A Research-Informed Design for Preparing Principals: What We Could Do Differently and Why It Might Work

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FRAMING THE CHALLENGE OF RESEARCH-BASED PRINCIPAL PREPARATION

Research over the past 20 years strongly supports the view that principals can influence student achievement, albeit primarily in indirect ways. Moreover, the degree and quality of influence depend on the social and organizational context of the school and on the actions of the staff. Admittedly, much remains to be learned about how principals achieve positive results. However, evidence of the critical role that principals play in the improvement of schools is sufficiently persuasive that many current policy and program initiatives build on expectations that changing principal leadership practices is critical to ensuring success for students. The logical questions become: Can changing the way principals are prepared lead to improvement in schools and student learning? If so, how, specifically, should existing preparation programs be revised, or new programs designed, to ensure an appropriately effective principal for every school? This paper addresses these important questions.

Several decades of research in educational administration have explored the appropriate content of preparation programs, the structures and strategies that are most effective in preparing principals, and the best approaches to selecting individuals for preparation and placement in principal positions (e.g., Young, Crow, Murphy, & Ogawa, 2009). For example, theory and research about what effective principals do have been integrated into standards for professional preparation programs and used by states and professional associations to guide changes in practice (Murphy, Moorman, & McCarthy, 2008; Young, 2013). Similarly, the literature describes many exemplary programs (Kelly & Shaw, 2009; Milstein, 1993) and widely cites professional consensus about critical structures and pedagogies in university-based programs (Davis, Darling-Hammond, LaPointe, & Meyerson, 2005). Preliminary data even link implementation of recommended program strategies to improvements in school functioning and student learning (Burkhauser, Gates, Hamilton, & Ikemoto, 2012; Orr & Orphanos, 2011).

Concern about the principal pipeline continues, however, despite concerted efforts of professional associations, alternative programs, and government agencies to improve existing programs and develop new ones. Simply put, the possibility that better preparation of principals can significantly improve school performance and student learning across the country remains largely unfilled. It thus appears useful to reexamine what we want from principal preparation and to explore alternative ways of achieving desired outcomes.

Considering Alternatives to Conventional Preparation Models

For many years, preparation for the principalship in the United States has been treated much like entry into a completely new profession. Typically, a period of academic study is designed to build needed knowledge, with an internship to provide opportunities to develop related applied skills (see Figure 1). Entry into these leadership programs is available primarily to practicing teachers who have already completed a program of professional preparation, a school internship, and acculturation into a school community. After completing their principal program, individuals remain in their teaching positions until selected by districts for leadership positions. Most alternative principal preparation programs are designed around a similar framework, with the program organized as a relatively short-term experience conducted largely separate from the previous work of participating teachers and removed from district decisions about selection for principal positions.

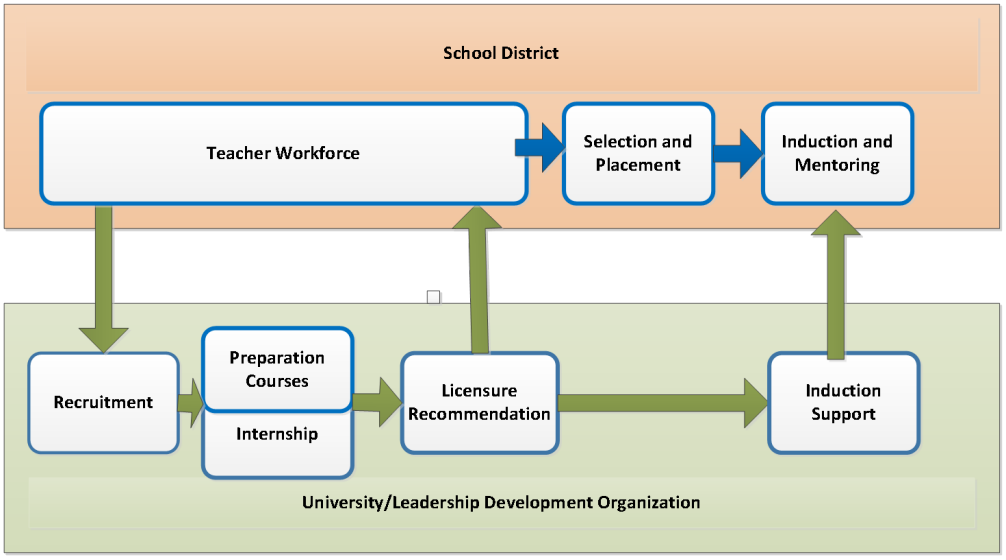

Figure 1. Structure of typical principal preparation.

School leadership is somewhat unique in this approach to preparing leaders. By contrast, progression from professional practice to a leadership position is accomplished in many professions, including medicine, social work, and the military, through ongoing professional development within the profession and the employing organization. In some cases, progressive stages of professional practice include concrete links between job responsibilities and leadership training opportunities (e.g., Hughes & Haney, 2002).

