

A STRONGER FUTURE

FOR **EVIDENCE-BASED
SCHOOL IMPROVEMENT**
IN **ESSA**

Center on Education Policy
Graduate School of Education and Human Development
The George Washington University

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Foreword

The recent celebration of the 50th anniversary of the first moon landing reminded me about the important role science plays in all our lives. Witnessing the moon landing as a teenager was a memorable experience, and it is poignant now to remember a time when science was as loved and exalted as it was then. But as Richard Nelson said in his 1977 book, *The Moon and the Ghetto: An Essay on Policy Analysis*, it is not clear to me what is technologically harder: to land someone on the moon or to try to improve public education!

It is important to remember that, as necessary as the science and technology were to the space race, our nation would have not realized the achievements we did without the political will to see it all through. The same is true for education and the improvement of teaching and learning. To take advantage of what we learn from education research, we need political will. And though we are currently sailing in stormy seas when it comes to respecting and using scientific evidence to serve the public good — generally and perhaps especially in the arena of education — there is reason to be hopeful. In keeping with my belief in the power of evidence, I would suggest that this report, and the work it represents, shows that there is a robust community of researchers, policymakers, and educators who believe that research and the knowledge that comes from it can help us understand and overcome some of the toughest challenges we face.

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Purpose of This Report

This report summarizes the results of a project by the Center on Education Policy (CEP) that explored how education leaders, practitioners, and the research community might work together more effectively to advance the use of evidence in school improvement. In particular, the project focused on how to support states and school districts as they implement the evidence requirements of the Every Student Succeeds Act (ESSA). Under ESSA, states have more flexibility than under previous federal law to identify which schools are low-performing, and districts have more latitude to decide on strategies to improve these schools. The strategies chosen, however, must be backed up by evidence of effectiveness that fits into one of four federal evidence “tiers” that range from strong evidence (tier 1) to evidence that demonstrates a rationale (tier 4), as described in Box A on page 5.

This report, the third in a series, analyzes information across the three main project activities: 1) a meeting of policy experts, researchers, and state and local education leaders hosted in July 2019 by CEP and the National Academy of Education; 2) interviews about the ESSA evidence requirements with leaders in seven states; and 3) interviews about the ESSA evidence requirements with leaders in five school districts. (Throughout this report, we use the term “participants” to refer to both the individuals who participated in the July meeting and the state and district leaders who were interviewed for this project.) Two earlier CEP reports described findings from the state and district interviews.

Quotations from meeting participants are included throughout the report to give a flavor of the discussion that informed these findings.

Key Findings

The ESSA evidence requirements are having a positive impact on how state and school district leaders approach and implement school improvement.

Despite implementation challenges, several participants noted that these requirements have sharpened the focus on evidence of effectiveness and have led to more thoughtful decisions about school improvement strategies. Some district leaders report that the ESSA requirements have encouraged a shift from treating school improvement plans as compliance documents toward using these plans as strategic tools for continuous improvement and more authentic research partnerships.

ESSA allowed us to say, well, actually there are some requirements around this. And we're going to work on meeting those requirements but we're going to think bigger than that ... We're going to think about how we better support our districts and doing quality needs assessments, and we're going to help them come to learn about evaluation practices and be able to understand if those evidence-based strategies are actually working.

Vendors (both for-profit and nonprofit) are playing a major role in school districts' selection and implementation of evidence-based school improvement strategies.

While this reliance on vendors is not a new development, it has been reinforced by state and district policies that may limit or strongly encourage the selection of improvement strategies to lists of approved or familiar vendors. Finding and selecting a vendor or partner to work with on school improvement can be an overwhelming and time-consuming endeavor. State and district leaders are still trying to figure out the best way to guide educators in their decision-making. Adding to that, the vendor world is diverse and goes beyond for-profit providers of commercial programs; vendors may also include nonprofit research organizations and centers that have developed and tested particular interventions, other research entities, or hybrids. Participants noted, however, that larger vendors of packaged programs and interventions often predominate because they are better able to provide the research required for ESSA's evidence tiers. More research is needed to understand the variety and roles of vendors in evidence-based school improvement.

