

School Leadership Interventions Under the Every Student Succeeds Act

Volume I—A Review of the Evidence Base, Initial Findings

Rebecca Herman, Susan M. Gates, Emilio R. Chavez-Herrerias, Mark Harris

Key findings

- School leadership can be a powerful driver of improved education outcomes.
- Activities designed to improve school leadership demonstrate positive impact on student and teacher outcomes, based on research that is consistent with ESSA evidence tiers.
- ESSA expands opportunities for states and districts to use federal funding for initiatives that strive to improve the quality of school leaders.
- Current ESSA framing of evidence tiers is problematic for implementation.

The U.S. Every Student Succeeds Act (ESSA)¹ acknowledges the importance of school principals to school improvement and effective instruction. The act allows states and districts to use federal funds for activities targeting school principals and other school leaders.

ESSA repeatedly calls for the use of *evidence-based* activities, strategies, and interventions.² The rationale is clear: Investments in education must produce results. Students' efforts, teachers' time, and scarce financial resources are more likely to be well spent when education-improvement activities are selected because there is evidence that they are effective. To select education-

improvement activities without considering their prior, proven impact may be seen as an irresponsible use of limited resources.

In many areas, such as English-language learning or literacy, there is a strong existing research base (such as the Institute of Science Education's What Works Clearinghouse [WWC] review) to inform which interventions might qualify as evidence-based. However, the language used in ESSA to define the term *evidence-based* differs in important ways from prior legislation, leaving open questions about which school-leadership practices, activities, strategies, and interventions might qualify as evidence-based. In the face of such ambiguity, states and districts might hesitate to take advantage of the opportunities that ESSA provides to support activities and interventions targeting school leaders. Additional guidance or clarification about what is allowable under the law could facilitate school-improvement activities that are consistent with the intent of the law.

The RAND Corporation conducted a synthesis of the evidence base on school-leadership interventions to better inform the rollout of school-leadership interventions under ESSA. This report is intended to help federal, state, and district education policymakers understand and implement school-leadership-improvement efforts that are consistent with ESSA.

The Every Student Succeeds Act

The Every Student Succeeds Act (ESSA) advocates the use of evidence-based activities, strategies, and interventions to improve school leadership; however, the legislation is unclear about which school leadership-improvement activities might qualify as evidence-based. Although the law outlines four tiers of evidence that could provide guidelines for such an assessment, the definitions of those evidence tiers are not clearly specified. Further guidance on the evidence tiers, as well as existing ESSA-relevant school leadership activities, could help inform the use of federal funds to support school leadership-improvement initiatives at the state and district levels.

In this report, we first offer an overview of the ways in which school leadership may affect outcomes of interest and describe how school leadership is addressed by ESSA funding streams. The key question for this section is:

- What is the evidence that school leadership matters for school improvement?

We then describe ESSA funding streams that support school-leadership-improvement activities and the ESSA-defined tiers of evidence that such funding streams will require. We compare ESSA evidence tiers with evidence requirements for other federal education programs to identify ambiguities in the ESSA tiers. The key questions for this section are:

- What school-leadership-improvement activities are allowable under ESSA?
- How are the ESSA evidence tiers defined, and what further guidance might improve the use of these evidence tiers for education decisionmaking?

Having laid out relevant foci of ESSA as context, we then describe the evidence review. We provide a brief description of our methodology in reviewing the literature and then present findings on improvement activities that should be allowable under ESSA. The key question for this section is:

- What is the evidence of effects of school-leadership-improvement activities, as judged against the ESSA evidence tiers?

Finally, we offer recommendations to guide education policymakers, practitioners, and thought leaders on the use of research-based practices.

MOTIVATION AND APPROACH

States and districts have multiple ways to promote school improvement. What would justify a focus on school leadership? There is an extensive research base of rigorous, scientific studies exploring the importance of school leadership in school improvement. This research suggests that school leadership could be an important lever for school-improvement strategies pursued by states and districts.

In their comprehensive review of the literature, Leithwood et al. (2004) concluded that principals are second only to teachers as the most important school-level determinant of student achievement. That finding is significant in view of the reality that there are far fewer principals than teachers in a district and that each principal has the potential to affect outcomes of far more students. That review was conducted more than ten years ago, but subsequent research has reinforced that basic finding (see, for example, Coelli and Green, 2012; Dhuey and Smith, 2014; Grissom, Kalogrides, and Loeb, 2015). A principal scoring one standard deviation above the mean for principal effectiveness could move the mean student achievement from the 50th to the 58th percentile (Branch, Hanushek, and Rivkin, 2012). Research also demonstrates that principals are important to key teacher outcomes. Teacher turnover is lower in schools led by high-quality principals (Boyd et al., 2011; Branch, Hanushek, and Rivkin, 2012; Grissom, 2011; Ladd, 2011), and more-effective principals retain and hire higher-quality teachers and have teachers who improve faster (Loeb, Kalogrides, and Béteille, 2012). Research further indicates that principal turnover leads to lower teacher retention and lower gains for students (Béteille, Kalogrides, and Loeb, 2012; Miller, 2013).³

In sum, there is substantial research evidence demonstrating that school leaders are a powerful driver of student outcomes. This evidence base justifies ESSA's investment in principals as part of school improvement. Although ESSA does not approach this level of specificity, federal and state policymakers might consider guiding resources toward principal-improvement activities that have demonstrated impact on principals' actions and characteristics that are associated with improved student outcomes.

Approach to Assessing the Evidence Base on School-Leadership Initiatives

Figure 1 describes the simplified theory of action that guided our review.⁴ In this theory, a catalyst for change, such as a state policy, drives policymakers and educators to focus on improving school leadership. They select and implement activities, strategies, or interventions designed to improve school leadership. These improvement activities change school leaders' behaviors, which improve instruction and the school climate, which then improve student outcomes. ESSA evidence tiers focus on two parts of the theory: activities and outcomes. (In ESSA, outcomes are somewhat loosely defined, as explored below.) Consistent with ESSA, our review focuses on research relating school-leadership-improvement activities to student and teacher outcomes. However, even in a simplified model, it matters how one gets from improvement activities to outcomes, and so we do discuss other parts of the model in this report. Our simplified theory of action provides a context for the review, which focuses on the relationship between school-leadership-improvement activities, intermediate outcomes (such as instruction and climate), and student outcomes. The theory also suggests other important bodies of evidence not explicitly noted in ESSA but relevant to improving schools (see discussion below).

SCHOOL LEADERSHIP IN THE EVERY STUDENT SUCCEEDS ACT

School leadership is explicitly acknowledged as a valid target of educational-improvement activities in ESSA; in areas where school leadership is not explicitly called out, states and districts could still choose to support leadership-focused activities in pursuit of school-improvement objectives. Below is a brief description of the ESSA sections that provide federal funding that could be used for school-leadership-improvement initiatives.

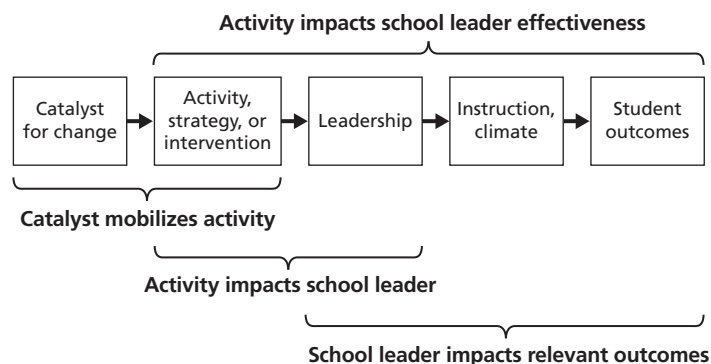
Title I (Improving Basic Programs Operated by State and Local Educational Agencies) of ESSA authorizes approximately \$15.0 to \$16.2 billion per year (2017–2020) to states in formula funding to improve basic state and local education programs.⁵ Title I has historically included a substantial investment in identifying and improving low-performing schools. Most recently, the School Improvement Grant program has invested billions of dollars into supporting fundamental change in the lowest-performing schools in each state (see, e.g., U.S. Department of Education, 2015). ESSA has replaced

How Are School Leaders Defined in the Every Student Succeeds Act?

(44) SCHOOL LEADER.—The term “school leader” means a principal, assistant principal, or other individual who is— (A) an employee or officer of an elementary school or secondary school, local educational agency, or other entity operating an elementary school or secondary school; and (B) responsible for the daily instructional leadership and managerial operations in the elementary school or secondary school building.

Source: Public Law No. 114-95, Every Student Succeeds Act, Title VIII, Sec. 8101, Definitions, December 10, 2015, p. 297.

Figure 1. Simplified Theory of Action for School-Leadership Activities



RAND RR1550-1

the School Improvement Grants with School Improvement Funds,⁶ still focused on the lowest-performing schools (for example, high schools that fail to graduate one-third or more of their students, or the lowest-performing 5 percent of schools in a state). Proposed Title I school-improvement activities must demonstrate “strong,” “moderate,” or “promising” evidence of effects (see ESSA’s evidence tiers I, II, or III, below) to be funded. School Improvement Funds may be used to support activities to improve school leaders and—under previous versions of the program—frequently have been directed toward replacing or improving principals.

Title II, Part A (Supporting Effective Instruction), authorizes approximately \$2.3 billion per year (2017–2020) to states in formula funding to improve the quality of teachers, principals, or other school leaders.⁷ States may reserve up to 3 percent of their grants for activities designed to improve the principal pipeline, such as

ESSA defines four tiers of evidence, in order of rigor, for judging whether an activity is evidence-based.

- improving principal certification (regular and alternative), evaluation, and support systems
- preservice (principal preparation programs and academies)
- training or professional development on such topics as differentiating performance; evaluating teachers; cultural competency; instruction and student learning; postsecondary education for students; science, technology, engineering, and mathematics (STEM) and career and technical education (CTE) instruction; and technology
- recruiting, retaining, and training school leaders (among others)
- induction and mentoring for early career principals
- differential pay for hard-to-fill positions
- more-focused opportunities, such as transition to elementary school and school readiness; Pre-K–3 alignment; implementing bullying prevention and restorative justice practices; and sexual-abuse prevention.

Although states are encouraged to use evidence-based activities (activities with strong, moderate, or promising evidence) for Title II, Part A, they also may select activities that have a somewhat less rigorous evidence base (identified as tier IV; see below).

Title II, Part B (National Activities), authorizes approximately \$469 to \$489 million per year (2017–2020) for all parts of Title II, Part B (including support for both teachers and principals), to states to award to districts. Districts may develop human-capital management systems that include performance-based incentives, such as bonuses for teachers or principals based on improved student achievement.⁸ These performance incentives can be used with both school leaders and teachers; before ESSA, the incentives only targeted teachers.

National activities also include competitive federal grants to support the development of effective educators, including school leaders, through nontraditional certification programs, evidence-based professional development on several topics (e.g., literacy,

numeracy, incorporating postsecondary coursework in the K–12 curriculum), and other learning opportunities (e.g., learning through partnerships, activities leading to credentials).⁹

Finally, ESSA national activities include support for efforts to improve the recruitment, preparation, placement, support, and retention of effective principals or other school leaders in high-need schools.¹⁰ Such activities could include traditional or alternative preservice training programs; recruiting, selecting, developing, and placing leaders in high-need schools, with the purpose of implementing reforms; continuous professional development; and developing and disseminating information on best practices.

In sum, ESSA provides opportunities to improve school leadership by supporting school improvement programs that have a strong leadership component and by improving steps in the principal pipeline, such as preparation programs, certification, professional development, and recruitment and placement. These investments are mainly state-directed, with some operating at the federal level.

