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Teaching
THE TEACHERS

Effective
Professional Development
in an Era of High Stakes
Accountability

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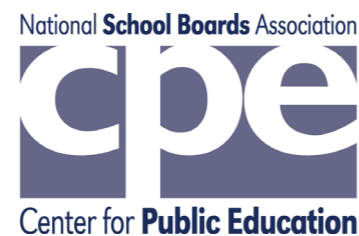
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TOUCH OR CLICK TO NAVIGATE

We often ask questions about how students learn, but not often about how teachers learn.

In the coming years, schools will be hit with a trio of potent reforms: teacher evaluations that will include student test scores, widespread adoption of higher academic standards, and the development of high stakes standardized tests aligned with these new standards. Each of these reforms challenges the status quo, demanding that schools systematically and continuously improve student performance, marking and measuring their progress each and every step along the way.

The new reforms will require significant changes in the classroom. The Common Core State Standards that have been adopted by 46 states and the District of Columbia, represent a retreat from the traditional rote, fact-based style of instruction toward teaching that fosters critical thinking and problem solving. Even non-Common Core states are pursuing a college and career-ready agenda that calls for the development of these skills among students and holds schools accountable for doing so. To meet these new standards, teachers will have to learn new teaching practices.

This is not just about providing professional development but about providing *effective* professional development. Availability alone is not an issue. In fact, in a recent study, researchers found that while 90 percent of teachers reported participating in professional development, most of those teachers also reported that it was totally useless (Darling-Hammond et al, 2009). Thus, the real issue isn't that teachers aren't provided professional development, but that the typical offerings are ineffective at changing teachers' practice or student learning.

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Schools

must consider how teachers learn and adopt new techniques for instruction and tailor the training accordingly.

In this high-stakes era of higher standards and teacher evaluations based in part on student achievement, professional development has to have a laser-light focus on one thing—student learning. However, at present, most professional development misses the mark. One-time workshops are the most prevalent model for delivering professional development. Yet, workshops have an abysmal track record for changing teacher practice and student achievement. (Yoon et al, 2007).

Districts cannot just do more of the same. They have to develop new approaches to teacher learning on their campuses, approaches that create real changes in teacher practice and improve student achievement. Hence, the real challenge schools face is how to create opportunities for teachers to grow and develop in their practice so that they, in turn, can help students grow and develop their knowledge and ability to think critically.

This paper aims to provide a research-based answer to how districts can structure professional development so that teachers change their teaching practices, leading to students learning more. This paper will address the many facets of developing an effective professional development program, starting with an assessment of the strengths and weaknesses of current practice in light of new reform demands. Next, the paper will examine what research says about the structure of professional development that truly changes teachers' work and the learning of students. Lastly, the paper will explore what funding effective professional development might look like in a district, while providing some surprising details about the amount districts spend today on professional development.

Main Findings

1. **The Common Core standards focus on teaching for critical thinking, but research shows that most classroom instruction is weak in this area. Therefore, professional development needs to emphasize practices that will turn students into critical thinkers and problem solvers.**

2. **Most professional development today is ineffective. It neither changes teacher practice nor improves student learning. However, research suggests that effective professional development abides by the following principles:**

   - The duration of professional development must be significant and ongoing to allow time for teachers to learn a new strategy *and* grapple with the implementation problem.

   - There must be support for a teacher during the implementation stage that addresses the specific challenges of changing classroom practice.

   - Teachers' initial exposure to a concept should not be passive, but rather should engage teachers through varied approaches so they can participate actively in making sense of a new practice.

   - Modeling has been found to be a highly effective way to introduce a new concept and help teachers understand a new practice.

- The content presented to teachers shouldn't be generic, but instead grounded in the teacher's discipline (for middle school and high school teachers) or grade-level (for elementary school teachers).

3. **Research estimates that pre-recession spending on professional development occupied between two to five percent of a typical district's budget. However, many districts do not track their professional development spending at all, leaving them in the dark about their costs.**

4. **In switching to effective professional development, the most significant cost item for districts will be purchasing time for teachers to spend in professional learning communities and with coaches.**

5. **Support during implementation must address the dual roles of teachers as both technicians in researched-based practices, as well as intellectuals developing teaching innovations.**

3

PROFESSIONAL DEVELOPMENT
AS THE LINCHPIN IN REFORM

Meeting the new demands of standards-based reform will mean schools must not only change their approach to student learning, but teacher learning.

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2 Main Findings

3 PD as the Linchpin in Reform

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③ Professional Development as the Linchpin in Reform   **Teaching the Teachers**

The overwhelming message of current accountability reforms is that student achievement is what matters most in a school building. However, the million-dollar question for districts is how to get there. This section makes the case that teacher learning is the best investment. Research suggests that the paradigm of instruction needed to prepare students for college and 21st century careers is not the paradigm of instruction most teachers currently use in their practice. In other words, teacher learning is the linchpin between the present day and the new academic goals.

The Common Core standards are the most visible embodiment of college-career ready knowledge and skills. At their "core," Common Core standards are intended to move away from rote memorization to develop students' critical thought (NGA, CCSSO, 2010). Such a change is a radical one. As early as 1909, researchers began to look at American classrooms and found that teachers overwhelmingly asked students fact-recall questions. Countless studies throughout the 20th century repeatedly showed the same thing (Burstall, 1909; Colvin, 1919; Bloom, 1954; Bellack et al., 1966; Nystrand & Gamoran, 1991;

Professional development can no longer just be about exposing teachers to a concept or providing basic knowledge about a teaching methodology. Instead, professional development in an era of accountability requires a *change in a teacher's practice* that leads to increases in student learning.

