

Scaling and Sustaining Early Literacy Innovations



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Office of Innovation and Early Learning Programs



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Spring 2022



Acknowledgements and Disclaimer

I would like to thank several individuals who assisted with the completion of this project. Professor Lucy Bassett continually provided constructive feedback, and I am grateful for her compassion, thoughtful insights, and understanding during a busy and challenging academic year. At the Office of Innovation and Early Learning Programs, I am greatly appreciative of Ashley Brizzo, who served as a mentor and thought partner at every step of this process and offered invaluable guidance on this project. I would also like to thank Sophia, Yvonne, Brian, and all other EIR team members and grantees who provided feedback, ideas, and guidance. I am also grateful for all the EIR grantees who participated and shared their stories and insights from the field; their perspectives and lived experiences were invaluable as I crafted these policy proposals. A very special thank you to Lucy Hopkins, who was an excellent peer editor, as well as Guadalupe Pinto, Katie Cox, Emma Karnes, Maya Ewart, and Ashley Staggers.

Disclaimer

The author conducted this study as part of the program of professional education at the Frank Batten School of Leadership and Public Policy, University of Virginia. This paper is submitted in partial fulfillment of the course requirements for the Master of Public Policy degree. The judgments and conclusions are solely those of the author and are not necessarily endorsed by the Batten School, by the University of Virginia, or by any other agency.

In addition, this analysis is prepared using qualitative data collected on behalf of the Office of Elementary and Secondary Education (OESE) Office of Innovation and Early Learning Programs (IELP) with IRB approval. The author also served as a Student Trainee intern during the 2021-2022 school year. The content of this report does not necessarily reflect the definitions, policies, or views of OESE or IELP.

Honor Statement

On my honor as a student, I have neither given nor received unauthorized aid on this assignment.



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Glossary

Adaptive Flexibility: The capacity of an innovation to scale across diverse, dynamic school contexts. This term will be operationalized as the capacity of a grantee's program design and implementation plan to scale-up its essential components while providing options for localities to shape the innovation to meet their policy priorities, existing context, limitations, and needs.

Competitive Preference Priority: EIR's legislative mandate provides additional priority areas to meet current educational circumstances and needs in the field. For example, in FY 2021, Competitive Preference Priority 1 focuses on expanding opportunities in computer science for underserved populations, while Competitive Priority 2 focuses on addressing the impact of COVID-19 on Underserved Students and Educators.

District Partners: Districts recruited to collaborate with researchers and practitioners to test, validate, and scale evidence-based innovations for high-need students

District-Ownership: The ability of a district's leaders and organizational structures to become accountable and claim ownership of an innovation, which could occur through the gradual release or transfer of ownership from external implementers, or through their choice to scale an innovation as a result of evidence dissemination. Grantees can design plans for reform knowledge-building and determine the implementation capacity necessary to ensure the district can sustain an externally initiated system change for the long haul.

EIR: *Education Innovation Research Grants*, established under section 4611 of the Elementary and Secondary Education Act (ESEA), provide funding to create, develop, implement, replicate, or take to scale entrepreneurial, evidence-based, field-initiated innovations. It is designed to generate and validate solutions to persistent education challenges and to support the expansion of those solutions to serve substantially larger numbers of students (Federal Register).

Enabling environment: the pre-existing structures and norms in a district or organization, including the “political economy factors, power dynamics, incentives, and social and cultural norms” which can either hinder or promote effective scaling and sustained implementation (Perlman Robinson, 2021).

ESSA: The Every Student Succeeds Act, signed into law by President Obama in 2015, amends the Elementary and Secondary Education Act and replaces No Child Left Behind.

Glossary

“Evidence for ESSA”: ESSA delineates tiers of evidence, which are intended to provide districts with a certain level of confidence with which they can expect achievement gains for high-need students if they bring that innovation to scale (IES, 2019). For example, Tier 1, “Strong Evidence” innovations meet WWCH standards without reservations, while Tier 2, “Moderate Evidence” can be met with some reservations. 5 factors that determine an innovation’s tier of evidence under ESSA:

1. Study Design
2. Results of the Study
3. Findings from Related Studies
4. Sample Size and Setting
5. “Match” to the student demographics and context of the district considering implementation.

“Evidence-based”: ESSA defines “evidence-based” as a strategy, activity, or intervention that demonstrates a statistically significant effect on improving student outcomes (or other relevant outcomes) based on strong, moderate, or promising evidence from at least one well-designed and well-implemented experimental or quasi-experimental study. Or, to fall within the lower “evidence tiers,” an innovation can simply have a rationale based on high-quality research findings or a positive evaluation that suggests the intervention is likely to improve outcomes. This term is often used as a catch-all, but policymakers need to know that innovations within this definition can fall along a vast continuum of the rigor of evidence, the feasibility of implementation, and cost-effectiveness; policymakers must be able to discern across this continuum to make informed decisions to implement the highest quality innovations available that match their local context and needs.

Fidelity: Implementing an evidence-based practice as intended by the innovation’s developers, often involving sustaining the correct dosage, a specific frequency, and standard of quality to deliver the evidence-based intervention in the form for which it was validated in experimental or quasi-experimental settings.

IES: Institute for Educational Sciences, is the statistics, research, and evaluation arm of the U.S. Department of Education. Its mission is to provide scientific evidence on which to ground education practice and policy, and share this information in useful and accessible formats with educators, parents, policymakers, researchers, and the public.

Implementation Science: The growing body of evidence regarding best-practices and methods to promote the systematic uptake of research findings and other evidence-based practices into routine educational practice.

Glossary

OESE: Office of Elementary and Secondary Education, within the U.S Department of Education. Its mission is to “empower States, districts, and other organizations to meet the diverse needs of every student by providing leadership, technical assistance, and financial support.” Both the Education Innovation and Research Grant and the Office of Innovation and Early Learning are within OESE.

Phases of Innovation Development (EIR Evidence Tiers): EIR Grants span three phases; Early, Mid-phase, or Expansion Phase Grants. These evidence tiers impact the amount of funding and the prior rigor of evidence required for grant funding.

Professional Development (PD): PD can involve a range of activities such as group seminars, one-on-one coaching and feedback, or school wide professional learning communities aimed at improving pedagogical practice and boosting student outcomes.

Scaling: Once evidence-based innovations are validated, they are “scaled up” when they are brought to more students across diverse districts, states, and regions. Scaling will refer to expanding the reach of a program beyond a preliminary pilot program, including evaluating impact in new settings or for new populations or moving beyond the controlled experimental settings often used in the context of EIR grants.

Science of Reading: the comprehensive body of empirical research that draws from fields like cognitive psychology, educational psychology, and neuroscience. This scientific base can inform educational practitioners with pedagogical strategies that are responsive to how young people learn to read, the most critical parts of the brain involved in literacy development, and instructional approaches that most effectively foster early reading achievement.

Sustainability: The ability of an innovation and its impact to be continuously achieved by local entities (schools, districts, etc) for multiple years and cohorts of students at the same depth as the initial program.

Validated: Strong evidence confirms that an innovation’s theory of change, design, and implementation produced substantive, significant effects on student learning, signaling that the innovation may be ripe for scaling to more students, teachers, schools, and districts.

Value Propositions: A value proposition is the promise of impact or “value-add” to a school or district that a researcher proposes to solicit buy-in from district administrators and principals.

Acronyms

ACES	Adverse Early Childhood Experiences
APR	Annual Performance Review
COP	Community of Practice
ESSA	Every Student Succeeds Act
EIR	Educational and Innovation Research Grant Program
IES	Institute for Educational Statistics
OESE	Office of Elementary and Secondary Education
OIEL	Office of Innovation and Early Learning
LEA	Local Educational Agency (school district)
MTSS	Multi-Tiered Systems of Support
SEA	State Educational Agency
SEL	Social and Emotional Learning
SISEP	State Implementation & Scaling-up of Evidence-based Practices
SOR	Science of Reading

Executive Summary

U.S. Public Schools have failed to ensure all students are on track to read proficiently by 3rd grade, resulting in inequitable early educational opportunities for many low-income learners. These early opportunity gaps result in downstream achievement gaps in elementary and secondary school, lower high school graduation rates, and poorer postsecondary outcomes (Annie E. Casey Foundation, 2013; Karoly, 2015; Levin et al., 2006).