EVIDENCE IN THE EVERY STUDENT SUCCEEDS ACT

For some of these fundable leadership-improvement activities, states and districts must show evidence of success for the proposed activity. ESSA defines four tiers of evidence, in order of rigor, for judging whether an activity is evidence-based. An activity must demonstrate evidence in one of the first three tiers—it does not matter which tier—to be funded under Title I (School Improvement Funding). Otherwise, an activity with an evidence-based requirement must demonstrate evidence on any of the four tiers—again, ESSA does not prioritize one tier over another—to be funded.¹¹

To be evidence-based, an activity, strategy, or intervention must show statistically significant positive effects on student or other relevant outcomes, based on one or more of the following:¹²

- Tier I (strong evidence)—at least one well-designed and well-implemented experimental study (randomized controlled trial)
- Tier II (moderate evidence)—at least one well-designed and well-implemented quasi-experimental study
- Tier III (promising evidence)—at least one well-designed and well-implemented correlational study that controls for selection bias.

For federally funded activities other than Title I school-improvement activities, tier IV is also considered sufficient evidence:

- Tier IV—The activity, strategy, or intervention demonstrates a rationale based on high-quality research or a positive evaluation that suggests it is likely to improve student or other relevant outcomes. For tier IV activities, there must be ongoing efforts to evaluate the effects of the activity, strategy, or intervention.¹³

Exactly where the evidence requirements apply can vary by program—ESSA’s evidence requirements can be complicated and sometimes unclear. Title I, Part A (School Improvement), is straightforward: Comprehensive and targeted programs must be evidence-based, using evidence from tiers I, II, or III, to be funded. In Title II, however, some programs are required to be evidence-based, some programs are required to be evidence-based for some but not all components, and some programs are required to be evidence-based but can be exempted by the state if insufficient evidence exists. For example, School Leader Incentive Fund Grant applications must propose evidence-based projects (using evidence from tiers I, II, III, or IV). School-leadership residency programs must include evidence-based coursework, but the clinical experience and mentoring are not required to be evidence-based. Further, the coursework can be exempted from the evidence requirement at the state’s discretion. This report does not parse the ESSA language to determine where evidence is required, but some guidance may be useful to states and districts attempting to meet ESSA’s evidence requirements.

Unpacking the Tiers

The ESSA evidence tiers are new and differ substantially from prior evidence requirements, such as those used by the WWC and Investing in Innovation (I3), the Department of Education grant program supporting research on innovative interventions. For example, Table 1 describes the evidence standards used for the Department of Education’s I3 competition,¹⁴ which are buttressed by the Department of Education’s WWC criteria for rigorous research. Table 2 indicates areas where nuances raised in I3 are not part of the ESSA evidence tiers. These are factors that may become issues for discussion as the Department of Education and states consider how to apply the evidence tiers.

Excerpt from the Every Student Succeeds Act

(21) EVIDENCE-BASED.—

(A) IN GENERAL.—Except as provided in subparagraph (B), the term “evidence-based,” when used with respect to a State, local educational agency, or school activity, means an activity, strategy, or intervention that—

(i) demonstrates a statistically significant effect on improving student outcomes or other relevant outcomes based on—

(I) strong evidence from at least 1 well-designed and well-implemented experimental study;

(II) moderate evidence from at least 1 well-designed and well-implemented quasi-experimental study; or

(III) promising evidence from at least 1 well-designed and well-implemented correlational study with statistical controls for selection bias; or

(ii) (I) demonstrates a rationale based on high-quality research findings or positive evaluation that such activity, strategy, or intervention is likely to improve student outcomes or other relevant outcomes; and

(II) includes ongoing efforts to examine the effects of such activity, strategy, or intervention.

(B) DEFINITION FOR SPECIFIC ACTIVITIES FUNDED UNDER THIS ACT.—When used with respect to interventions or improvement activities or strategies funded under section 1003 [Title I], the term “evidence-based” means a State, local educational agency, or school activity, strategy, or intervention that meets the requirements of subclause (I), (II), or (III) of subparagraph (A)(i).

Source: Public Law No. 114-95, Every Student Succeeds Act, Title VIII, Sec. 8101, Definitions, December 10, 2015, pp. 289–290.

Some of the differences between ESSA and I3 evidence standards stem from ambiguity in ESSA and might be easily clarified. For example, the intent of the legislation might have been to include randomized controlled studies with high attrition—or might have been to reject such studies entirely. Clarifying points such as these, either at the federal or state level, would help states implement the provisions of ESSA more effectively. However, some of the differences between ESSA and earlier evidence standards are more fundamental. If an improvement activity can be funded under ESSA with no more

Table 1. 13 Levels of Evidence

Tier	Evidence
Strong evidence	<p>There is at least one large, multisite study that found a statistically significant favorable impact on a relevant outcome and that met the WWC standards without reservation (essentially, a well-designed and well-conducted randomized controlled trial)</p> <p>OR</p> <p>There are at least two large, multisite studies that found statistically significant favorable impacts on relevant outcomes and that met the WWC standards with reservations (essentially, well-designed and well-conducted quasi-experimental studies or somewhat flawed randomized controlled trials)</p>
Moderate evidence	<p>There is at least one study that found a statistically significant favorable impact on a relevant outcome and that met the WWC standards without reservation (essentially, a well-designed and well-conducted randomized controlled trial)</p> <p>OR</p> <p>There is at least one large, multisite study that found statistically significant favorable impacts on relevant outcomes and that met the WWC standards with reservations (essentially, a well-designed and well-conducted quasi-experimental study or a somewhat flawed randomized controlled trial)</p>
Evidence of promise	<p>There is a theoretical linkage between at least one critical component and at least one relevant outcome in the logic model</p> <p>AND</p> <p>There is at least one study showing statistically significant or substantively important favorable association between at least one component of the intervention and at least one relevant outcome, based on a correlational study with statistical controls for selection bias, a quasi-experimental study that meets the WWC standards with reservations, or a randomized controlled trial that meets the WWC standards</p>

than a strong rationale and evaluation plan, almost any activity can be funded. Improvement activities that have no research or that have strong research mainly showing negative impact both would be permissible. Therefore, clarification of the ESSA evidence tiers is critically important to promote the use of effective interventions.

In addition to these ambiguities across the ESSA evidence tiers, tiers III and IV are open to broad interpretation.

Tier III

Under the evidence requirements noted above, studies must look at the impact of an improvement activity. How one defines improvement activity can affect whether the evidence is considered sufficient, especially for tier III. For example, a hypothetical correlational study with the following characteristics would clearly meet the ESSA standard for tier III evidence:

- Some principals in a state participated in a state education agency training about mentoring teachers on their instruction. Some principals in the state did not.

- Sometime after the training, researchers used a state education agency database to conduct analysis comparing participating principals with nonparticipating principals.
 - The outcome measure is principals' value-added scores.
 - The analysis controlled for principals' qualities, such as experience, training, and prior effectiveness ratings, and school-level demographics, such as percentage of minority and low-income students.

For a different hypothetical correlational study with the following characteristics, it is less clear whether the study would meet tier III standards:

- Some school-improvement policies recommend replacing the school principal. Union concerns, existing contracts, public pressure, and the pool of qualified candidates make it very difficult to design and conduct a rigorous study of this strategy. Therefore, researchers conducted a correlational study with statistical controls.
- Researchers used a state education agency database to conduct analysis comparing schools that have principal turnover and schools that do not.

Table 2. Distinctions Between I3 and ESSA Criteria for Evidence

I3	ESSA
Considers the sample size (large, multisite) to compensate for some issues with the study design	Does not refer to sample size
Includes somewhat flawed randomized controlled trials	Requires that experimental and quasi-experimental studies be well designed and well implemented to qualify as tier I or tier II evidence but is silent on how to consider randomized controlled trials and quasi-experimental studies that have some design or implementation issues It is not clear whether flawed randomized controlled trials (e.g., those with high attrition) might qualify as tier II or flawed quasi-experimental studies as tier III
Considers theory—as well as a connection between part of the activity and an outcome—as evidence at the lowest level	The lowest category of evidence (tier IV) under ESSA: includes “a rationale based on high-quality research findings or positive evaluation” ^a Depending on how this term is interpreted, ESSA may consider theory as evidence in tier IV, and/or ESSA may consider connections between part of the activity and outcomes as evidence in tier IV
Considers “substantively important” as well as statistically significant findings as evidence at the lowest level	Does not mention substantively important findings
Specifies that the favorable findings must not be countered by unfavorable findings	Does not address potential unfavorable findings, which may allow a single positive study to miscategorize a larger, less positive, evidence base

^a Public Law No. 114-95, Every Student Succeeds Act, Title VIII, Sec. 8101, Definitions, December 10, 2015.

- The outcome measure is school-level achievement growth and decreases over the periods before and after principals’ transitions, for schools with turnover and for schools without turnover.
- The analysis controlled for principals’ qualities, such as experience, training, and prior effectiveness ratings, and school-level demographics, such as percentage of minority and low-income students.

This hypothetical study could provide correlational evidence in support of a strongly promoted school-improvement strategy. Therefore, we consider this type of evidence in our evidence review; however, we clearly flag the evidence as questionable, since the difference between groups was incidental principal turnover rather than deliberate principal replacement.

Tier IV

Numerous blogs, commentaries, and articles posted during and since ESSA’s passage have highlighted concerns about the ambiguity in the definition of tier IV evidence (see, e.g., Advanced

Education Measurement, 2016; Slavin, 2015; West, 2016). We focus on ambiguities with regard to the first part of the definition (“an activity, strategy, or intervention that . . . demonstrates a rationale based on high-quality research findings or positive evaluation that such activity, strategy, or intervention is likely to improve student outcomes or other relevant outcomes”¹⁵), because it is the component most closely related to the existing research.¹⁶ Depending on the way in which districts and federal and state departments of education interpret the definition of tier IV evidence, the following categories of studies may or may not be considered evidence:

- *Components are evidence-based, but the activity is not proven:* This would include high-quality research that finds that the *components of the intervention* (e.g., classroom-based professional development) improve student outcomes (or other relevant outcomes), even in the absence of high-quality evidence proving the effectiveness of the intervention as a whole. This is a distinction that the WWC made repeatedly in the first five years of operation, as intervention developers claimed that their interventions were effective because they used effective components. In cases

Without undercutting the flexibility that ESSA provides states and districts for context-specific approaches, a few examples of “good” versus “poor” tier IV evidence might provide needed benchmarks or guidance.

where interventions are new or are adapted to context, it may not be possible to have evidence of the impact of the full intervention. Knowing that the components are effective provides an indicator that the intervention overall might be effective—recognizing that this is far from strong evidence of proven impact.

- *Causal chain effectiveness*: This would include high-quality studies that show that the intervention affects an intermediate outcome (e.g., teacher content knowledge) that has been shown (in prior high-quality research) to affect student outcomes (or other relevant outcomes).
- *Implementation effectiveness*: This would include studies that show that the intervention can be and is implemented with fidelity and that the implementation is associated with positive student outcomes (or other relevant outcomes). School-improvement research consistently finds that intensive school-reform models are seldom fully implemented; an intervention that is consistently implemented has greater likelihood of having an impact, especially if the components of the intervention have demonstrated effectiveness (see the first bullet).

All of these categories of research studies would provide valuable—albeit not WWC-level rigorous—information where there is a gap in existing evidence and a practical need to implement reform. For example, evidence that the core components of an improvement activity are separately effective and that the improvement activity can be implemented as designed together make a strong case for the effectiveness of an as-yet-unproven intervention.

Without undercutting the flexibility that ESSA provides states and districts for context-specific approaches, a few examples of “good” versus “poor” tier IV evidence might provide needed benchmarks or guidance. Any of the above might provide examples of good tier IV evidence. Evidence that might be considered poor or not sufficient for tier IV could

include purposefully selected anecdotes about the success of the improvement activity; analysis of untested, irrelevant, or not-validated outcomes (e.g., opinion surveys); and theory presented without any outcome analysis. In our review, these evidence limitations explained why many reviewed documents did not meet the ESSA evidence tiers.