Nystrand et al., 1999). A large-scale study of English classes found that 85 percent of 8th and 9th- grade instruction was a combination of lecture, recitation, and seatwork— activities which require memorization and regurgitation, and very little critical thought (Nystrand et al., 1997).

❸ Professional Development as the Linchpin in Reform   **Teaching the Teachers**

The 2012 MET study from the Gates Foundation confirms that little has changed since1909 (Kane & Stainger, 2012). The study used trained observers to watch 7,491 videos of instruction by 1,333 teachers from six socio-economically and geographically diverse districts. All of these observations pointed to one glaring weakness — the *vast majority* of teachers were not teaching for critical thinking.

While almost all of the participating teachers managed well-behaved, on task classes, the following practices were rarely seen: students participating in meaning making and reasoning, investigation and problem-based approaches, questioning strategies, and student generation of ideas and questions—the exact kind of teaching the Common Core calls for (Kane & Stainger, 2012).

Seen in this light, it becomes clear that the Common Core (backed up by teacher evaluations connected to tests aligned with the standards) cannot be categorized merely as a tool of accountability. These reforms seek to do much more than just hold teachers "accountable" for student learning. Instead

they aim much higher, striving to completely revolutionize the nature of learning and instruction in U.S. classrooms. For teachers, merely keeping students working bell to bell is not enough; teachers have to learn new ways to teach, ways to teach they likely never experienced themselves and that they rarely see their colleagues engage in. Creating this type of teacher development is one of the biggest challenges school districts face today. ◼

4

BUILDING EFFECTIVE
PROFESSIONAL DEVELOPMENT

Why the Status Quo is Ineffective

The Implementation Problem
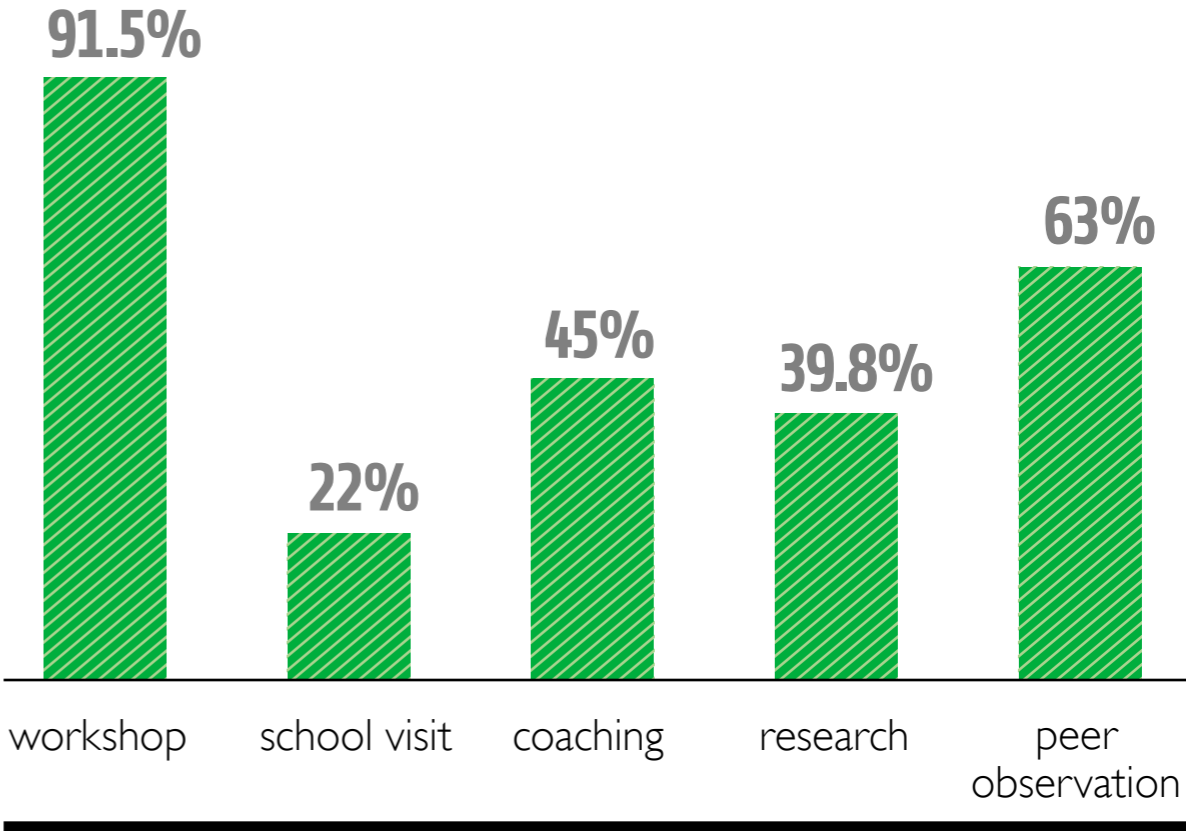
Why the Status Quo is Ineffective

First, districts should recognize the problem isn't that teachers don't participate in professional development. It's that, on the whole, the majority of the professional development they do participate in is ineffective. As mentioned, over 90 percent of teachers report having participated in professional development in the past year, but the majority also report that it wasn't useful (Darling-Hammond et al., 2009). This is because most development happens in a workshop-style model which research shows has little to no impact on student learning or teacher practice (Darling-Hammond et al., 2009).