Socioeconomic achievement gaps have persisted over recent decades despite efforts to increase access to educational opportunities for low-income children. The COVID pandemic has exacerbated these pre-existing disparities in early literacy rates, and emerging evidence indicates that socioeconomically disadvantaged students have been set further behind their higher-income peers (Domingue et al., 2021; Godeau et al., 2021; Goldberg, 2021). The disproportionate impact of pandemic learning loss on students in low-income households makes scaling-up solutions to close early literacy gaps more critical than ever.

A lack of attention to building networks of research practitioners, policymakers, and front-line implementers to transfer knowledge of innovations to Local Educational Agencies has caused many innovations to remain insulated in “Islands of Excellence,” (Fixsen et al., 2005; Robinson et al., 2021; Togneri & Anderson, 2003). **Too few researchers, districts, and states have the ability to scale and sustain literacy innovations, which will leave high-need students behind.**

The U.S Department of Education’s Office of Elementary and Secondary Education (OESE), and specifically its Education Innovation and Research Grant Program (EIR), can play a central role in leading the response to this dilemma by incentivizing states and districts to invest in innovations with a strong evidence base. This report proposes potential strategies for the Office of Innovation and Early Learning and the Department of Education at-large to advance policy action on this issue, and specifically to fulfill its FY 2022 Senate Appropriations directive to address the lack of dissemination of research findings to key stakeholders and local decision-makers and to ensure findings are incorporated within other federal programs.

To address the Department's goals and the Senate's directive, four policy options are considered; 1) Prioritizing scaling early through the mid-phase grant application process; 2) Convening stakeholders to co-design a scaling and dissemination support system; 3) Collaborating across the Department to link Title Funds more tightly with the rigor of program's existing evidence; and 4) Ramping up the Department's role in vetting the use of the term "evidence-based" in its role as the "FDA of Evidence-based Practice." These will be analyzed across 5 criteria of interest to the Office of Innovation and Early Learning: effectiveness, cost, sustainability, fidelity, and implementation feasibility.

In the short term, the Department should proceed with Policy Option 2, building on the momentum of EIR's existing Scalability and Sustainability Community of Practice to **convene researchers with local leaders, frontline implementers, and scaling experts to investigate barriers to scale and co-design a more comprehensive support system**. This policy will produce an immediate impact in the field by ensuring existing grantees have the resources they need to plan for scale throughout the grant cycle. Effective rollout of the working group will involve taking on a "backward-mapping" implementation approach that designs support systems and knowledge-transfer policies with frontline implementers in mind (Elmore, 1979; Needels et al., 2020). Creating new support systems for grantees will be a critical first step to immediately addressing the problem, however, more robust and system-wide change may be necessary for the long-term to fulfill EIR's recent Senate Directive.

In the longer-term, the Department should also roll out Policy Option 3, the linkage of Title Funds to programs with a strong evidence-base, by the end of FY 2022-2023. While this policy will require working through administrative red tape, it will be a critical response to the Appropriations committee's explanatory statement, which states that the Senate committee "believes results from the EIR program... can be better leveraged by other Federal programs, including by widely publicizing results and prioritizing interventions with rigorously evaluated and proven effective results" (Senate Appropriations Committee, 2021). This plan to streamline linkages of mid and expansion-phase EIR funding with Title Funds should be paired with technical assistance and the development of clear state benchmarks as these new funding protocols are rolled out. Additionally, the promulgation of new Title rules should coincide with executing at least some form of state-level outreach, convening, and technical assistance described in Alternative 4.

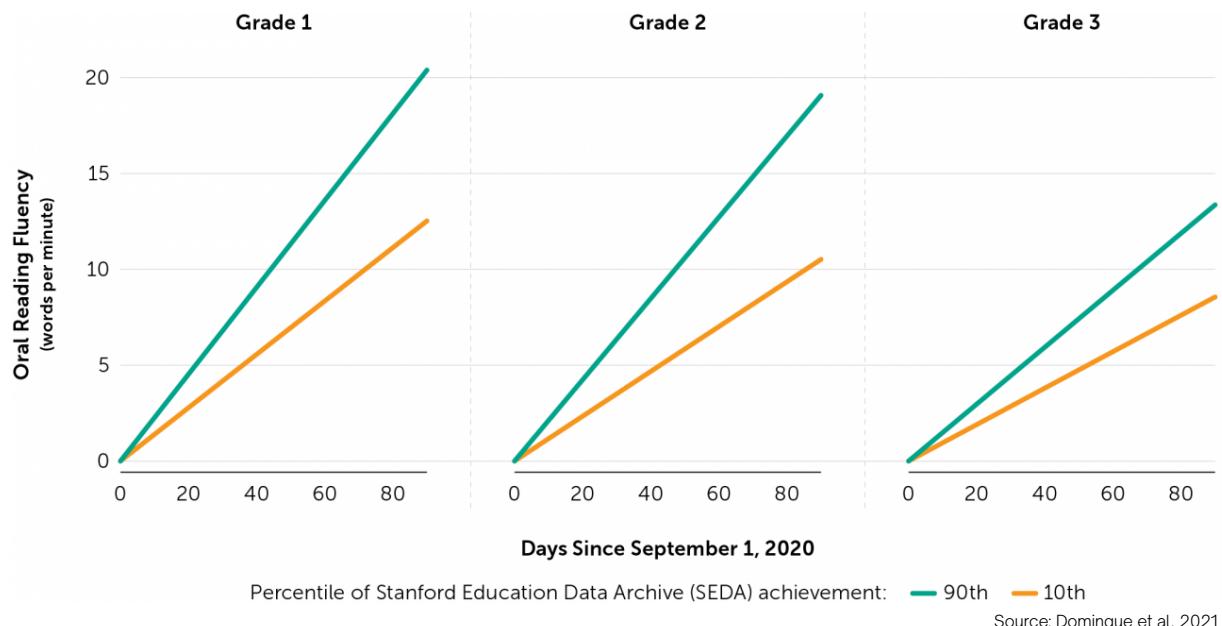
Prioritizing these strategic policy reforms across OESE will allow the Department to spearhead the transition from "Islands of Excellence" to universal literacy through spurring investments in the widespread implementation of equitable, cost-effective learning innovations.

Introduction

The socioeconomic literacy gap has persisted over recent decades, despite low-income families' increased engagement with their children's early learning and an aggregate increase in exposure to books and reading in children's early home environments (Bassok et al., 2016; Garcia & Weiss, 2017). Meanwhile, a Stanford Graduate School for Education study suggests that the early literacy gap widened over the course of the pandemic (Domingue et al., 2021). While all students have fallen behind, low-achieving districts (which serve many socioeconomically disadvantaged students and families) were the most adversely impacted by learning disruptions (Domingue et al., 2021; Godeau et al., 2021; Goldberg, 2021).

*Early evidence suggests that the literacy gap widened over the course of the pandemic; on average, U.S students have fallen **30% behind what would be expected in a typical year in reading fluency**, and low-income students and families were the most adversely impacted by learning disruptions (Domingue et al., 2021; Godeau et al., 2021; Goldberg, 2021).*

Figure 1: COVID and Literacy Achievement Gaps



While these gaps are harrowing and the downstream impacts of this learning loss are uncertain, there is no shortage of evidence-based models to build the capacity of LEAs to better serve low-income students. Many of these interventions have met the 'gold standard' for research, showing significant impacts through randomized control trials. Although education researchers have given a great deal of attention to the classroom practices that can improve literacy, they have dedicated less time to the widespread dissemination of these literacy innovations outside of experimental settings (Duke, 2019).