Finally, ESSA does not indicate whether a critical evidence review might itself be considered sufficient to meet standards. It would be helpful to clarify whether and under what conditions an evidence review is sufficient. States and districts faced with the challenge of conducting labor-intensive evidence reviews would benefit from being able to access existing rigorous reviews.

Ambiguity Regarding Outcomes

The language describing the ESSA evidence tiers is also somewhat ambiguous with regard to outcomes. To be considered evidence-based, an improvement activity must demonstrate “a statistically significant effect on improving student outcomes or other relevant outcomes.”¹⁷ Neither *student outcomes* nor *other relevant outcomes* is further defined. In several other sections of the legislation, there is explicit reference to *student achievement* or *student academic outcomes*, suggesting that the open phrasing of *student outcomes* might include but is not necessarily limited to achievement outcomes. *Other relevant outcomes* might include outcomes not necessarily at the student level. For example, school leader-improvement activities might be judged by their impact on teacher outcomes known to improve student outcomes, such as greater use of effective instructional practices or increased retention of highly effective teachers. This interpretation might be very appropriate for activities known to take some time to affect students. For example, principals’ impact on students is mainly filtered through changes to teachers and instruction (Hallinger, 2011; Heck and Hallinger, 2014). An intervention that improves instruction, which then improves

student learning, can magnify the breadth of the impact but also may take longer than an intervention that focuses on an individual child. A study of the impact of a principal intervention on instruction may be feasible and informative where a study of the impact of the principal intervention on students is not.

The ambiguity of these terms might help districts and federal and state education agencies tailor their expectations for eligible outcomes to the nature of the improvement activity. In the case of outcomes, the ambiguity in ESSA might be intentional and appropriate and can be clarified on a program-by-program or state-by-state basis.

In sum, the following aspects of the ESSA evidence tiers might be particularly challenging to apply:

- how to view rigorous—but slightly flawed—studies
- whether and how to incorporate substantively important findings
- how to proceed when there are multiple studies with different findings
- whether and how to consider evidence that is relevant to but not clearly about an intervention
- how to differentiate between “good” and “bad” tier IV evidence
- what outcomes are eligible for review.

We anticipate that federal or state departments of education might provide further suggestions or guidance to help apply the evidence tiers, because ESSA is silent on many points that have been important in past Institute of Education Sciences evidence standards. Our current review of school-leadership-improvement activities casts a broad net to include

studies that meet ESSA’s evidence tiers, as specified in the legislation. Findings may be subject to change, depending on guidance or information provided by federal or state departments of education.

REVIEW OF THE LITERATURE ON ESSA-ELIGIBLE SCHOOL-LEADERSHIP-IMPROVEMENT ACTIVITIES

In this section, we present the findings of evidence on the effects of school-leadership-improvement activities from our structured literature review. We first describe the methodology and then report our key findings.

Methodology

As noted, the review of the evidence is framed by ESSA funding streams and evidence requirements. Table 3 shows the relationship graphically. ESSA provides funding for school-leadership improvement through Title I; Title II, Part A; and Title II, Part B. Therefore, we review activities that fit the ESSA funding stream definitions. In addition, ESSA requires Title I school-improvement activities to be supported by tiers I through III evidence, and Title II activities (when required to be evidence-based) should be supported by tiers I through IV evidence.¹⁸

Table 4 provides an overview of the literature review’s study-inclusion criteria. For this report, we focused on identifying and describing studies that provide tier I, II, or III evidence; Tables 5 through 10 summarize the evidence we found at these levels. At this time, the scope for tier IV is so broad as to

Table 3. Mapping ESSA Requirements and Opportunities and School-Leadership Review Factors

ESSA Requirements		Review Parameters: Activities Eligible for Review (funded by ESSA and relevant to school leadership)
Federal Investment in School Leadership	Evidence Required for Funding	
Title I: School Improvement	Tiers I, II, III	Comprehensive and targeted school reforms with substantial school-leadership component
Title II, Part A: Supporting Effective Instruction	Tiers I, II, III, IV	State-directed pipeline activities for principals (certification, evaluation, mentoring, preservice, professional development, recruitment/retention, induction/mentoring, pay)
Title II, Part B: National Activities	Tiers I, II, III, IV	Performance-based human-capital management systems; pipeline activities spanning districts and states

Table 4. School-Leadership-Improvement Activities Review: Study Inclusion Criteria

Activity	Review
Improvement activity	School reform with substantial school leadership component; principal certification, evaluation, mentoring, preservice, professional development, recruitment/retention, induction/mentoring, or pay; and other activities considered on a case-by-case basis
Relevant sample and setting	U.S. K–12 public schools (including charters and magnets with open admission)
Relevant outcomes	Student achievement, progression, affective outcomes, as well as teacher instruction, affective, impact, and mobility outcomes
Recency	Document released 1995 or after
Study design	Tier I: random assignment to intervention and control group(s) Tier II: nonrandom assignment to intervention and comparison group(s); can assign participants to groups and then administer the intervention to a group OR can analyze existing data, separating participants into groups according to whether they were exposed to the intervention; must demonstrate that the groups were equivalent before the intervention started Tier III: using existing data, correlation between intervention and outcomes; must control for factors related to selection bias (e.g., participant demographics, prior outcomes) Tier IV: prior evaluation of intervention that does not meet tiers I–III and that has positive findings
Study implementation (applies to tiers I–III)	Equivalence: baseline similarities between groups on relevant factors (e.g., participant demographics, prior outcomes) OR analytic control on relevant factors Confound: no conditions that affected one group that did not affect the other(s) (e.g., extra funding for one group)

^a Tier IV also allows for interventions that have a theory of action or strong rationale based on prior evidence of success (see tiers I–III). This category is somewhat loosely defined. For volume 2, slated for release in fall 2016, we will explore interventions with this level of tier IV evidence.

include almost all types of theory and evidence; therefore, we hope to have more definition to inform the discussion of tier IV in the second volume of this study, slated for publication in fall 2016. For the current report, where the review uncovered studies that may meet somewhat discriminating criteria for tier IV, we mention the studies below.

To help readers effectively process the findings from our literature review, we organize our discussion of evidence around three broad categories of school-leadership-improvement activities that, together, include all ESSA-allowable school-leadership-improvement activities. First, states and districts can *monitor whether principals are meeting performance expectations* (i.e., state or district principal evaluation systems). Second, states and districts can *take actions to improve the likelihood that school leaders actually meet those expectations* through effective management structures, operations, and requirements. This category includes four subcategories: principal preparation programs, strategic staff management, professional learning, and working conditions. Finally, states and districts can *improve*

school leadership through broader school-improvement efforts that include leadership enhancements as a key component.

Evidence Review Findings

Below, we present the findings for school-leadership-improvement activities that have evidence consistent with ESSA evidence tiers. Most of the improvement activities named in Tables 5–10, and likely many of those identified as having possible tier IV evidence, would meet evidence requirements as they are currently stated in ESSA.

Leader evaluation systems are a set of processes, tools, and metrics designed to evaluate principals' strengths and needs—for either accountability or developmental purposes. In theory and policy, these systems should be aligned with rigorous leadership standards (e.g., state standards or the Professional Standards for Educational Leaders; see National Policy Board for Educational Administration, 2015) and draw on multiple perspectives (e.g., the principal's supervisor,

Principal effectiveness increases with experience, suggesting that limiting turnover could improve outcomes.

teachers, parents) and types of data (e.g., student-achievement data, observations, surveys). Often, the evaluation systems are developed by the state education agency or district and tap into nationally available tools. We found no research that met tiers I through III criteria on the impacts of state or district evaluation systems or evaluation tools on students or other relevant outcomes. However, a number of leader-evaluation tools that are in widespread use have been implemented successfully in a variety of contexts, have demonstrated reliability and validity, and are based on strong theory and research-based components. As such, they might qualify as having tier IV evidence. These include, for example, the Vanderbilt Assessment of Leadership in Education, Marzano School Leaders Evaluation Model, Principal's Instructional Management Rating Scale, and Comprehensive Assessment of Leadership for Learning (see Condon and Clifford, 2009).

Principal preparation programs, broadly defined, involve a classroom-based program and some type of school-based internship and can lead to an advanced degree or certification. They may be provided by universities, districts, or independent organizations, or some combination of the three. ESSA defines principal preparation programs as operated by a public or other nonprofit organization (including or affiliated with an institution of higher education), containing a clinical preparation course (where the student is paired with an effective educator) and instruction in content areas, committed to producing a specified number of effective educators, and requiring demonstrated effectiveness to award a certificate or degree.¹⁹ ESSA also defines school-leader residency programs—a type of preparation program—as school-based, with one year of learning and leading in an authentic school setting, as well as concurrent evidence-based coursework and mentoring from an effective principal.²⁰

There is substantial case-study research identifying components common to expert-identified effective preparation programs but less rigorous research on the effects of preparation programs overall or on specific programs. Table 5 summarizes four studies that provide evidence of effectiveness for principal preparation programs. One tier III study showed a positive relationship between characteristics of preparation programs

and staffing outcomes. Three specific preparation programs—New Leaders, the NYC Aspiring Principals Program, and the University of Virginia (UVA) School Turnaround Specialist Program—have tier II or tier III evidence showing positive outcomes and would be considered evidence-based according to the ESSA definition. In the second volume of this report, slated for publication in fall 2016, we will review other programs (e.g., the Wallace Principal Pipeline Initiative) that have what might constitute tier IV evidence (Darling-Hammond et al., 2007).

Few states currently require principal preparation programs to provide evidence of positive outcomes, such as principal retention rates or impacts on student learning, although some states (e.g., North Carolina, Ohio) are moving toward report cards for preparation programs (Briggs et al., 2013; Yoder, Freed, and Fetters, 2014). While there are no readily available ratings, there are tools for rating programs. For example, *Quality Measures™ Principal Preparation Program Self-Assessment Toolkit: For Use in Developing, Assessing, and Improving Principal Preparation Programs* (King, 2013) provides rubrics and indicators for programs to self-assess their preparation-program content, pedagogy, clinical practice, recruitment and selection, and graduate performance outcomes.

Strategic staff management may include activities to improve recruitment and selection processes, placement of principals in schools, and principal replacement. Recruitment and retention interventions may include, for example, communication strategies to broaden the candidate pool or specialized processes and tools to screen and evaluate candidates (e.g., performance-based interview tasks).

Some researchers and policymakers have argued that replacing a principal is a necessary step to improving persistently low-performing schools, both to improve the quality of leadership and to create a disruption in dysfunctional processes that hinder schoolwide reform (Hassel and Hassel, 2009; Le Floch et al., 2014). However, studies also have indicated that principal effectiveness increases with experience, suggesting that limiting turnover could improve outcomes (Clark, Martorell, and Rockoff, 2009). Our evidence review uncovered only one evaluation of a specific staff-management program, Charlotte-Mecklenburg's Strategic Staffing Initia-

Table 5. Tiers I-III Evidence on the Effects of Principal Preparation Programs

Activity	Study	ESSA Tier	Findings
Principal preparation programs: Usually include classroom-based education, school-based internship, and advanced degree or certification	Fuller, Young, and Baker, 2011	Tier III	Positive association between some characteristics of principal preparation programs (such as being housed at research or doctoral institutions) and improvements in the qualifications of teachers
New Leaders: Prepares principals to address the achievement gap and related challenges in high-need, urban schools Three core elements: selective recruitment and admissions, training, and endorsement and support for principals early in their tenures	Gates, Hamilton, et al., 2014	Tier II	Generally larger student-achievement gains in math and reading than in comparable schools, with differing effects across districts
NYC Aspiring Principals Program: Focuses on experiential learning, with four core components: selective admissions, summer curriculum-based program, school residency, and summer planning/transition phase	Corcoran, Schwartz, and Weinstein, 2012	Tier III	Participants did as well as or better than comparison new principals on student-achievement measures
UVA School Turnaround Specialist Program: Involves a planning year with the district, school-leadership-selection support, and executive development for school leaders and turnaround teams in residential programs and on-site coaching	Player and Katz, 2013	Tier III	On average, participating schools experienced statistically significant improvements in student achievement after completing the program

tive in North Carolina, which is supported by tier IV evidence (Schoeneberger and Pulliam, 2011). In addition, we identified four tier III studies examining the implications of principal turnover for student and other school-level outcomes. Table 6 summarizes the findings from the four tier III studies: Changing principals does not correspond to achievement gains. Based on this review, principal replacement would not be considered evidence-based according to ESSA at this time. This evidence may be somewhat peripheral, though, since the evidence base (which looks at the effect of principal turnover rather than strategic placement or removal) is not well aligned with the theory of strategic staff management.