Practitioners need research that is accessible, understandable, and suited to their needs.

Participants noted that some districts face obstacles in accessing research, such as “paywalls” (fees charged to access articles in academic journals), while others lack district research staff. Even when research is physically accessible, however, it may not be written in a format that is concise and understandable to practitioners, or may not be presented in the types of venues most often relied on by practitioners, such as education association meetings.

Practitioners need research-based evidence on how to implement school improvement, not just which strategies to use.

Selecting a school improvement strategy that meets an ESSA evidence tier is just the starting point — much hard work remains to successfully implement an evidence-based strategy. To bring about real improvement, participants emphasized that districts and schools need research to be conducted and evidence to emerge about such issues as how leaders and teachers interpret improvement strategies, what types of professional learning they need, which systemic factors or policies impede or support implementation, and how to build whole systems that support school improvement. This type of research is done during the process of implementation, not after the fact.

Maybe it's time to evolve beyond 'Does it work?' and start thinking about under what conditions does it work? For whom? What does it take, what will it require of me in order for this to work in my district? Or what will the district have to do in order that this work?

Successful implementation of evidence-based strategies requires attention to context.

As several participants pointed out, contextual factors affect implementation and results; a strategy that was shown by research to be effective in one place may play out differently in a different district or school context. Participants suggested that, as districts and schools monitor the implementation of school improvement strategies, they be given the flexibility to adapt as needed. Several participants felt districts and schools should not be penalized for trying a particular strategy and taking action if the results are not as expected.

In order for evidence use to become an integral part of school improvement, the relationship between school leaders and researchers needs to be one of mutual respect and benefit.

Participants expressed frustration that researchers often conduct studies that are not relevant to or useful for the unique challenges of that particular site. They called for the development of research partnerships that are symbiotic, start early in the implementation process, and follow through well into the improvement process. Smaller, rural, or more remote districts that are not typically the sites of research-practice partnerships or do not have a local university are especially eager to engage in these kind of research partnerships.

Trust has to be earned ... I don't like it when I feel like researchers approach me wanting to use my students' data to prove that a curriculum works. Or I don't like it when my kids are used as lab rats.

Additional information that explains and supports these key findings can be found in Box B and the Next Steps section of this report.

Background on This Project and Federal Evidence Requirements

CEP has long been interested in how researchers, policymakers, and practitioners view and use evidence to improve schools and student outcomes. The implementation of the ESSA requirements for evidence-based school improvement has made these questions more critical.

Project activities

CEP initiated a project early in 2019 to explore these issues. As the first two phases of the project, CEP conducted interviews in the first half of 2019 with officials from seven state education agencies and with leaders from five school districts to learn how the ESSA evidence requirements are impacting local school improvement efforts. Findings and analysis from these interviews were detailed in two CEP reports released earlier this year:

- *State Leader Interviews: How States Are Responding to ESSA's Evidence Requirements for School Improvement*
- *District Leader Interviews: How School Districts Are Responding to ESSA's Evidence Requirements for School Improvement.*

The final phase of this project was a stakeholders meeting hosted by CEP and the National Academy of Education, held in Washington in July of 2019. The meeting included policy experts, researchers, and state and local education leaders (see the appendix for a list of attendees). The group discussed ESSA's evidence-based requirements and broader efforts to incorporate useful and relevant data into district and school-based planning and classroom practice. This third and final report shares the observations and recommendations discussed at the July meeting and looks across all of the project's activities to identify major themes and issues and propose ideas for advancing the use of evidence in school improvement.

Federal efforts to encourage evidence-based school improvement

Federal efforts to support and incentivize evidence-based school improvement can be traced back to the No Child Left Behind (NCLB) Act of 2001. In an effort to make sure federal funds were being spent on activities that had some basis in evidence, NCLB encouraged states and districts to use programs that were supported by “scientifically-based research,” a term NCLB defined as research that was experimental or quasi-experimental. Ultimately, a lack of research that met NCLB's narrow criteria made it difficult for states and districts to truly engage in evidence-based school improvement, so the effort yielded little results.¹

The Obama administration strongly supported evidence-based policymaking, even garnering bipartisan support for a government-wide effort to increase the use of evidence-based practices.² Consistent with those efforts, the Obama administration and the Congress included provisions in ESSA to ensure that federal funds support activities that are based on evidence.

