

Conceptualizing and Evaluating Professional Development for School Leaders

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Abstract

The importance of professional development for school leaders is paramount as school leaders are expected to lead teachers and students to achieve new levels of performance and learning. However, few principal development programs have focused directly on the problem of developing professional practice, competence and expertise for instructional improvement and increased learning outcomes for all students.

In this paper we present a review of the field of professional development for school leaders. First the paper sets out a framework for defining what professional development is. Next it articulates criteria to define 'high quality' professional development and describes goals for professional development. The paper then critiques the research on professional development for school leaders in three key areas: 1) conceptualization regarding how professional development can influence practitioners' practice and expertise, 2) instruments (instrumentation) to measure proximate and ultimate effects of professional development, and, 3) rigor and scope of research designs. The paper concludes with a suggested approach and agenda to develop the knowledge base regarding effective professional development for school leaders.

The paper is rooted in a perspective that in order for professional development to meet the needs of leaders to improve schools, it is necessary to 'open the black box' of these programs to address and understand the challenges associated with transforming leaders' expertise, understanding, and practice in school settings.

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The importance of professional development for school leaders is paramount as school leaders are expected to lead teachers and students to achieve new levels of performance and learning. In this paper we present a review of the field of professional development for school leaders. First, the paper sets out a framework for defining what professional development is. Next, it articulates criteria to define ‘high quality’ professional development and describes goals for professional development. The paper then critiques the research on professional development for school leaders in three key areas: 1) conceptualization regarding how professional development can influence practitioners’ practice and expertise, 2) instruments (instrumentation) to measure proximate and ultimate effects of professional development, and, 3) rigor and scope of research designs. The paper concludes with a suggested approach and agenda to develop the knowledge base regarding effective professional development for school leaders.

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Elements of Professional Development for School Leaders

While there is little room for doubt that school leadership has a significant impact on the day-to-day functioning of schools, their instructional practices, and student achievement, the research and literature provide little evidence as to how to best develop those leadership behaviors that influence schooling. In fact, there is little consensus as to what professional development for school leadership is, and what constitutes key features of that professional development.

In the United States, professional development typically refers to learning opportunities that occur once a leader is on the job. Earlier known as in-service, professional development is typically distinguished from pre-service that occurs before a school head enters the leadership role. Professional development for school leaders has been defined as ranging from formal training sessions to informal interactions between principals and teachers and amongst principals themselves (Quint, Akey, Rappaport, & Willner, 2007).

Professional development for school leaders takes many formats. Workshops, one shot or long term, seminars and conferences, mentoring, shadowing, and coaching all constitute professional development. In the United States context, professional development is typically offered through the school system, by states or districts, or by outside providers, including universities, professional associations, non-profit organizations and for-profit entities. Many opportunities are combinations of these providers.

Since there is not a robust research base regarding the effectiveness of various types, components or conceptions of professional development for school leaders, there is

no clear framework regarding what constitutes high quality professional development. While Desimone (2009) lays out a framework for high quality teacher professional development involving five critical components: content focus, active learning, coherence, sufficient duration, and collective participation, and then provides a conceptual framework for evaluating the effects of teacher professional development on teachers' instructional habits and student learning, the field of educational leadership has reached far less agreement about the dimensions of high quality professional development (Guskey, 2003).

A decade ago, Evans and Mohr (1999) posited seven core beliefs about professional development for principals: 1) principal learning is personal but occurs best in groups, 2) principals promote greater faculty and student learning when they focus on their own learning, 3) principals must be stretched past their comfortable assumptions about ineffective practices and beliefs toward answering difficult questions that are integral to their work, 4) professional development should provide multiple opportunities and strategies for focused reflection, 5) learning by principals and faculty members is most democratic when principals listen carefully and design work for groups, 6) rigorous planning is necessary for flexible and responsive implementation and, 7) professional development must provide a safe setting for expanding learning. More recently, Lawrence et al (2009) set forth five similar principles. They state that principal professional development should provide: 1) a job-embedded, coherent curriculum, 2) practical tools and processes for the daily work of leading change, 3) a safe environment to hone and practice new skills, 4) ongoing support through coaching, and 5) an extended and sustained collegial network for consultation and problem solving.

