



GEORGE W. BUSH  
INSTITUTE

**DEVELOPING LEADERS: THE IMPORTANCE—  
AND THE CHALLENGES—OF EVALUATING  
PRINCIPAL PREPARATION PROGRAMS**

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## Introduction

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Research on school leadership shows that principals can significantly impact student achievement by influencing classroom instruction, organizational conditions, community support and setting the teaching and learning conditions in schools.<sup>1</sup> Moreover, strong principals provide a multiplier effect that enables improvement initiatives to succeed.<sup>2</sup>

Yet each year, as many as 22% of current principals retire or leave their schools or the profession,<sup>3</sup> requiring districts to either promote or hire new principals to fill vacancies at considerable district cost.<sup>4</sup> For example, previous research showed the following:

- Principals in rural and city schools were less apt to stay than those in suburban schools.
- More high school principals have left than middle or elementary school principals.
- The majority of principals have left between their third and fifth year in the position.<sup>5</sup>

The new generation of principals is younger and has less teaching experience. Today's principal workforce is more mobile, works more hours, and experiences more job stress. New principals<sup>6</sup> report being underprepared to evaluate teaching, provide teachers meaningful feedback, manage conflict, and balance tasks.<sup>7</sup>

Because of these workforce changes, understanding how to better prepare new leaders for the role of principal is an urgent policy concern. Although there may be little disagreement that good principals make a difference, what is less clear is how to systematically prepare and keep good principals.

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<sup>1</sup> See, for example, Clifford, Behrstock-Sherratt, and Fetters (2012); Hallinger & Heck (1998); Leithwood, Louis, Anderson, and Wahlstrom (2004); and Marzano, Waters, and McNulty (2005).

<sup>2</sup> Manna (2015).

<sup>3</sup> Principal turnover varies geographically; see Goldring and Taie (2014).

<sup>4</sup> School Leaders Network (2014).

<sup>5</sup> Goldring and Taie (2014).

<sup>6</sup> Throughout this text, we use the term *new principal* to mean a principal who is new to his or her position as a principal. The term *new* is used here to mean a principal who lacks professional experience as a certified principal, with responsibilities for overseeing an entire school. A principal who is experienced as a principal is not considered new because he or she opts to take a position in another school.

<sup>7</sup> Clifford (2012).

## Evaluation of Principal Preparation Programs

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Across the United States, as many as 700 principal preparation programs are preparing and certifying principals to lead our nation's schools. Most states require principals to complete a preparation program to obtain an administrative certification, although the criteria for the design of preparation programs vary.<sup>8</sup>

The methods that preparation programs use to train principals vary nationally and are a source of concern among policymakers, university faculty, and educators.<sup>9</sup> Some programs are developing innovative approaches to principal preparation, and with recent legislation, preparation programs have a strong interest in determining whether new preparation programs make a difference in improving student learning. At the same time, states are showing more and more interest in evaluation methods that may show evidence of quality in principal preparation programs.<sup>10</sup>

### BACKGROUND: PRINCIPAL PREPARATION EVALUATION STUDY

During the course of the last 2 years, the George W. Bush Institute, in partnership with the American Institutes for Research (AIR), has been evaluating the impact of five principal preparation programs in the United States on student outcomes. The methodology used in this [study](#) may be useful for preparation programs and others to examine effects on student outcomes and consider how to increase the effectiveness of the work of principals.

To date, only a few principal preparation programs have been formally evaluated using student outcomes.<sup>11</sup> Our goal in taking on this work was to try to extend the research base by evaluating additional programs and tackling some of the challenges involved.

The five preparation programs that were selected for inclusion in the evaluation study were based on a set of criteria developed to reflect the best available theory and research on promising practices in principal preparation.<sup>12</sup> They included a mix of independent nonprofit and university-based programs.

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<sup>8</sup> See Anderson and Reynolds (2015). The following states do not require the completion of a principal preparation program: Hawaii, Montana, New Hampshire, Ohio, Pennsylvania, South Dakota, Texas, and Vermont.

<sup>9</sup> Anderson and Reynolds (2015) and Levine (2009).

<sup>10</sup> University Council for Educational Administration (UCEA) and New Leaders (2016).

<sup>11</sup> For example, see RAND's evaluation of the New Leaders Program (Gates et al., 2014) and the Institute of Education and Social Policy's evaluation of the New York City Leadership Academy (Corcoran, Schwartz, & Weinstein, 2009).