"Islands of Excellence" have emerged in schools where evidence-based tools are studied and implemented, with large variations in the implementation of evidence-based practice across the rest of the nation (Robinson et al., 2021; Togneri & Anderson, 2003). Without careful dissemination of evidence-based strategies, innovations guided by the "Science of Reading" (SOR) will continue to reach only a fraction of high-need students.

National and state-level markets for educational innovations are dysfunctional; many projects are built to function well as externally-run pilots, but innovators often fail to plan for ways to share knowledge with educators, district leaders, and policymakers to encourage buy-in and a shift of ownership to LEAs and local political systems. Qualitative findings from a listening tour with EIR grantees suggest that many researchers aren't thinking about scaling early enough or collaborating with district leaders and practitioners to align projects with local priorities and address real-world implementation concerns. Meanwhile, many district leaders may not be equipped with the "evidence literacy" to discern which programs and practices are the best matches for the needs, priorities, and existing implementation capacity of their schools. Finally, key state and local policymakers aren't being brought into the fold to promote sustainable appropriations from public funding sources.

This report proposes potential strategies for the Office of Innovation and Early Learning and the Department of Education at-large to utilize its funding, vetting, and convening powers to take action on this critical problem. The Department, and EIR, in particular, are charged with disseminating evidence to scale up cost-effective, sustainable SOR interventions, which can be adjusted to local contexts to address the multiple, complex social inequities that have led to the persistence of socioeconomic achievement gaps.

Education policy researchers and practitioners have long been concerned with early literacy achievement gaps amongst low-socioeconomic status children, largely due to the foundational role that reading skills play in ensuring educational opportunities for high-need students down the line. Early literacy is paramount to long-term academic success due to its role in building core skillsets for later scaffolding; it is also a benchmark to measure educational progress in closing persistent opportunity gaps amongst marginalized student groups (Annie E. Casey Foundation, 2010; Murnane et al., 2012). Existing evidence points to specific socioeconomic disparities in cognitive skills and early environmental factors that inhibit low-income students' ability to meet the common benchmark of proficient reading by 3rd grade (Annie E. Casey Foundation, 2010; Finders et al., 2021; Lurie et al., 2021). The early literacy policy space is relatively flush with best practices for schools and educators to address these gaps, but many teachers lack explicit knowledge of the SOR or are misled to believe that mere practice will result in gains for struggling readers (Duke, 2019; Hanford, 2018).

Many teachers want to incorporate SOR, but recognize they lack the training and knowledge of best practices for classroom interventions to target students' literacy needs (Dailey, 2013; Duke, 2019). To ensure all teachers are equipped with the training to support high-need students' core language competencies, innovations must be scaled to disseminate SOR strategies and the latest evidence-based pedagogical tools to teach high-need early learners (Dailey, 2013; Duke, 2019; Stern et al., 2022). Knowledge transfer and evidence dissemination are current weaknesses across the education research space, but EIR must lead the field in closing research-to-practice gaps.

Throughout the Senate's FY22 Appropriations Directives from October of 2021, the committee noted its multiple concerns regarding "Publicly Releasing and Disseminating Findings."

The Senate Appropriations Committee "strongly encourages the Department to take stronger steps to publicly release and widely publicize the research findings from this critical program..to stakeholders at the Federal, State, and local level" (Senate Appropriations Committee, 2021).

Specifically, the committee called on EIR to look into ways of "better showcasing those programs that have demonstrated...evidence of achievement in educational outcomes" as well as through ensuring EIR program's results "can be better leveraged by other Federal programs, including by widely publicizing results and prioritizing interventions with rigorously evaluated and proven effective results."

While the Senate provided praise for the Department's efforts to develop a technical assistance plan for disseminating findings and lessons learned to stakeholders, they implored the Department to take larger steps to "expeditiously and effectively implement this plan." EIR must provide an update in FY 2023 on the Department's "goals, outcome measures, and corrective measures for achieving the widest possible dissemination and use of this information in SEA and LEA decision making."

This report will focus on specific policy changes that can help EIR to carry out this legislative mandate, and to preserve and promote future investments from the Appropriations Committee. These policy recommendations must emerge from an understanding of the historical drivers behind the literacy gap, why existing strategies to bring innovations to scale have fallen short, and the current context as schools recover from the learning disruptions of the COVID pandemic.

Socioeconomic Literacy Gaps

Key Drivers and Solutions from the "Science of Reading"

Students' socioeconomic status serves as an accurate predictor of differences in their neurocognitive abilities which are directly correlated with reading, such as executive function, language, and working memory systems (Farah et al., 2006; Finders et al., 2021; Noble et al., 2007).

One key factor mediating this gap is low-SES children's disproportionate risk of exposure to adverse early childhood experiences (ACES). A strong weight of evidence suggests that these traumatic experiences can impact students' executive function abilities and socio-emotional competencies in ways that directly affect their early literacy outcomes (Duplechain et al., 2008; McNeilly et al., 2021).

Disparities in the home environments of children and families experiencing poverty may also lead to persistent inequities in children's direct access to high-quality early childhood education and language experiences, both in pre-k educational settings and as a result of varying levels of education and literacy in their households (Hart & Risley, 2003; Sarsour et al., 2011; Yen & Lee, 2018).

The literacy school-readiness gap is strong even compared to other developmental opportunity gaps; neuroscience research suggests that low-income students experience larger skill gaps in cognitive areas related to language development even relative to other foundational subject areas. Childhood socioeconomic status is closely associated with learning outcomes related to language, working memory, and executive function systems (Noble et al., 2015; Welsh et al., 2010). Hence, learning to read is especially hard for low-income students whose early cognitive development has been chronically under-invested in.

Early literacy achievement gaps amongst low-SES elementary schoolers have persisted despite the narrowing of socioeconomic disparities in parental investment. A longitudinal study from 1998-2010 found increased access to books and greater efforts of low-income parents to read with their children (Bassok et al., 2016). However, despite parents' increased investments in their children's reading skills, a study over the same period found that gaps in reading outcomes persisted (Garcia & Weiss, 2017). Garcia and Weiss find that controlling for parental engagement factors did not come close to closing achievement gaps, and while they do still play a role in determining reading outcomes, parental expectations and efforts accounted for a much smaller share of the gaps in 2010 than they did in 1998.

The decades-long persistence of literacy gaps, despite low-SES parents' increased engagement, supports the literature that theorizes that high-quality instruction is more important than mere quantity. This evidence counters the "3-million Word Gap" narrative that a mere quantity of early reading in family and preschool environments will suffice for low-income kids to catch up to their peers- the quality of engagement and instruction matters (Golinkoff et al., 2018; Romeo et al., 2018; Garcia & Weiss, 2017).

More recent literature indicates that the association between family income and reading outcomes is moderated in large part by not just the quantity, but the quality of children's early conversational engagement and literacy experiences (Romeo et al., 2018). Low-SES children's lack of high-quality conversational engagement with adults in their early home environments obstructs pathways to healthy neurocognitive development, leading to persistent inequalities in reading outcomes in early elementary school and beyond (Hackman et al., 2015; Noble et al., 2015; Romeo et al., 2018; Vrantsidis et al., 2020).

In response to this emerging evidence that gaps persisted even after low-income parents have increased their quantity of engagement, policy reformers work to scale innovations that address the systemic barriers to quality education facing low-income families, rather than taking on a deficit mindset that places blame on individual parents (Garcia & Weiss, 2017; Yen & Lee, 2018). Early literacy strategies should ensure access to families' access to quality early education that prioritizes the SOR, and the promotion of high-quality family engagement opportunities to support these foundational skills by enriching the quality of children's household literacy environments in preschool and beyond.