Gray and Bishop (2009) list three key elements of school leadership development: assessment in strengths, weaknesses and development needs, challenge by removing leaders from their comfort zones and providing them with new experiences and developing new capacities, and support for the motivation and belief that they can grow and change as leaders; as well as five conditions for successful leadership development: role-embedded learning, mentoring/coaching, focused learning experiences, performance-guiding standards, and reflection. Additional recommendations include the importance of career-staging, and links to initial preparation programs in order to expand learning and reduce redundancy (Peterson, 2002).

Pierce and Fenwick (2005) set forth three common frameworks for school leader professional development: the traditional management approach, the craft model, and reflective inquiry. The traditional model focuses on organizational effectiveness and efficiency, with principals as the recipients of research-based knowledge, delivered through workshops and seminars. The craft model involves shadowing other principals so that the knowledge base comes from their experiential wisdom. In the reflective inquiry model, focuses on principals as active learners whose source of knowledge is self-reflection on their own practice and role. This is accomplished through networking, mentoring, and reflective reading and writing.

Finally, in their review of the literature Kelley and Shaw (2009) assert that school leadership development should have five essential characteristics: 1) recognize the development continuum of principal skills and dispositions, 2) maintain coherence based on a context-embedded model of leadership where all stakeholders understand the

leadership model, 3) follow a change process based on collegial problem solving, 4) be long term and job-embedded, and 5) be evidence-based.

Taken together, the literature above offers a number of common elements that emerge as essential to defining high quality professional development, summarized in Table 1. First, professional development for school leaders should be job-embedded so participants can apply the expertise and practices they learn in school contexts. Second, professional development must recognize that school leaders have varying needs at different points in their careers. It can no longer be one size fits all, but must adjust appropriately to meet the needs of leaders at various stages of their careers. Third, to be effective, professional development must be longer term and offer multiple learning opportunities in various formats. Not all professional development takes place in formal courses. Fourth, high quality professional development must be coherent; it must use curriculum that scaffolds and reinforces key ideas that relate to the conditions and activities that leaders encounter.

A final unique aspect of school leadership professional development, as compared to teacher professional development frameworks, is the important element of networking and consultation. School leadership professional development must aim to create a network of collegial support in which to exchange and discuss ideas and strategies. Leadership is lonely; school leaders, in their positions of authority, lack such support in their individual buildings. They may be the only administrator, especially in small schools, and they may have few natural support mechanisms. If leaders are to implement what they have learned and evaluate the impacts of their efforts, they will need colleagues with whom to reflect on and evaluate these outcomes.

Table 1. Hypothesized Components of High Quality Professional Development
<ol style="list-style-type: none"> 1. Job-embedded instruction that allows participants to apply what they learn. 2. Content that addresses leaders' unique needs for their individual stages in their careers. 3. Long-term instruction with multiple learning opportunities 4. Coherent curriculum that targets conditions leaders face every day 5. Collegial networks and/or support to discuss and exchange ideas

These common elements challenge researchers and educators to re-examine traditional professional development efforts and to consider new strategies to implement these conditions. For example, one-shot workshops rarely provide coherence or connection to principals' daily work, nor are they particularly helpful in developing the necessary collegial support networks. In contrast, mentoring and coaching offered alongside longer-term programs can provide these elements. Mentoring and coaching seek to give school leaders on-going support, are job-embedded, tailored to different career stages, and offer leaders collegial support. Development approaches such as these can provide the sustained instruction and support that school leaders need to acquire new expertise and implement new practices and strategies to guide improvement in their schools.

Little research exists connecting the components of professional development to measurable outcomes (LaPointe and Davis, 2006). There is an immediate need to develop comprehensive evaluation strategies and instrumentation to systematically study

and evaluate the importance and effectiveness of each of the hypothesized essential components of high quality professional development for school leaders.