One comprehensive study analyzed 1,300 studies representing the entire landscape of professional development research (Yoon et al., 2007). The researchers found the only professional development programs that impacted student achievement were lengthy, intensive

FIGURE 1

Types of Professional Development Provided to Teachers the Previous Year

| workshop | school visit | coaching | research | peer observation |
| 91.5% | 22% | 45% | 39.8% | 63% |

SOURCE: Darling–Hammond et al., 2009

programs. Programs that were less than 14 hours (like the one-shot workshops commonly held in schools) had *no effect* on student achievement. Not only did these workshop programs fail to increase student learning, they didn't even change teaching practices. An earlier study of the various models of professional development found if the training merely described a skill to teachers, as traditional workshops do, only 10 percent of teachers could transfer the skill to practice. The majority of the teachers simply left the training completely unchanged (Bush, 1984).

20 **The number, on average, of separate instances of practice it takes a teacher to master a new skill, and this number may increase if a skill is exceptionally complex.**

SOURCE: (Joyce & Showers, 2002).

The Implementation Problem

Why isn't the workshop effective? Simply put, traditional professional development operates under a faulty theory of teacher learning. The one-time workshop assumes the only challenge facing teachers is a lack of knowledge of effective teaching practices and when that knowledge gap is corrected, teachers will then be able to change.

Research finds otherwise. It turns out teachers' greatest challenge comes when they attempt to implement newly learned methods into the classroom.

In all forms of learning a new skill, mere knowledge of it is never as difficult as its implementation. Think about this in the context of sports. If a football coach wants to improve his team, he might begin by working on the fundamentals of blocking. In other words, he might recognize the players lack knowledge of a particular strategy, blocking, that will improve

their game. He might explain what blocking is, demonstrate it (that is, modeling), and even have the players practice blocking in the artificial setting of practice. However, when players initially bring this new skill into the real life arena of a game, it doesn't transfer smoothly. They are used to playing the game another way and the other parts of their performance have to also change to make room for the new skill (Joyce & Showers, 1982).

Hence, the area of greatest struggle is not in *learning* a new skill but in *implementing* it, something referred to as the "implementation dip" (Fuller, 2001). This is true with any new skill—learning about writing isn't as difficult as actually writing, learning about bicycling isn't as difficult as actually riding a bike, and learning about a teaching method isn't as difficult as actually implementing it.

Numerous studies speak to the challenges teachers face when they try to implement newly-learned skills in their classrooms. For example, a recent case study examined veteran science teachers as they attempted to implement

If school districts want teachers to change instruction, the implementation stage must be included and supported more explicitly in professional development offerings, as this is the critical stage where teachers begin to commit to an instructional approach.

inquiry learning into their classrooms. The group had worked extensively outside of the classroom with experts, learning the theory of inquiry learning. They also observed model lessons and wrote their own together collaboratively. Despite all of that groundwork on the logic and research behind the model, the teachers' first attempt to apply the new method was unsuccessful and messy (Ermeling, 2010). The teachers

4 Building Effective Professional Development   **Teaching the Teachers**

had to practice inquiry teaching several times, watching video tapes of their attempts in teams and hearing feedback about their performance before they were able to master the skill.

This case study is not an outlier. In fact, studies have shown that teacher mastery of a new skill takes, on average, 20 separate instances of practice and that number may increase if the skill is exceptionally complex (Joyce & Showers, 2002).

The implementation dip is further complicated by the fact that research shows teachers change their underlying beliefs about how to teach something only *after* they see success with students (Guskey, 2002). Researchers have documented this phenomenon since the 1980s (e.g. Huberman, 1981;Guskey, 1984). Indeed, when teachers do not see success, they tend to abandon the practice and revert to business as usual.

Collectively these principles present a Catch-22: to internalize a practice and change their beliefs, teachers must see success with their students, but student success is very hard to come by initially, as learning new skills takes several attempts to master. Crafting effective professional development means confronting this reality and building a significant amount of support for teachers during the critical implementation phase in one's actual classroom. ■

(5)

5 PRINCIPLES OF EFFECTIVE
PROFESSIONAL DEVELOPMENT

Principle I	Principle IV
Principle II	Principle V
Principle III	

5 5 Principles of Effective Professional Development   **Teaching the Teachers**

Clearly the one-time workshop is an insufficient professional development approach to building the capacity of teachers to foster student knowledge and higher order skills. A considerable body of research identifies characteristics of effective programs. School leaders seeking to provide meaningful learning opportunities for their staff should follow these principles:

Professional Development Principle 1:

The duration of professional development must be significant and ongoing to allow time for teachers to learn a new strategy and grapple with the implementation problem.

Professional development that is longer in duration has a greater impact on advancing teacher practice, and in turn, student learning. This is likely because extended professional development sessions often include time to practice

Some studies have concluded that teachers may need as many as 50 hours of instruction, practice and coaching before a new teaching strategy is mastered and implemented in class.

SOURCE: (French, 1997)

application of the skill in one's own class, allowing the teacher to grapple with the transfer of skills problem.

In nine different experimental research studies of teacher professional development, *all* found that programs of greater duration were positively associated with teacher change and improvements in student learning (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009). In fact, in a study analyzing the impact of a science professional development

program on teacher's practice, researchers found that teachers with 80 hours or more of professional development were significantly more likely to use the teaching practice they learned than teachers who had less than 80 hours of training (Corcoran, McVay & Riordan, 2003).