Professional learning generally involves a variety of learning experiences for sitting school principals, such as professional development through workshops (single sessions or a series) and coaching or mentoring. These opportunities may be available throughout the principal's career, although they often are most intensive early in his or her career or placement at a school. Principals have other learning experiences, such as attending

conferences, which we do not include here because they are neither intensive enough to mobilize improvement nor discrete enough to evaluate.

As presented in Table 7, mixed outcomes were reported for two professional-development activities that had tier I or tier II evidence. Two studies showed positive effects on student achievement, and another showed greater staff stability in treatment schools but no effect on student achievement or instructional climate. Based on this review, the National Institute for School Leadership (NISL) program would be considered evidence-based according to ESSA standards. It is not clear whether McREL's Balanced Leadership Program would be considered evidence-based, given one positive finding on turnover but a lack of impact on student achievement. In addition, numerous professional-development programs (e.g., Hartford School District, Jefferson County Public Schools, New York Region 1, San Diego City Schools) have potential tier IV evidence (Darling-Hammond et al., 2007). Finally, there is tier IV support for the potential impact of learning communities for

Table 6. Tiers I–III Evidence on the Effects of Strategic Staff Management Interventions

Activity	Study	ESSA Tier	Findings
Principal replacement: Removing the sitting principal and installing a new principal	Hochbein and Cunningham, 2013	Tier III	Principal change (looking at schools that had principal turnover) does not correlate with student achievement
	Béteille, Kalogrides, and Loeb, 2012	Tier III	Principal turnover (looking at schools with new principals) results in lower teacher retention and lower achievement gains
	Dhuey and Smith, 2014	Tier III	Installing a new principal correlates with achievement losses
	Miller, 2013	Tier III	Principal turnover results in lower teacher retention and lower achievement gains

Table 7. Tiers I–III Evidence on the Effects of Professional Learning for Principals

Activity	Study	ESSA Tier	Findings
McREL Balanced Leadership Program: Professional development	Jacob et al., 2014	Tier I	No impact on student achievement or teacher-reported instructional climate; lower staff turnover in treatment schools
NISL Executive Development Program: Professional development	Nunnery et al., 2011	Tier II	Positive effects on reading and math achievement
	Nunnery, Ross, and Yen, 2010	Tier II	Statistically significantly higher achievement gains in reading and math

principals, internship and mentoring programs for principals, and improvements to the principal-supervisor role (Corcoran et al., 2013; Turbull, Riley, and MacFarlane, 2013).

Working conditions can include opportunities and incentives to improve teaching and learning. For this report, we focus on working conditions designed specifically to improve school-leader effectiveness, such as school autonomy and performance incentives. There are many other working conditions (e.g., school climate) that likely mediate or moderate leaders' effectiveness but are not the focus here.

Principal-autonomy initiatives typically devolve decisions, such as hiring and removing teachers, budget, and school schedule, from district staff to school leaders. Autonomy initiatives focus on teaching and learning and building school capacity and may involve district offices to help support implementation (Honig and Rainey, 2012).

Two tier II studies showed mixed results of **principal autonomy** (see Table 8). An additional study, classified as tier IV (Honig and Rainey, 2012), also found mixed results.

Based on this review, school autonomy might meet ESSA evidence standards, which currently only require one positive finding. There is substantial theory and qualitative evidence suggesting that school autonomy might be more effective if implemented well. Schools and their districts have struggled to implement autonomy (Hansen and Roza, 2005; Honig and Rainey, 2012). Yet there has been very little sustained research to help districts and schools overcome substantial barriers, such as costs, inefficiencies of decentralized authority, and union or legal constraints. Ultimately, there is theory and some empirical evidence that suggest that school-level autonomy can improve school functioning and student outcomes, but implementation challenges have consistently plagued efforts.

The effect of **financial incentives** for principal performance is not yet demonstrated through tiers I through III evidence, but there is substantial tier IV evidence supporting this strategy (e.g., Roza, 2003; Mitgang, 2003; Papa, 2007; Pounder and Merrill, 2001; Hamilton et al., 2012).

Table 8. Tiers I-III Evidence on the Effects of Principals' Working Conditions

Activity	Study	ESSA Tier	Findings
School autonomy	Abdulkadiroglu et al., 2011	Tier II	Large, significant score gains for students attending charter schools, and no significant effects for those attending "pilot schools" (more autonomous than traditional, less so than charter schools)
	Steinberg, 2014	Tier II	Autonomy did not affect reading or math achievement but did improve reading proficiency rates

School reform models are multidimensional activities (e.g., changes in curriculum, instruction, staffing, management) focused on improving low-performing schools. Federally supported school-improvement efforts have, over the past 14 or more years, embraced comprehensive approaches to school improvement. The Comprehensive School Reform Program, Title I under No Child Left Behind, and School Improvement Grants represent billions of dollars in funding for schools. Many of the models promoted by these programs involve school-leadership components, such as replacing the principal. The School Improvement Grants, for example, required the use of one of four models, all of which directly or indirectly involved leadership change or focus. Certain reform models are also highly centered on school leadership. For this report, we include school-reform models in our review if school leadership was explicitly identified as one of a small number (five or fewer) of core components.

Our review of evidence uncovered only one such school-reform model—the KIPP model—with tier I, II, or III evidence. KIPP is a public charter school network that emphasizes leadership—including leadership autonomy and visionary leadership—at the heart of the model (KIPP, undated). Six tier I or II studies found substantial and statistically significant improvements in student achievement (see Table 9); KIPP could be supported, under ESSA Title I, as evidence-based. Additional leadership-focused improvement models are supported by tier IV evidence.

Across the types of school-leadership-improvement activities, we found in this review that a number had tiers I through III evidence, and many more are likely to be supported with tier IV evidence (see Table 10).

Suggestive Evidence as to How Principals Matter

Our literature review also uncovered evidence about principals' effective actions and characteristics. This research is not focused on interventions per se. For this reason, research on effective principal actions and characteristics was not included in our review of the evidence regarding interventions that could be supported under ESSA. However, this research base could help point states and districts toward activities or strategies that have the potential to improve the quality of school principals. For example, research identifies conditions that can be influenced by principals and are associated with student success: developing and communicating a vision; establishing a culture of high expectations for students and staff; monitoring and supporting instruction; evaluating teachers; hiring, developing, and retaining school staff; maintaining student discipline; managing the school budget; and engaging with the community (Bryk et al., 2010; Seashore Louis et al., 2010). Several meta-analyses²¹ identified leadership actions associated with improved student achievement, including supporting the development and use of curriculum, instruction, and assessments; building a shared culture of achievement; establishing goals and expectations; resourcing strategically; planning, coordinating, and evaluating teaching and curricula; promoting and participating in teacher learning and development; and cultivating an orderly and supportive environment (Copeland and Neeley, 2013; Leithwood et al., 2004; Marzano, Waters, and McNulty, 2005; Robinson, Lloyd, and Rowe, 2008; The Wallace Foundation, 2013; see also Murphy, 1988; and Grissom and Loeb, 2011).

There is qualitative and quantitative empirical evidence linking specific actions, competencies, or leadership styles of

Table 9. Tiers I–III Evidence on the Effects of School-Leadership-Focused School-Reform Models

Activity	Study	ESSA Tier	Findings
KIPP: A public charter school network. “Power to lead” is one of the five pillars, or operating principles.	Angrist et al., 2012	Tier I	Substantial achievement gains, especially among limited English proficiency and special education students, and those with low baseline scores had achievement gains each year
	Gleason et al., 2014	Tier II	Positive, statistically significant impacts on student achievement (math and reading), persisting over four years
	Tuttle et al., 2010	Tier II	Significant positive impacts on reading and math test scores, when comparing student achievement in 22 KIPP middle schools with students in similar public middle schools
	Woodworth et al., 2008	Tier II	Positive effects on math and language arts tests in middle school
	Tuttle et al., 2013	Tiers I, II	Positive impacts across four academic subjects and in both low-stakes and high-stakes tests
	Tuttle et al., 2015	Tiers I, II	Positive, statistically significant impacts on student achievement, especially in elementary and middle schools

Table 10. Summary of Tiers I–IV Evidence on the Effects of School-Leadership-Improvement Activities

Activity	Evidence Base (number of studies)	Findings
Leader-evaluation system	Tier IV	Pending
Principal preparation programs	Tier II (1) and tier III (3) Tier IV	Student-achievement gains Pending
Strategic staff management	Tier III (4) Tier IV	Neutral or negative findings Pending
Professional learning	Tier I (1) and tier II (2) Tier IV	Positive or no effect on student achievement; reduced staff turnover Pending
Working conditions and autonomy	Tier II (2) Tier IV	Mixed effects Pending
Working conditions and financial incentives	Tier IV	Pending
School-reform models	Tier I (1), tiers I & II (2), and tier II (3) Tier IV	Positive effects on student achievement Pending

ESSA expands opportunities for states and districts to use federal funding for initiatives that strive to improve the quality of school leaders.

principals to student or other school outcomes. This research finds, for example, that principal training, experience as a teacher in the same school, experience as an assistant principal, and experience as a principal all are related to school proficiency growth (Bowers and White, 2014). Principals' organizational-management skills relate to student outcomes (Grissom and Loeb, 2011). How principals spend their time might also matter. When principals spend time coaching and evaluating teachers, developing the education program, and focusing on organizational-management activities, school outcomes appear to be better (Grissom, Loeb, and Master, 2013; Horng, Klasik, and Loeb, 2010).

Research has also explored whether a specific combination of skills, knowledge, and characteristics can manifest in an overall “style” of leadership that is more effective than others (Heck and Hallinger, 2014; Robinson, Lloyd, and Rowe, 2008). Instructional leadership, which focuses on improving classroom instruction, may be three to four times more effective in improving academic and some engagement outcomes than transformational leadership, which relies primarily on a charismatic leader energizing staff (Leithwood and Jantzi, 2005; Robinson, Lloyd, and Rowe, 2008). Leadership in which staff share leadership roles appears to improve student achievement more than leadership in which the principal makes school-level decisions (Seashore Louis et al., 2010, p. 21).

A more in-depth exploration of this research base could aid states and districts in making informed choices among possible leadership interventions. This research base must be considered carefully and with a critical eye. Some of the studies use designs that would not meet the standards of evidence used by the Department of Education. We plan to undertake such an in-depth review in future work.

CONCLUSION AND RECOMMENDATIONS

School leadership matters for student and teacher outcomes. Further, activities designed to improve school leadership demonstrate positive impact on student and teacher outcomes, based on research that is consistent with ESSA evidence tiers. In this report, we have laid out the evidence indicating that school leadership can be a powerful driver of improved education outcomes and summarized the evidence on activities designed to improve school-leader effectiveness.

Our review identified several categories of school-leadership-improvement activities that had studies meeting the standards for tier IV evidence (upon preliminary review), and many of these also had tiers I through III evidence. We recommend clearer parameters for tier IV evidence; without such parameters, we believe that most improvement activities would meet ESSA evidence standards. In the second volume of this report, we plan to explore tier IV evidence more deeply.