Purposes of Professional Development for School Leaders

Adding to the difficulty of characterizing school leadership professional development is the lack of agreement surrounding the purposes for professional development. There is considerable debate regarding the extent to which professional development should focus on the individual leader or on leadership for school improvement and change. For example, Kelley and Shaw (2009), note two goals: producing measurable results in student learning and addressing “development needs of principals at various career stages” (p. 499). The Stanford School Leadership Study identifies influencing student achievement as the ultimate end of school leadership development, achieved through supporting and developing successful teachers and implementing effective organizational practice (Davis, Darling-Hammond, LaPointe, & Meyerson, 2005). The National Staff Development Council (2000) suggests that one purpose of professional development is to reinforce a school’s positive norms and assumptions. Other program goals include building shared leadership and school culture (Peterson, 2002).

Case studies of individual professional development programs in the United States indicate most programs now focus on improving teaching and learning. Some programs aim to help leaders identify effective instruction and to assist their teachers in improving instruction (Scarborough, 2008). They measure their success by student achievement data in the form of standardized test scores. Lawrence, et al. (2008) describe the purpose of a professional development program in a similar frame, arguing

that such development should catalyze leader learning in order to start teaching learning and collaborating in order to improve student outcomes and organizational performance. Other program goals include building a collaborative community of school leaders, deepening their content knowledge, and strengthening supervisory skills to improve classroom instruction (Kahan, Byrd, & Drew, 2008).

Professional development should be aligned and focused on leadership needs in context. Independent (private) and charter school leaders may need support in recruiting students and teachers, and obtaining financial resources and budgeting. There is not one unified purpose for all leaders or all schools. What is essential is that the goals and purposes of professional development be clearly specified and conceptualized.

Conceptualizing the Program Theory of Professional Development

To fully evaluate the impact of professional development for school leaders it is first necessary to conceptualize the mechanism or the ways in which professional development experiences can influence school leaders and subsequently their teachers, students, and schools. Program evaluation requires not only knowing what a program expects to achieve, but also how. Bickman (1987) referred to the conceptualization of program effects as ‘logic models’ while Weiss (1995) refers to a theory of change approach to program evaluation or theory-based evaluation. “The evaluation should surface those theories and lay them out in as fine detail as possible, identify all the assumptions and sub assumptions built into the program. The evaluators then construct methods for data collection and analysis to track the unfolding of the assumptions. The evaluation should show which of the assumptions underlying the program break down,

where they break down, and which of the several theories underlying the program are best supported by the evidence” (p. 67). Weiss is careful to point out the differences between program theory (focusing on mechanisms of change) and implementation theory, how the program is carried out (Rogers & Weiss, 2007). Program theory “deals with the mechanisms that intervene between the delivery of program services and the occurrence of outcomes of interest. It focuses on participants’ response to program service. The mechanism of change is not the program activities per se but the response that the activities generate” (p. 73).

A review of program evaluations that have implanted theory based approaches suggest that these types of evaluations are advantageous in that they can identify inadequate or unnecessary program components, find intermediary changes, raise key questions about how the program works, provide clarity and focus to the evaluation, and help replicate programs on a larger scale (Birckmayer & Weiss, 2000). As noted by Gutierrez and Tasse (2007) the theory of change approach is particularly applicable to the evaluation of leadership development (professional development) because leadership development involves a) multifaceted meanings and definitions, b) complex psychological and social processes, c) individual and organizational change, and d) multiple program components.

Most evaluations of professional development for school leaders do not attend to the conceptualizations and program theories that can explain how program developers and implementers expect the professional development experiences to influence leaders, teachers, students, and their schools (Grogan & Andrews, 2002). As noted by Leithwood and Levin (2008), leadership development programs should be “more explicit about the

assumptions or theory... .” (pg. 296). Kelley and Shaw (2009) and Orr and colleagues (2009) also note that few professional development programs have made connections between a theoretical foundation for the design of the program and expected outcomes for participants.

Leithwood and Levine (2008) discuss a number of models to conceptualize the effects of professional development on improved student outcomes. The most basic is a direct effects model that offers no theory to guide the evaluation in terms of how the professional development is hypothesized to influence outcomes. Consistent with Weiss’ notion of theory based evaluation, Leithwood & Levine (2009) provide a number of examples of more comprehensive models, such as an evaluation of the New Orleans, Louisiana principal program, focusing on cognitive processes, but this is certainly not the norm for the field. Heck and Hallinger (2008) challenge the strategy of measuring the impact of professional development primarily through changes in student achievement, arguing that this perspective limits researchers from seeing other potential changes in leaders’ expertise and actions.