With regard to school improvement under the Title I program, which is the largest federal K-12 education program, ESSA requires states to develop a plan for measuring school performance and then identify three categories of low-performing schools:

- *Comprehensive Support and Improvement* schools, which consist of the lowest performing 5% of Title I schools plus high schools that fail to graduate at least two-thirds of their students
- *Targeted Support and Improvement* schools, which have one or more persistently low-performing subgroups of students
- *Additional Targeted Support and Improvement* schools, in which the performance of a subgroup of students on its own would lead to the school being identified as a Comprehensive Support and Improvement school.

¹ West, M. (2016). From evidence-based programs to an evidence-based system: Opportunities under the Every Student Succeeds Act. Retrieved from www.brookings.edu/research/from-evidence-based-programs-to-an-evidence-based-system-opportunities-under-the-every-student-succeeds-act

² P.L. 114–140, the Commission on Evidence-Based Policymaking.

ESSA leaves it to local education leaders to decide which strategies or interventions will be used to improve these schools, as long as the chosen plan of action is backed up by evidence of effectiveness. The criteria for effectiveness are defined by four evidence “tiers” that range from “strong evidence” of effectiveness to “likely to improve student outcomes,” as described in **Box A**.

Figuring out how we can raise up more locally grown solutions in smaller companies that might not have hit the (ESSA) tiers of research ... is really important and we shouldn't overlook how the monopolies can kind of stifle innovation.

Box A. ESSA Evidence Tiers

Under ESSA, the activities, strategies, or interventions implemented in Comprehensive Support and Improvement, Targeted Support and Improvement, and Additional Targeted Support and Improvement schools must meet one of four tiers of evidence:

- **Tier 1.** Strong evidence from at least one well-designed and well-implemented experimental study
- **Tier 2.** Moderate evidence from at least one well-designed and well-implemented quasi-experimental study
- **Tier 3.** Promising evidence from at least one well-designed and well-implemented correlational study with statistical controls for selection bias
- **Tier 4.** 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 includes ongoing efforts to examine the effects of such activity, strategy, or intervention.

In districts or schools that receive school improvement grants (SIGs) from Title I funds, the chosen activities, strategies, or interventions must meet the evidence standards for Tiers 1, 2, or 3.

Source: Section 8101(21)(A) of the Elementary and Secondary Education Act as amended by ESSA

Summary of State and Local Practitioner Perspectives

State and local participants in this project contributed valuable information about the impact of the ESSA evidence requirements and the main issues they face in implementing evidence-based school improvement. Much of this information was described in two previous CEP reports, as mentioned above. **Box B** summarizes the perspectives of state officials and local leaders from interviews and the July meeting.

Box B. State and Local Perspectives on ESSA Evidence Requirements and School Improvement

State and school district leaders who were interviewed for this project or who participated in the July meeting (together referred to as “participants”) provided valuable insights about the impact of the ESSA evidence requirements and the issues faced by states and districts in implementing evidence-based school improvement. Below are the main themes that emerged from interviews and discussions with state and local participants.

Access to and use of research. Paywalls for articles in academic journals are an obstacle to accessing research at the state and local level. Further, many state, district, and school officials who are making school improvement decisions are not trained researchers, and they may be unprepared to work with academic research and lack time to do this. Participants from larger districts said their research offices helped with this process, but a participant from a small rural district said she was on her own in finding evidence-based school improvement strategies.

Vendors as school improvement providers. Vendors play a major role in the selection and implementation of school improvement interventions, strategies, and programs. Many states and districts have had longstanding relationships with vendors and are familiar with their products or services. In the context of school improvement, “vendors” means more than for-profit businesses that market curriculum, education materials, technology, and other products. Vendors may include national research institutions, textbook publishers, state education professional associations, and national and state nonprofit and for-profit organizations. Some states have developed mandatory or optional lists of approved vendors. While many participants found these state lists sufficient, the participant from the small rural district said its state list was lacking in approaches that had been implemented and studied in rural schools.

