, but they also saw learning as a dynamic and non-linear process that can be encouraged more by designing an effective learning environment than refining a series of scripted moves. Ball (1996), even as she sought to articulate specific pedagogical practices related to effective math instruction, suggested that teachers may need to interrogate best practices in order to adopt them, proposing that teacher trainers "would do well to consider and experiment with fostering a stance of critique and inquiry – a stance of asking and debating, a discourse of conjecture and deliberation" (p. 505).

By redefining the problem of PD, the sociopolitical deliberative framework also presents new ways of pursuing solutions that are compatible with learning principles and therefore more likely to lead to improved student learning across disciplines. Using the model in **Figure 2** as a general representation of the deliberative frame (contrasted to the model in Figure 1), consider a prototypical CFG or Learning Circle. Expertise is at the center of three concentric circles, meaning that the trained facilitators of a CFG or Learning Circle have deep command over their subject content knowledge and pedagogical content knowledge as well as the conceptual

frameworks to explain both (in line with a *knowledge-centered* learning environment). In addition, facilitators recognize and integrate the prior knowledge, experiences, and expertise of teachers (*learner-centered*). This expertise is then at the heart of the professional learning environments, where it can be explored in a context that encourages risk-taking and mistake-making (*community-centered*). And these deliberative learning environments are themselves at the heart of teachers' own classroom practice, meaning that the ideas that teachers discuss in a CFG or Learning Circle can be applied, tried, revised and refined in their own classrooms (*assessment-centered*). The vertical arrow on this model implies that expertise, knowledge, and experience flow both ways: what is learned in teachers' classrooms helps contribute to the expertise of their peers and PD facilitators, and this collective expertise also shapes what happens in their classroom.

Finally, although the effectiveness of PD – whether designed from an efficiency or a deliberative frame – must ultimately be judged by its effect on student outcomes, I would like to suggest that the deliberative framework should not be judged *solely* on student outcomes. Because the deliberative framework positions teachers and learners in democratic relationships to one another, it is – in addition to being a tool for improving student learning – *a civic good* over and above its presumed positive educational consequences. As Gutmann and Thompson (2004) noted, the act of deliberation – and the practice of deliberating – results in greater perspective taking, mutual respect, and continuing engagement. Moreover, Dewey (1897) argued that civic and moral training in school should be centered on "having to enter into proper relations with others in a unity of work and thought" (pp. 8-9). The mere idea of *active* citizenship implies that people assert themselves rather than be acted upon (Haste, 2004), and deliberative learning environments are predicated on student agency and voice – whether those

"students" are the young people enrolled in school or the adults employed to teach them. When teachers receive implicit messages through professional development that they are passive recipients of information (as they do under the efficiency framework) and not jointly responsible for directing or monitoring their own learning, they also receive the messages that their own experiences are not valued and that they lack agency. For these reasons, even if the efficiency and deliberative frameworks resulted in similar student outcomes, we must favor the deliberative framework because of these civic implications.

Conclusion

In this paper, I have made the argument that our often-unacknowledged beliefs about teaching and learning have constrained our ability to design and deliver effective professional development. More to the point, I have argued that the constraints in these beliefs are grounded in our basic perceptions about social change and human relationships. Learning is a relational exercise and when it is effective it results in transformed ways of looking at the world. The sociopolitical deliberative framework – representing as it does transformed ways of looking at teaching and learning – helps us to re-conceptualize change as something engineered not by technical experts but by human beings working in reciprocal, deliberative relationships with one another. This way of thinking can establish (or is at least highly compatible with) effective learning environments, which in turn can lead to the design of improved PD, and which can over time lead to improved student learning.