To illustrate the importance of a theory of change approach to professional development, we provide an example of a specific evaluation study of a district-wide leadership development program in the United States. (Camburn, et al 2007; Goldring, et al., 2007; Goldring, et al., 2009). The theory of change is based on notions of leadership expertise, leadership practices and teachers opportunities to improve teaching and learning as the core mediators to changes in student achievement (see Figure 1). We discuss each mediator in turn.

Insert Figure 1 Here

Leader expertise is the first mediator; practitioners bring acquired expertise into their work environments and use it more or less effectively to change, improve, or respond to those environments (Allard, Graham, & Paarsalu, 1980; Anderson, Reder, & Simon, 1996, 1997; Borko & Livingston, 1989; Lampert & Ball, 1998). The theory of change also acknowledges that the nature of the relationship between practice and expertise is reciprocal and most likely flows in both directions.

A theory based evaluation should be explicit regarding the domains of expertise the professional development participants are expected to master, rather than a generic list. In the district program depicted in Figure 1, the explicit focus is in regard to improving leaders' *knowledge* of mathematics and literacy instruction, and their knowledge of how to manage and lead efforts to improve instruction in those subjects around a core framework of learning.

The second set of mediating factors is leadership practices. Theory based evaluation should not focus on generic conceptualizations of school leadership practices (see Leithwood & Levine, 2009) but rather the practices should be delineated and aligned with the core content of the professional development program. The program in Figure 1 is conceptualized to influence leaders' practices in four key domains: communicating goals, creating opportunities for faculty interaction, connecting teaching to knowledge, and managing human resources capacity of the faculty, (Barnes, et al, 2008; Harris and Camburn, 2007). Key leadership practices across these domains include: actively engaging with faculty to develop goals and strategies for instructional improvement; attending to social, cultural, emotional, and interpersonal issues in managing faculties'

efforts in instructional improvement; monitoring results of instructional change efforts and initiating necessary corrective actions and professional development.

The third mediating factor between principals' expertise and practices are teachers' efforts and opportunities, and ultimately their success, in changing classroom instruction. As a result of this particular professional development program, the developers hypothesized that there would be more of a focus on instruction throughout the school, the climate in the school would be highly centered on learning for both students and adults, and there would be increased opportunities and supports for professional development; teachers who work with principals participating in the professional development should receive guidance on instruction and its improvement and access to knowledge about instruction; they engage in data-based decision making regarding instructional improvements and student needs.

In sum, this type of conceptual model is consistent with theory based evaluation and corresponds with research on the impact of school leadership on student achievement. This research suggests that the influence of leadership on outcomes is typically *not direct*, but rather works through a variety of mediating factors, including the school climate and opportunities for teachers to improve their instructional practices (see Bossert et al., 1982; Goldring & Pasternack, 1994; Hallinger & Heck, 1996; Hallinger, 2008).

Measuring the Mechanisms and Outcomes of Professional Development

If we take seriously the notion of theory based program evaluation, it follows then that valid and reliable measures of mediators are needed. Continuing the example from Figure 1, three mediators need to be measured: expertise, practices, and teachers'

opportunities and efforts to improve instruction. Early efforts of measuring expertise have focused mainly on the extent and nature of problem-solving processes between “expert” school administrators and their more typical colleagues (Leithwood et al., 1989, 1992, 1993). This work suggests that expert problem solvers differ from routine building managers in several ways, including the nature of their goals, the strategies they use to influence schooling, and their decision-making processes (Leithwood, Begley, and Cousins, 1992). However, the program theory in our example suggests that the type of expertise necessary to lead improvement in instruction include problem solving expertise, but also expertise around “leadership content knowledge.” This term lies at the intersection of subject matter knowledge (in mathematics for example) and leadership knowledge, including knowledge of how children learn the subject matter, and how teachers can assist that learning (Stein & Nelson, 2005). Another aspect of leadership content knowledge is the content of school leadership expertise for propelling student learning, often referred to as “learning-centered leadership” (Murphy et al., 2006). This includes expertise in areas such as standards-based reform, identifying quality instruction, and data-based decision-making, that is expertise not isolated to any specific subject matter taught in school but essential for improving teacher instruction and student achievement in a school.