The current structure of principal preparation frames the questions typically addressed in research and the way findings are interpreted. For example, a recent review of the research (Young et al., 2009) addresses the curriculum and pedagogy used in separate preparation programs, design of the internship, selection of candidates for preparation programs, and evaluation of those programs, all components of the familiar principal preparation model. This typical model, however, fails to include many aspects of leadership development such as the early job experiences that support leadership development, the design of job-based career ladder programs, and the potential for leadership self-development. Although such topics receive significant attention in the general literature on leadership development (e.g., *The Leadership Quarterly*, 1990–2015), discussion in educational leadership publications is infrequent.

One way to prompt thinking outside the familiar educational leadership model is to revisit the basic purpose of principal preparation. What problem is preparation designed to solve? Nickels (1981) offered a useful starting point. Problems, he argued, are defined by the *constraints* that must be satisfied in order for a solution to be judged successful. The first critical step in defining a problem, then, is to be clear about these constraints (or criteria): In this case, what criteria would have to be met for principal preparation to be considered successful? Specifying the criteria could then lead to designing a solution; i.e., what approach could be reasonably expected to satisfy all the specified criteria? Successive iterations of the "solution" are then tested, and implementation is evaluated in relation to constraints and outcomes.

Constraints (Criteria for Success) in Principal Preparation

Design Constraint 1: Sufficient Time to Develop Expertise for Leading Instruction

Research and theory both argue that knowledge of astyny organization's core work is critical to the success of first-line leaders (Katz, 1955; Mumford, Zaccaro, Harding, Jacobs, & Fleishman, 2000). Research on the school principalship points to a similar conclusion, with the ability to lead instruction as centrally important (Portin et al., 2009; Robinson, 2011). However, other leadership capabilities are needed. While differing on specifics, research across many types of organizations highlights personal, interpersonal, conceptual, and organizational skills as contributing substantially to leadership effectiveness (McCauley, Van Velsor, & Ruderman, 2010).

Developing all of these skills for instruction and leadership, like other domains of expertise, requires sustained effort and extended time. Expertise researchers estimate

10,000 hours and 10 years (Ericsson & Charness, 1994). An effective principal preparation model, then, will ensure that emerging leaders have sufficient time to develop expertise for leading instruction and building other leadership skills over several years. Because it is unlikely that such time will be available outside of work, this suggests that an extended period of leadership development on the job is a central requirement for effective principal preparation.

Design Constraint 2: Opportunities for Deliberate Practice

Having enough time is necessary, but other factors are essential to the preparation of leaders. When asked what contributed most to their own development, executives across many different organizations and countries identified challenging experiences as the most important factor (Yip & Wilson, 2010). Research identifies several dimensions of challenge that are important for leader development, including unfamiliar responsibilities, unaccustomed diversity, public scrutiny, and ambiguous problems (McCauley, Ruderman, Ohlott, & Morrow, 1994). Expertise research brings this issue into even sharper focus: Challenging experiences support leader development by allowing emerging leaders to engage in sustained, deliberate practice with difficult skills (Day, 2012).

An implication for principal development is that *teachers* need well-crafted leadership opportunities. Effective development is most likely to occur when teachers regularly work with colleagues in mutual efforts to improve instruction, strengthen commitment to school goals and norms, manage conflict, solve student learning problems, and accomplish so much else. In many districts, teacher leadership roles and expectations for collaboration already offer opportunities to practice performing challenging school leadership responsibilities. Unfortunately, the value of these responsibilities for leader development can be undermined by pervasive school norms of egalitarianism. Moreover, overspecialization can limit the range and degree of challenge of leadership experiences. By implication, then, successful principal development depends on having school-based opportunities designed for teachers to engage in increasingly challenging, varied, and responsible leadership positions that engage them in deliberate practice of leadership skills.

Design Constraint 3: Effective Supports for Leader Development

Challenging job experiences are important, but experience alone is not always sufficiently instructive. Research identifies several features of challenging job experiences that make it more likely that the desired leadership development actually occurs. These features include goal setting for development, regular feedback on both work performance and development, structured reflection, social facilitation,

development of relevant knowledge, and knowledge organized in ways that help emerging leaders construct theories of action that connect their leadership practices to organizational outcomes (e.g., DeRue & Wellman, 2009; Dragoni, Tesluk, Russell, & Oh, 2009; Ellis, & Davidi, 2005; Kolb & Boyatzis, 1999). Consequently, successful principal preparation will combine opportunities for challenging experiences over time with a variety of learning supports that help emerging leaders build capacity for performance. It is not enough to depend on simple exposure to challenging assignments.

Design Constraint 4: A Sufficient Pipeline of Emerging Leaders

Without an adequate supply of new principals, unplanned leadership transitions often result in disruption and loss of progress for districts (Fink & Brayman, 2006; Mascall & Leithwood, 2010). As a result, in addition to preparing individual leaders, an effective principal development system must produce an adequate supply of new leaders to meet organizational needs. Attention to the supply of emerging leaders at each stage of development is important because not everyone in an organization will aspire to leadership positions or choose to exert the required extra effort, even with well-organized opportunities for practice and with accessible learning supports. A sufficient supply depends on active cultivation of leadership throughout the organization.