ESSA provides opportunities for states and districts to use federal funding for initiatives that strive to improve the quality of school leaders. Given that the requirements for evidence standards in ESSA provide states and districts with more flexibility, studies could provide states and districts with justification for directing resources toward efforts to improve the principalship.

We set this review in the context of the types of school-leadership activities supported by ESSA and the types of evidence considered sufficient to invest in leadership-improvement activities. We hope that we have laid out some of the areas in which further discussion and clarification can help states and districts that are implementing the school-leadership provisions in ESSA. Further support in understanding the evidence tiers

and examining existing evidence may provide states and districts important tools to better select and implement activities likely to improve school leadership. Specifically, we recommend that policymakers address the following:

- Clarify the types of evidence that qualify for tiers III and IV, as well as whether rigorous studies with some flaws might be included; exclude particularly weak evidence, such as anecdotes, from consideration.
- Considering the body of evidence, rather than individual findings. This might include guidance on how to consider study sample size and setting, to better understand where an intervention works. It would also be helpful to set expectations that the body of evidence (whether there are multiple studies or findings) be considered rather than basing claims of effectiveness on a single finding or study.
- Clarify the tier IV ongoing evaluation requirement.
- Share information about school-leader behaviors that are associated with positive outcomes, which will better guide the selection of activities, strategies, and interventions that aim to improve these behaviors.
- Provide technical assistance to states to determine the evidence on activities under consideration.

We hope that this report will provide policymakers and thought leaders at every level food for thought on the current definitions of evidence tiers and ways in which they can be honed to better support the use of evidence in improving school leadership. We also hope that practitioners will benefit from the guidance on evidence for school-leadership-improvement activities.

Notes

¹ ESSA, signed into law on December 10, 2015, is the current iteration of the Elementary and Secondary Education Act. Public Law No. 114-95, Every Student Succeeds Act, December 10, 2015.

² ESSA refers to a state, local education agency, or school activity as an “activity, strategy, or intervention.” The WWC and other prior Department of Education documentation use a different general term, *interventions*, which includes “programs, policies, practices, and products.” We consider these sets of terms to be equivalent. We use the term *activity* in this report, as it is the most general term used in the current legislation.

³ The studies cited in this paragraph were not reviewed against the ESSA evidence tiers.

⁴ This simplified model does not illustrate the full complexity of the process for improving school leadership. For example, the relationship between school leaders and student outcomes may function differently in elementary versus high schools, in rural versus urban schools, or in schools serving high versus low proportions of disadvantaged students. As another example, there are a number of potential steps between changes in leadership and changes in instruction—such as teacher training on effective instruction, more-challenging curricula, or higher expectations—that are not specified here.

⁵ Public Law No. 114-95, Every Student Succeeds Act, Title I, Part A, Sec. 1003, School Improvement, December 10, 2015, pp. 14–16.

⁶ Public Law No. 114-95, Every Student Succeeds Act, Title I, Part A, Sec. 1003, School Improvement, December 10, 2015.

⁷ Public Law No. 114-95, Every Student Succeeds Act, Title II, Part A, Sec. 2101, Formula Grants to States, December 10, 2015, pp. 118–122.

⁸ Public Law No. 114-95, Every Student Succeeds Act, Title II, Part B, Subpart 1, Sec. 2211, December 10, 2015, p. 130.

⁹ Public Law No. 114-95, Every Student Succeeds Act, Title 2, Part B, Subpart 2, Sec. 2242, Subgrants to Eligible Entities in Support of Kindergarten Through Grade 12 Literacy, December 10, 2015, pp. 147–148.

¹⁰ Public Law No. 114-95, Every Student Succeeds Act, Title 2, Part B, Subpart 4, Sec. 2243, School Leader Recruitment and Support, pp. 148–150.

¹¹ States have flexibility in applying the evidence-based requirement for some but not all ESSA requirements: “[An activity] is evidence based, to the extent that the state . . . determines that such evidence is reasonably available.” Of the ESSA programs that relate to school leaders, the following may be exempted from the evidence requirements: coursework for residency programs and new leader induction and mentoring programs, Public Law No. 114-95, Every Student Succeeds Act, Title II, Secs. 2002, Definitions, and 2101, Formula Grants to States, December 10, 2015.

¹² Public Law No. 114-95, Every Student Succeeds Act, Title VIII, Sec. 8101, Definitions, December 10, 2015, pp. 289–290.

¹³ Note that the nature of the evaluation efforts is not specified, and it is not clear that such an evaluation will lead to evidence that qualifies as tiers I through III.

¹⁴ Information about the I3 competition can be found in U.S. Department of Education, 2013.

¹⁵ Public Law No. 114-95, Every Student Succeeds Act, Title VIII, Sec. 8101, Definitions, December 10, 2015.

¹⁶ Guidance on the Department of Education’s expectations for ongoing research might help states understand and plan to meet that requirement.

¹⁷ Public Law No. 114-95, Every Student Succeeds Act, Title VIII, Sec. 8101, Definitions, December 10, 2015, p. 289.

¹⁸ Evidence is not required for all Title II activities. For example, school leader residency programs should have evidence-based coursework (unless the state exempts the program), but the residency part of the program is not required to be evidence-based. A number of Title II funding streams have the “escape clause,” whereby the state can waive the evidence requirements if it determines that there is not adequate evidence.

¹⁹ Public Law No. 114-95, Every Student Succeeds Act, Title II, Sec. 2002, Definitions, December 10, 2015, pp. 114–115.

²⁰ Public Law No. 114-95, Every Student Succeeds Act, Title II, Sec. 2002, Definitions, December 10, 2015, p. 113.

²¹ Meta-analyses tend to cast a wide net for studies, including some that have flaws (e.g., no controls for selection bias) and rely on variation across the set of studies to “even out” differences. If a large set of studies, each of which has some unique flaw, converges on a finding, we can presume that the finding is valid. Additional studies—some more rigorous and some less—point to many of the same leadership actions with varying degrees of emphasis.

Bibliography

Abdulkadiroglu, Atila, “Accountability and Flexibility in Public Schools: Evidence from Boston’s Charters and Pilots,” *The Quarterly Journal of Economics*, Vol. 126, 2011, pp. 699–748.

Advanced Education Measurement, “Research & the ESSA Pt 2: The Four-Tiered Problem,” February 3, 2016. As of April 13, 2016: <http://www.advancededucationmeasurement.com/commentary/research-the-essa-pt-2-the-four-tiered-problem>

Alliance to Reform Education Leadership, *AREL State Policy Project*, 2013. As of April 11, 2016: <http://www.bushcenter.org/alliance-reform-education-leadership/arel-state-policy-project>

Angrist, J. D., S. M. Dynarski, T. J. Kane, P. A. Pathak, and C. R. Walters, “Who Benefits from KIPP?” *Journal of Policy Analysis and Management*, Vol. 31, No. 4, 2012, pp. 837–860.

AREL—See Alliance to Reform Education Leadership.

Augustine, C. H., G. Gonzalez, G. S. Ikemoto, J. Russell, G. L. Zellman, L. Constant, J. Armstrong, and J. W. Dembrowsky, *Improving School Leadership: The Promise of Cohesive Leadership Systems*, Santa Monica, Calif.: RAND Corporation, MG-885-WF, 2009. As of April 11, 2016: <http://www.rand.org/pubs/monographs/MG885.html>

Basileo, L., M. Toth, and E. Kennedy, *Final Report: Pinellas County Public Schools 2013–2014 Multiple Measures Pilot Results*, West Palm Beach, Fla.: Learning Sciences International, 2015.

Bass, B. M., and B. J. Avolio, *Improving Organizational Effectiveness Through Transformational Leadership*, Thousand Oaks, Calif.: Sage, 1994.

Battle, D., *Principal Attrition and Mobility: Results from the 2008–09 Principal Follow-up Survey*, Washington, D.C.: National Center for Education Statistics, 2010.

Béteille, T., D. Kalogrides, and S. Loeb, “Stepping Stones: Principal Career Paths and School Outcomes,” *Social Science Research*, Vol. 41, No. 4, 2012, pp. 904–919.

Bickman, L., E. Goldring, A. R. De Andrade, C. Breda, and P. Goff, *Improving Principal Leadership Through Feedback and Coaching*, Evanston, Ill.: Society for Research on Educational Effectiveness, 2012.

Bowers, J. A., and R. B. White, “Do Principal Preparation and Teacher Qualifications Influence Different Types of School Growth Trajectories in Illinois? A Growth Mixture Model Analysis,” *Journal of Educational Administration*, Vol. 52, No. 5, 2014, pp. 705–736.

Boyd, D., P. Grossman, M. Ing, H. Lankford, S. Loeb, and J. Wyckoff, “The Influence of School Administrators on Teacher Retention Decisions,” *American Education Research Journal*, Vol. 48, No. 2, 2011, pp. 303–333.

Branch, G. F., E. A. Hanushek, and S. G. Rivkin, *Estimating the Effect of Leaders on Public Sector Productivity: The Case of School Principal*, Washington, D.C.: National Center for Analysis of Longitudinal Data in Education Research, working paper 66, 2012. As of October 2014: <http://ideas.repec.org/p/nbr/nberwo/17803.html>

———, “School Leaders Matter,” *Education Next*, Vol. 13, No. 1, 2013.

Brazer, S. D., and S. C. Bauer, “Preparing Instructional Leaders: A Model,” *Educational Administration Quarterly*, March 18, 2013.

Briggs, K., G. R. Cheney, J. Davis, and K. Moll, *Operating in the Dark: What Outdated State Policies and Data Gaps Mean for Effective School Leadership*, Dallas, Tex.: George W. Bush Presidential Center, 2013.

Brown, K. C., J. Squires, L. Connors-Tadros, and M. Horowitz, *What Do We Know About Principal Preparation, Licensure Requirements, and Professional Development for School Leaders?* New Brunswick, N.J.: Center on Enhancing Early Learning Outcomes, 2014.

Browne-Ferrigno, T., and A. Shoho, “Exploratory Analysis of Leadership Preparation Selection Criteria,” paper presented at Annual Meeting of the University Council for Educational Administration, Pittsburgh, Penn., November 1–3, 2002.

Bryk, A., P. Sebring, E. Allensworth, S. Luppescu, and J. Easton, *Organizing Schools for Improvement: Lessons from Chicago*, Chicago: University of Chicago Press, 2010.

Bussey, L. H., and J. Welch, “Dispositions Matter! Now What? Exploring Leader Dispositions, Measurement, and Practical Applications for Helping School Leaders to Grow,” in A. I. Lahera, K. Hamdan, and A. H. Normore, eds., *Pathways to Excellence: Developing and Cultivating Leaders for the Classroom and Beyond*, Bingley, UK: Emerald Group Publishing, 2014, pp. 21–42.

Casserly, M., S. Lewis, C. Simon, R. Uzzell, and M. Palacios, *Principal Evaluations and the Principal Supervisor: Survey Results from the Great City Schools*, New York: The Wallace Foundation, 2013.

Chapman, C., and D. Muijs, “Collaborative School Turnaround: A Study of the Impact of School Federations on Student Outcomes,” *Leadership and Policy in Schools*, Vol. 12, No. 3, 2013, pp. 200–226.