If our program theory posits that the mechanism of changing leader practices is through changes in expertise, expertise that can be articulated and used (as compared to merely declared or known), then the challenge is to develop measures of leadership expertise. Goldring and colleagues (2008, 2009) implemented scenarios, or ill-structured problems to take advantage of Leithwood and Stager’s (1989) finding that ill-structured

problems differentiated experts from typical administrators. They designed scenarios as open ended problems to increase the opportunities for the principals to detail the expertise that they might use to address each problem. Furthermore, the scenarios were focused on instructional improvement situations and in some cases were school subject specific to align with the professional development model as well as our conceptual theory of expertise. Principals wrote narrative responses to the problems posed to them in the five written scenarios. The scenario responses were coded by three independent raters to determine the extent to which there was evidence that expertise was brought to bear in the responses around each of the measured constructs. This analysis drew a distinction between those principals who simply mentioned a concept numerous times and those who demonstrated deeper levels of expertise. Further validity work has correlated scores from the coding rubrics with principal and teacher survey reports of principals' expertise and leadership practices; these analyses have thus far shown strong relationships between the scenario scores and teachers' survey reports of principal expertise and their related practices (see Huff, 2009)¹.

Beyond the need for measures of mediators in the evaluation of professional development for school leaders, Leithwood and Levine (2009), similarly note that the field has not developed widespread, robust measures of leadership practices. "Many leadership program evaluations neither specify nor measure the leadership practices they aim to improve, electing instead for more global measure of participant satisfaction with the contribution of the program to participant's personal and implicit leadership efforts or espoused leadership theories" (p. 291).

¹ The scenarios were implemented in a pre-post control groups design.

Although self report surveys are widely used to measure leadership there are other measurement techniques that may better capture leadership practices. In fact, there is relatively little evidence about the accuracy or validity of many principal surveys (see Levine, Chambers, Duenas, & Hikido, 1998; Desimone, 2006). Leadership surveys tend to question principals during the spring of the school year and ask them to recall behaviors and events that occurred across the span of the entire school year. There may be reporting errors when the reference period for recalling an event or behavior is long (see for example Hilton, 1989; Lemmens, Knibbe, & Tan, 1988; Lemmens & Tan, 1992; Rubin & Baddeley, 1989). End of day log methodologies may have advantages over surveys. Logs may provide more accurate measurement of behaviors that are variable over time (Lemmens et al., 1992; Rowan, Camburn, & Correnti, 2004). Principals' practices may be highly variable from day to day.

The professional development evaluation described above implemented end of day logs, surveys, and experience sampling methods to measure leadership practices. Principals completed daily logs during five time periods (fall, winter, and spring) over two school years. During each period they completed one log per day for five consecutive school days. The log is a web-based instrument that captured how principals allocated their time across the nine domains mentioned earlier. Using a calendar interface, principals' reported how they allocated their time across different categories of leadership practice between the hours of 6 am and 7 pm. The log also collected more specific information about how principals spent their time within these domains, aligned with the program theory such as goal setting and planning. In addition to measuring the tasks principals perform, the log also captured how much time they spent on different tasks,

with whom leaders interacted (e.g., students, teachers, parents, school secretary) and which subject area the task centered on.

A final method for measuring leadership practices in our professional development program consisted of the Experience Sampling Method (ESM). Principals were given a PDA and they were beeped at standard intervals during the day. At each beep, principals completed a short questionnaire in which, among other items, they reported on their current location, the activity in which they were engaged, whether they were leading or co-leading the activity (See Csikszentmihalyi & Csikszentmihalyi, 1988). ESM is reported to be more reliable and valid than simple logs or self reports for a number of reasons. Mainly, it eliminates systematic bias by assessing behaviors or feelings at only fixed points in time. It provides for a much more situated, ecological approach to measurement. It allows for more robust measures of change over time and overcomes many problems of recall and subjective reporting of past events (Minor, Glomb and Hulin, 2001).