Although I am convinced that change is possible, I also believe that changing the sociopolitical frameworks that govern school improvement in general and PD in particular will require time and a flexible approach to measuring progress. Schools or districts that set out to

realign their professional learning environments with the deliberative framework must be prepared to be patient. After all, the efficiency framework has had a 100-year head-start, and as I hope I have demonstrated it is firmly entrenched in many of our assumptions about teaching and teachers and the structures and processes that govern teaching and learning. Additionally, reconceptualizing PD as a deliberative space requires a radical re-imagination of teaching and learning at a system level, which also then invites the possibility that other dimensions of student learning may be worth assessing: for example, rather than focusing solely on passing scores of high-stakes summative assessments, teachers and policymakers might also consider capacities likely to further reinforce deliberation among students and teachers alike, such as collaboration, reflection, and mutual trust.

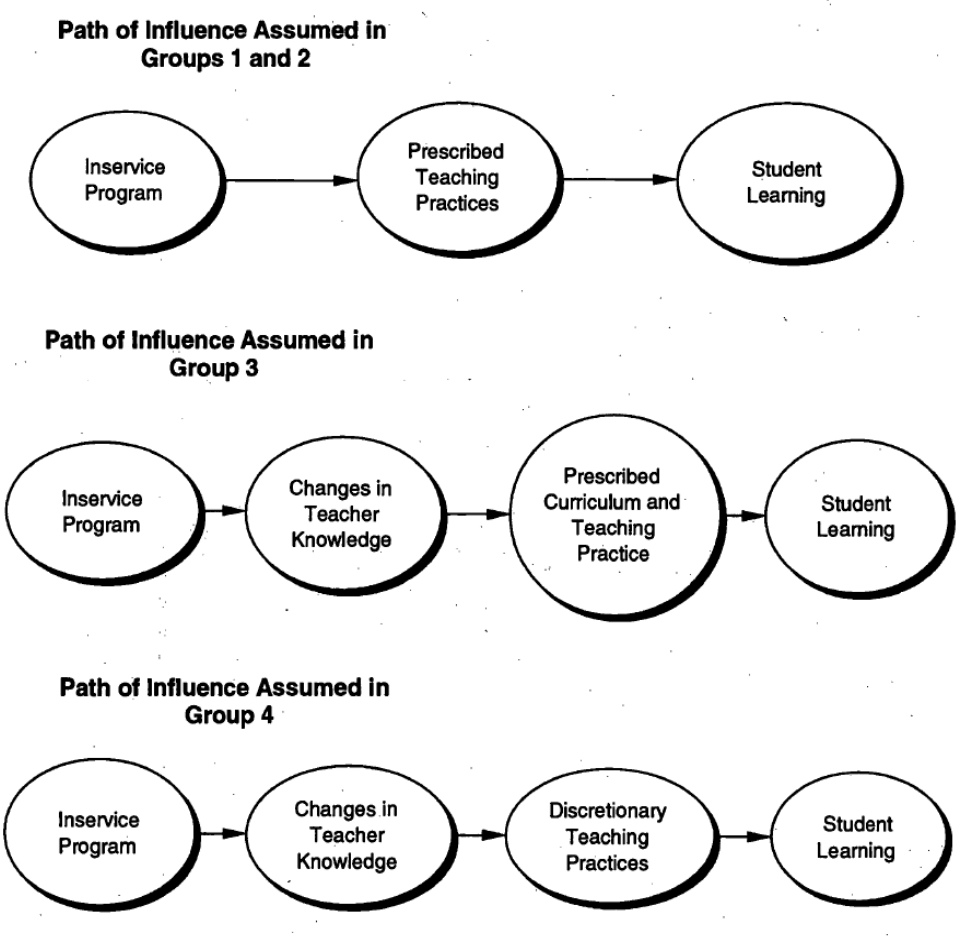
Professional development has great promise. The fact that we have failed – for decades – to fulfill this promise reflects poorly on us as researchers, practitioners, policymakers, and anyone who cares about learning. Rather than continuing to tinker around the margins, though, we need to be bold. Our failure is not because we are not motivated or because we lack capital resources. Rather our failure reflects a lack of imagination. We have failed teachers, because we have inadvertently treated them like cogs in a machine rather than as the civic agents and learners they are. To improve PD, we – as researchers in control of a research agenda or policymakers in control of policy decisions – must be willing to risk being wrong. Risk-taking is a fundamental part of learning, and the reason we have failed to learn from our mistakes is that we have been unwilling to take the risks that true learning demands. Transforming PD depends on *our* ability to learn. Our failure of imagination reflects our timidity. To be truly courageous, we must push back against the dominant paradigm, and the way to begin is first to re-imagine and then to redesign professional learning environments as civic and deliberative spaces.