While efforts to scale high-quality, evidence-based early childhood education reforms will be necessary, the previously explored persistence of school readiness gaps implies that public and charter elementary schools must play a critical role as well. The focus of this analysis of existing literature and subsequent policy recommendations will be on maximizing the effectiveness of **public school investments in the K-3 years** through providing equitable core instruction and multiple tiers of support for high-need readers. How can effective scaling and dissemination of early elementary learning innovations unleash the power of evidence-based instruction and family engagement to provide high-growth learning opportunities for more low-income students?

The Pandemic: Challenges and Opportunities

Uncovering best practices for scaling up early reading innovations is more necessary than ever to address the disproportionate impact of the pandemic in low-achieving, typically high-poverty, school districts. (Domingue et al., 2021). The pandemic's setbacks cannot be ignored, and the Department, SEAs, and LEAs have worked to ensure a comprehensive policy response as students have returned to in-person instruction.

Accordingly, as vaccinations for all children have rolled out and in-person instruction has resumed and will be the status quo moving forward, this analysis will assume that lockdowns will not occur at a mass scale again. The focus of this report will be the long-term outcomes for current and future early elementary cohorts.

However, because pandemic has accelerated technological utilization towards a new status quo in which hybrid or blended learning strategies are the norm, and present both challenges and opportunities (Singh et al., 2021). The persistent use of hybrid-mode instructional delivery will be held constant as a foundational analytical assumption throughout the report.

While choices like utilization of hybrid models, and general policy decisions amongst the above menu of potential literacy programs are initiated and determined primarily at the local level, this report will also work to understand how localized decisions are shaped by federal research dissemination and funding incentives. The existence of knowledge gaps across local educational entities must be bridged through collaboration and dissemination of innovative practices, but this evidence-dissemination may not happen in the absence of an external convener. Federal policy leaders and grant-making entities within OIEL may step into this role by convening practitioners to provide local entities with the resources to best serve high-need children.



Source: Getty Images

About the Client: Office of Innovation and Early Learning Programs



OFFICE OF Elementary & Secondary Education

This report has been prepared to provide strategies for incentivizing dissemination and widespread scaling of evidence-based practices uncovered by research programs funded by the **Office of Innovation and Early Learning (OIEL)** within the U.S. Department of Education's **Office of Elementary and Secondary Education**. The Office of Innovation and Early Learning prioritizes rigorous evidence, advancing equity for all students through producing data-driven results.

The focus of this analysis will be the Education Innovation and Research Grant (EIR). The EIR Office's mission is to "generate and validate solutions to persistent educational challenges and to support the expansion of effective solutions to serve substantially larger numbers of students" (EIR, 2021). The office accomplishes this mission by administering programs to "create, develop, implement, replicate, or take to scale entrepreneurial, evidence-based, field-initiated innovations to improve student achievement and attainment for high-need students; and to "rigorously evaluate such innovations" (EIR, 2021). These programs aim to promote school readiness in early grades and "improved learning outcomes for young children from low-income families who live in impoverished communities."

Key priorities include: 1) ensuring that innovations are backed by rigorous evidence through high standards for validation and research integrity; 2) fidelity to the initial project design; and 3) equity across student groups to ensure programs are reaching the most high-need students to align with the program's mission to serve low-income and disabled students, students of color, and high-poverty school districts.

This report will examine multiple evidence-based strategies and their ability to scale up to close socio-economic literacy gaps across more districts. Scaling outcomes are inextricably linked with grantees' capacity to be sustained beyond their funding lifespan under the Education Innovation and Research (EIR) Grant Program. Because reading is such a fundamental aspect of scaffolding later K-12 competencies, reading achievement is a useful metric for benchmarking the efficacy and growth of local school districts and teachers as they implement new strategies to meet the needs of disadvantaged students. Examining the early literacy space may also provide a proximal means to analyze common barriers to scaling evidence-based policy in the early education space within the EIR program at large.

About the Client: The Education Innovation and Research (EIR) Grant Program

EIR is designed to help states, districts, schools, and educators to develop innovations and scale effective practices that address pressing challenges like the literacy gap (Federal Register, 2021). The EIR program includes three types of grants (early phase, mid-phase, and expansion grants), with funding scaled along a continuum based on the evidence and proof of cost-effectiveness in multiple research contexts. Ideally, if a grantee can produce a large effect size through a non-duplicated, cost-effective innovation, they will move up the tiers of the EIR system to improve, validate, and scale the innovation to more students, adapting the innovation to meet different district's needs.

Legislative Mandate and Funding:

The Education Innovation Research Grant program (EIR) is designed to generate, validate, support, and aid in the expansion of solutions to persistent educational challenges. The EIR grant program was established under Section 4611 of the Elementary and Secondary Education Act (ESEA), which was most recently amended in 2015 by the Every Student Succeeds Act (ESSA; Part F, Subpart F-1). The appropriation for new awards in FY2021 was **\$194 million**, with similar figures of \$190 million for FY 2020 and \$125 million in FY 2019 (OESE, 2021). This funding goes directly to grantees, who are usually research groups from a variety of backgrounds; researchers receiving EIR grants have included everyone from local school districts to large research universities to private research organizations. The final destination of these funds, regardless of the grantee, is always the grantee's partner districts, where these programs will be tested, validated, and scaled. With growing appropriations over time, EIR has the potential to exceed the Senate Appropriation Committee's expectations to bring rigorously evaluated, high-impact literacy innovations to more students (Senate Appropriations Committee, 2021).

Matching funds are required under the EIR program statute; grant recipients must provide an in-cash or in-kind contribution equal to 10 percent of the funds provided under the grant, through either Federal, State, local, or private sources (Federal Register, 2021). This report will not propose direct policy changes at the level of state and local funding due to the client's federal jurisdiction. However, the following policy analysis will account for the role of matching requirements and local buy-in as it relates to continued funding after the lifespan of EIR grants. **These state and local funders, as well as private sources, play a critical role in sustaining innovations catalyzed by EIR funding.**

About the Client: Strategic Goals

Strategic Goals: The ultimate goal of educational innovation research is to cultivate self-sustaining implementation practices, gain local or state buy-in, and secure external funding streams so that grantees can carry on the innovation in multiple local school systems without continuous federal (EIR) financing. However, grantees all too often fail to achieve sustainable implementation and become trapped in purgatory along with many other good innovations that were not designed, adjusted, or implemented for successful scale-up. This vicious cycle must be broken, and change can be accomplished by leveraging implementation strategies and case studies of successful implementation amongst EIR grantees.

In light of these goals, the U.S Department of Education's Office of Innovation and Early Learning, particularly the EIR Office, is interested in how it can leverage its power to select, incentivize, and support grantees as they address barriers to scale and work towards sustained implementation of early education innovations. To align their focus with this report, scalability and sustainability will be weighed heavily in the assessment of potential federal policy approaches. The Office's interest in assisting grantees in broad-scale implementation has led to the creation of the 'Scaling and Sustainability Community of Practice' (COP). This new COP, alongside OIEL's primary interests, makes the scalability and sustainability criterion of analysis particularly important.

The ultimate success of potential policy reforms to the Federal Department of Education's existing grant policies and programs should be measured through the scalability and sustainability of EIR grant projects. EIR should not measure success through potential short-term reading achievement gains amongst low-income early learners, nor quantify the impact in small and controlled experimental contexts. The Department should qualify success through the impact that could be reasonably expected as an intervention is brought to full-scale in entire school districts, cities, and states.

Focus 1: Scaling

Innovations are brought to more students across diverse districts, states, and regions.



Focus 2: Sustainability

Transferring ownership to local leaders to ensure sustained funding and fidelity in implementation.



Literature Review: Scaling Reading Innovations

National, state, and local decision-makers can work to scale-up educational innovations with the power to accelerate growth for high-need students, but most innovations never reach a sizable portion of the teachers and students who match the innovation's target school contexts or subgroups (Cooley et al., 2021).