- Cheney, G. R., J. Davis, K. Garrett, and J. Holleran, *A New Approach to Principal Preparation: Innovative Programs Share Their Practices and Lessons Learned*, Fort Worth, Tex.: Rainwater Charitable Foundation, November 2010. As of October 2014:
<http://www.anewapproach.org/download.html>
- Chiang, H., S. Lispcomb, and B. Gill, *Is School Value Added Indicative of Principal Quality?* Princeton, N.J.: Mathematica Policy Research, working paper, 2012.
- Clark, D., P. Martorell, and J. Rockoff, *School Principals and School Performance*, Washington, D.C.: National Center for Analysis of Longitudinal Data in Education Research, Urban Institute, working paper 38, 2009. As of April 11, 2016:
http://www0.gsb.columbia.edu/faculty/jrockoff/cmr_principals_calder_WP38.pdf
- Clifford, M., *Hiring Quality School Leaders: Challenges and Emerging Practices*, Washington, D.C.: American Institutes for Research, 2012.
- , *Building Leadership Talent Through Performance Evaluation*, Washington, D.C.: American Institutes for Research, 2015.
- Clifford, M., E. Behrstock-Sherratt, and J. Fettes, *The Ripple Effect: A Synthesis of Research on Principal Influence to Inform Performance Evaluation Design*, Washington, D.C.: American Institutes for Research, 2012.
- Coelli, M., and D. A. Green, “Leadership Effects: School Principals and Student Outcomes,” *Economics of Education Review*, Vol. 31, No. 1, 2012, pp. 92–109.
- Condon, C., and M. Clifford, *Measuring Principal Performance: How Rigorous Are Commonly Used Principal Performance Assessment Instruments?* Naperville, Ill.: Learning Point Associates, 2009.
- Copeland, G., and A. Neeley, *Identifying Competencies and Actions of Effective Turnaround Principals: Southeast Comprehensive Center Briefing Paper*, Metairie, Ala.: SEDL, 2013.
- Corcoran, A., M. Casserly, R. Price-Baugh, D. Walston, R. Hall, and C. Simon, *Rethinking Leadership: The Changing Role of Principal Supervisors*, Washington, D.C.: Council of the Great City Schools, 2013.
- Corcoran, R. P., J. M. Reilly, and S. M. Ross, *An Examination of the Effect of the National Institute for School Leadership’s Executive Development Program on School Performance Trends in Milwaukee: A Propensity Score Analysis*, Baltimore, Md.: The Center for Research and Reform in Education, Johns Hopkins University, October 2015.
- Corcoran, S. P., A. E. Schwartz, and M. Weinstein, “Training Your Own: The Impact of New York City’s Aspiring Principals Program on Student Achievement,” *Educational Evaluation and Policy Analysis*, Vol. 34, No. 2, June 1, 2012, pp. 232–253.
- Council of Chief State School Officers, *Educational Leadership Policy Standards: ISLLC 2008*, Washington, D.C., 2008. As of April 11, 2016:
http://www.ccsso.org/documents/2008/educational_leadership_policy_standards_2008.pdf
- Darling-Hammond, L., M. LaPointe, D. Meyerson, M. T. Orr, and C. Cohen, *Preparing School Leaders for a Changing World: Lessons from Exemplary Leadership Development Programs*, Stanford, Calif.: Stanford University, Stanford Educational Leadership Institute, 2007.
- Davis, S. H., and L. Darling-Hammond, “Innovative Principal Preparation Programs: What Works and How We Know,” *Planning and Changing*, Vol. 43, Nos. 1/2, 2015, pp. 25–45.
- Davis, S. H., R. J. Leon, and M. Fultz, “How Principals Learn to Lead: The Comparative Influence of On-the-Job Experiences, Administrator Credential Programs, and the ISLLC Standards in the Development of Leadership Expertise Among Urban Public School Principals,” *International Journal of Educational Leadership Preparation*, Vol. 8, No. 1, 2013.
- Derrington, M. L., J. W. Campbell, A. C. Schools, and T. N. Alcoa, “Principal Concerns and Superintendent Support During Teacher Evaluation Changes. Editorial Review Board,” *AASA Journal of Scholarship and Practice*, Vol. 11, No. 3, 2015, pp. 11–22.
- DeVita, M. C., R. L. Colvin, L. Darling-Hammond, and K. Haycock, *Educational Leadership: A Bridge to School Reform*, New York: The Wallace Foundation, 2007.
- Dhuey, E., and J. Smith, “How Important Are School Principals in the Production of Student Achievement,” *Canadian Journal of Economics*, Vol. 47, No. 2, 2014, pp. 634–663.
- Dodson, R. L., “Kentucky Principal Perceptions of the State’s New Teacher Evaluation System: A Survey Analysis,” *Educational Research Quarterly*, Vol. 39, No. 2, 2015, pp. 53–74.
- Donaldson, M. L., “Principals’ Approaches to Cultivating Teacher Effectiveness Constraints and Opportunities in Hiring, Assigning, Evaluating, and Developing Teachers,” *Educational Administration Quarterly*, Vol. 49, No. 5, 2013, pp. 838–882.
- Doyle, D., and G. Locke, *Lacking Leaders: The Challenges of Principal Recruitment, Selection, and Placement*, Washington, D.C.: Thomas B. Fordham Institute, 2014.
- DuFour, R., and M. Mattos, “How Do Principals Really Improve Schools?” *Educational Leadership*, Vol. 70, No. 7, April 2013, pp. 34–40.
- Duke, D. L., “Keys to Sustaining Successful School Turnarounds,” *ERS Spectrum*, Vol. 24, No. 4, 2006, pp. 21–35.

- Ebmeier, H., *Diagnostic Assessment of School and Principal Effectiveness: A Reference Manual*, Topeka, Kan.: KanLEAD Educational Consortium Technical Assistance Center, 1992.
- Feuerstein, A., “Knuckling Under? School Superintendents and Accountability-Based Educational Reform,” *Journal of School Leadership*, Vol. 23, No. 5, 2013.
- Friend, J., and M. Militello, “Lights, Camera, Action Advancing Learning, Research, and Program Evaluation Through Video Production in Educational Leadership Preparation,” *Journal of Research on Leadership Education*, Vol. 10, No. 2, 2015, pp. 81–103.
- Fry, B., G. Bottoms, and K. O’Neill, *The Principal Internship: How Can We Get It Right?* Atlanta, Ga.: Southern Regional Education Board, 2005. As of April 11, 2016:
<http://www.wallacefoundation.org/knowledge-center/school-leadership/principal-training/Documents/Principal-Internship-Get-it-Right.pdf>
- Fuller, E., M. Young, and B. D. Baker, “Do Principal Preparation Programs Influence Student Achievement Through the Building of Teacher-Team Qualifications by the Principal? An Exploratory Analysis,” *Educational Administration Quarterly*, Vol. 47, No. 1, 2011, pp. 173–216.
- Furgeson, J., V. Knechtel, M. Sullivan, C. C. Tuttle, M. A. Anderson, M. Barna, and I. Nichols-Barrer, *KIPP Leadership Practices Through 2010–2011*, San Francisco, Calif.: KIPP Foundation, 2014.
- Gates, S. M., L. S. Hamilton, P. Martorell, S. Burkhauser, P. Heaton, A. Pierson, M. Baird, M. Vuollo, J. J. Li, D. C. Lavery, M. Harvey, and K. Gu, *Preparing Principals to Raise Student Achievement: Implementation and Effects of the New Leaders Program in Ten Districts*, Santa Monica, Calif.: RAND Corporation, RR-507-NL, 2014.
- Gates, S. M., J. S. Ringel, L. Santibanez, C. H. Chung, and K. E. Ross, *Who Is Leading Our Schools? An Overview of School Administrators and Their Careers*, Santa Monica, Calif.: RAND Corporation, MR-1679-EDU, 2003.
- Gill, J., *Stories from the Field: Make Room for the Principal Supervisors*, New York: The Wallace Foundation, 2013.
- Gleason, P. M., C. C. Tuttle, B. Gill, I. Nichols-Barrer, and B. R. Teh, “Do KIPP Schools Boost Student Achievement?” *Education*, Vol. 9, No. 1, 2014, pp. 36–58.
- Goff, P. T., M. Mavrogordato, and E. Goldring, “Instructional Leadership in Charter Schools: Is There an Organizational Effect or Are Leadership Practices the Result of Faculty Characteristics and Preferences?” *Leadership and Policy in Schools*, Vol. 11, No. 1, 2012, pp. 1–25.
- Goldring, R., and S. Taie, *Principal Attrition and Mobility: Results from the 2012–13 Principal Follow-up Survey (NCES 2014-064)*, Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 2014. As of October 6, 2014:
<http://nces.ed.gov/pubs2014/2014064rev.pdf>
- Gordon, G., *Principal Talent as Seen Through Teachers’ Eyes*, Washington, D.C.: Gallup, 2013.
- Grissom, J. A., “Can Good Principals Keep Teachers in Disadvantaged Schools? Linking Principal Effectiveness to Teacher Satisfaction and Turnover in Hard-to-Staff Environments,” *Teachers College Record*, Vol. 113, No. 11, 2011, pp. 2552–2585.
- Grissom, J. A., D. Kalogrides, and S. Loeb, “Using Student Test Scores to Measure Principal Performance,” *Education Evaluation and Policy Analysis*, Vol. 37, No. 1, 2015, pp. 3–28.
- Grissom, J. A., and S. Loeb, “Triangulating Principal Effectiveness: How Perspectives of Parents, Teachers, and Assistant Principals Identify the Central Importance of Managerial Skills,” *American Educational Research Journal*, Vol. 48 No. 5, 2011, pp. 1091–1123.
- Grissom, J. A., S. Loeb, and B. Master, “Effective Instructional Time Use for School Leaders: Longitudinal Evidence from Observations of Principals,” *Educational Researcher*, October 25, 2013.
- Hallinger, P., “Leadership for Learning: Lessons from 40 Years of Empirical Research,” *Journal of Educational Administration*, Vol. 49, No. 2, 2011, pp. 125–142.
- Hallinger, P., and R. H. Heck, “Reassessing the Principal’s Role in School Effectiveness: A Review of Empirical Research, 1980–1995,” *Educational Administration Quarterly*, Vol. 32, No. 1, 1996, pp. 5–44.
- Hallinger, P., and M. Lee, “Mapping Instructional Leadership in Thailand Has Education Reform Impacted Principal Practice?” *Educational Management Administration and Leadership*, Vol. 42, No. 1, 2014, pp. 6–29.
- Hallinger, P., and J. Murphy, “Assessing the Instructional Leadership Behavior of Principals,” *The Elementary School Journal*, Vol. 86, No. 2, 1985, pp. 217–248.
- Hallinger, P., W. C. Wang, and C. W. Chen, “Assessing the Measurement Properties of the Principal Instructional Management Rating Scale: A Meta-Analysis of Reliability Studies,” *Educational Administration Quarterly*, Vol. 49, No. 2, 2013, pp. 272–309.
- Hamilton, L. S., J. Engberg, E. D. Steiner, C. A. Nelson, and K. Yun, *Improving School Leadership Through Support, Evaluation, and Incentives: The Pittsburgh Principal Incentive Program*, Santa Monica, Calif.: RAND Corporation, MG-1223-PPS, 2012. As of April 13, 2016:
<http://www.rand.org/pubs/monographs/MG1223.html>