Appendix

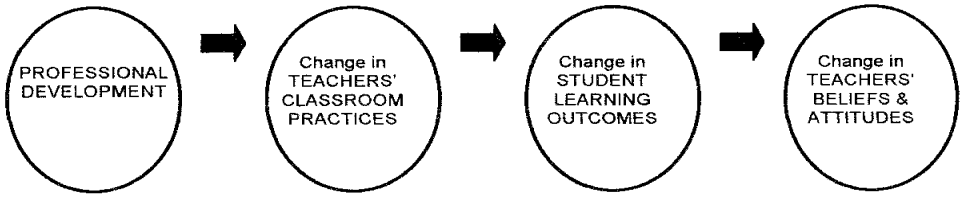
Table 1. Implications of the NRC (2000) design principles for effective learning environments on facilitating professional development

Design Principle	Implications for Facilitating Professional Development
Learner-centered	• Facilitators assume that teachers have valid forms of expertise and build in time for them to share past experiences • Facilitators encourage teachers to pose questions and allow sufficient time for teachers explore their own answers
Knowledge-centered	• Facilitators have deep and nuanced understanding of their content as well as the theoretical and conceptual frameworks that organize their content • Related to this, facilitators have clear sense of what *mastery* of their content looks like • Facilitators can explain to teachers why learning new content is important and how it could be valuable to them • Given their mastery of the content and conceptual frameworks, facilitators can present and re-present material in multiple ways, when necessary
Assessment-centered	• Facilitators use what they know about mastery to design regular formal and informal opportunities for teachers to demonstrate their progress or express their uncertainty (e.g., teachers try out new techniques and then receive feedback from facilitators and peers) • Facilitators use these assessments to adjust their instruction when necessary
Community-centered	• Facilitators and teachers are understood to be collectively and jointly responsible for everyone's learning • Facilitators and teachers create norms and expectations that learning is a shared goal that involves risk-taking, questioning assumptions, and making oneself vulnerable

Figure 1. Models of teacher learning consonant with the sociopolitical efficiency framework in that expertise is fixed as part of a PD program and flows in one direction.



from Kennedy, 1998, p. 14

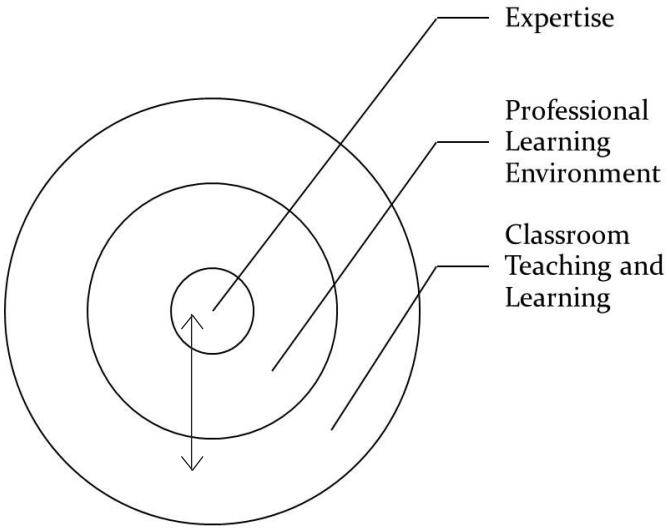


from Guskey, 1986, 2002

Table 2. Comparison of the purposes of PD and assumptions about teaching associated with the sociopolitical efficiency and sociopolitical deliberative frameworks