The first step is to facilitate broad participation in the early stages of leadership development, a strategy that seems particularly important to meet the egalitarian norms in many schools (Donaldson et al., 2008). The second step is to remove major barriers to participation in leadership opportunities (e.g., cost to participants, bias in selection for leadership roles, and overly narrow specialization).

The third critical step in expanding the leader pipeline is to establish incentives for participation in the difficult work of teacher leadership, especially as responsibilities become increasingly challenging. Since individuals make long-term commitments to job-based leadership programs, program content should be perceived as current, structures stable, assessments fair, and the resulting credentials meaningful. For example, the principalship now depends on established credentials to certify professional learning, document preparation aligned with state requirements, and ensure portability of qualifications across districts and states. Any alternative approach needs to satisfy the same needs. Finally, *how* individuals are selected from the pool of potential leaders can influence the sufficiency of the leader pipeline. Selection of candidates has been one of the areas most consistently targeted by internal and external criticism of existing principal preparation (Browne-Ferrigno & Muth, 2009), which suggests there is still great potential for improvement in this area.

Design Constraint 5: Leader Development Imbedded in Organizational Strategy

Realistically, school districts are unlikely to make sustained investments in leader development unless the development process itself contributes to more immediately visible school outcomes. Pressures for quick results and short cycles of education policy making make it difficult to sustain any leadership programs with benefits expected only in the distant future. Fortunately, theory and organizational experience argue that leader development can have both immediate and long-term benefits, although care must be taken to balance the competing pressures. For example, when intentionally designed, shared leadership opportunities can create challenging developmental experiences for individuals while also fostering collaborations around organizational priorities (Day, 2000).

Similarly, research suggests a close reciprocal link in schools between the shared leadership that can support student learning and the individual leadership on which principal preparation focuses (Timperley, 2010). Other program descriptions show how leadership development in schools can help a district build a shared language among administrators, strengthen skills directly related to a district's strategy for improving student learning, and deepen knowledge of the local school context (Orr, King, & LaPointe, 2010). Thus, the constraint to be addressed by principal preparation is to achieve integration of programs for individual leader development with collective and shared leadership for school goals and student learning. Creating such connections increases the likelihood that districts will indeed make the long-term commitments essential to sustaining effective leadership development.

Implications

Together, these five design constraints call for new ways of thinking about principal development. By emphasizing development of expertise for instructional leadership, the constraints foreground the teacher learning that occurs in schools over time in day-to-day problem solving. This shifts the focus from what occurs in special principal preparation programs to what happens with emerging teacher leaders on the job. By emphasizing this kind of daily cumulative learning, the constraints call for school district structures and procedures that offer teachers opportunities to assume progressively more challenging responsibilities. By shifting the focus of development from the university classroom to the job, the constraints require a pedagogy different from familiar professional preparation, one that supports self-development and learning from experience. Finally, by acknowledging the extent to which leadership development depends on an individual's own motivation and perseverance, the constraints suggest a

need for institutional structures that promote credibility and continuity in development processes.

As compelling as these implications may be for program design, they pose formidable challenges for school districts, which already have quite enough to do. While school executives often report a pressing need for better prepared principal candidates (Roza, Celio, Harvey, & Wishon, 2003), they face an additional challenge summarized as: "Companies that claimed the greatest need for leadership development did the least to support it. They failed to recognize that leadership development itself requires systematic changes throughout the organization" (Conger & Benjamin, 1999, p. 8). As studies of district-operated leadership programs show, such systematic change tends to be expensive, difficult to establish, and hard to sustain.

Further, simply shifting responsibility for principal preparation from school districts to universities seems unlikely to satisfy the five constraints. Districts can provide emerging leaders with necessary opportunities to confront job-based challenges over time, but this is hardly sufficient. Also needed are supports for learning through those experiences, checks and balances that build program credibility, and continued updating of research-based knowledge—all of which argue for intentional collaboration between a school district and university or other partner in leadership development.

The overall potential impact of designing exemplary district-led principal preparation is large, but the challenges are also daunting. Development and implementation are unlikely to occur without a new design crafted to focus on usability, local fit, and adequate ongoing support. The blueprint and support system that undergirds widespread use of the Positive Behavior Intervention and Support Program (PBIS) system (Sugai & Horner, 2006; Sugai et al., 2010) offers one approach. In this system a standard framework is customized to individual school and district contexts, implemented with initial support, and operated with accountability for implementation fidelity and outcome monitoring. Here, we propose a similar approach as one way to develop scalable district-led principal preparation.

THE WHOLE SCHOOL LEADERSHIP (WSL) DESIGN

The Whole School Leadership (WSL) design is an effort to conceptualize a new approach to leadership development in schools that could address the described proposed above. The proposed approach is titled "Whole School Leadership" (WSL) design to emphasize that successful development of individual leaders depends on and contributes to shared leadership throughout a school and district. Leader development (the development of

individual leaders) and leadership development (the development of shared leadership throughout the school) are different but interdependent (Day, 2000). The WSL design includes strategies to support both leader development and leadership development as complementary strategies for supporting student learning.