<sup>12</sup> Cheney, Davis, Garrett, & Holleran (2010); Darling-Hammond, LaPointe, Meyerson, Orr, and Cohen (2007); George W. Bush Institute (2013); and Shelton (2012).

The key findings from this study are as follows:

- We found little evidence that student achievement was any different in schools led by graduates of the programs being evaluated.<sup>13</sup>
- High-quality data were rarely available. We had difficulty getting data on principals, their assignments, and their experiences. Also, we could not get reliable data on other outcomes, such as school climate.<sup>14</sup>
- Program graduates had generally positive perceptions of program coursework and hands-on experiences, but they had mixed perceptions of district supports and ongoing supports from their programs.
- Although the overall outcomes were not better (or worse) for the graduates of these programs, there were high-performing and low-performing graduates from each program.

**Taken together, these findings suggest that focusing on reducing variation in the performance of graduates through training, selection, or other means and systematizing or better tailoring supports may be the keys to success in preparing effective school leaders.**

## Challenges With Evaluating Principal Preparation Programs

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The research team faced several decision points posed by various challenges in assessing the impact of principal preparation programs on student learning. These challenges are described in this section. The challenges described are pertinent to states, districts, and universities conducting similar studies for program accountability or continuous improvement.

Others have written about challenges in evaluating principal preparation programs and, specifically, in using student outcome data for evaluation.<sup>15</sup> Some of these challenges are similar to those raised for evaluating teacher preparation programs using student outcomes,<sup>16</sup> such as the difficulty of disentangling selection into the preparation program from the outcomes. Others are more specific to principal preparation, such as the fact that many individuals completing principal preparation programs do not immediately become principals or that principals affect achievement less directly than classroom teachers.

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<sup>13</sup> Data limitations in one of the five districts impeded us from doing the full analyses. We focus here on findings from four of the five originally selected programs.

<sup>14</sup> For example, one district was unable to provide information on principal experience in or outside the district.

<sup>15</sup> See Burkhauser, Pierson, Gates, and Hamilton (2012); Fuller and Hollingworth (2014); and Grubb, Liao, and Cheung (2014).

<sup>16</sup> For example, see Baker et al. (2010); Darling-Hammond et al. (2013); and Kennedy (2010).

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These challenges do not diminish the importance of tracking program completers after they graduate and gathering and rigorously analyzing data about their placement, retention, and school and student outcomes, including achievement. They do, however, point to the difficulty of comparing across schools and the need to consider a variety of factors in determining the overall effectiveness of any single preparation program.

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*Challenge: The lack of reliable and consistent data on outcomes other than achievement can limit analysis.*

In addition to looking at student achievement as an outcome, additional proximal measures of principal effectiveness should be considered for evaluation. Examples of these are school climate, teacher retention, and principal and teacher effectiveness. Evidence of progress on these outcomes may occur sooner than effects on student achievement, and they can help reveal a more complete picture of what is happening in a school.

For example, examining teacher retention in and of itself would not be sufficient because removing ineffective teachers from the workforce is one lever by which new principals can improve school outcomes. Instead, an examination of the extent to which principals retain effective teachers is more accurate. And although many states and districts have developed and implemented more rigorous teacher evaluation measures, these systems are still in their early stages and generally do not show variation in effectiveness, making them less useful for evaluation purposes.

Unfortunately, it can be difficult to examine these and other outcomes because of constraints in data availability and resources. Despite its potential to inform district decision making and research on best practices, high-quality data that would allow us to look at these outcomes are rarely available within districts.

**Recommendation:** Program staff, districts, evaluators, and policymakers should understand the strengths, challenges, and availability of data related to any potential outcomes of interest (see, for example, Table 1). Whenever possible, multiple measures should be used during an evaluation.<sup>17</sup> If only one outcome can be used because of data limitations, careful consideration should be taken in data collection and analysis. Contextual factors should be described to the extent possible.

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<sup>17</sup> UCEA and New Leaders have recently developed a toolkit that might be considered when determining outcomes of focus. See <http://www.sepkit.org/publications/>.