Impact of ESSA on decisions about vendors. The ESSA evidence requirements prompted some districts to decide not to renew certain vendor contracts because the vendor could not produce evidence of the effectiveness of the services provided. One district reported taking a different approach of working with providers of after-school programs to develop that evidence base. State education agencies have also begun asking vendors, such as those providing professional development services, for evidence of effectiveness.

Continuous improvement mindset. The ESSA school improvement plan is becoming a guiding document for schools’ actions as opposed to an exercise in compliance as in years past, according to district participants. Some districts intend to use the improvement plan to determine what type of assistance schools should receive, while others will use plans to monitor school progress and guide decisions around whether to modify or abandon the selected school improvement strategy if students are not showing expected progress.

Stifling innovation. Several states and districts are limiting school improvement strategies to those that meet the ESSA evidence requirements for tiers 1, 2, or 3. Some state and local participants, as well as some researchers participating in the July meeting, expressed concern that innovation and experimentation will be stifled if schools are not allowed to implement strategies in tier 4, the most flexible evidence tier. Other participants, however, stressed the importance of using strategies backed by strong evidence, like those in the higher tiers, because students’ futures are at stake.

Box B continues >

District-researcher relationships. The involvement of researchers in schools often takes one of two forms: a research-practice partnership or researchers pursuing their own research agendas. In some cases, researchers may also serve as expert advisers on a particular issue or challenge. While many participants viewed their district's work with researchers as helpful, all wished that researchers would engage more with educators, both to learn about the issues that educators would like studied and to gain a better understanding of the context in which they will be conducting research.

Understanding the Challenges of Evidence-Based School Improvement

Participants highlighted several issues for the research community and education practitioners to address as they work together to support school improvement and innovation.

Practitioners and researchers often have different incentives and needs.

Educators who are responsible for improving low-performing schools can't wait for the definitive study to be completed — they need strategies backed by sufficient evidence to implement now. They want to know the general consensus from the evidence base about what works and doesn't work in school improvement. Educators also want research that speaks to the unique needs of their district and school and is appropriate for their particular context.

Researchers often operate under different sets of incentives. Those based at universities or other research organizations with a commitment to academic standards and norms may have incentives to study specific topics that will advance their career and distinguish their work from previous research. They tend to take the long view and take time to gather and analyze the data needed to develop high-quality evidence. They tend to be cautious about overstating their findings or giving a definitive answer. Researchers steeped in this culture will need to make an effort to bridge these differences in order to play a more active and helpful role in school improvement.

One of the fundamental chasms between the research and the practice communities is that research thrives on showing that everything that came before it is wrong. And the practice community just wants an answer to the question, 'Does anything work?'

These distinctions are not always so clear cut, however. Some research organizations, centers, laboratories, and think tanks may be oriented to meeting the needs of specific clients, including states and districts, or to serving particular target groups, such as policymakers. Some researchers have made a commitment to forming research-practice partnerships or sharing their expertise with practitioners in other ways. In addition, researchers based at universities and other nonprofit entities may also be vendors that contract with districts to implement interventions, curricula, or other products they have developed.

Effective evidence-based practice is built on mutual respect.

Some meeting participants expressed concern that ESSA's evidence tiers could be interpreted as putting researchers in the role of "experts" who decide what constitutes good evidence.

Although some educators understand that university-based researchers are often beholden to academic guidelines, they feel that evidence-based practice works best when practitioners and researchers work together as partners, each sharing their expertise. Meeting participants

emphasized that building trust and mutual respect is a critical starting point. They also agreed that a relationship built on mutual respect is more likely to cultivate an honest and open exchange of data and experience. Building trust takes time, though, so it is helpful if researchers and practitioners can partner at or near the beginning of an intervention. By laying out the parameters for a research agenda together, later tasks (such as interpreting results and planning action steps) can be done jointly and with a consistent eye on local needs and goals.