The WSL design is "research-informed" to the extent that it (a) responds to constraints, or criteria for success, that are empirically related to leadership effectiveness and school outcomes; (b) includes research-based strategies as components of the program design; and (c) uses a logic model to hypothesize expected empirical relationships between design implementation and its outcomes. Currently, the WSL design is just that—a design. It has not yet been tested or benefitted from the cycles of improvement that naturally occur as new programs are implemented. Consequently, giving WSL a name does not imply that it is developed well enough to trademark or market—it's simply a program approach that seems ready for serious research and development.

A Unique Design Opportunity

Significant, continuing changes in the role of teachers present an important opportunity to address the design constraints—and by doing so, stimulate transformation in principal preparation. Teachers today have widespread, abundant occasions to assume both formal and informal leadership roles. They may become, for example, instructional coaches and mentors, data analysis leaders, professional community coordinators, conveners of teacher teams supporting multitiered support systems, professional development providers, or instructional technology coordinators. Research confirms the positive impact that shared teacher leadership can have on student achievement (Leithwood & Mascall, 2008), and on the collective instructional capacity and collective responsibility that support such achievement (Robinson, Lloyd, & Rowe, 2008; Wahlstrom & Louis, 2008). Studies of innovating districts also suggest that teacher leaders figure prominently in district theories of action for achieving learning improvement (Portin et al., 2009).

For the present discussion, the importance of these expanded teacher leadership opportunities lies in the similarity between the responsibilities assumed by teacher leaders and the job-based developmental experiences that nurture successful leadership. Challenging job assignments exhibit characteristics that research shows to be most important in leadership development. And these greatly resemble descriptions of teacher leaders' work—that is, influencing others without formal authority, working in ambiguous contexts, working across organizational boundaries, and succeeding with diverse work groups (Nessan & Bellamy, 2008).

In effect, the emergence of teacher leadership roles has substantially narrowed the gap between what accomplished teachers need to know about leadership and what is expected of beginning principals. Thus, rather than treat preparation for the principalship as education for an entirely new profession, it has become more feasible than ever before to imagine practical alternatives to separate, time-limited principal preparation programs. For qualified teachers aspiring to leadership roles, it now seems possible to integrate the usually separate processes of teacher leadership for instruction and principal preparation into a single continuum of development on the job.

A Comprehensive Design

To respond to the constraints identified earlier, the WSL design is structured around three broad areas. First, for individual participants, a design should provide a leadership pedagogy that includes the experiences and learning supports that are effective for leader development. Second, for the school district, the design should provide a program architecture—that is, a set of structural components that form a foundation for the leadership pedagogy. And third, to assist district implementation, the design should include a set of institutional partnership components that strengthen the program through supports for feasibility, credibility, and continuity. Critical components contributing to each of these three areas of the WSL design are briefly described below in Figure 2.

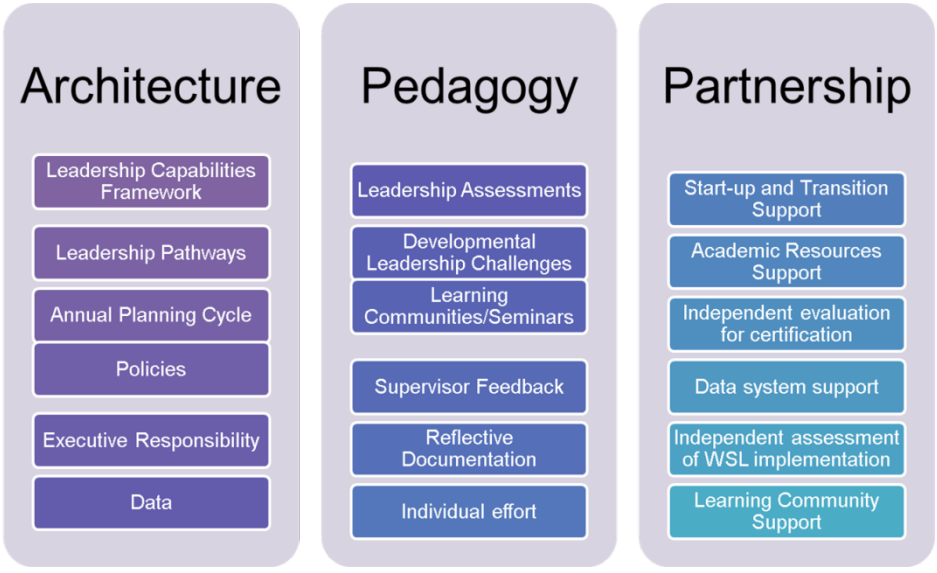

Figure 2. **Components of the WSL design.**

WSL Architecture

The structure of the WSL design is grounded in a leadership capabilities framework. This framework lays out district expectations for leadership expertise in four areas: leading

self, leading others, leading the work, and leading the organization (McCauley et al., 2010). For each area, an initial list of capabilities is drawn from principal and teacher-leader standards as well as taxonomies of critical leadership skills produced in other sectors. Using this list, a school district can customize the capabilities framework to suit its own local circumstances and to match the district's strategy for improving student learning. Many leading organizations use such lists of leadership capabilities to guide development (McCauley, 2008), and a few alternative principal programs report similar strategies (Cheney Davis, Garrett, & Holleran, 2010). Although research is mixed on exactly what capabilities should be included in such lists, results do show positive benefits for specifying such capabilities; e.g., clear goal setting and shared understanding of organizational priorities for development (Day, 2012).