Researchers, policymakers, and district leaders lack the knowledge, implementation infrastructure, or organizational capacity to bring literacy innovations to scale (Needels et al., 2021). This review of existing literature on scaling aims to explore these critical aspects of scaling, building towards an understanding of the resources, knowledge, and incentive structures that grantees and districts need to more effectively scale and sustain innovations.

What is Scaling, and Why do Researchers So Often Fail to Achieve it?

Scaling involves “*expanding, replicating, or adapting an intervention to improve lives for larger numbers of people and communities*” (Americorps SCALER, 2021). Expanding entails serving more individuals in the same target population in the same location. Similarly, replicating means serving that same target population, but in a new location. Adapting implies either extending to a different target population or modifying the intervention for the initial target population.

This report will conceptualize scale in the same terms as scholar Cynthia Coburn discerned in her landmark 2003 essay in Educational Researcher, entitled “*Rethinking Scale: Moving Beyond Numbers to Deep and Lasting Change*.”

According to Coburn, scaling is a process of coordinating implementation efforts across four interrelated dimensions: depth, the nature and quality of a change; sustainability, persistent implementation over time; spread; the number of schools or students reached; and finally, the “shift in reform ownership” to the schools and LEAs themselves (Coburn, 2003). Disrupting the status quo in the field, in which research on scaling often focuses only on quantitative measures of reach to more districts, teachers, and schools, Coburn’s critique conceptualizes reach as one of many critical metrics for quantifying impact at-scale.

Coburn's Dimensions of Scale:



Measuring impact across these multidimensional goals can ensure that innovative research findings translate to sustained systems change in districts, schools, and classrooms.

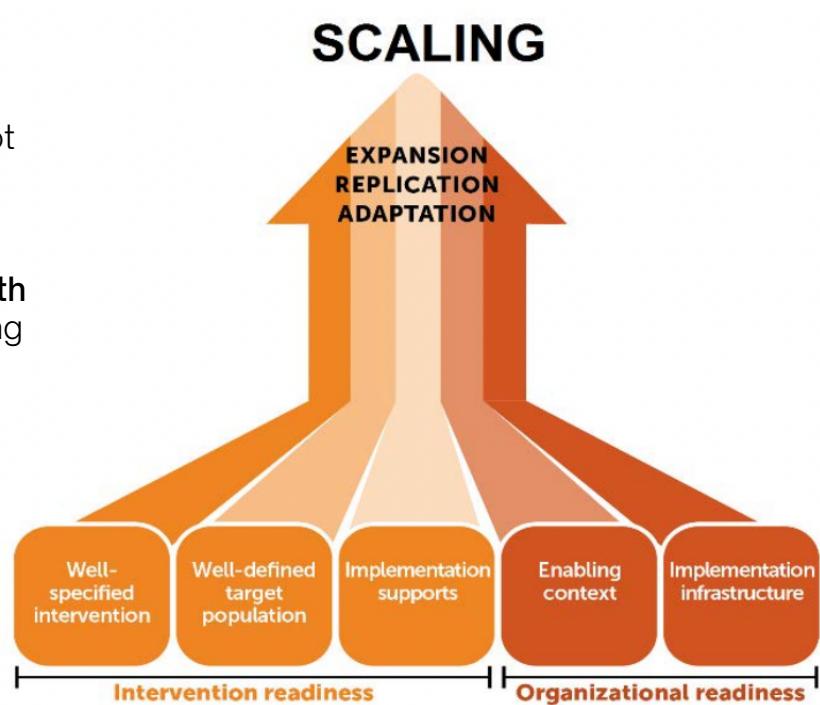
Sustaining innovations in real-world contexts requires that researchers first ensure their intervention is well-specified, has a clear target population, and has a clear plan for implementation support structures (Needels et al., 2020). However, they must also ensure organizational readiness for scale; researchers must collaborate with decision-making organizations to develop deep knowledge of the model in line with district and school priorities. This requires them to discern the “implementation infrastructure” that must accompany innovations to bring this “new way of working” to new districts (Cooley et al., 2021; Denton & Vaughn, 2003; Fixsen et al., 2009; Needels et al., 2020). This requires understanding the tensions that arise as researchers attempt to move their innovations from small, controlled experiments to real-world classrooms with policy constraints outside of their control.

To effectively scale to a wider population of students, innovations must be owned by local decision-makers; they must maintain fidelity to essential evidence-based components while adapting to fit place-specific needs; finally, they must work in tandem with school policies to ensure sustained changes within local systems (Cooley et al., 2021; Dillenbourg, 2017; Togneri & Anderson, 2003).

Scaling Literature Review Findings:

- 1** Measure What Matters
Grantees Need Qualitative Benchmarks for Scaling
- 2** Scale without “Ego”
Transferring Ownership, not Micromanaging a “Project”
- 3** Balance Breadth and Depth
Designing and Implementing to Meet Local Needs
- 4** Technology Can Amplify Gaps in Access and Catalyze Change
Digital Tools Can Promote Scaling Infrastructure

Figure 2: Mathematica’s “Necessary Conditions for Successful Scaling”



Source: Needels et al, 2020

1

Measure What Matters

Grantees Need Qualitative Benchmarks for "Implementation Infrastructure" and Strength of Partnerships

Evidence from the field suggests that less emphasis should be placed on fidelity to precise gold standards established in lab-like settings, but rather on building the necessary capacity, partnerships, and implementation infrastructure to “scale a change” in how schools, teachers, and communities facilitate learning (Clark, 2019; Corburn, 2003; Perlman Robinson, 2020). However, centering the dissemination of knowledge of research models as the main goal of scaling creates tension for researchers who want to produce and measure tangible, quantifiable results. Coburn notes that it's “more challenging to measure the shift in authority over and knowledge of reform” than it is to collect quantitative data on achievement gains in a pilot program or the number of students reached over a grant period (Coburn, 2003; Perlman Robinson et al., 2020). To achieve effective scaling, education researchers and practitioners may need to relinquish the exactitude of outputs in some cases, and focus on setting clear targets and milestones around the more intangible components of the scaling process like institutionalization, capacity, and strength of partnerships (Fixsen et al., 2009; Perlman Robinson et al., 2020). EIR can incentivize the formation of strong district-level, state-level, and national partnerships to determine how the necessary steps for “transferral of reform ownership” can be codified to expand, replicate, and adapt innovations across diverse districts (Klingner et al., 2013; Needels et al., 2020).

2

Scaling Without Ego

Incentivize Grantees to Transfer Ownership, not Micromanage

Emerging from the tension between reform institutionalization and the desire of researchers to measure precise outputs, many researchers also experience a conflict between fidelity and local reform ownership. This requires grantees to begin “scaling without ego,” by moving away from a mindset of scaling “my solution,” and instead disseminating knowledge to address real problems in educational systems (Denton & Vaughn, 2003; Perlman Robinson et al., 2020). EIR can work to change the commonly-held narrative by encouraging grantees to center their implementation strategies around content-focused dissemination of essential program components to institutional leaders, as opposed to externally-led replication for exact fidelity (Clark, 2019; Denton & Vaughn, 2003). However, EIR must balance efforts to transfer reform ownership to LEAs with the Department's commitment to ensuring fidelity to evidence-based practice; one concern surrounding this is that local leaders may creep away from “critical components” of the research programs that led to significant results under EIR's rigorous evaluation process.

3

Balancing Breadth and Depth

Designing and Implementing for a Balance of Reach and Impact

As evidence-based programs expand to more sites and districts, student achievement gains can diminish, largely because transforming the way that a school or district works can be resource-intensive. The State Implementation & Scaling-up of Evidence-based Practices (SISEP) Center describes this concept with the term “transformation zone,” which refers to a district or group of schools that work to implement a “new way of doing work” while also building the necessary capacity to ensure fidelity (Fixsen et al., 2009). The more “implementation infrastructure” that a program requires to transform a district or school, the more resource-intensive and expensive it is (Coburn, 2003; Comer et al., 1996), creating a tradeoff for pilot programs that want to expand, but ensure depth of impact isn’t lost.