I think a lot of the time, research is done to education communities, not with and not for education communities ... They come knock on my door and say, hi, can I have some data and some access to your students, so that I can understand this question that I have as a researcher? In order to really serve districts, researchers need to take a different attitude and a different stance.

ESSA's evidence requirements must become more than a box to check.

Participants cautioned that the ESSA evidence requirements could become a compliance exercise, as previous federal requirements for research-based strategies were often treated. To ensure that the ESSA requirements lead to beneficial change, district leaders emphasized the importance of communicating with principals and teachers about what they need to implement the chosen strategies. And participants from the research community discussed the importance of having sustained, meaningful conversations about implementation among districts, researchers, and vendors.

We have to be careful that we don't ritualize the use of research ... where research becomes a box that you check, a mandate that you comply with. That seems to me to be something we have to be on the lookout for, rather than an opportunity for sustained, meaningful conversation with important partners around the table.

Practitioners need implementation research that provides real-time feedback on process as well as results.

Traditionally, education research has often looked at the results of an intervention after it has been implemented. However, participants involved with school improvement

I often describe education research, the kind of classic education research that happens, as an autopsy ... I think that there is movement in the research community towards more of a triage model, which is more kind of that quick turnaround, really trying to understand what is happening now.

emphasized the value of developmental research, which is concerned with process as much as results and studies implementation as it unfolds. This type of research may look at issues such as how leaders and teachers interpret interventions, what types of professional learning they need, or which factors or policies impede or support implementation. Evidence emerging from this type of research can provide useful and timely feedback for school and district leaders, who can then address problems and adapt strategies. Participants also agreed that this kind of broader accumulation of knowledge does more to promote a culture of continuous improvement than “after-the-fact” research studies.

Research on implementation in different contexts is critical.

Participants emphasized that context matters when it comes to school improvement strategies. Principals and teachers want to feel that the research underlying an evidence-based intervention or strategy is relevant to *their* school and students. As noted in Box B, some districts — particularly rural, small, or remote districts — report difficulties in finding research appropriate to their context. Even urban districts, which are often targeted for school improvement research, have factors unique to their local context that may impact implementation and lead to different results.

Balancing fidelity of implementation with attention to local context is challenging.

The desire to adapt evidence-based interventions to local context may raise questions about how important it is to implement an intervention with fidelity. Some participants emphasized the need to stay true to the same procedures and key elements used in the site where the intervention produced positive results, while others said that fidelity is “overrated.” It’s incredibly difficult to implement an intervention faithfully because every district has its own contextual factors that must be dealt with and could affect results. The more ambitious the project, the less self-implementing it is. Very few districts have the knowledge and expertise to do that, which reinforces the need for two types of research mentioned above — research on implementation and on systemwide factors.

It’s important to look at outcomes beyond student achievement.

While improved student learning is a desired outcome, participants emphasized the importance of studying additional outcomes. These might include other student outcomes, such as social-emotional learning, attendance, or persistence. Further, since school districts are complex systems, it may not be realistic for a small group of researchers to show a direct link to student learning outcomes when these outcomes are influenced by so many variables. Thus, it is an equally important contribution to look at evidence of district- and school-level professional learning and changes in practice that improve the core work of teachers and school leaders. This might also include research on interventions that address external factors affecting learning, such as housing, transportation, health and wellness.

Recommendations to Advance the Use of Evidence in School Improvement

The recommendations below are informed by both the July meeting and the interviews done for this project.

Recommendations for improving access to research

A variety of steps could help improve educators' access to research and contribute to a more robust knowledge base of research on school improvement strategies:

- Given that academic journals often have paywalls that limit school systems' access, researchers should be incentivized to develop short, publicly accessible summaries of research that are written in plain language and describe the who, what, when, where, and how of the research.
- Government and research entities should create research repositories that are sortable by the ESSA evidence tiers, target group of students, and setting in which the intervention was studied.
- Researchers should be better represented at meetings where educators and policymakers gather and make decisions, such as national professional association and teachers' union meetings.