**Table 1. Outcomes of Interest in Evaluating the Impact of Principal Preparation Programs**

Outcome of Interest	Strengths	Challenges
Student achievement (test scores)	<ul style="list-style-type: none"> <li>▪ Consistently available across schools and districts, easily comparable</li> </ul>	<ul style="list-style-type: none"> <li>▪ Typically available only for Grades 3–8 and one grade in high school.</li> <li>▪ Tests and cut scores change across time, although this can be controlled for to some extent.</li> <li>▪ An indirect outcome of principal practice is that principals account for a small amount of variation in student test scores.</li> </ul>
School climate	<ul style="list-style-type: none"> <li>▪ Directly related to principal practice</li> <li>▪ Associated with improved student achievement</li> </ul>	<ul style="list-style-type: none"> <li>▪ Data are not consistently available or of sufficient quality to use in analysis.</li> <li>▪ Where school climate was available, it only included student responses. Arguably, teacher responses are more critical to understanding climate changes in a school.</li> </ul>
Graduation rates	<ul style="list-style-type: none"> <li>▪ A measure of student achievement at the secondary level</li> <li>▪ Consistently available across schools and districts, easily comparable</li> </ul>	<ul style="list-style-type: none"> <li>▪ Available only for secondary schools.</li> <li>▪ Large changes in graduation rates may be difficult to achieve in the short term (and therefore harder to detect principal impact).</li> <li>▪ States do change the requirements for graduation, which can affect long-term analysis.</li> </ul>
Teacher retention	<ul style="list-style-type: none"> <li>▪ Directly related to principal practice</li> <li>▪ A lever that principals might use to impact student outcomes</li> </ul>	<ul style="list-style-type: none"> <li>▪ Would need to combine information on retention with valid information on teacher effectiveness that is able to capture variation in teacher quality and performance to interpret findings.</li> </ul>
Principal practice measures	<ul style="list-style-type: none"> <li>▪ Directly related to principal practice, and a primary focus of preparation programs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Few validated measures of principal practice exist.</li> </ul>
Teacher practice measures	<ul style="list-style-type: none"> <li>▪ Directly related to principal practice and a primary focus of preparation programs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Measures of teacher practice are still being developed.</li> </ul>

In addition, districts should collect and analyze data that helps them understand where their best leaders are trained, when a leader may need additional support and resources, and how to keep the best leaders in a district. This may mean allocating greater resources toward data-collection efforts. Preparation programs and districts should work together to develop data-sharing agreements that allow them to work together for improvement.<sup>18</sup>

<sup>18</sup> For more information on data availability, see the brief titled *What Districts Know—and Need to Know—About Their Principals* (George W. Bush Institute, 2016).



### *Challenge: Principals affect student achievement indirectly.*

Principals are responsible for setting the conditions for learning in their schools (e.g., supporting teaching practice and establishing a school climate conducive to learning), but they rarely provide direct instruction to students. Nonetheless, it seems logical that well-prepared principals ought to be able to affect achievement more than principals who are less well prepared—perhaps not in their first year but in the long term. An evaluation can show statistically significant impacts on student achievement by principals, but it should be noted that these gains are expected to be smaller than teacher impacts because of the indirect effect of principals.<sup>19</sup>

**Recommendation:** One way to address this issue is to carefully select programs that appear to embrace many of the practices recommended by experts to prepare principals well.<sup>20</sup> One might theorize that graduates of these programs would be more likely to affect student achievement and other outcomes compared with peers from other programs.

If programs are identified whose graduates are having systematic positive impacts on student achievement, then the field could work to learn more about these programs' practices. It should be noted, however, that the results would not explain how or why that program was effective. Additional research would need to be done to determine specific program practice effects.

### *Challenge: Sample sizes of principals from programs may be small, which can make the analysis and interpretation of findings difficult.*

The number of principals from any given program may be small for a variety of reasons. First, many programs simply do not graduate a very large number of principals in any given year. So even with a long panel of data, it can be difficult to identify a large number of principals from any single program.

Further, most programs in this study had no or very few principals assigned to high schools, making the analysis of high school outcomes difficult. Also, principal turnover can reduce sample size. This turnover can make it difficult to evaluate the long-term effects of principal graduates.<sup>21</sup>

Finally, an evaluation methodology itself might restrict the number of principals eligible for inclusion. For example, in the Bush Institute study, one of the methods used required that schools have 3 years of achievement data prior to a principal's placement to be included in the study. These prior data establish a trend line for the school for the time before the new principal entered, which is an important element to fairly examine what happened **after** the principal was placed. However, this approach meant that some schools and principals were excluded (including

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<sup>19</sup> Gates et al. (2014).