The WSL design sequences the experiences through which these capabilities are developed, using a branching, four-step leadership pathway of progressively responsible teacher leadership roles. Similar to many leadership development programs outside education, progress toward the principalship occurs as individuals are competitively selected to fill open positions along this pathway. Research and program descriptions offer several illustrations of how challenging experiences can be sequenced and managed as individuals progress through increasingly complex assignments. Familiar examples include job rotations, stepwise promotion, and more informal arrangements (Campion, Cheraskin, & Stevens 1994; Mumford, Campion, & Morgeson, 2007).

Rather than rigidly defining a series of positions, the WSL pathway sequences experiences in broad areas of emphasis that correspond to many already existing leadership opportunities for teachers. While a complete leader pathway would show steps leading to a variety of different roles, this paper focuses on preparation for the principalship and addresses only this portion of the pathway. Step 1 in the pathway involves the kind of collaboration among teachers that research increasingly identifies as essential for any teacher. In Steps 2 and 3 teachers take on more formal leadership responsibilities, first in roles supporting colleagues' instruction, and later in roles more focused on structures that enhance the professional work of others. Step 4, the final step, is the support provided by district administrators to principals during their initial years on the job. Table 1 briefly describes the four steps in the pathway.

Table 1: The WSL Leadership Pathway (Principal Strand)

Step 1 focuses on collaborative leadership for instruction from within the classroom and team, providing practice for leadership as teachers work as a members of a professional learning community, grade-level team, Response-to-Intervention team, and so on. This step is designed for teachers who have already demonstrated expertise in their own instruction and are working informally with colleagues to improve instruction or interventions. While some collaborative

leadership is typically expected of all teachers, formal participation in the leadership pathway in Step 1 is voluntary and by district invitation. Teachers who choose to participate (a) engage in an assessment of skills and accomplishments (based on the leadership capabilities framework); (b) select, complete, and document at least one annual developmental leadership challenge during the year; and (c) join periodic meetings of teachers in Step 1 for enrichment and networking activities.

Step 2 is initiated when a teacher begins a formal assignment with part- or full-time responsibility for leading other teachers' instruction. This could involve, for example, becoming an instructional coach, department chair, team leader, or data coach. In Step 2, every individual in one of the selected roles is expected to participate in the annual leadership cycle, including individual assessments, planning for developmental leadership challenges (DLC), and documentation of both school results and individual learning. An instructional leadership seminar provides Step 2 participants with a regular context for creating a professional network. And as they learn together, they build knowledge to apply in immediate teacher leadership responsibilities while also developing more general school leadership. Step 2 participants are expected to complete and document at least one DLC each year (see below).

Step 3 begins when a teacher leader advances from an instructional leadership role to one that involves greater organizational leadership responsibilities. Depending on how roles are structured in the district, this might involve a position as department chair, assistant principal, dean of students, special education compliance coordinator, or chair of a school committee or leadership team. Although many teachers enter such roles without instructional leadership experience, the WSL pathway is designed to ensure that instructional leadership becomes the foundation for all subsequent roles. As with Step 2, participants use individual assessments to develop appropriate DLCs, perform and document results of those DLCs, and participate in a school leadership seminar with others in the step. Typically, participants earn a principal's license or certification during Step 3.

Step 4 is for beginning principals, or individuals with similar new leadership assignments in district administration. While retaining the various elements of the annual leadership cycle, the focus of DLCs in Step 4 is selecting and addressing the most promising opportunities for improvement in the strategic direction, alignment, and commitment within the school or department. Documentation of progress during this phase typically incorporates both district goals for improvement and individual progression to professional or continuing certification.

Other components of the WSL architecture provide the *policies and executive oversight* for managing the leadership pathway. This includes: (a) provisions for opportunity management, (ensuring movement in the pathway, selecting individuals for advancement); (b) building capacity to support development (responsibilities, training, and support for principals and other supervisors); and (c) individual participation (expectations at each pathway step). A *decision support system* is made up of procedures for collecting and reporting data on individual and aggregated capabilities and experiences. These data create a foundation for individual development plans and for districtwide succession planning and talent management decisions.

In combination, the architecture components allow a district to:

- Define specific capabilities expected of teachers who aspire to leadership roles.
- Align these capabilities with the skills required to implement core district strategies for improving student learning.
- Ensure that expertise for instructional leadership is expected at an early stage of development, thus serving as a gateway to other leadership opportunities.
- Create a multistage selection process as emerging leaders are selected for increasingly responsible roles.
- Manage the overall leadership pathway to ensure a sufficient pool of emerging leaders with expertise to implement district strategy and plan for leadership succession.

WSL Pedagogy

WSL's pedagogical components draw from research on learning design (Barrows, 1980; Goldring & Vye, 2004; O'Mahony et al., 2012), job-based development (Yip & Wilson, 2010), and development of professional expertise (Ericsson, 2009). Development cycles begin with individual assessments of skills relative to the leadership capabilities framework. Existing procedures for self-, supervisor, and peer evaluation can help define individual goals for development.