- Hansen, J. S., and M. Roza, *Decentralized Decisionmaking for Schools: New Promise for an Old Idea?* Santa Monica, Calif.: RAND Corporation, OP-153-EDU, 2005. As of April 13, 2016: http://www.rand.org/pubs/occasional_papers/OP153.html
- Hassel, E. A., and B. Hassel, "The Big U-Turn: How to Bring Schools from the Brink of Doom to Stellar Success," *Education Next*, Vol. 9, No. 1, 2009.
- Hausman, C. S., and E. B. Goldring, "Teachers' Ratings of Effective Principal Leadership: A Comparison of Magnet and Nonmagnet Elementary Schools," *Journal of School Leadership*, Vol. 11, No. 11, 2014, pp. 399–423.
- Heck, R. H., and P. Hallinger, "Modeling the Longitudinal Effects of School Leadership on Teaching and Learning," *Journal of Educational Administration*, Vol. 52, No. 5, 2014, pp. 653–681.
- Herman, R., P. Dawson, T. Dee, J. Greene, R. Maynard, S. Redding, and M. Darwin, *Turning Around Chronically Low-Performing Schools: A Practice Guide*, Washington, D.C.: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, NCEE #2008-4020, 2008.
- Herman, R., C. Graczewski, S. James-Burdumy, M. Murray, I. Perez-Johnson, and C. Tanenbaum, *Operational Authority, Support, and Monitoring of School Turnaround*, Washington, D.C.: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, 2014.
- Herman, R., and M. Huberman, "Differences in the Policies, Programs, and Practices (PPPs) and Combination of PPPs Across Turnaround, Moderately Improving, and Not Improving Schools," paper presented at *Effective Partnerships: Linking Practice and Research* conference for the Society for Research on Educational Effectiveness, Washington, D.C., September 6–8, 2012.
- Hess, F. M., *A License to Lead? A New Leadership Agenda for America's Schools*, Washington, D.C.: Progressive Policy Institute, 2003.
- , *Cage-Busting Leadership: Combating the Culture of Can't*, Cambridge, Mass.: Harvard Education Press, 2013.
- Hess, F. M., and A. P. Kelly, "An Innovative Look, a Recalcitrant Reality: The Politics of Principal Preparation Reform," *Educational Policy*, Vol. 19, No. 1, 2005, pp. 155–180.
- Hochbein, C., and B. C. Cunningham, "An Exploratory Analysis of the Longitudinal Impact of Principal Change on Elementary School Achievement," *Journal of School Leadership*, Vol. 23, No. 1, 2013.
- Honig, M. I., "District Central Office Leadership as Teaching: How Central Office Administrators Support Principals' Development as Instructional Leaders," *Educational Administration Quarterly*, Vol. 20, No. 10, 2012, pp. 1–42.
- Honig, M. I., and L. R. Rainey, "Autonomy and School Improvement: What Do We Know and Where Do We Go from Here?" *Education Policy*, Vol. 26, No. 3, 2012, pp. 465–495.
- Hopkins, D., S. Stringfield, A. Harris, L. Stoll, and T. Mackay, "School and System Improvement: A Narrative State-of-the-Art Review," *School Effectiveness and School Improvement*, Vol. 25, No. 2, 2014, pp. 257–281.
- Hornig, E. L., D. Klasik, and S. Loeb, "Principal's Time Use and School Effectiveness," *American Journal of Education*, Vol. 116, No. 4, 2010, pp. 491–523.
- Ishimaru, A., "From Heroes to Organizers Principals and Education Organizing in Urban School Reform," *Educational Administration Quarterly*, Vol. 49 No. 1, 2013, pp. 3–51.
- Jackson, B. L., and C. Kelley, "Exceptional and Innovative Programs in Educational Leadership," *Educational Administration Quarterly*, Vol. 38, No. 2, 2002, pp. 192–212.
- Jacob, R., R. Goddard, M. Kim, R. Miller, and Y. Goddard, "Exploring the Causal Impact of the McREL Balanced Leadership Program on Leadership, Principal Efficacy, Instructional Climate, Educator Turnover, and Student Achievement," *Educational Evaluation and Policy Analysis*, September 24, 2014.
- Jarl, M., A. Fredriksson, and S. Persson, "New Public Management in Public Education: A Catalyst for the Professionalization of Swedish School Principals," *Public Administration*, Vol. 90, No. 2, 2012, pp. 429–444.
- Johnson, J., *A Mission of the Heart: What Does It Take to Transform a School?* New York: The Wallace Foundation, 2008.
- Khalifa, M., "A Re-New-ed Paradigm in Successful Urban School Leadership: Principal as Community Leader," *Educational Administration Quarterly*, Vol. 48, No. 3, August 1, 2012, pp. 424–467.
- King, C., *Quality Measures™ Principal Preparation Program Self-Assessment Toolkit: For Use in Developing, Assessing, and Improving Principal Preparation Programs*, Waltham, Mass.: Education Development Center, 2013. As of April 11, 2016: <http://www.wallacefoundation.org/knowledge-center/school-leadership/principal-training/Documents/Principal-Preparation-Program-Quality-Self-Assessment-Rubrics.pdf>

- KIPP, “Five Pillars,” undated. As of April 13, 2016: <http://www.kipp.org/our-approach/five-pillars>
- Knechtel, V., M. A. Anderson, A. Burnett, T. Coen, M. Sullivan, C. C. Tuttle, and P. Gleason, *Understanding the Effect of KIPP as It Scales, Vol. 2: Leadership Practices at KIPP*, Princeton, N.J.: Mathematica Policy Research, 2015.
- Knoop, R., and R. W. Common, “A Performance Appraisal System for School Principals,” paper presented at the Annual Meeting of the Canadian Society for the Study of Education, Montreal, Quebec, May 1985.
- Kouzes, J., and B. Posner, *The Leadership Practices Inventory: Theory and Evidence Behind the Five Practices of Exemplary Leaders*, Arlington, Va.: The Leadership Institute, 2002. As of December 18, 2014: http://media.wiley.com/assets/61/06/lc_jb_appendix.pdf
- Kowal, J., and E.A. Hassel, *Importing Leaders for School Turnarounds: Lessons and Opportunities*, Charlottesville, Va.: Darden/Curry Partnership for Leaders in Education, University of Virginia, 2011.
- Kowal, J., E. A. Hassel, and B. C. Hassel, *Successful School Turnarounds: Seven Steps for District Leaders*, Washington, D.C.: The Center for Comprehensive School Reform and Improvement, 2009.
- Ladd, H. F., “Teachers’ Perceptions of Their Working Conditions: How Predictive of Planned and Actual Teacher Movement?” *Educational Evaluation and Policy Analysis*, Vol. 33, No. 2, 2011, pp. 235–261.
- Le Floch, K. C., B. Birman, J. O’Day, S. Hurlburt, D. Mercado-Garcia, R. Goff, K. Manship, S. Brown, S. B. Therriault, L. Rosenberg, M. H. Angus, and L. Hulsey, *Case Studies of Schools Receiving School Improvement Grants: Findings After the First Year of Implementation*, Washington, D.C.: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, NCEE 2014-4015, 2014.
- Leithwood, K., and J. Jantzi, “A Review of Transformational School Leadership Research 1996–2005,” *Leadership and Policy in Schools*, Vol. 4, No. 3, 2005, pp. 177–199.
- Leithwood, L., K. Seashore Louis, S. Anderson, and K. Wahlstrom, *How Leadership Influences Student Learning*, New York: The Wallace Foundation, 2004.
- Leithwood, K., and J. Sun, “The Nature and Effects of Transformational School Leadership: A Meta-Analytic Review of Unpublished Research,” *Educational Administration*, Vol. 48, No. 3, 2012, pp. 387–423.
- Loeb, S., D. Kalogrides, and T. Béteille, “Effective Schools: Teacher Hiring, Assignment, Development, and Retention,” *Education Finance and Policy*, Vol. 7, No. 3, 2012, pp. 269–304.
- Lynch, J. M., “Responsibilities of Today’s Principal: Implications for Principal Preparation Programs and Principal Certification Policies,” *Rural Special Education Quarterly*, Vol. 31, No. 2, 2012, pp. 40–47.
- Macey, E., J. Decker, and S. Eckes, “The Knowledge Is Power Program (KIPP): An Analysis of One Model’s Efforts to Promote Achievement in Underserved Communities,” *Journal of School Choice*, Vol. 3, No. 1, 2009, pp. 212–241.
- Marzano, R. J., T. Waters, and B. A. McNulty, *School Leadership That Works: From Research to Results*, Alexandria, Va.: Association for Supervision and Curriculum Development, 2005.
- McCarthy, M., “Educational Leadership Preparation Programs: A Glance at the Past with an Eye Toward the Future,” *Leadership and Policy in Schools*, Vol. 1, No. 3, 2002, pp. 201–221.
- , “Reflections on the Evolution of Educational Leadership Preparation Programs in the United States and Challenges Ahead,” *Journal of Educational Administration*, Vol. 53, No. 3, 2015, pp. 416–438.
- McMahon, M., M. L. Peters, and G. Schumacher, “The Principal Evaluation Process and Its Relationship to Student Achievement,” *Journal of Scholarship and Practice*, Vol. 11, No. 3, 2014, pp. 34–48.
- Mendels, P., “The Effective Principal,” *Journal of Staff Development*, Vol. 33, No. 1, 2012a, pp. 54–58.
- , “Principals in the Pipeline: Districts Construct a Framework to Develop School Leadership,” *Learning Forward*, Vol. 33, No. 3, 2012b, pp. 48–52.
- Miller, A., “Principal Turnover and Student Achievement,” *Economics of Education Review*, Vol. 36, No. C, 2013, pp. 60–72.
- Miller, P., A. Pavlakis, V. Lac, and D. Hoffman, “Responding to Poverty and Its Complex Challenges: The Importance of Policy Fluency for Educational Leaders,” *Theory into Practice*, Vol. 53, No. 2, 2014, pp. 131–138.
- Mitgang, L. D., *Beyond the Pipeline: Getting the Principals We Need, Where They Are Needed Most*, New York: The Wallace Foundation, 2003. As of April 11, 2016: <http://www.wallacefoundation.org/knowledge-center/school-leadership/key-research/Documents/Beyond-the-Pipeline-Getting-the-Principals-We-Need.pdf>
- , *Becoming a Leader: Preparing School Leaders for Today’s Schools*, New York: The Wallace Foundation, 2008.