These findings corroborate research on teacher learning, which shows mastery of a new skill is a time-consuming process for teachers. French (1997) concluded that teachers may need as many as 50 hours of instruction, practice and coaching before a new teaching strategy is mastered and implemented in class.

Professional Development Principle 2:

There must be support for a teacher during the implementation stage that addresses the specific challenges of changing classroom practice.

If school districts want teachers to change instruction, the implementation stage must be included and supported more explicitly in professional development offerings, as this is the critical stage where teachers begin to commit to an instructional approach.

Simply increasing the amount of time teachers spend in professional development alone, however, is not enough. The time has to be spent wisely, with a significant portion dedicated to supporting teachers during the implementation stage. Support at this stage helps teachers navigate the frustration that comes from using a new instructional method.

Studies have found that when teachers are supported during this phase, they change their teaching practices. Truesdale

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(2003) studied differences between teachers attending just a workshop and teachers attending the workshop and then being coached through implementation. The study found that coached teachers transferred the newly learned teaching practices, but teachers who only had the workshop quickly lost interest in the skill and did not continue to use it in their classrooms. Likewise, Knight and Cornett (2009) found in a study of 50 teachers that those who had coaching along with an introductory workshop were significantly more likely to use the new teaching practice in their classes than those who only were only exposed to the workshop.

Professional Development Principle 3:

Teachers' initial exposure to a concept should not be passive, but rather should engage teachers through varied approaches so they can participate actively in making sense of a new practice.

In the same way students must first understand a concept before applying it, teachers need a thorough understanding of research or theory before they can attempt implementation in their classrooms. Therefore, attention also has to be paid to how new practices are introduced.

Traditional workshops are not only largely ineffective at changing teachers' practice, but a poor way to convey theoretical concepts and evidence-based research. This is because many professional development workshops involve teachers as passive listeners only. Again, just like students, teachers learn better when they are able to actively participate and make sense of the information being presented (French, 1997). Professional development sessions which aim to make teachers aware of a concept have been shown to be more successful when they allow teachers to learn the concept in varied, active ways (Roy, 2005; Richardson, 1998). These activities can include: readings, role playing techniques, open-ended discussion of what is presented, live modeling, and visits to classrooms to observe and discuss the teaching methodology (Roy, 2005; Goldberg, 2002; Rice, 2001; Black, 1998; Licklider, 1997).

Professional Development Principle 4:

Modeling has been found to be highly effective in helping teachers understand a new practice.

While many forms of active learning help teachers decipher concepts, theories, and research-based practices in teaching, modeling — when an expert demonstrates the new practice — has been shown to be particularly successful in helping teachers understand and apply a concept and remain open to adopting it (Snow-Renner & Lauer, 2005; Carpenter et al., 1989; Cohen & Hill, 2001; Garet et al., 2001; Desimone et al., 2002; Penuel, Fishman, Yamaguchi, & Gallagher, 2007; Saxe, Gearhart, & Nasir, 2001; Supovitz, Mauyer, & Kahle, 2000). For example, instead of hearing about inquiry learning in science, a master teacher might teach a science class using inquiry methodology while being observed by a teacher who is learning this skill. In this way, teachers can see how the method is used successfully in a class of real students.

Professional Development Principle 5:

The content presented to teachers shouldn't be generic, but instead specific to the discipline (for middle school and high school teachers) or grade-level (for elementary school teachers).

Districts often provide staff-wide training on the first days of school, assuming all teachers can benefit equally from the presentation of generic concepts (such as classroom management). The truth is, while there may be a few general principles that apply to all teachers, these are 1) best understood and mediated with attention to how those general principles manifest within the content a teacher teaches and 2) pale in comparison to useful concepts that are discipline-specific.

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⑤ 5 Principles of Effective Professional Development   **Teaching the Teachers**

For example, asking open-ended questions can apply to all disciplines and grade-levels. But the more nuanced applications of this concept (how to scaffold the open-ended questions with increasing levels of difficulty, or which open-ended questions to ask) are centered in the content one teaches. Furthermore, there are few pedagogical principles that span all disciplines, but there are many important areas of analysis and exploration that are highly discipline-specific which go unaddressed and unacknowledged in generic professional development.

Several studies, for instance, have shown that professional development that addresses discipline-specific concepts and skills has been shown to both improve teacher practice, as well as student learning (Blank, de las Alas & Smith, 2007; Carpenter et al., 1989; Cohen & Hill, 2001; Lieberman & Wood, 2001; Merek & Methven, 1991; Saxe, Gearhart, & Nasir, 2001; Wenglinsky, 200; McGill-Franzen et al., 1999). Teachers themselves report that their top priority for professional development is learning more about the content they teach, giving high marks to training that is content-specific (Darling-Hammond et al., 2009). ■

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6

THE DUAL ROLES
TEACHERS PLAY

Teacher as Technician

Teacher as Intellectual

JUMP TO

6 The Dual Roles Teachers Play

Preparing all students for college and careers demands instruction that moves away from rote, memorization-based learning, instead elevating critical thinking and problem solving (Conley, 2011). Some important work has been done in several disciplines — such as inquiry thinking in science and high-level questioning strategies in the humanities — about teaching methods that foster critical thinking. However, the research base is not extensive enough so that everything a teacher does in a classroom can be covered with a proven, evidence-based skill. Instead, teachers will have to change the tire while the car is running so to speak, creating their own innovations in instruction while teaching to higher standards, including the Common Core (Little, 1993).