Recent research looking at the relationship between End of Day Logs, ESM and shadowing of school principals found that in general, the End of Day log and ESM instruments produced very similar estimates of the overall frequency with which principals engage in the six leadership responsibilities (see Camburn, et al., 2006). Correlations between principals' self-report surveys and logs were .509 for instructional leadership but other constructs had lower correlations (see Camburn, et al., forthcoming). Ongoing development and validity analyses continue; we provide end of day logs and experience sampling methods as examples. Theory-based evaluation calls for careful

attention to measurement of mediators in the evaluation and may require more elaborate and complex instrumentation.

Evaluation Research Designs

There is a dearth of scientifically based research linking professional development to changes in leaders' knowledge, practices, behaviors, school change, teacher change, and student outcomes in the United States (see Nicholson et al, 2005). "Most of the literature is in the form of anecdotal information or reporting of perception with no follow-up or validation. This lack of empirical data necessarily relegates much of the research on professional development for principals to the realm of reasoned conjecture" (Nicholson, et al, 2005, p. 3). Similarly, Kottkamp & Rusch (2009), in their comprehensive review of scholarship regarding the preparation of future school leaders and continuing professional development (using an extensive review of dissertations and conference papers from 1985-2006), concluded that "there are increasing proportions of naturalistic and qualitative as well as mixed-methods research. Yet, new methods, while bringing different epistemological perspectives, do not affect the overwhelmingly modal character of reported research-descriptive, atheoretical, cross sectional based on convenience samples of one analytical unit (course, program, university)" (p. 71). Orr and Barber (2009) review evaluation designs that are more robust and are noted exceptions in the field. Watkins (2000) implemented a post-test only program evaluation design to evaluate a head teacher program in the United Kingdom. However, post-test only designs have numerous threats to internal and external validity and render conclusions difficult to interpret. Wildy and Wallace (1995), Leithwood, et al. (2003)

and Darling-Hammond, et al. (2007) implemented evaluation models that had either comparison groups or measured multiple pathways, indirect effects of program participation on outcomes, such as specific leadership practices, student achievement or school improvement.

The state of research on professional development for school leaders mirrors much of the research in the field of education in general. In the United States, “the National Research Council has concluded that the world of education, unlike defense, health care, or industrial production, does not rest on a strong research base. In no other field are personal experience and ideology so frequently relied on to make policy choices, and in no other field is the research base so inadequate and little used” (Whitehurst, 2002).

The field is in need of scientifically-based research. Under the *No Child Left Behind Act* (2002), in the United States, the term scientifically-based research means research that involves the application of rigorous, systematic and objective procedures to obtain reliable and valid knowledge relevant to education activities and programs.” More broadly defined, it includes research that:

- Employs systematic, empirical methods that draw on observation or experiment;
- Involves rigorous data analyses that are adequate to test the stated hypotheses and justify the general conclusions drawn;
- Relies on measurements or observational methods that provide reliable and valid data across evaluators and observers, across multiple measurements and observations and across studies by the same or different investigators;

- Is evaluated using experimental or quasi-experimental designs in which individuals, entities, programs or activities are assigned to different conditions and with appropriate controls to evaluate the effects of the condition of interest, with a preference for random-assignment experiments, or other designs to the extent that those designs contain within-condition or across-condition controls;
- Ensures experimental studies are presented in sufficient detail and clarity to allow for replication or, at a minimum, offer the opportunity to build systematically on their findings;
- Has been accepted by a peer-reviewed journal or approved by a panel of independent experts through a comparably rigorous, objective and scientific review." (Public law 107-11, Section III).

There is not much research on professional development for school leaders that meets this definition. Camburn and colleagues (2007) assessed the available experimental evidence on principals by searching the Campbell Collaboration Social, Psychological, Educational & Criminological Trials Register (C2-SPECTR). C2-SPECTR contains abstracts of more than 10,000 randomized trials in the fields of sociology, psychology, education, and criminology. Only 3 manuscripts that focus on principals in some manner were found in this search. A search of C2-SPECTR using the terms “principal” and “leadership” identified a total of 18 research articles, and of these, only three articles involved principals as subjects in a randomized experiment. One of these studies assessed principals’ decision making in the teacher hiring process (Young et al., 1997). The remaining two randomized trials both tested the effect of principals’

participation in professional development on their practice. In an experiment reported in Thomas (1970), 28 principals were randomly assigned to participate in a 5 day “training laboratory” that equipped them with interpersonal skills. In the remaining randomized experiment, principals were randomly assigned to participate in a school improvement workshop (Grimmet and Crehan, 1987). These limited examples demonstrate the need for increased use of experiments to examine the effects of professional