<sup>20</sup> For example, see Cheney et al. (2010); Darling-Hammond et al. (2007); and George W. Bush Institute (2013).

<sup>21</sup> The Bush Institute study includes a descriptive analysis of attrition among principals from selected and other programs.

schools where a program principal had been placed, then left, and was replaced by a different principal from the same program).

***Recommendation:*** It is important that evaluators, researchers, and others understand that small sample sizes are a concern with all research on principals because there are many fewer principals than teachers and students. In addition, when focusing on a subset of principals, such as new principals, the sample size is even smaller.

When developing a methodology for evaluation, a firm set of decision rules aimed at balancing a larger sample size with data quality should be set. Multiple analyses or methods can be used to triangulate findings. In the Bush Institute study, a second analysis was performed that allowed the inclusion of additional principals to account for this.

***Challenge: It may take a principal time to affect outcomes at a school.***

Across time, principals may become more effective at their jobs.<sup>22</sup> Indeed, the length of a principal's tenure at a school may itself be related to the principal's effectiveness. Perhaps the most important reason that it takes time to improve student learning is that the most important lever for doing so is to improve teacher practice, which takes time.<sup>23</sup> Some research indicates that it may take as many as 3 years for principals to make a difference in student achievement.<sup>24</sup>

Student achievement may even take a "dip" after a new principal enters a school, perhaps because a new principal is learning on the job or for other reasons. These factors may point to the benefit of evaluating the impact of principals after several years of their placement. At the same time, however, long-term tracking of principals within schools can be challenging. Principal turnover rates and mobility are high, particularly in underserved districts where some preparation programs intentionally place principals as part of their mission.

***Recommendation:*** One solution is to focus on a principal's first 3 years on the job. Methodologically, the Bush Institute study dealt with the fact that schools may experience a dip in achievement when a new principal arrives by looking at the relative change in achievement compared with other similar schools with newly placed principals. So, even if achievement went down, the question is, "Did it go down more on average than in other schools with newly placed principals?"

While looking at the first 3 years is preferable to only looking at the first year a principal is placed, longer term evaluations are recommended to understand the full long-term impacts of a principal. Greater resources may need to be allocated for evaluation work so that programs, districts, and others can get a better understanding of how principals are affecting student outcomes.

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<sup>22</sup> Beteille, Kalogrides, and Loeb (2011); Clark, Martorell, and Rockoff (2009); Coelli and Green (2012); and Seashore Louis, Leithwood, Wahlstrom, and Anderson (2010).

<sup>23</sup> See, for example, Wiliam (2016).

<sup>24</sup> Corcoran et al. (2012).

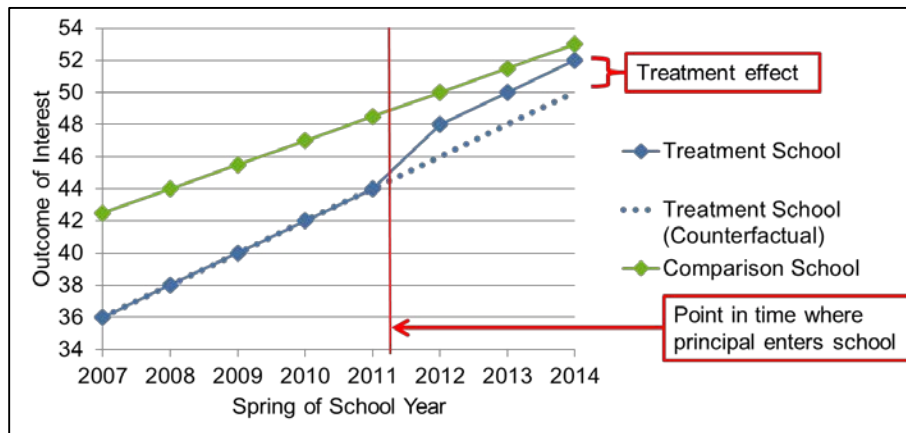
*Challenge: Estimates of principal program effects on student achievement are difficult to disentangle from many other factors, such as selection into programs<sup>25</sup> or supports provided by districts.*

An additional challenge in evaluating principals' effectiveness across a longer period as they gain experience is that it is possible that any knowledge and skills principals gained in their programs could fade or become entangled with on-the-job learning, principal supervision and evaluation processes, or school- or district-provided supports. The graduate interviews that were a part of this study identified variability in the value perceptions of district supports.