Researcher Judith Little describes these two different functions as 1) the teacher as a technician and 2) the teacher as an intellectual (Little, 1993). An effective professional development program, therefore, needs to address both functions, understanding that there are differences in the ways each should be supported.

Teacher as Technician

Technical skill training

Teacher's role: To implement particular skills or strategies which are backed by research

Focus: Explaining the skill and strategy and research base behind it with support for the teacher as he/she tries to transfer the skill or strategy to the classroom

Structure: Workshop and Coaching

Teacher as an Intellectual

An inquiry process where teachers innovate

Teacher's role: An intellectual examining broad research on learning and developing innovative classroom strategies to achieve goals

Focus: Exposing teachers to pedagogical research in teacher's content area and provides support for innovation and implementation through a local teacher community

Structure: Professional Learning Communities

Supporting the Teacher as a Technician

As discussed earlier, professional development should 1) expose teachers to various pedagogical strategies and the research base behind them, and 2) support teachers as they implement the research based strategy into their classroom, recognizing that implementation is the most difficult learning stage for teachers.

Individual teacher coaching has been shown to be successful in supporting teachers to implement new, research-based practices into their classrooms (Bush, 1984; Showers, 1982; Showers, 1984; Knight, 1998; Knight, 2007; Batt, 2009; Slinger, 2004). While teacher coaching takes many forms, such as instructional coaching, literacy coaching and cognitive coaching, the basic structure remains essentially the same: a teacher meets with a coach before teaching to discuss how the strategy will be implemented into the lesson, the coach observes the teacher teaching with the new strategy, and the teacher and

Effective PD must also provide support for teachers to innovate new teaching strategies to meet the demands of reform.

coach meet together to debrief about the lesson and how it could be improved. The cycle is repeated several times, as research shows teachers need as many as 20 different times practicing with a strategy to master it (Joyce & Showers, 1982).

Studies have shown that coaching is effective at changing teacher practice and student achievement (Showers, 1984; Hull et al., 1998; Stephens et al., 2007). For example, South Carolina's Reading Initiative provided instruction to teachers on research-based literacy practices along with individual coaching. One study showed that students in classes with coached teachers made higher gains on standardized reading exams than peers who were taught by non-coached teachers (Stephens et al., 2007).

6 The Dual Roles Teachers Play   **Teaching the Teachers**

Teacher as Technician: A Coaching Model

STAGE ONE: Introduction to New Teaching Ideas

▶ New teaching methodology is presented to teachers and the research supporting it

▶ The presentation of the material requires active learning, not passive learning from the teachers

▶ Modeling has been shown by research to be very helpful at this stage

▶ The content is not generic, but focused on the exact concepts a teacher teaches

STAGE TWO: Support During Implementation in the Classroom

▶ A coach meets with the teacher before he/she teaches a lesson with the new teaching skill, hearing the teacher's concerns about the lesson and giving feedback on the structure of the lesson.

▶ The coach then observes the lesson with the new teaching skill.

▶ The coach and teacher meet together after the lesson to debrief, and they create suggestions to improve using the teaching skill in the next lesson.

▶ The cycle is repeated several times, as research shows that it can take as many as 20 practices for teachers to master a new instructional skill.

▶ The time given for this process is extensive, as research shows effective professional development is ongoing and longer in duration than traditional models.

Supporting the Teacher as Intellectual

Allowing teachers to flourish as intellectuals requires 1) providing time and resources which allow teachers to think through and create innovative teaching methods, and 2) providing a support system for teachers as they implement those innovations, so that the awkward implementation stage does not merely result in frustration, but instead in continued practice and refinement of the teaching method.

Many school districts have implemented such structures through professional learning communities. These are communities of practitioners, often teachers in the same department or grade level, who complete cycles of teaching inquiry together, creating innovations in teaching and then experimenting with those innovations in their own classrooms. In these communities, teachers begin by actively exploring "artifacts" that allow them to think about challenges the group faces in the classroom. Such artifacts might include student

assessments, recent research about a particular aspect of learning or teaching, or even student standardized test results.

For one highly effective Algebra professional learning community, the group used an entire binder of resources with research-based approaches to math instruction, which the group added to and used frequently in guiding their innovations (Stoll et al., 2007). In Chicago, a principal organized a monthly "Breakfast Club" as a professional learning community, where teachers began by reading the research on early childhood literacy, discussing the challenges they faced in their own classrooms, and developing innovations in teaching to address these issues (Stoll et al., 2007).

After analyzing various student artifacts, teachers in a typical professional learning community will create a classroom technique to address a specific concept or skill that each member will try in their classroom. Later, they reconvene to debrief how it went and how it could be improved, using student data from the lesson (e.g., quiz data, writing samples, video of student discussions) to inform

6 The Dual Roles Teachers Play

their decisions. In essence, the team becomes a group of coaches for one another, supporting each other during implementation through feedback and collective refining of strategies. These teachers continue to repeat these inquiry cycles over and over again, until they feel they've arrived at an acceptable solution to the issue identified in the classroom. From there, teachers can pose new questions for inquiry, repeating the cycle over and over again.

Through these inquiry cycles, teachers are able to customize the innovations using their own research on teaching and data on student learning, creating instructional methodologies that will elicit higher-order thinking— something that has been a rarity in most K-12 classes.