EIR already acknowledges the importance of sustained training to ensure fidelity to professional learning principles introduced by external implementers; this evidence from the field aligns with the Competitive Priority of “embedded, sustained Professional Development (PD)” (Federal Register, 2021). However, while sustained PD can help bridge this gap a bit and sustain impact once ownership shifts to districts, at some point decisions on what aspects of the reform to accept and which to adapt are no longer under the external implementer’s control (Coburn, 2003). Inevitably, there will be a tension between depth and breadth; researchers must be incentivized to commit to ensuring transparency on essential components and fidelity to these, while district leaders must have the resources and evidence-literacy to determine which tiers of support or levels of program intensity are the best fit for their student’s needs.

Why do Literacy Coaching Interventions Show Diminishing Returns to Scale?

One study on scaling instructional literacy coaching illustrates how impact (measured by average effect sizes) diminished as literacy coaching programs were taken to a larger scale (Kraft et al., 2018). This tradeoff may be a result of the reduced dosage of sustained, embedded training; the gains touted by research-validated coaching models are often driven by targeted pedagogical content knowledge, such as teacher’s SOR knowledge (Kennedy, 1999; Scher & O'Reilly, 2009). It is possible that the literacy programs show diminishing returns at-scale is because they **lost depth of impact on the “essential component;” high dosage of coaching feedback.**

EIR and its grantees must strike a balance between adaptive flexibility, so districts can steer innovations to meet their needs, with local knowledge transfer, which is necessary for districts to sustain fidelity to evidence-based practice (Coburn, 2003; Perlman Robinson et al., 2020; Stern et al., 2022).

4

Technology Can Both Amplify Gaps in Access and Catalyze Change

Although it amplified achievement gaps, the “Zoom Revolution” also presents new opportunities to scale-up best practices.

The COVID-19 pandemic induced an upheaval in the U.S early education system, and the new status quo will be greater use of digital learning platforms, remote professional development, and blended or hybrid teaching modes within normal classroom practices. The pandemic has “exacerbated social class academic disparities by relying on families to help with education and facilitating class predominantly via digital resources” (Godeau et al., 2021; OCR, 2021). The new reliance on technology has in many ways created larger gaps between the learning opportunities available to low SES students, but it also presents scaling opportunities to bring innovations to more high-need students.

Technological change can be catalyzed to address inequities by lowering the cost of scaling up evidence-based solutions. Early research indicates that blended instructional approaches, in specific contexts, can significantly improve reading outcomes for low-SES early elementary students (Macaruso et al., 2020; Schechter et al., 2015). Another policy-relevant virtual learning tool is online instructional coaching for teachers, which may make embedded professional learning more accessible in high-need, low-access contexts, such as rural districts. Virtual coaching can work well for some interventions; one study found no statistically significant differences in effect sizes between in-person and virtual coaching, which suggests that virtual coaching models may be able to maintain quality while increasing scalability (Kraft et al., 2018; Powell et al., 2010).

Remote professional development is a bright spot that many EIR grantees are already incorporating into their scaling efforts; for example, an expansion grantee is testing the cost-effectiveness of using technology-based professional learning to scale-up a personalized literacy intervention. Another way to catalyze teachers’ new knowledge of technology from the pandemic is to use real-time data to track student’s progress and tailor instruction to their individual needs at-scale.

Incorporating the Science of Reading in Practice

The categories below are a non-exhaustive list of potential interventions, with emerging lessons from existing literature on appropriate conditions for scaling.

Intervention Type	Description and Weight of Evidence	Scaling Considerations
Instructional Coaching	<p>Hiring school literacy coaches can provide job-embedded, ongoing professional development for teachers that promotes knowledge-sharing of specialized evidence-based literacy pedagogy. One meta-analysis examining the impact of literacy coaching interventions on teacher practice and early reading achievement indicated an average pooled effect size of 0.49 standard deviations in the improvement of teacher practice, and a subsequent 0.18 SD increase in student achievement (Kraft et al., 2018). These innovations also often involve teaching technology, which can often help teachers to provide personalized education for students' individual needs (Learning Ovations, 2021).</p>	<ul style="list-style-type: none">PD should be frequent, job-embedded, and focused on sharing specialized SOR content knowledge like Phonological Awareness Training (Matsumera et al., 2012; Stern et al., 2021; Slavin et al., 2009).When broadening reach, programs must ensure instructor fidelity to content-specific knowledge and pedagogical approaches, and SOR approaches must be integrated into school-wide policy and practice (Duke, 2019).The most essential program component is observation time and feedback; the amount of time literacy coaches spend actively observing teachers in classrooms best predicts student achievement gains (Piper & L'Allier, 2010).When literacy programs are cut down for scale by reducing coaching frequency or providing written rather than in-person feedback, their impact is negligible (Cabell et al., 2011; L'Allier et al., 2010; Piper & L'Allier, 2010).
High-dosage tutoring	<p>Increased learning time programs have substantial, statistically significant benefits on the literacy achievement of students performing below standards, but program impact varies and is mediated by training and knowledge of instructors, frequency, and implementation of delivery. High-quality, high-dosage tutoring can produce substantial gains for students scoring below proficiency if delivered and scaled effectively (Halpern, 2006; Robinson et al., 2021). Some meta-analyses indicate that tutoring is associated with a 0.36-.37 standard deviation improvement in learning outcomes, which Dietrichson and colleagues found to be the largest effect size of 14 possible intervention types to address low-SES learning disparities (Dietrichson et al., 2017; Nickow et al., 2020). Another meta-analysis limited to early literacy contexts finds an effect size of ES= 0.18.</p>	<ul style="list-style-type: none">Certified teachers will be the most effective, but mentorship training and resources can equip volunteers and pre-service teachers for this type of intervention, particularly in a COVID-recovery context where human resources are short (Kidron & Lindsay, 2015; Robinson et al., 2021).Regardless of the certification-level of the tutor, sustained training and retention matter; for example, volunteer non-certified tutors produced substantive, positive effect sizes in one site of Future Forward. Qualitative evidence suggested this was the result of strong training from a former Title-1 reading instructor, excellent volunteer retention, and strong shared commitment to the program's mission.Scaling efforts must work to ensure all sites create instructor buy-in to ensure environments of trust for students to cultivate a love of reading and academic self-efficacy (Halpern 2006). Part of what creates an impact is the relationship developed between the tutor and the child; positive child-staff relations in programs are positively related to reading grades in Grades 2 and 3 (Douglass et al., 2018; Pierce et al., 2010).