**Recommendation:** Attributing changes in student achievement to principal preparation programs means using methods that can best support that kind of causal claim, while attempting to control for as many other factors as possible. One method that might be considered is a comparative interrupted time series (CITS) approach, which was one of the methods used in the Bush Institute study.

The CITS approach is a quasi-experimental design method recognized by the What Works Clearinghouse and is a rigorous approach to evaluation. It treats a new principal's entry from a particular program into a school as a school-level intervention that we can compare to other schools that also received new principals at the same time but from other programs (see Figure 1).

**Figure 1. Comparative Interrupted Time Series Approach**



The CITS approach uses 3 years of data prior to a new principal's arrival to establish trends for schools and then compares changes in achievement in schools where a principal from a program of interest was placed to changes in other schools that also received newly placed principals. In this manner, schools can essentially be compared with their own baseline.

<sup>25</sup> Of course, one also could argue that selection is an element of program quality, although it is true that the pool of possible candidates is not necessarily the same across all programs because of geography and other factors.

One limitation of the Bush Institute study is that data shortcomings prevented a complete understanding of the comparison principals in some districts. For example, some districts were unable to provide data on a principal's experience before he or she entered the district or where the person was trained. It also would have been useful to be able to track professional development and supports received by all principals in a district. The CITS approach still allows an evaluator to look at how individual principals affected outcomes compared with a school's baseline, but the results should be interpreted with this in mind.

In addition, qualitative research should accompany a quantitative evaluation to understand the types of supports from districts and principals themselves. The following topics might be considered when designing interview questions:

- Induction support for new principals
- Coaching and mentoring
- Principal professional development
- Grant-funded programs and initiatives targeted at improved student outcomes

Although it may be impossible to control for all additional "noise" in an evaluation, adding a qualitative component can be helpful in determining what other initiatives are happening during a principal's tenure to provide helpful context.

## Conclusion and Recommendations

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Evaluating the impact of principal preparation programs is essential to improve programming, inform policy, and provide information to consumers. Although challenges were experienced during this process, preparation programs need to know if their graduates are moving the needle on student and school outcomes to inform continuous improvement, and districts need information about which programs are producing the best principals to inform critical pipeline decisions.

Although the information produced by an impact evaluation may have limitations in what it can tell us about best practices in principal preparation program design, this information should be considered as one aspect of preparation program improvement and accountability. The study team recommends the following:

- Without consistent, timely, and comparable data, neither districts nor researchers can track how much training a principal has received; whether graduates of different preparation programs show differences in retention, performance, or other outcomes; or how district-provided programs may help principals achieve their goals. Because of this, the following is recommended:
  - **Accurate and comprehensive data collection systems and analysis measures are needed to improve both principal preparation and principal performance.**<sup>26</sup>

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<sup>26</sup> Principal performance evaluation accuracy and reliability should be improved so that postgraduation job performance can be used as a preparation program quality measure.

- **States and districts should collect data that are more systematic on outcomes in addition to student standardized test scores** (e.g., school climate, teacher workforce data, and principal workforce data).
- It is possible to estimate program effects in a manner that is methodologically rigorous and fair in terms of controlling for factors that are associated with student outcomes. However, there are important limitations to these data and how they should be used. Because of this, the following is recommended:
  - **Impact evaluations using student outcomes are necessary and critical for program improvement and district awareness.**
  - **A full evaluation of principal preparation programs should include multiple measures, and focusing on measures of individual principal effectiveness in addition to overall averages may be very informative.**
- Research is clear that principals are critical to school effectiveness, but research on many issues related to preparing and supporting great principals is just emerging. In addition, preparation alone will not solve the issue of ensuring that every school has a great principal. Because of this, the following is recommended:
  - **More sustained research is needed on issues of developing and retaining our most effective principals.**
  - **Education leadership also can learn from the body of leadership research in other fields.**
  - **Districts and policymakers should consider how preparation fits into a continuum of development and supports along principals' career pathways and work to improve all aspects of principal talent management.<sup>27</sup>**

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<sup>27</sup> See the [Principal Talent Management Framework](#), which presents suggested policies and practices in the areas of preparation, recruitment and selection, professional learning, evaluation, compensation and incentives, and working environment.

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