Research suggests that there's an exceptionally strong relationship between communal learning, collegiality, and collective action (key aspects of professional learning communities) and changes in teacher practice and increases in student learning. In a study of 12 schools implementing Critical Friends Group, a professional learning community

Research suggests that there's an exceptionally strong relationship between communal learning, collegiality, and collective action (key aspects of professional learning communities) and changes in teacher practice and increases in student learning.

with specific protocols to guide observations and discussions, researchers found teachers did indeed change their teaching practice; teachers became more student-centered with a focus on student mastery (Dunne et al., 2000).

These communities haven't only changed teacher practice, they've also been shown to increase student achievement.

6 The Dual Roles Teachers Play

For instance, Rosenholtz (1989) found that in schools where teachers met regularly to examine their practice and learn strategies to improve it, students had better academic progress.

Likewise, Louis and Marks (1998) found a relationship between positive professional learning communities and student achievement. Little (1982) analyzed a group of schools that were "beating the odds," and found that teachers in these schools more frequently jointly planned, designed and evaluated instructional materials, teaching each other how to become better teachers. Math achievement was also found to be positively affected in schools with high performing professional learning communities (Wiley, 2002).

Other benefits can also accrue. A five-year study of 1,500 schools found that schools with active professional learning communities had lower student absenteeism and dropout rates. All these findings suggest that professional learning communities can be a vehicle for teacher change and school reform (Louis & Marks, 1998). ■

Teacher as Intellectual: A Professional Learning Community Model

STAGE ONE: Introduction to New Teaching Ideas

▶ "Artifacts" such as, student work and standardized test scores are presented, spurring thought and discussion among teachers

▶ Teachers engage actively, not passively, in reading and analyzing the artifacts, identifying how they connect to challenges they're facing in the classroom

▶ The artifacts are not generic, but focused on the exact concepts a teacher teaches

STAGE TWO: Support During Implementation in the Classroom

▶ Teachers identify a predominant area of concern after their analysis of artifacts

▶ Together, the team develops a teaching innovation that addresses the concern raised

▶ All teachers on the team practice the new strategy in their classroom

▶ Because this implementation stage is the most difficult and comes with the highest likelihood for frustration, the teachers reconvene after implementation to "coach" one another. They share how the lesson went and brainstorm how to improve its use or tweak it for future lessons.

▶ If possible, teachers may observe one another to see others teach with the new innovation.

▶ The cycles of implementation and team discussion are extensive, as research shows that it can take as many as 20 practices for teachers to master a new instructional skill.

▶ The time needed for this process is considerable, as research shows that effective professional development is ongoing and longer in duration than traditional models.

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7

FUNDING EFFECTIVE
PROFESSIONAL DEVELOPMENT

Time, the Largest Cost

Other Costs

7 Funding Effective Professional Development

Many districts may embrace calls for more effective professional development but fear they will be unable to fund such programs. Such worries are valid. However, there's reason to believe effective professional development funding doesn't necessarily require more spending, but a restructuring of existing funds.

Districts first must identify how much they are currently spending on professional development, though, in truth, few districts are able to accurately identify this number. State education agencies and school districts usually use a cost accounting model to track revenues and expenditures (Miles et al., 2003). In this cost accounting model, there are broad categories to track spending (Odden et al., 2002).

School districts often place professional development spending into instructional support, a category that also includes spending for curriculum development, instructional supervision, computer technology and media, and other library costs (Odden et al., 2002). In such a system, administrators aren't able to isolate spending solely for professional development.

FIGURE 2

Research Finds District Spending on Professional Development Hard to Quantify

Study	District PD Expenditures
Hertert, 1997	1.7 to 7.6% of total budget
Miller et al., 1994	2% of total budget
Miles et al., 1999	3.8% of total budget $23 million a year $4,894 per teacher and principal
Miles & Hornbeck, 2000	2.4 to 4.3 % of total budget 2.4 to 5.9% of budget (With in-service days) $2,010 to $5,528 per teacher
Miles et al., 2003	3.5% of total budget $19 million $4,380 per teacher

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7 Funding Effective Professional Development   **Teaching the Teachers**

However, some studies have aimed to look "inside the black box" of professional development expenditures by using surveys, state documents, and other information sources to drill down on the real amount districts spend (Miles et al., 2003; Odden et al., 2002). What these researchers find is that while districts may think they spend very little on professional development, most districts spend a tremendous amount.

For example, one district reported spending $460,000 on professional development; however, after a detailed study of the district's spending, the actual figure was $8.9 million (Odden et al., 2002). Other studies found that, pre-recession, districts were spending on average between two to five percent of their total budget on professional development (Hertert, 1997; Little, 1987; Miller et al., 1994; Elmore & Burney, 1997; Miles et al., 1999; Miles & Hornbeck, 2000; Odden, 2002).