	Sociopolitical Efficiency Framework	Sociopolitical Deliberative Framework
Purpose of PD	To spread proven teaching practices at scale as a way to improve the efficiency of the system	To improve teacher practice by encouraging open-ended thinking as a way to surface different dimensions of expertise and then solve problems through deliberation
Assumptions About Teaching	• It is possible to define the elements of "good teaching" • The effects of "good teaching" can be measured in student learning • Outdated or unsubstantiated teaching practices are rampant • By targeting ineffective teaching practices and replacing them with proven practices, district- or school leaders can achieve large increases in student learning	• Teaching is dynamic and fluid • Teaching well requires a capacity to manage uncertainty • The best way to cultivate necessary professional discretion is through collective reflection

Figure 2. A model of professional development guided by the sociopolitical deliberative framework.



References

Abdal-Haqq, I. (1996). Making Time for Teacher Professional Development. *ERIC Digest*. Retrieved from http://www.eric.ed.gov/ERICWebPortal/detail?accno=ED400259

American Federation of Teachers. (2008). *Principles for Professional Development*. Washington, D.C.: American Federation of Teachers. Retrieved from http://www.aft.org/pdfs/teachers/principlesprodev0908.pdf

Argyris, C., & Schön, D. A. (1974). *Theory in Practice: Increasing Professional Effectiveness* (1st ed.). San Francisco, CA: Jossey-Bass.

Au, W. (2011). Teaching under the new Taylorism: High-stakes testing and the standardization of the 21st century curriculum. *Journal of Curriculum Studies*, *43*(1), 25–45. doi:10.1080/00220272.2010.521261

Ball, D. L. (1996). Teacher learning and the mathematics reforms: What we think we know and what we need to learn. *Phi Delta Kappan*, *77*(7), 500–508.

Ball, D. L., & Bass, H. (2000). Interweaving Content and Pedagogy in Teaching and Learning to Teach: Knowing and Using Mathematics. In J. Boaler (Ed.), *Multiple Perspectives on Mathematics Teaching and Learning* (pp. 83–104). Westport, CT: Ablex.

Ballenger, C. (1997). Social identities, moral narratives, scientific argumentation: Science talk in a bilingual classroom. *Language and Education*, *11*(1), 1–14. doi:10.1080/09500789708666715

Bambino, D. (2002). Critical Friends. *Educational Leadership*, *59*(6), 25.

Barth, R. S. (2001). *Learning By Heart*. San Francisco: Jossey-Bass.

Bereiter, C., & Adams, M. J. (2002). *SRA Open Court Reading: Grade Levels 2-6* (Vol. 52). SRA/McGraw-Hill.

Borko, H. (2004). Professional development and teacher learning: Mapping the terrain. *Educational Researcher*, *33*(8), 3 –15. doi:10.3102/0013189X033008003

Brighouse, H. (1998). Civic education and liberal legitimacy. *Ethics*, *108*(4), 719–745. doi:10.1086/233849

Brion-Meisels, L., Brion-Meisels, S., & Hoffman, C. (2007). Creating and sustaining peaceable school communities. *Harvard Educational Review*, *77*(3), 374–379.

Bryk, A. S. (2010). Organizing schools for improvement. *Phi Delta Kappan*, *91*(7), 23–30.

Bryk, A. S., & Schneider, B. (2002). *Trust in Schools: A Core Resource for Improvement*. New York: Russell Sage Foundation.

Callahan, R. E. (1962). *Education and the Cult of Efficiency: A Study of the Social Forces that Have Shaped the Administration of the Public Schools*. Chicago: University of Chicago Press.