Intervention Type	Description and Weight of Evidence	Scaling Considerations
Social Emotional Learning (SEL) Interventions	<p>Evidence indicates that the strong association between SES and poorer academic performance is mediated (in part) by lower prefrontal executive functioning skills, attention control, and self-regulation. Responding to this causal mechanism, SEL interventions can help low-income students to develop academic self-efficacy and core executive-function competencies which are critical for early literacy attainment (Corcoran et al., 2018; Finders et al., 2021; Noble et al., 2007). Recent meta-analyses of evidence-based SEL programs indicate average pooled effect sizes centering around .25 standard deviations in student reading achievement; one study found evidence-based SEL results in a roughly 11 percentile-point increase in academic achievement on average (Corcoran et al., 2018; Durlak et al., 2012.).</p>	<ul style="list-style-type: none"> One major factor associated with successful and enduring implementation of evidence-based SEL models is the accountability and involvement of school leadership in the scaling process. The presence of an implementation committee to resolve scaling barriers day-to-day, as well as the involvement of individuals with shared morale and a sense of ownership, determined success in one SEL-scaling analysis (Elias et al., 2003). School-wide SEL interventions have larger effect sizes in schools with poor reported accountability, safety, and mutual respect at baseline (McCormick et al., 2015), likely because this approach can promote better classroom environments through providing tools for teachers to give greater emotional support, better classroom organization, and improved instructional support (Hagelskamp et al., 2013). While schools struggling to provide a positive and supportive environment might benefit from school-wide SEL interventions, schools with modest or high levels of accountability and social-support at baseline may produce more cost-effective achievement gains for low-income students through scaling alternative interventions.
Family Engagement Programs	<p>Recent evidence suggests that parental expectations and engagement isn't the issue, so much as families' access to high-quality instructional and conversational engagement at home (Garcia & Weiss, 2017; Golinkoff et al., 2018; Romeo et al., 2018). Hence, parental interventions can shift from a deficit mindset to mobilizing parents with resources to be champions and mentors for their early readers. In one study of early head start, family home involvement in teaching about letters and words resulted in an effect of $B = 1.30$ on a decoding subtest, while family shared book reading produced an $ES = .25$ and family-school involvement through volunteering produced an $ES = .54$ (Hindman & Morrison, 2011).</p>	<ul style="list-style-type: none"> Certain contexts are more ripe for scaling high resource, high impact family engagement and outreach than others, with emerging evidence indicating that cultural awareness of engagement coordinators is critical. Evidence from Future Forward's recent research indicates that the program creates a larger impact for black students and families, particularly black boys, due to the importance of culturally-competent family engagement and mentorship for young black students, especially boys, and their families. This highly intensive intervention was also an excellent step towards equity within the specific context of a previously highly-segregated school district, because low-SES students of color needed MTSS support in order to level the playing field when they were bused to a majority white, affluent elementary school. This innovation should be scaled to similar contexts where students will benefit most from literacy mentorship and family resources.

EIR's Role: Federally Financed Scaling Efforts

Through its role as a funder, convener, and quality controller, EIR can incentivize grantees and policymakers to address the gap between controlled research and sustaining innovations at scale (these roles are explored further in Appendix 2). However, the process of transforming innovations with high “statistical significance” into far-reaching public innovations with a significant impact may fall short if EIR functions as a “cottage industry,” or one where the results of innovations and access to grants are limited in scope and impact to only a few partner districts. EIR Program Officers and grantees have also expressed concern that EIR is too insulated, and external dissemination of the grantee’s findings is not having an inclusive, wide-ranging impact.

EIR must use its power as a convener to ensure clearer information exists on scale-ready innovations, and incentivize researchers to move from a “project” mindset (creating the change themselves) to scaling a change (Coburn, 2003). This involves partnering with districts to build buy-in and the deep, reform-centered knowledge necessary for districts to sustain innovations and center reforms around students' needs (Brown & Campione, 1998; McLaughlin & Mitra, 2001). District level knowledge-transfer may also allow local leaders to assist in dissemination by championing the innovation in their networks of practitioners, creating a wide-reaching, self-sustaining cycle of scaling innovations.

Demand-side dysfunction; LEAs and Scaling Barriers

Policymakers don't want gold-standard perfection, but tangible progress towards local goals



Contrasting with widely-held beliefs by EIR grantees, who are often active proponents of the evidence-based policy movement for connecting ‘gold standards’ of research to practice, policymakers in numerous studies strongly rejected a hierarchy of evidence (Clark, 2019). Rather, a review of existing literature on the research-practice link shows that policy leaders value a “mixed economy” of evidence, including qualitative research, professional wisdom, and local feedback from stakeholders like teachers, district leaders, and families (Monaghan & Ingold, 2019). Data and Gold-Star RCTs can only go so far in recruiting districts; policymakers want innovations to match their priorities and needs. Confronting this reality is the first step toward ensuring grantees are taking a pragmatic approach to scale by meeting districts where they are. EIR’s convening role and funding prowess can be leveraged to ensure that innovators are soliciting real-time feedback, and early feedback, on what districts need.

A review of existing literature on real-world use of evidence and research-to-policy partnerships (RPPs) finds that frequent interactions between both groups as a crucial strategy for “breaking down mutual mistrust and misunderstandings” and building buy-in (Clark, 2019). Convening deeply and often with relevant local decision-makers throughout a grantee’s research design, implementation, and dissemination process enables researchers to frame their findings to address the district’s immediate needs and build mutual trust. In turn, school leaders and district policymakers may also be more likely to learn from, act on, and commit to ensuring system-wide fidelity to the research findings, which may also increase the probability that they deliver positive qualitative testimonials and leverage their professional networks to disseminate research findings.

Variance in Use of Best Practices and “Evidence-Literacy”

Many districts have paid to implement innovations that may claim to be “evidence-driven,” but diverge from current best-practice. In a nationally representative survey of K-2 and special education teachers which asked about what early reading curriculums and programs were actually being used in most classrooms, findings indicated “many instances in which these programs diverge from evidence-based practices for teaching reading or supporting struggling students” (Schwartz, 2019). For example, many teachers don’t know how to incorporate phonics awareness into their practices, a potential gap even within many widely used “evidence-based” programs such as Reading Recovery and Leveled Literacy Intervention (LLI). Many teachers are teaching phonics in some way, but are also using a “cueing” approach that is not in line with the scientific evidence base, encouraging children to memorize predictable texts rather than learning universal skills that will scaffold learning for years to come.

The evidence suggests that teachers acknowledge the gaps in their understanding of the Science of Reading (Duke, 2019); however, teachers cannot simply unilaterally choose to incorporate evidence-based practices. 65 percent of teachers said that their district selected their primary reading programs and materials, and if the evidence behind these programs is weak/nonexistent or comprehensive SOR PD is not provided to supplement the material, teachers often struggle to implement the SOR in their classrooms (Dailey, 2013; Duke, 2019; Schwartz, 2019). Teachers and other educators need embedded training on SOR, and principals and district leaders may need clearer benchmarks and resources on “evidence literacy” to discern across a menu of validated programs. EIR can empower grantees to ensure district partners have a deep and lasting commitment to their program’s structure; embedded, frequent training and school cultures that embrace constructive feedback will ensure systemic changes to teacher’s practice will last for future cohorts (Klingner et al., 2013; Kraft et al., 2018).

Supply-side dysfunction; Grantees aren't Empowered to Design and Collaborate For Scale



Pilots aren't built for local ownership and broad system-change

Pilots are a necessary building block to lab-test theories of change; but “rarely lead to widespread or sustainable use” because they focus too much on evidence-based interventions in silos (Fixsen et al., 2009). Rather, grantees and districts must work together to build the buy-in from decision-makers and the implementation capacity for the effective deployment of programs in real-world settings. The Department can encourage stakeholders to build their collective knowledge of scaling-best practices to translate pilot programs to widespread, sustained teaching practice and district-embedded tiers of literacy support.

Collaborative design processes ensure a real-time response to scaling barriers and facilitate feedback loops for iterative improvement, ensuring more practitioner-friendly innovations so that on-the-ground implementers are more likely to commit to learning “new ways of doing” (Fixsen et al., 2009). For example, this may look like ensuring that literacy innovations are designed and communicated in a way that doesn’t threaten teachers’ sense of competence and expertise; soliciting this type of feedback can demobilize potential teacher opposition (Perlman Robinson et al., 2020). If teachers have input and are positioned as enthusiastic partners as opposed to reluctant test dummies, then it’s both easier to change their “ways of working” at a rate they can reasonably acclimate to, and the innovation may be more scalable to other teachers later on. However, for grantees to overcome the barriers to effective research-practice partnerships, EIR may also have to alter its policies and cultural norms.