The federal government helps states and districts with professional development funds, mostly through Title II, Part A. In 2012-13, 44.4% of the $2.33 billion Title II dollars went to support teacher development. Nonetheless, school budgets

FIGURE 3

School Administrators Detail Budget Items Getting the Ax in Sequestration's Aftermath

Impact on 2013 budget	Percent of districts
Reducing professional development	69.4
Reducing academic programs (enrichment, after-school, interventions, etc)	58.1
Personnel layoffs (non-instructional staff)	56.6
Increased class size	54.9
Personnel layoffs (instructional staff)	54.8
Deferring technology purchases	52.8
Deferring textbook purchases	38.0
Deferring maintenance	36.6
Eliminating summer school	34.6
Reducing courses offerings	25.6
Reducing extra-curricular activities	25.6

SOURCE: Ellerson, 2012

are still struggling after taking a double hit with the recession and again after sequestration. According to a 2012 survey from the American Association of School Administrators, professional development is the first item to experience cuts by far with 69.4 percent of school districts reporting they would be reducing these funds in the face of budget shortfalls (AASA, 2012). Nonetheless, it will serve districts well to do an accounting of current professional development spending. It may reveal that current dollars are larger than assumed.

Time, the largest cost

Research consistently finds that effective professional development requires a significant amount of teacher time (Darling-Hammond et al., 2009; Yoon et al., 2007). This is largely due to the fact that the learning curve for teachers is greatest at the implementation stage, when teachers need the most support as they practice new teaching methodologies over an extended time period. Unfortunately, teacher time can be costly.

Districts should begin by identifying how much they are currently spending on professional development, though, in truth, few districts are able to accurately nail down this number.

The ideal structure for ongoing professional development is to provide teachers time embedded in the school day, preferably setting aside three to four hours per week for collaboration and coaching (Killion, 2013). Time spent in this way, however, is time away from students who must still be supervised, adding a new layer to staffing or administrative needs.

Afterschool professional development mitigates the need for more staff, but there are limits to how much time can be added to teachers' work schedule. In many districts, the extra time would need to be addressed in contracts and in

some places, compensated. This may be part of the reason districts are so apt to fall back on traditional workshop professional development, which may only take a few hours of teachers' time total.

There are several ways in which a district might purchase additional teacher time. One option is for a district to simply pay for more daily working hours through a teacher's contract. However, schools might also consider more cost effective ways of purchasing teacher time (Odden et al., 2002). For example, districts might choose to pay substitutes to cover a teacher's class. Of course, this would have to be weighed against the negative effect of not having teachers in their classrooms. Furthermore, it might prove impractical if teachers meet on a weekly or other consistent basis, as many researchers recommend (Darling-Hammond et al., 2009; Yoon et al., 2007).

Some districts have paid stipends to teachers for professional development time (Odden et al., 2002). The stipends were set at a lower hourly rate than the teacher's salaried pay, but were still attractive to teachers. Depending on the state or

district, any of these scenarios may have to be negotiated through collective bargaining of teacher contracts.

Despite the large price tag for teacher's time, there's reason to believe that the reallocation of funds within a district's current teacher training budget could cover the cost of effective, research-based professional development. In a well-known model for restructuring from the 1990s, New York's District 2 committed to raise achievement through professional development, even without substantial monetary investments (Elmore & Burney, 1997).

The district spent about three percent of its budget overall to develop a program that had both coaching and professional development labs, where expert teachers hosted other teachers. Utilizing a combination of outside consultants and in-house talent, coaches worked with teams of teachers to present effective teaching strategies and model lessons; they then observed and debriefed teachers as they attempted implementation. Each consultant worked one on one with a block of about eight teachers for three to four months. Not

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only was the district able to create this program and keep costs to about three percent of the district's budget, the district experienced substantial increases in student achievement after implementing the program (Elmore & Burney, 1997).

In creating this professional development program, the largest cost for the district was 1) the cost of teachers' time and 2) the staffing costs for coaching and developing model lesson plans in the professional development lab.

Learning Forward, formerly the National Staff Development Council, recommends that districts form a time study team to develop a plan for finding more collaboration time for teachers through a seven step process as follows:

Step 1: Forming a time Study team addresses engaging representatives from various parts of the school or school system community to participate in the time study process and determining who will develop recommendations for the decision makers.

Step 2: Examining assumptions about time describes processes for assessing current perceptions held about time for education. Understanding personal assumptions about time early in the process will provide fundamental information for the Time Study team as they engage in their work.

Step 3: Understanding existing time includes strategies for conducting an analysis of how time is currently used to inform the work of the Time Study team. In some cases, repurposing existing time is the first way to increase time for collaborative professional learning.

Step 4: Studying time options provides resources and guides the Time Study team as members examine models from other schools and school systems to inform their work.

Step 5: Forming and adopting recommendations about time launches a public discussion about how to fulfill the need within the given parameters. After developing concrete recommendations, members of the Time Study team should decide how to vet them

for consideration and modification before they make final recommendations.

Step 6: Establishing a plan to implement and evaluate accepted recommendations is an essential part of the work. Ongoing monitoring and assessment can generate information about the efficiency and effectiveness of the time investment.

Step 7: Reviewing time use and results provides ongoing data to make adjustments and improvements in the use of time to achieve the maximum benefits for both educators and students.

SOURCE: Learning Forward, 2013.

Other Costs

This report urges districts to employ both a teacher as technician (accomplished through coaching) and a teacher as an intellectual (accomplished through professional learning communities) approach to teacher development. While both models require considerable investments in teacher time, there are other costs to consider, too.

Teacher as Technician: Coaching

This model could possibly be more expensive than professional learning communities, as districts need to invest in training to introduce teachers to new strategies as well as salaried staff who serve as coaches. It is labor-intensive.

This model requires a well-planned, active presentation of research-based skills to teachers. Districts will need someone to plan and present these sessions to teachers. Districts can choose to hire consultants to develop staff training or use in-house talent. While in-house talent is likely to be less expensive, some outside consultants may have a deeper

should have enough time to work with a teacher carefully and thoroughly to ensure the teacher has mastery of the skill.