Corcoran, T. C. (1995). *Transforming Professional Development for Teachers: A Guide for State Policymakers*. Washington, D.C.: National Governors Association. Retrieved from http://www.aecf.org/upload/PublicationFiles/ED3622H115.pdf

Counts, G. S. (1932). *Dare the School Build a New Social Order?* New York: The John Day Company.

Curry, M. W. (2003). *Critical Friends: A case study of teachers' professional community in a reforming high school* (Ph.D.). University of California, Berkeley, United States -- California. Retrieved from http://search.proquest.com.ezp-

prod1.hul.harvard.edu/pqdtft/docview/305341310/abstract/13EC39EE2412E77CEB0/1?accountid=11311

Darling-Hammond, L. (2010). *The Flat World and Education: How America's Commitment to Equity Will Determine Our Future*. New York: Teachers College Press.

Darling-Hammond, L., Wei, R. C., Andree, A., Richardson, N., & Orphanos, S. (2009). *Professional Learning in the Learning Profession: A Status Report on Teacher Development in the United States and Abroad*. National Staff Development Council. Retrieved from http://www.learningforward.org/docs/pdf/nsdcstudy2009.pdf

Dewey, J. (1897). *My Pedagogic Creed*. New York: E.L. Kellogg & Company.

Dewey, J. (1904). The Relation of Theory to Practice in Education. In C. A. McMurray (Ed.), *The Third Yearbook of the National Society for the Scientific Study of Education* (pp. 9–30). Chicago: University of Chicago Press.

Dewey, J. (1997). *Experience and Education*. New York: Simon & Schuster.

Duckworth, E. R. (1987). *"The Having of Wonderful Ideas" and Other Essays on Teaching and Learning*. New York: Teachers College Press.

Duncan-Andrade, J. (2004). Toward teacher development for the urban in urban teaching. *Teaching Education*, *15*(4), 339–350. doi:10.1080/1047621042000304475

Dunne, F., & Honts, F. (1998). "That Group Really Makes Me Think!" Critical Friends Groups and the Development of Reflective Practitioners. Presented at the Annual Meeting of the American Educational Research Association, San Diego, CA. Retrieved from http://www.eric.ed.gov/ERICWebPortal/detail?accno=ED423228

Fung, A. (2003). Deliberative Democracy, Chicago Style: Grass-roots Governance in Policing and Public Education. In A. Fung & E. O. Wright (Eds.), *Deepening Democracy: Institutional Innovations in Empowered Participatory Governance* (pp. 111–143). London: Verso.

Garet, M. S., Cronen, S., Eaton, M., Kurki, A., Ludwig, M., Jones, W., … Sztejnberg, L. (2008). *The Impact of Two Professional Development Interventions on Early Reading Instruction and Achievement* (No. NCEE 2008-4030). Washington, D.C.: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://www.eric.ed.gov/ERICWebPortal/detail?accno=ED502700

Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal*, *38*(4), 915 –945. doi:10.3102/00028312038004915

Garet, M. S., Wayne, A. J., Stancavage, F., Taylor, J., Eaton, M., Walters, K., … Doolittle, F. (2011). *Middle School Mathematics Professional Development Impact Study: Findings After the Second Year of Implementation* (No. NCEE 2011-4024). Washington, D.C.: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://www.mdrc.org/sites/default/files/full_442.pdf

Goddard, R. D., Hoy, W. K., & Hoy, A. W. (2000). Collective teacher efficacy: Its meaning, measure, and impact on student achievement. *American Educational Research Journal*, *37*(2), 479–507. doi:10.3102/00028312037002479

Grossman, P. L., Wilson, S. M., & Shulman, L. S. (1989). Teachers of Substance: Subject Matter Knowledge for Teaching. In M. C. Reynolds (Ed.), *Knowledge Base for the Beginning Teacher* (1st ed., pp. 23–36). New York: Pergamon Press.