Schools are not generally made up of people who can read or consume research ...We are very good at collecting and looking at data, identifying needs based on data, hypothesizing root causes for why those needs exist. But where it begins to unravel is looking at the strategies, practices, programs, or problems to implement to address those root causes.

Recommendations for universities

While current school improvement strategies and interventions appear to be largely provided by vendors, more university-based researchers could become involved if institutions of higher education changed some of their incentives to encourage this. Specifically, the needs of school systems for timely, actionable school improvement research is often at odds with the requirements university faculty are expected to meet to receive tenure. Most academic researchers seek to publish their research in the kind of academic journals that are recognized by universities as important criteria for tenure. Unfortunately, these journals are often inaccessible due to paywalls. Even when journals are made available to the public for free, they are usually not formatted to meet the needs of teachers and school leaders. Universities should explore how these practices and requirements can be modified and encourage faculty to conduct school-based research that would aid educators in improving student outcomes. In addition, university leaders could incentivize or reward faculty that conduct research with nearby school systems that focus specifically on the school system's needs.

Recommendations for funders of research

As the largest sources for research funds, charitable foundations and the federal government should prioritize a broad spectrum of research that supports school improvement in a timely and actionable manner. Conditions for receiving the grant should include open access to all products and resources, all of which should be offered in user-friendly formats for a wide group of end-users. Some federal agencies (National Center for Education Statistics and Institute of Education Sciences) and foundations (William and Flora Hewlett Foundation) have already made these kinds of changes to grant programs.

Recommendations for vendors providing school improvement strategies

Larger, more established vendors are likely advantaged in meeting ESSA's evidence requirements because they have the resources to do the necessary studies. However, schools would benefit from a broader range of evidence that also encompasses improvement strategies from additional nonprofit or for-profit vendors, including smaller vendors or even larger vendors that operate within a limited geographic area or a particular type of district or school setting. These vendors should consider contracting with an independent research group to study the impact and validity of their products and services in a variety of settings. Research that demonstrates a broader range of results would not only expand the research base around school improvement but also support the vendor business model.

One thing I have learned is that when you bring a vetted vendor, or any vendor, into your district, it takes a good six months to learn your vendor and for your vendor to learn you.

Recommendations for states

Working alone or with colleges, universities, and/or research organizations, state education agencies should capture the impact of the implementation of the various school improvement strategies and create repositories of evidence-based interventions so that districts and schools have a central source for information. States should also assist smaller, low-capacity school districts by providing learning opportunities for their staff to better enable them to select evidence-based interventions. Finally, when appropriate, state education agencies should allow tier 4 evidence-based strategies to be implemented in order to foster innovation.

The more we work together as a state and locals, the better off our state will be at improving access for our kids to good instruction.

Recommendations for school districts

Districts with sufficient capacity should try to capture evidence of effectiveness of the school improvement strategies being employed, especially when the strategy is being implemented in a different setting from the original site studied. District and school leaders should also reach out to nearby universities to develop relationships with researchers and explore collaboration on studies that would meet the needs of the schools and the researchers. These relationships would also help schools of education better understand their surrounding school districts, which in turn would help them better prepare teacher candidates.

Perhaps what we should do is not say, look, you need to find some canned evidence to support your justification or [buy or adopt] this program or intervention. Perhaps what you should be doing also is innovating. And we can then be investing through policy, through state funding or even federal funding, in building the capacity of local districts to actually do their own evaluation work.

Recommendations for the U.S. Department of Education

The Department's research repositories of What Works and ERIC should be aligned to the ESSA evidence tiers and be sortable by the setting and target population, as well as the intended outcome of the strategy. Although randomized, controlled trials are considered the gold standard of research, they are expensive and time-consuming and may not provide the type of information schools and districts need to be more effective. Practitioners require additional types of evidence to support their efforts to improve schools. By supporting and incentivizing additional forms of research that demonstrate effectiveness in a wide variety of contexts, the Department would tap the potential of the ESSA requirements to build new knowledge and empower innovation.

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