Coaching: Cost Components

▶ Teachers' Time

▶ Staff to Plan and Deliver Active Training about Research-Based Teaching Practices

▶ Staff to Serve as Instructional Coaches

▶ Training Materials

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level of expertise, especially of research-based practices. These considerations should be weighed when planning the introductory sessions.

 In addition, districts will need staff to serve as coaches for teachers during the implementation stage. These coaches should be expert teachers who are well-versed in the particular instructional strategy teachers are aiming to master. Again, districts can hire these coaches from outside or promote from within, or a combination of two. However, each coach

Teacher as Intellectual: Professional Learning Communities

This model's predominant cost is also teacher time. However, districts might do well to begin by consulting with a group that specializes in professional learning communities, such as Critical Friends Group, or develop experts in house. The objective is to secure individuals who can present the concept and structure of professional learning communities to the staff and initially support the teacher inquiry cycles. Schools launching learning communities have found such support necessary.

For example, a single Title I elementary school formed a professional learning community, which resulted in impressive increases in their students' scores (Ermeling et al, 2009). Other schools in the district decided to follow their example, but did not see similar increases in student achievement. The district went back to the drawing board.

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They trained leaders for professional learning communities and provided a better structure for the community work, including protocols for the meetings between teachers. The district saw an immediate impact on the conduct of inquiry cycles in meetings and within three years, the schools with PLCs were outperforming similar schools in the district without the PLCs (Ermeling, 2009).

While professional learning communities do not require expert presenters, these groups do need leaders who can suggest artifacts and topics for the group to consider for analysis. Districts could hire staff to do this, but they could also assign current staff to this task and reducehis or her responsibilities in other areas. Department chairs and grade level chairs are well-positioned for the task. These individuals are already well-steeped in the content taught by the department or grade-level (Blank de las Alas & Smith, 2007; Carpenter et al., 1989; Cohen & Hill, 2001; Lieberman & Wood, 2001; Merek & Methven, 1991; Sax, Gearhart, & Nasir, 2001; Wenglinsky, 2000; McGill-Franzen et al., 1999). ■

Professional Learning Communities: Cost Components

▶ Teachers' Time

▶ Staff to Develop Initial Training for All Staff About PLCs and Protocols for Inquiry Meetings

▶ Cost of Decreasing Responsibility of Department or Grade Level Chair so They Can Develop Artifacts for Consideration and Lead PLC

▶ Materials for Artifacts (articles, books, webcasts)

8

DISCUSSION AND CONCLUSION

Questions to Consider

JUMP TO

1 Introduction

2 Main Findings

3 PD as the Linchpin in Reform

4 Building Effective PD

5 5 Principles of Effective PD

6 The Dual Roles Teachers Play

7 Funding Effective PD

8 Discussion and Conclusion

8 Discussion and Conclusion

There is an undeniable truth that teaching is inherently complex and nuanced. Professional development must recognize this.

The great irony of traditional professional development, notably the one-time workshop, is that it aims to get teachers to use a model for instructing students that it typically ignores when teaching teachers. Recent education reforms and standards urge teachers to incorporate students' prior knowledge, make learning social through collaboration and discussion, and engage students in meaning making. Paradoxically, school districts rarely apply these same learning theories to teachers' own learning. If teachers cannot simply "pour" knowledge into students' minds through lecture, what makes districts think that the same can be done with teachers?

Ultimately, research tells us that teachers learn much the same way that students do. When teachers are first introduced to a concept or teaching skill, their learning should be active, not passive. Further, as when students write an essay, prove their mathematical thinking, or design an experiment, the application of the skill is far more challenging than simply recognizing the logic behind it. The same is true for teachers.

Several researchers have called this the "implementation dip" of practice where the first integration of a new skill into existing practice is often awkward, requiring several more practices before the skill is mastered (Fullan, 2001; Joyce & Showers, 1982). Because this period is awkward and comes with a high probability of frustration, support during the implementation stage is critical to ensure teachers do not give up but instead push through

towards mastery. For research-based practices, coaching has proved successful in supporting this implementation dip and changing teachers' practice. However, because the research base on critical thinking instructional practices is incomplete, schools must also empower teachers to be innovators and researchers themselves through professional learning communities, where fellow teachers can serve as a network of coaches for each other. Research suggests these models of professional development change teacher practice and are possible without significant increases in district spending.

Districts wanting to craft effective professional development to improve the staff capacity should consider these questions:

Questions for districts to consider

- **What existing professional development does the district provide?**

- **Does the district's current professional development programming align with research about teacher learning?**

- **Is professional development producing an impact on student learning?**

- **How is spending for professional development tracked by the district?**

8 Discussion and Conclusion **Teaching the Teachers**

Districts must ask themselves how they can create meaningful learning experiences for teachers that improve their practice.

• Does the district need to develop more effective accounting codes to pinpoint professional development spending?

• How much exactly is the district spending on professional development?

• How much teacher time is paid for within the current contract that is not used for individual teacher planning or classroom teaching?

• Which model for purchasing teacher time is most cost efficient for the district?

• What current in-house staff can be used to provide coaching and professional learning communities?

• What external resources can be used to staff coaching and professional learning communities?

• Is an in-house or consulting model of staffing more cost efficient and effective for the goals of the professional development, or is it better to have a combination of the two? ■

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