Given the large number of small, atheoretical, case studies of professional development, larger scale, experimental studies are necessary to advance the field and knowledge base. As noted by Kottkamp and Rusch (2009) “Ten or 15 more years of “researching” as we have done to date will take us nowhere beyond the present” (p 80). Beyond the need to refocus the conceptualizations and measures in evaluation of professional development efforts, we need to “give up ad hoc, discrete, convenience-based, isolated, small –sample atheoretical ways and get on the wagon of developing research communities with shared agendas for programmatic, longitudinal, conceptually underpinned research of a comprehensive and useful nature” (p. 80). Given the state of program evaluation for leadership professional development, experiments and quasi-experiments are needed. “The pathway to improvement passes through the doorway of programmatic research, research that is grounded in comprehensive and longitudinal analyses” (Murphy and Vriesenga (2006, p. 190).

Conclusions

As we search for effective strategies to develop school leaders, we must first recognize the limitations of existing research. As we have argued, the literature on

school leadership points to such strategies as job-embedded sustained opportunities that enable participants to apply their new expertise in practical contexts as those that are most likely to yield meaningful change. However, there are few examples of professional development that tie their designs to explicit theories of change in terms of how specific curriculum and learning opportunities should impact leaders' expertise and practices. We have also found few rigorous studies that implement valid measures to evaluate the impact of professional development on what leaders know and do.

If we are to move the field forward in its understanding of how leadership can be developed, we must identify and develop programs that align closely with detailed theories of change. We, like others, call for sustained, programmatic research that begins to test competing conjectures about professional development for school leaders. These conjectures should test competing theories of change, and they should implement measures that a) are closely aligned with the actual content of the professional development experience, and b) align closely with the hypothesized theory of change. The sustained program of research should also test conjectures about the assumptions of what constitutes high quality professional development. Such a research program would allow the field to begin to develop a knowledge base about how professional development can influence leadership and what components are necessary for their success.² For example, a comparison group study could vary the extent to which networking is or is not part of a job-embedded professional development program.

² We acknowledge that, while we have focused this discussion on professional programs, much professional development (such as networking and coaching) may be more informal in nature. Nonetheless, closer evaluation of these informal efforts would also enable us to identify the key mechanisms for training leaders.

Because professional development can influence both leaders' expertise and their practices, the field should invest substantial energy in developing a variety of methods to measure and observe change and impacts. Little research has examined the validity of measures. Work is needed to understand which measurement instruments can best align with theories of change associated with professional development as well as how they might complement one another to detail the complex changes that professional development can have on participants.

It is important to develop measures of the transfer of learning in school leaders' professional development. The theory of change behind professional development for school leaders is steeped in notions of transfer of learning (Newman, 2008). Barnes and colleagues (2008, p. 5) note "The development of professional practice is a process in which learners become increasingly more competent *performers* in their complex working conditions, and that professional performances include a cognitive, as well as a behavioral dimension. From this view the practicing professional learner is "not a spectator but an actor who stands within a situation of action, seeking actively to understand and change it (Argyris & Schön, p. 31)." But, we have limited ways to measure transfer, beyond self reports of program participants.

Finally, there is a need to evaluate the effects of professional development over larger numbers of participants across multiple programs and contexts. Existing literature has focused on limited sample sizes (e.g. from single cohorts of students to a district of principals), and this limits the generalizability of their conclusions. If we are to identify successful strategies in developing school leaders, we must also evaluate their impacts on larger, more complex groups of leaders. As noted above, the issue is not just numbers.

We must set out a more comprehensive agenda of what we are trying to learn, and test theories of change and specific conjectures about the assumptions underlying high quality professional development.

We as a field agree on the integral role that leaders play in guiding and supporting their schools' efforts to improve teachers' instruction and students' learning. We need a sustained program of research to learn more about how to help leaders develop the expertise and practices they need to engage their challenging environments. The strategies offered here provide a guide for such an agenda.