After an individual and a supervisor agree on goals, the primary mechanisms at the next stage are developmental leadership challenges (DLCs). The DLCs are responsibilities that push the individual to develop and practice new leadership skills while contributing to overall school improvement. Research shows that such work experiences can be extremely effective in leadership development, particularly when difficulty levels are moderate and experiences are sequenced for cumulative learning (DeRue & Wellman, 2009). In essence, each DLC is an agreement between a teacher and the principal or other supervisor to assume a specific responsibility or task that reflects both the development goals of the individual and the improvement goals of the school. Over the course of the year-long development cycle, an individual might take responsibility for a single large DLC or a series of more time-limited ones. Typically, these DLCs will include collaboration, since meeting most leadership and organizational improvement goals requires working with other teachers in the school. As emerging leaders perform these DLCs, supervisors and peers provide performance support and feedback related to both task performance and individual learning.

A leadership learning community serves as a social context for deepening participants' learning at each pathway step. Discussions of both academic and applied topics are supplemented with online academic resources. Meetings of this learning community are formalized with regular schedules, readings, and discussions, all of which help ensure that candidates apply and integrate current knowledge as they perform DLCs. Managing the learning communities at the district level also generates opportunities for participants to broaden the social networks that can support their effectiveness as leaders.

Written reflective documentation provides evidence of leadership activities, school impact, and participant learning. It also constitutes an important data source for assessing each individual's progress toward meeting expectations for certification and career advancement within the district. This documentation includes a description of the individual's theory of action, or strategy for improving school outcomes and the results actually achieved. It also defines the leadership capabilities that the DLC allowed the individual to practice. Finally, the documentation asks the individual to describe the learning he or she will take from the experience to apply in future assignments. The products of these reflective assignments become part of a dossier that individuals use to demonstrate that they have met the requirements for certification, using university credit, digital badges, or another verification process.

Taken together, these pedagogical components of the WSL:

- Provide an organizing frame for job-based leadership development.
- Organize multifaceted support for learning from leadership experiences.
- Help emerging leaders identify and commit to progressively difficult challenges.
- Provide multiple methods of candidate evaluation.
- Allow districts to invest in individual development while providing incentives for emerging leaders to participate fully in the learning improvement agenda of their schools and districts.

WSL's Institutional Partnership

In a study of school districts taking the lead in principal preparation, Orr and her colleagues (2010) identified program cost and continuity of implementation during executive transitions as potential obstacles to successful implementation of district-led programs. Another report (Cheney et al., 2010) cited a tendency to focus on immediate practical leadership problems, which leads to neglect of the underlying professional

knowledge and knowledge structures that could support expert leadership over time and across situations. Consequently, districts need strategies to buffer leadership development efforts from some of the immediate pressures confronting the district. To address this need, the WSL design relies on an external leadership partner to create a set of checks and balances supporting continuity and quality in the preparation program.

To reduce initial implementation costs, the WSL design includes a partner organization that can assist with start-up and transition support. Following research-validated approaches for such implementation (Fixsen, Blase, Duda, Naoom, & Van Dyke, 2010), support for implementing the design involves specifying essential program components and helping districts assess feasibility in their situations. The partner plays another important role by training district staff for key implementation roles and providing measures of implementation fidelity.

Independent evaluation for certification and independent assessment of WSL implementation introduce checks and balances into WSL implementation. Together, these design components provide external validation that increases the credibility of credentials earned by individual participants and builds confidence in the program as it is actually implemented. For the program this means allowing the external partner to take responsibility for state approval of the certification/licensing program, with independent assessment of the extent to which district implementation remains consistent with the approved approach. For individual participants, the independent evaluation gives the partner organization responsibility for assessing candidate learning from developmental leadership challenges and documenting knowledge and performance related to certification/licensing standards.

By arranging academic resources for the WSL, the partner organization ensures that current, research-based practices underlie learning in the program, and it helps individuals structure their emerging knowledge around established concepts and theories. These academic resources include online access to print and other materials as well as optional support for district-organized learning communities that support individuals at each pathway step. Some districts could choose to ask the partner organization to manage the leadership learning community as an adaptation of their existing principal preparation (e.g., Turnbull, Riley, & MacFarlane, 2015).

Finally, many districts may find it helpful to depend on the partner organization for data system support, which would allow districts to share the cost of managing program information. Such cost sharing could facilitate documentation of individual and collective capabilities, with information readily available for planning individual development experiences and anticipating districtwide needs for leadership succession.

Taken together, WSL's institutional partnership components help address the design constraints by:

- Reducing the cost of initial program implementation by providing a comprehensive system that local districts can adapt.
- Allowing districts to share some costs of ongoing program implementation by depending on an external partner for support with some components.
- Increasing confidence in program quality and continuity by separating assessment from the shifting pressures affecting district implementation.

Depending on the partnership arrangements, WSL could also make the certification/licensing process much more affordable for individuals, who could document needed expertise related to licensing standards without paying for advanced degrees.