Grossman, P., Wineburg, S., & Woolworth, S. (2001). Toward a theory of teacher community. *Teachers College Record*, *103*(6), 942–1012.

Guskey, T. R. (1986). Staff development and the process of teacher change. *Educational Researcher*, *15*(5), 5–12. doi:10.3102/0013189X015005005

Guskey, T. R. (2002). Professional development and teacher change. *Teachers and Teaching*, *8*(3), 381–391. doi:10.1080/135406002100000512

Guskey, T. R. (2003). Analyzing lists of the characteristics of effective professional development to promote visionary leadership. *NASSP Bulletin*, *87*(637), 4–20. doi:10.1177/019263650308763702

Gutmann, A. (1995). Civic education and social diversity. *Ethics*, *105*(3), 557–579. doi:10.2307/2382142

Gutmann, A. (2000). Why Should Schools Care About Civic Education? In L. McDonnell, P. M. Timpane, & R. W. Benjamin (Eds.), *Rediscovering the Democratic Purposes of Education* (pp. 73–90). Lawrence, KS: University Press of Kansas.

Gutmann, A., & Thompson, D. (1996). *Democracy and Disagreement*. Cambridge, Mass.: Belknap Press of the Harvard University Press.

Gutmann, A., & Thompson, D. (2000). Why deliberative democracy is different. *Social Philosophy and Policy*, *17*(01), 161–180. doi:10.1017/S0265052500002570

Gutmann, A., & Thompson, D. (2004). *Why Deliberative Democracy?* Princeton, NJ: Princeton University Press.

Hairon, S. (2006). Action research in Singapore education: Constraints and sustainability. *Educational Action Research*, *14*(4), 513–523. doi:10.1080/09650790600975684

Hairon, S., & Dimmock, C. (2012). Singapore schools and Professional Learning Communities: Teacher professional development and school leadership in an Asian hierarchical system. *Educational Review*, *64*(4), 405–424. doi:10.1080/00131911.2011.625111

Hammer, D., & Zee, E. van. (2006). *Seeing the Science in Children's Thinking: Case Studies of Student Inquiry in Physical Science: A Staff Developer's Guide*. Portsmouth, NH: Heinemann.

Haste, H. (2004). Constructing the citizen. *Political Psychology*, *25*(3), 413–439. doi:10.1111/j.1467-9221.2004.00378.x

Hawley, W. D., & Valli, L. (1999). The Essentials of Effective Professional Development: A New Consensus. In L. Darling-Hammond & G. Sykes (Eds.), *Teaching as the Learning Profession: Handbook of Policy and Practice* (1st ed., pp. 127–150). San Francisco: Jossey-Bass.

Hill, H. C. (2009). Fixing teacher professional development. *Phi Delta Kappa*, *90*(7), 470–476.

Kennedy, M. (1998). *Form and Substance in Inservice Teacher Education* (Research Monograph No. 13). Madison, WI: National Institute for Science Education, University of Wisconsin-Madison. Retrieved from http://www.eric.ed.gov/ERICWebPortal/detail?accno=ED472719

Kileen, K. M., Monk, D. H., & Plecki, M. L. (2002). School district spending on professional development: Insights available from national data (1992-1998). *Journal of Education Finance*, *28*(1), 25–74.

Kohn, M. (2000). Language, power, and persuasion: Toward a critique of deliberative democracy. *Constellations*, *7*(3), 408–429. doi:10.1111/1467-8675.00197

Learning Forward. (2012). Standards for Professional Learning. Retrieved May 15, 2013, from http://learningforward.org/standards#.UZQLfSvF3kR

Lemov, D. (2010). *Teach Like a Champion: 49 Techniques That Put Students on the Path to College* (1st ed.). San Francisco, CA: Jossey-Bass.

Lieberman, A. (1995). Practices that support teacher development: Transforming conceptions of professional learning. *The Phi Delta Kappan*, *76*(8), 591–596.