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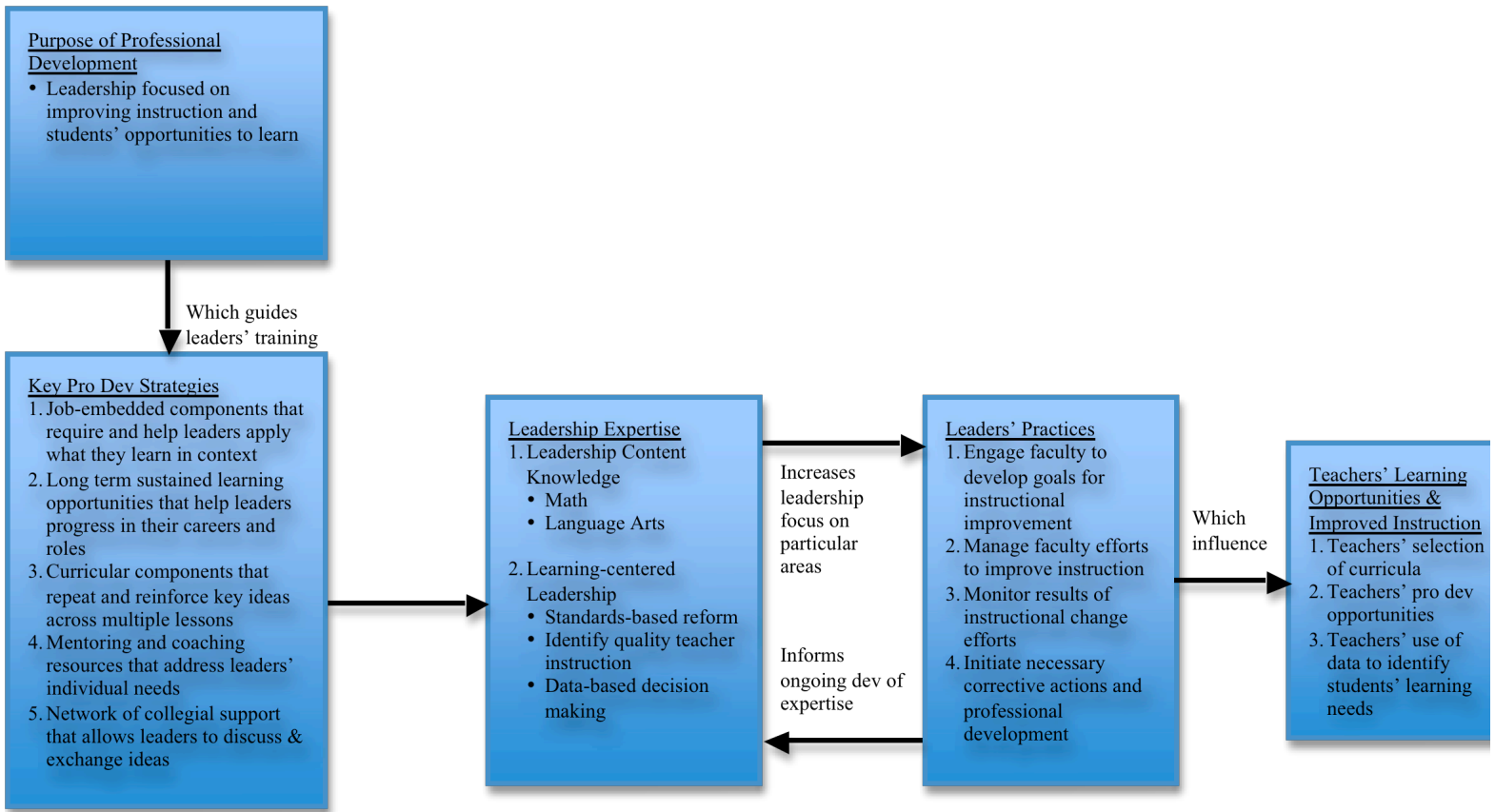
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Figure 1. Theory of Change Model for School Leader Professional Development



Measures:

1. Implementation Fidelity

1. Surveys
2. Scenarios
3. Interviews

1. Surveys
2. Daily Logs
3. Experience Sampling Methods
4. Observations

1. Surveys
2. Observations
3. Interviews