Who might serve as a district's partner? The range of responsibilities suggests that a university research center or similar organization could be well suited to serve as the WSL partner, and an academic department of educational leadership could also structure itself for this role. Initially, the organization leading development and testing of the WSL could serve as the partner for a set of districts. The developers could later assist other universities or leadership organizations in providing similar services for additional districts. Tis approach would also allow the developers to could continue to serve as a "partner of last resort" for any district that wished to use the WSL design, whether or not a local partner was interested in providing support.

WHY THE WSL DESIGN COULD WORK

It is clearly premature to claim that the WSL design will produce principals capable of leading significant improvements in student learning. Much more development, testing, and refinement remain to be done to establish and evaluate the first implementation of the design. Even more will be required to prepare for implementation and scaling. Precisely because so much remains to be done, it is important to ask what outcomes are possible and whether they are worth the effort. Figure 3 helps to structure a response to these questions. The WSL logic model posits a series of relationships linking implementation of the design in a school district to the ultimate impact on student learning. As described below, research supports the expected results at each step of this sequence. But the research also highlights many conditions that could work against such

positive results. The logic model thus confirms the potential for positive impact while highlighting the challenges to be addressed as the design is actualized.

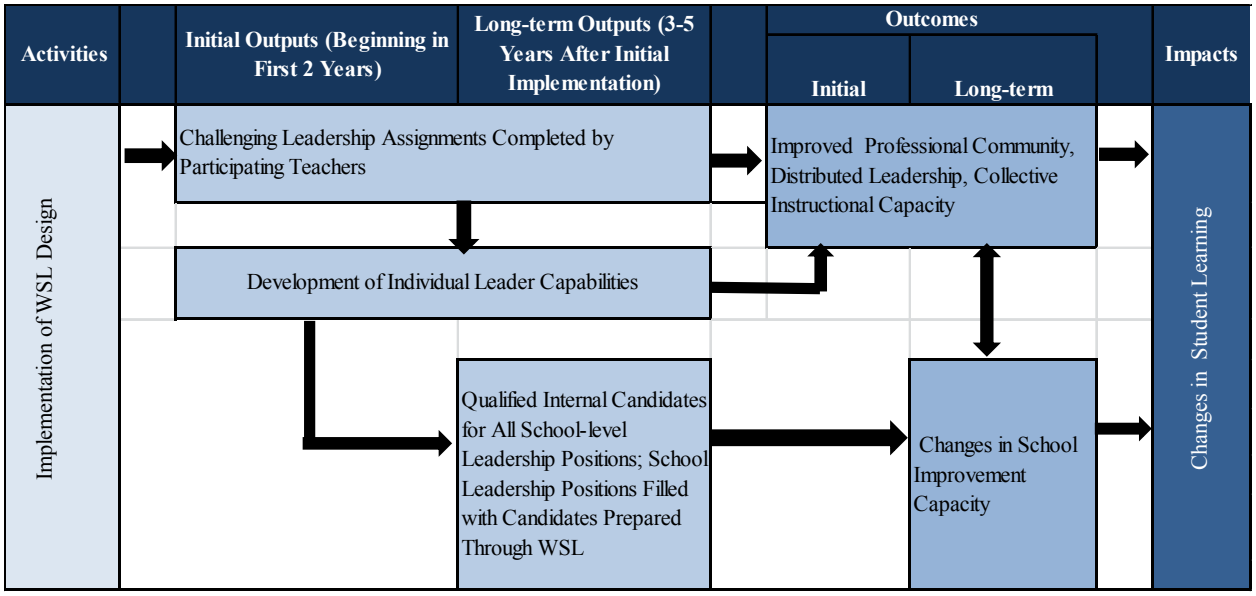

FIGURE 3. DRAFT LOGIC MODEL FOR USE OF THE WSL DESIGN.

CHALLENGING LEADERSHIP ASSIGNMENTS COMPLETED BY PARTICIPATING TEACHERS

Success of the WSL depends first on teachers choosing to participate in the challenging leadership responsibilities that build and nurture leadership expertise. Considerable program experience in and outside of education documents the willingness of individuals to invest in their own leadership development (Reichard & Johnson, 2011), and many teacher development and evaluation programs include leadership skills as part of the professional expertise expected of teachers. Leadership development, however, typically requires going beyond the basic job requirements. Thus, a successful design will incorporate motivational strategies such as goal setting, feedback, formal organizational incentives, and social support. Such strategies will have to support relatively broad participation, since a healthy leadership pipeline depends on having a sufficient number of participants at each step. In addition, in order to have the anticipated impact on leadership development and student learning, teachers' engagement with challenging assignments must be sustained over time to ensure that teachers have the sequential and cumulative experiences that offer deliberate practice of leadership skills.

While accounts of many leadership programs show that such sustained effort is possible, it is not guaranteed. The WSL design must include effective strategies, such as investment in program stability and credibility described above, to sustain individual motivation to participate. Consequently, although it is reasonable to expect broad and

sustained participation in the challenging assignment process, this will likely depend on systemwide support within the school district, with attention to immediate incentives, ongoing feedback, career opportunities, and clear evidence that the leadership program is a continuing district priority.