Little, J. W. (1982). Norms of collegiality and experimentation: Workplace conditions of school success. *American Educational Research Journal*, *19*(3), 325 –340. doi:10.3102/00028312019003325

Little, J. W. (2012). Professional community and professional development in the learning-centered school. In M. Kooy & K. van Veen (Eds.), *Teacher Learning that Matters: International Perspectives* (pp. 22–43). New York: Routledge.

Lortie, D. C. (2002). *Schoolteacher: A Sociological Study* (2nd ed.). Chicago: University of Chicago Press.

Loucks-Horsley, S., Stiles, K., & Hewson, P. (1996). *Principles of Effective Professional Development for Mathematics and Science Education: A Synthesis of Standards*. Madison, WI: National Institute for Science Education, University of Wisconsin-

Madison. Retrieved from http://www.eric.ed.gov/ERICWebPortal/detail?accno=ED409201

Louis, K. S. (2007). Trust and improvement in schools. *Journal of Educational Change*, *8*, 1–24. doi:10.1007/s10833-006-9015-5

Luppescu, S., Allensworth, E. M., Moore, P., de la Torre, M., & Murphy, J. (2011). *Trends in Chicago's Schools Across Three Eras of Reform*. Chicago: Consortium on Chicago School Research. Retrieved from http://ccsr.uchicago.edu/publications/trends-chicagos-schools-across-three-eras-reform-full-report

McDiarmid, G. W., Ball, D. L., & Anderson, C. A. (1989). Why Staying One Chapter Ahead Really Doesn't Work: Subject-Specific Pedagogy. In M. C. Reynolds (Ed.), *Knowledge Base for the Beginning Teacher* (1st ed., pp. 193–205). New York: Pergamon Press.

McLaughlin, M. W. (1991). Enabling Professional Development: What Have We Learned? In A. Lieberman & L. Miller (Eds.), *Staff Development for Education in the '90s: New Demands, New Realities, New perspectives* (2nd ed., pp. 61–82). New York: Teachers College Press.

Mehta, J. (2013). *The Allure of Order: High Hopes, Dashed Expectations, and the Troubled Quest to Remake American Schooling*. Oxford: Oxford University Press.

Ministry of Education. (2012). Learning Circles. *Academy of Singapore Teachers*. Retrieved August 7, 2013, from http://www.academyofsingaporeteachers.moe.gov.sg/professional-growth/learning-circles

Mitchell, L. S. (1950). *Our Children and Our Schools: A Picture and Analysis of How Today's Public School Teachers Are Meeting the Challenge of New Knowledge and New Cultural Needs*. New York: Simon and Schuster.

National Research Council. (2000). *How People Learn: Brain, Mind, Experience, and School: Expanded Edition*. Washington, D.C.: National Academy Press.

Nave, B. (2000). *Among critical friends: A study of Critical Friends Groups in three Maine schools* (Ed.D.). Harvard University, United States -- Massachusetts. Retrieved from http://search.proquest.com.ezp-prod1.hul.harvard.edu/pqdtft/docview/304595044/abstract/13EC395EA8198F7B70/1?accountid=11311

Ng, P. T. (2008). Educational reform in Singapore: From quantity to quality. *Educational Research for Policy and Practice*, *7*(1), 5–15. doi:10.1007/s10671-007-9042-x

Noonan, J. (2013). In Here, Out There: Making Schools Safe for Uncertainty. Presented at the 25th Annual Ethnographic and Qualitative Research Conference, Cedarville, OH.

Norman, P. J., Golian, K., & Hooker, H. (2005). Professional Development Schools and Critical Friends Groups: Supporting student, novice and teacher learning. *The New Educator*, *1*(4), 273–286. doi:10.1080/15476880500276793

OECD. (2010). *PISA 2009 Results: What Students Know and Can Do* (Vol. 1: Student performance in reading, mathematics and science). Paris: OECD Publishing. Retrieved from http://www.oecd.org/pisa/pisaproducts/48852548.pdf

Olson, L. (1998). The importance of `critical friends': Reform effort gets teachers talking. *Education Week*, *17*(37), 1.