- , *The Making of the Principal: Five Lessons in Leadership Training*, New York: The Wallace Foundation, 2012.
- Mullen, C. A., and D. H. Schunk, "A View of Professional Learning Communities Through Three Frames: Leadership, Organization, and Culture," *McGill Journal of Education/Revue des sciences de l'éducation de McGill*, Vol. 45, No. 2, 2010, pp. 185–203.
- Murphy, J., "Methodological, Measurement, and Conceptual Problems in the Study of Instructional Leadership," *Educational Evaluation and Policy Analysis*, Vol. 10, No. 2, 1988, pp. 117–139.
- , "The Architecture of School Improvement," *Journal of Educational Administration*, Vol. 51, No. 3, 2013, pp. 252–263.
- National Policy Board for Educational Administration, *Professional Standards for Educational Leaders 2015*, Reston, Va., 2015.
- Nunnery, J. A., S. M. Ross, S. Chappell, S. Pribesh, and E. Hoag-Carhart, *The Impact of the NISL Executive Development Program on School Performance in Massachusetts: Cohort 2 Result*, Norfolk, Va.: Center for Educational Partnerships at Old Dominion University, 2011.
- Nunnery, J. A., S. M. Ross, and C. Yen, *An Examination of the Effect of a Pilot of the National Institute for School Leadership's Executive Development Program on School Performance Trends in Massachusetts*, Norfolk, Va.: Center for Educational Partnerships at Old Dominion University, 2010.
- Office of Innovation and Improvement, *Innovations in Education: Innovative Pathways to School Leadership*, Washington, D.C.: U.S. Department of Education, 2011.
- Onorato, M., "Transformational Leadership Style in the Educational Sector: An Empirical Study of Corporate Managers and Educational Leaders," *Academy of Educational Leadership Journal*, Vol. 17, No. 1, 2013, pp. 33–47.
- Orr, M. T., C. King, and M. La Pointe, *District Developing Leaders: Eight Districts' Lessons on Strategy, Program Approach, and Organization to Improve the Quality of Leaders for Local Schools*, Newton, Mass.: Education Development Center, 2010.
- Papa, F., Jr., "Why Do Principals Change Schools? A Multivariate Analysis of Principal Mobility," *Leadership and Policy in Schools*, Vol. 6, No. 3, 2007, pp. 267–290.
- Papa, F. C., Jr., H. Lankford, and J. Wyckoff, *The Attributes and Career Paths of Principals: Implications for Improving Policy*, Stanford, Calif.: Center for Education Policy and Analysis, Stanford University, 2002.
- Player, D., and V. Katz, *School Improvement in Ohio and Missouri: An Evaluation of the School Turnaround Specialist Program*, Charlottesville, Va.: Center on Education Quality and Workforce Competitiveness, University of Virginia, working paper, 2013.
- Porter, A. C., J. F. Murphy, E. B. Goldring, and S. N. Elliot, *Vanderbilt Assessment of Leadership in Education*, Nashville, Tenn.: Vanderbilt University, 2006.
- Portin, B., P. Schneider, M. DeArmond, and L. Gundlach, *Making Sense of Leading Schools: A National Study of the Principalship*, Seattle, Wash.: Center on Reinventing Public Education, 2003.
- Pounder, D. G., and R. J. Merrill, "Job Desirability of the High School Principalship: A Job Choice Theory Perspective," *Education Administration Quarterly*, Vol. 27, No. 1, 2001, pp. 27–57.
- Price, H. E., "Principal–Teacher Interactions: How Affective Relationships Shape Principal and Teacher Attitudes," *Educational Administration Quarterly*, Vol. 48, No. 1, 2012, pp. 39–85.
- Public Impact, *School Turnaround Leaders: Selection Toolkit*, Chapel Hill, N.C., 2008. As of April 12, 2016: http://www.publicimpact.com/publications/Turnaround_Leader_Selection_Toolkit.pdf
- Pulliam, C. L., L. LaCaria, J. Schoeneberger, and B. Algozzine, "A Preliminary Analysis of a Strategic Staffing Initiative," *Education Policy*, Vol. 10, No. 5, 2012, pp. 1–26.
- Rice, J. K., *Principal Effectiveness and Leadership in an Era of Accountability: What Research Says*, Washington, D.C.: National Center for Analysis of Longitudinal Data in Education Research, 2010.
- Robinson, V. M. J., *School Leadership and Student Outcomes: Identifying What Works and Why*, Sydney: Australian Council for Educational, 2007.
- Robinson, V. M. J., C. A. Lloyd, and K. J. Rowe, "The Impact of Leadership on School Outcomes: An Analysis of the Differential Effects of Leadership Types," *Educational Administration Quarterly*, Vol. 44, No. 5, 2008, pp. 635–674.
- Romay, M. L., C. Magee, and C. L. Slater, "Principal Leadership and Challenges for Developing a School Culture of Evaluation," in S. Scott, D. E. Scott, and C. F. Webber, eds., *Assessment in Education: Implications for Leadership*, Cham, Switzerland: Springer International Publishing, 2016, pp. 261–284.
- Roza, M., *A Matter of Definition: Is There Truly a Shortage of School Principals?* Seattle, Wash.: Center on Reinventing Public Education, Daniel J. Evans School of Public Affairs, University of Washington, 2003.

- Schoeneberger, J. A., and C. L. Pulliam, *Evaluation of the Strategic Staffing Initiative in Charlotte-Mecklenburg Schools*, Charlotte-Mecklenburg, N.C.: Center for Research and Evaluation, 2011. As of April 12, 2016:
<http://media.charlotteobserver.com/images/pdf/StrategicStaffEval.pdf>
- Seashore Louis, K., K. Leithwood, K. L. Wahlstrom, S. E. Anderson, M. Michlin, B. Mascall, M. Gordon, T. Strauss, E. Thomas, and S. Moorek, *Learning from Leadership: Investigating the Links to Improved Student Learning*, St. Paul: Center for Applied Research and Educational Improvement, University of Minnesota, 2010.
- Sebastian, J., and E. Allensworth, “The Influence of Principal Leadership on Classroom Instruction and Student Learning: A Study of Mediated Pathways to Learning,” *Educational Administration Quarterly*, Vol. 48, No. 4, 2012, pp. 626–663.
- Shelton, S., *Strong Leaders Strong Schools: 2010 School Leadership Laws*, Denver, Colo.: National Conference of State Legislatures, 2011.
- , *Preparing a Pipeline of Effective Principals: A Legislative Approach*, Denver, Colo.: National Conference of State Legislators, 2012.
- Slavin, Robert E., “Evidence and the ESSA,” *Huffington Post*, December 8, 2015. As of April 13, 2016:
http://www.huffingtonpost.com/robert-e-slavin/evidence-and-the-essa_b_8750480.html
- Southern Regional Education Board, *Schools Can't Wait: Accelerating the Redesign of University Principal Preparation Program*, Atlanta, Ga., 2006.
- Steinberg, M. P., *Leadership and the Decentralized Control of Schools*, Rockville, Md.: Regional Educational Laboratory Mid-Atlantic, 2013. As of April 12, 2016:
https://www.relmidatlantic.org/sites/default/files/general_uploads/4.8.4.Debriefing_materials_lit_review_2013-12-08_no_tracks_508c.pdf
- , “Does Greater Autonomy Improve School Performance? Evidence from a Regression Discontinuity Analysis in Chicago,” *Education Finance and Policy*, Vol. 9, No. 1, 2014, pp. 1–35.
- Steiner, L. M., and E. A. Hassel, *Using Competencies to Improve School Turnaround Principal Success*, Chapel Hill, N.C.: Public Impact, 2011.
- Steiner, L. M., E. A. Hassel, and B. Hassel, *School Turnaround Leaders: Competencies for Success*, Chapel Hill, N.C.: Public Impact, June 2008.
- Supovitz, J. A., *Building a Lattice for School Leadership: The Top-to-Bottom Rethinking of Leadership Development in England and What It Might Mean for American Education*, Philadelphia: Consortium for Policy Research in Education, University of Pennsylvania, 2014.
- Turnbull, B. J., D. L. Riley, E. R. Arcaira, L. M. Anderson, and J. R. MacFarlane, *Six Districts Begin the Principal Pipeline Initiative*, Washington, D.C.: Policy Studies Associates, 2013.
- Turnbull, B. J., D. L. Riley, and J. R. MacFarlane, *Cultivating Talent Through a Principal Pipeline*, Washington, D.C.: Policy Studies Associates, Inc., 2013.
- Tuttle, C. C., B. Gill, P. Gleason, V. Knechtel, I. Nichols-Barrer, and A. Resch, *KIPP Middle Schools: Impacts on Achievement and Other Outcomes; Final Report*, Princeton, N.J.: Mathematica Policy Research, 2013.
- Tuttle, C. C., P. Gleason, V. Knechtel, I. Nichols-Barrer, K. Booker, G. Chojnacki, T. Coen, and L. Goble, *Understanding the Effect of KIPP as It Scales*, Vol. 1: *Impacts on Achievement and Other Outcomes*, Washington, D.C.: Mathematica Policy Research, 2015.
- Tuttle, C. C., B. Teh, I. Nichols-Barrer, B. P. Gill, and P. Gleason, *Student Characteristics and Achievement in 22 KIPP Middle Schools*, Washington, D.C.: Mathematica Policy Research, June 2010.
- U.S. Department of Education, “Final Priorities, Requirements, Definitions, and Selection Criteria—Investing in Innovation Fund; Applications for New Awards; Investing in Innovation Fund, Development Grants; Rule and Notice,” *Federal Register*, Vol. 78, No. 59, March 27, 2013, pp. 18704–18705.
- , “School Improvement Grants,” August 14, 2016. As of April 12, 2016:
<http://www.ed.gov/category/program/school-improvement-grants>
- Vandenberghe, R., “Development of a Questionnaire for Assessing Principal Change Facilitator Style,” paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, La., April 1988.
- Vitaska, S., *Strong Leaders, Strong Schools: 2007 State Laws*, Denver, Colo.: National Conference of State Legislatures, 2008. As of December 20, 2011:
<http://www.ncsl.org/print/educ/strongleaders.pdf>
- The Wallace Foundation, *The School Principal as Leader: Guiding Schools to Better Teaching and Learning*, New York, 2013.
- Waters, T., R. Marzano, and B. McNulty, *Balanced Leadership: What 30 Years of Research Tells Us About the Effect of Leadership on Student Achievement*, Aurora, Colo.: Mid-Continent Research for Education and Learning, 2003.
- West, Martin R., “From Evidence-Based Programs to an Evidence-Based System: Opportunities Under the Every Student Succeeds Act,” Brookings Institution, February 5, 2016. As of April 13, 2016:
<http://www.brookings.edu/research/papers/2016/02/05-evidence-based-system-opportunities-under-essa-west>

Williams, B. T., "Ethical Leadership in Schools Servicing African American Children and Youth," *Teacher Education and Special Education*, Vol. 24, No. 1, 2001, pp. 38–47.

Witziers, B., R. J. Bosker, and M. L. Kruger, "Educational Leadership and Student Achievement: The Elusive Search for an Association," *Educational Administration Quarterly*, Vol. 39, No. 3, 2003, pp. 398–425.

Woodworth, K. R., J. L. David, R. Guha, H. Wang, and A. Lopez-Torkos, *San Francisco Bay Area KIPP Schools: A Study of Early Implementation and Achievement; Final report*, Menlo Park, Calif.: SRI International, 2008.

Yoder, N., D. Freed, and J. Fetters, *Improving School Leader Preparation: Collaborative Models for Measuring Effectiveness*, Washington, D.C.: Center on Great Teachers and Leaders, 2014. As of April 12, 2016:

http://www.gtlcenter.org/sites/default/files/Principal_Preparation.pdf

Zepeda, S. J., A. M. Jimenez, and P. D. Lanoue, "New Practices for a New Day: Principal Professional Development to Support Performance Cultures in Schools," *Professional Development in Education: Pushing the Boundaries of Possibility*, Vol. 9, No. 1, Autumn 2015, pp. 303–322.

About This Report

The reauthorization of the U.S. Elementary and Secondary Education Act, referred to as the Every Student Succeeds Act (ESSA), emphasizes evidence-based initiatives while providing new flexibilities to states and districts with regard to the use of federal funds, including funds to promote effective school leadership.

The RAND Corporation conducted a synthesis of the evidence base on school leadership interventions to better inform the rollout of school leadership interventions under ESSA; identify examples of improvement activities that should be allowable; and guide education policymakers, practitioners, and thought leaders on the use of research-based practices. This report describes the opportunities for supporting school leadership under ESSA, discusses the standards of evidence under ESSA, and synthesizes the research base with respect to those standards. The information can guide federal, state, and district education policymakers on the use of research-based school-leadership interventions; help them identify examples of improvement activities that should be allowable under ESSA; and support the rollout of such interventions. A second volume, slated for publication in fall 2016, will further summarize the evidence and provide tools to help policymakers and practitioners make decisions about school-leadership-improvement activities under ESSA.

This research has been conducted in RAND Education, a division of the RAND Corporation, with grant funding from The Wallace Foundation. The Wallace Foundation is committed to improving school leadership through better training, hiring, support, and evaluation of principals. For more than a decade, it has invested in research, initiatives, and evaluations to improve school and district leadership and contribute to an evidence base in this area.

Acknowledgments

We are grateful to staff of The Wallace Foundation who provided input on the report—during a briefing on key findings and through feedback on an earlier draft of this report. We also thank Catherine Augustine and William Johnston from RAND and Jason Grissom from Vanderbilt University for feedback on an earlier draft. We take full responsibility for any errors.

Limited Print and Electronic Distribution Rights

This document and trademark(s) contained herein are protected by law. This representation of RAND intellectual property is provided for noncommercial use only. Unauthorized posting of this publication online is prohibited. Permission is given to duplicate this document for personal use only, as long as it is unaltered and complete. Permission is required from RAND to reproduce, or reuse in another form, any of our research documents for commercial use. For information on reprint and linking permissions, please visit www.rand.org/pubs/permissions.

For more information on this publication, visit www.rand.org/t/RR1550.

© Copyright 2016 RAND Corporation

www.rand.org



The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest.

RAND's publications do not necessarily reflect the opinions of its research clients and sponsors. **RAND**® is a registered trademark.