The WSL logic model identifies two ways in which completion of challenging assignments is expected to influence student learning. The first is through the enhancement of shared leadership within the school (the *leadership development impact*). The second is through the impact that newly prepared principal leaders are expected to have on school quality and student learning (the *leader development impact*).

The Leadership Development Impact

Shared leadership. One result of several teachers completing developmental leadership challenges in a school is the immediate impact on the social and professional context of the school. Several aspects of this context are associated with increases in student learning, including strengthening teacher professional community, distributed leadership, and collective instructional capacity(Heck, 2010; Heck & Hallinger, 2009). We expect completion of developmental leadership challenges to influence these aspects of the school because these assignments primarily involve working with students and other teachers and having ongoing conversations about learning, curriculum, instruction, and school operations—all of which incorporate the mutual influence involved in distributed leadership and teacher professional community.

Timperley (2010), for example, described how facilitators were able to increase the effectiveness of teacher collaboration by using structured protocols for instructional improvement meetings. Such a facilitator role could well be framed as a developmental assignment at Step 2 or Step 3 of the leadership pathway. Achieving expected results at this stage of the logic model depends on similarly well-framed developmental assignments that enhance collaboration and effectiveness in the school. Well-designed assignments, in turn, depend on training and supporting principals and other supervisors responsible for negotiating these assignments with participating teachers.

Impacts of shared leadership on school contexts, teaching, and learning. Several large-scale studies have demonstrated that the teacher collaboration that could be supported through developmental assignments is positively correlated with improvements in teaching practices and student learning. For example, Leithwood and Mascall (2008) found student learning positively correlated with increases in shared leadership; i.e., when teachers reported more sources of influence on their instruction,

including other teachers. Heck (2007) identified collective instructional capacity as a mediator of principal impact on student learning, while Walstrom and Louis (2008) found teacher professional community having a similar positive impact. The common element across these constructs is collaboration of teachers and sharing leadership with each other around issues of student learning—just what WSL's developmental leadership challenges are designed to accomplish.

The Leader Development Impact

Development of individual expertise for leadership. The second way in which challenging assignments are expected to improve student learning is associated with the impact of individual principal leaders who are prepared through the WSL design. The research presented earlier strongly supports the expectation that teachers who complete a series of challenging assignments over time will build leadership expertise. More specifically, both leader skills and leader impacts are associated with completion of a series of challenging assignments of moderate difficulty that allow emerging leaders to practice specific skills (DeRue & Wellman, 2009). However, the research also identifies many factors associated with the teachers themselves, the nature of the challenging assignments, and the work context that affect the success of this development (Ohlott, 2004). Thus, while research on job-based leader development supports the potential impact of the WSL's pedagogical components, implementation will need to incorporate these evidence-based practices in actual practice.

Qualified internal candidates for leadership roles. This element of the logic model addresses the anticipated results of individual skill development. It posits that teachers who have participated in the WSL program through the first three pathway steps will be fully prepared for leadership positions. Evidence that other district-based leadership programs produce qualified candidates supports this result, emphasizing knowledge of local circumstances and availability of a community of similarly prepared leaders, as well as preparation for specific school and organizational duties as products of such preparation (Cheney et al., 2010; Orr et al., 2010). To achieve these results, the program's challenges are to align the leadership capabilities framework with the district's expectations, offer a range of challenging experiences as candidates progress through the pathway, and ensure that selection for successive pathway steps reflects critical leader capabilities.

Changes in school improvement capacity and impact on student learning. Appointment of a new principal can have a wide impact on a school and its teachers and students, affecting outcomes in the same ways that research documents the indirect effects of all principal leadership on student learning (Robinson et al., 2008). One

potentially useful construct for quantifying first-level results is a broad construct like "school improvement capacity" (Heck & Hallinger, 2009), which incorporates measures of several characteristics associated with school effectiveness. In addition to ensuring that new principals have the capabilities prioritized by the district in its leadership capabilities framework, appointment of a principal prepared through the WSL design should also help to avoid documented decreases in school quality associated with unanticipated turnover (Fink & Brayman, 2006). Relying on these previously established relationships, the logic model posits that the school changes that follow appointment of WSL-prepared principals will support improvements in instructional capacity and professional community as well as directly support student learning.

SUMMARY

The quality and supply of future principals for the nation's schools is a continuing concern for school administrators and policy makers, despite significant progress in reforming conventional programs and developing alternatives. A district-led, job-embedded leadership development model offers another approach to principal preparation. An inherent advantage of this alternative approach is the possibility of offering extended time for emerging leaders to develop expertise for instructional leadership. A second advantage is the potential for integrating leader development with current district strategy for improving student learning. Recent work of the Wallace Foundation (Turnbull et al., 2015) highlights related work in several very large school districts, but a major need persists for a practical and sustainable design for principal development in moderate-sized districts.

The Whole School Leadership design offers a promising approach to district-led principal development. It defines pedagogies for job-based learning through challenging assignments, and it offers structures through which a school district could manage these learning opportunities. The design further includes an external partner to support implementation and sustainability. At this stage, however, the Whole School Leadership design is just that—a design. Much remains to be done to refine and test its elements and to plan for eventual testing at scale.

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