Opfer, V. D., & Pedder, D. (2011). Conceptualizing teacher professional learning. *Review of Educational Research*, *81*(3), 376 –407. doi:10.3102/0034654311413609

Perkins, D. (1993). Teaching for understanding. *American Educator: The Professional Journal of the American Federation of Teachers*, *17*(3), 35.

Perkins, D., & Blythe, T. (1994). Putting understanding up front. *Educational Leadership*, *51*(5), 4–7.

Putnam, R. T., & Borko, H. (2000). What do new views of knowledge and thinking have to say about research on teacher learning? *Educational Researcher*, *29*(1), 4–15. doi:10.2307/1176586

Rice, J. M. (1912). *Scientific Management in Education*. New York: Hinds, Noble & Eldredge.

Schön, D. A. (1983). *The Reflective Practitioner: How Professionals Think in Action*. New York: Basic Books.

Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, *15*(2), 4–14. doi:10.2307/1175860

Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, *57*(1), 1–22.

Slavin, R. E., Madden, N. A., Chambers, B., & Haxby, B. (2009). *2 Million Children: Success for All* (2nd ed.). Thousand Oaks, CA: Corwin Press.

Tan, C. (2008). Improving schools through reflection for teachers: Lessons from Singapore. *School Effectiveness and School Improvement*, *19*(2), 225–238. doi:10.1080/09243450802047931

Taylor, F. W. (1911). *The Principles of Scientific Management*. New York: Harper & Brothers Publishers.

Tripp, D. (2004). Teachers' Networks: A New Approach to the Professional Development of Teachers in Singapore. In C. Day & J. Sachs (Eds.), *International Handbook on the Continuing Professional Development of Teachers* (pp. 191–214). Maidenhead, England: Open University Press.

Warren, B., & Rosebery, A. S. (1995). *"This Question Is Just Too, Too Easy!" Perspectives from the Classroom on Accountability in Science*. Washington, D.C.: National Center for Research on Cultural Diversity and Second Language Learning, Center for Applied Linguistics. Retrieved from http://www.eric.ed.gov/ERICWebPortal/detail?accno=ED390658

Webster-Wright, A. (2009). Reframing professional development through understanding authentic professional learning. *Review of Educational Research*, *79*(2), 702 – 739. doi:10.3102/0034654308330970

Welch, A. R. (1998). The cult of efficiency in education: Comparative reflections on the reality and the rhetoric. *Comparative Education*, *34*(2), 157–175. doi:10.1080/03050069828252

Wenger, E., McDermott, R. A., & Snyder, W. (2002). *Cultivating Communities of Practice: A Guide to Managing Knowledge*. Boston: Harvard Business Press.

Willie, C. V. (2000). Confidence, trust and respect: The preeminent goals of educational reform. *The Journal of Negro Education*, *69*(4), 255–262. doi:10.2307/2696244

Wilson, S. M., & Berne, J. (1999). Teacher learning and the acquisition of professional knowledge: An examination of research on contemporary professional

development. *Review of Research in Education*, *24*, 173–209. doi:10.2307/1167270

Wiske, M. S. (Ed.). (1998). *Teaching for Understanding: Linking Research with Practice* (1st ed.). San Francisco, CA: Jossey-Bass.

Yoon, K. S., Duncan, T., Lee, S. W.-Y., Scarloss, B., & Shapley, K. L. (2007). *Reviewing the Evidence on How Teacher Professional Development Affects Student Achievement* (No. REL 2007-033). Washington, D.C.: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southwest. Retrieved from http://eric.ed.gov/?id=ED498548

Young, I. M. (2001). Activist challenges to deliberative democracy. *Political Theory*, *29*(5), 670–690. doi:10.2307/3072534