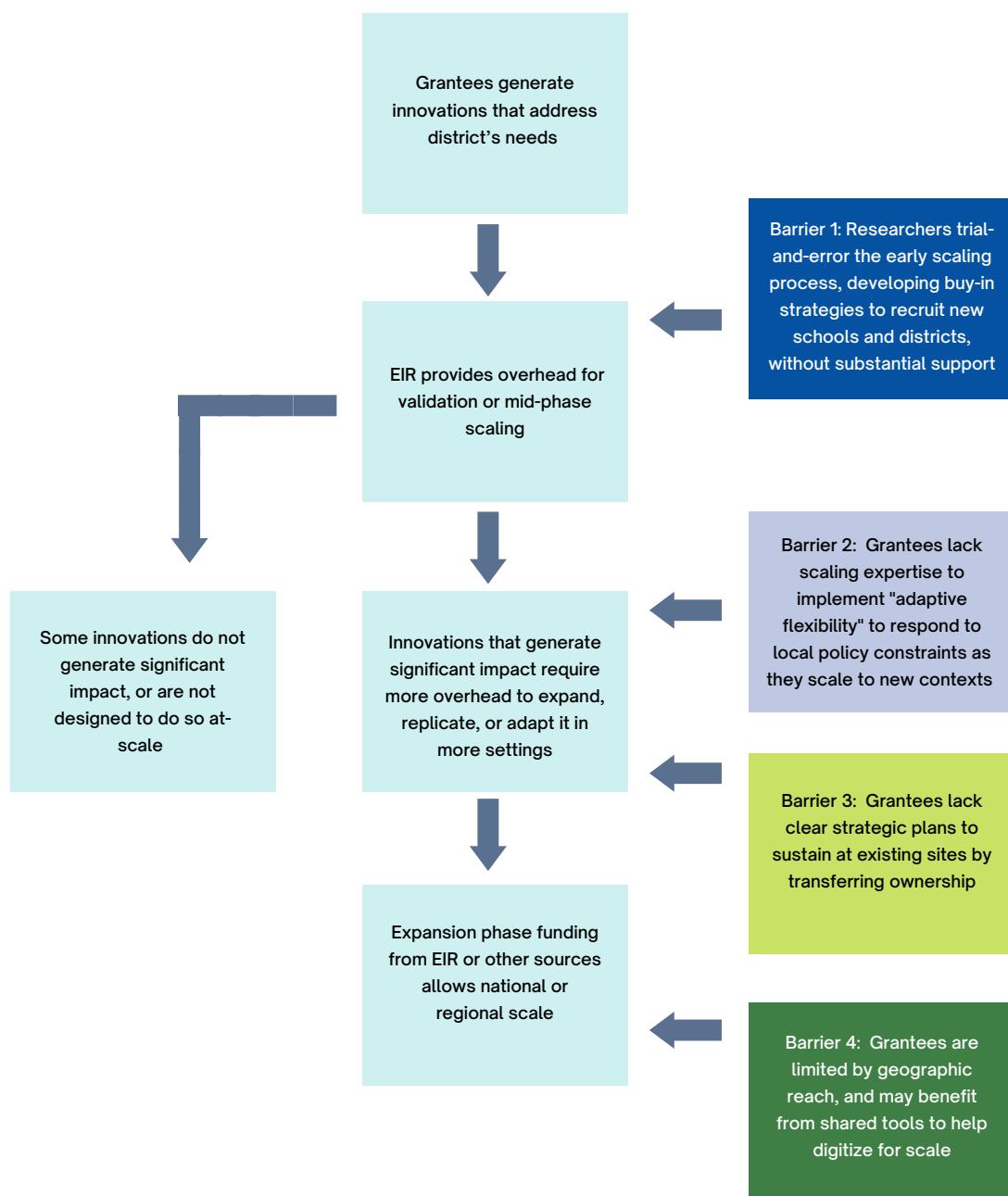
EIR as an “Enabling Environment” for Successful Research-Practice Partnerships

EIR itself may serve as a microcosm of what scaling literature often calls an “enabling environment” for scaling a systems change, defined as “political economy factors, power dynamics, incentives, and social and cultural norms” which impact the innovator’s ability to bring a change to scale (Perlman Robinson et al., 2020). Mirroring the ways in which grantees must ensure a shared commitment to a culture of improvement and feedback and collaborate with districts to institutionalize their innovations, EIR must also foster a productive enabling environment that allows for grantee partnerships, knowledge sharing, and room for course correction in response to continuous feedback as innovations are implemented at-scale. However, this environment may fall short due to the funding incentives and power dynamics that moderate Grantees’ relationships with their Program Officers.

Theory of Change: EIR and Scaling

One implementation team leader for a Mid-phase grant project reported that “we’re trying to prove ourselves to continue funding and get into rooms we’re yet to enter” but she felt a “fear of ‘let’s not share what we haven’t mastered yet’” and thus approaching her Program Officer about scaling felt like an “intimidating thing.” Some grantees also reported that they weren’t sure exactly if or how their program officer, or EIR in general, could help them to address these issues; they felt they had to go through this trial and error process alone, rather than connecting with other grantees or their PO to find scaling solutions sooner. Figure 3 positions these barriers to scale, which are expanded on in the following section on the qualitative findings, within a “Theory of Change.”

Figure 3: Theory of Change (EIR Scale-Up)



Qualitative Evidence: Findings from a Deep Listening Tour with Front-Line Implementers

Through a deep listening tour with over 20 school leaders, researchers, implementers, and educators throughout February-March 2022, findings indicate bright spots where scaling practices are working for grantees. Appendix 1 provides a more robust evidence review of the shared narratives, best practices, and throughlines across grantee and stakeholder engagement interviews.

Major Qualitative Findings: Scaling Barriers and Solutions

	1) Building Buy-in Through Strong Partnerships with Districts Finding: grantees and frontline implementers identified the flow between district-level, school administration, and classroom level buy-in as a critical component for successful scaling, and one where they could use more support from communities of practice.
	2) Responding to Local Contexts with Adaptive Flexibility Finding: frontline implementers scaled more successfully when they identified the core elements that they must build knowledge of at every level of the school system. Once these core components are identified they should simplify, adapt, and streamline the rest as the context required.
	3) Transferring Ownership to Districts Finding: Sustainable transferral of ownership was the area in which grantees and front-line implementers often needed the most support. Emerging bright spots included sustained training and fidelity check-ins, use of real-time data to monitor for fidelity as ownership transfers, and addressing turnover by building institutional knowledge.
	4) Digitizing To Reach a Broader Geographic Scale Finding: grantees and frontline implementers benefitted from teachers increased knowledge of digital platforms throughout the pandemic, which can be leveraged to increase scaling capacity through online trainings and implementation platforms.

The analysis below identifies several areas where the Department could increase its efforts to disseminate innovations and incentivize localities to scale innovations with a strong evidence base, tweaking the EIR “Theory of Change” model to provide expanded grantee support in this area. It also provides 3 case studies that illustrate scaling best practices, and overcoming barriers to systems change, taking place across multiple current EIR-funded projects.

Barrier 1: Developing School and District -level Buy-in

Grantees, frontline implementers, and school leaders identified the flow between district-level, school admin level, and classroom level buy-in as a critical component for successful scaling. Buy-in is critical to earning initial contracts with district partners, but also to ensuring fidelity and institutionalizing the innovation for sustained implementation. All project leads and implementers interviewed, ranging from district leads to literacy coaches and tutors on the front lines, expressed that they might have benefited from **technical support and collaborative partnerships to strategize outreach and buy-in strategies with districts and school sites.**

The following 5 strategies were uncovered as best-practice to establish buy-in:



Working in Conjunction with Existing School Policies and Local Priorities

- Embedded District Staff can help to monitor for fidelity
- Principals also play a critical role here



Using Testimonials and Data Stories Can Help Illustrate Impact

Research dissemination networks and testimonials must embrace the “mixed economy” of data that real-world policymakers value



Hiring Former Teachers as Ground-level Implementers

Certified educators have a strong understanding of the mindset of teachers as a new innovation is introduced, which can be an asset for implementation teams



Managing Long-term Expectations by Embedding Systemic “Nudges”

- Administrative support and buy-in is necessary for sustainability
- Leadership and commitment from the Principal can ‘trickle down’



Clarifying Specific Subpopulation “Match” with School Contexts

- Partnering with districts who serve specific high-impact student subgroups
- Scaling in districts with pre-existing “implementation infrastructure”

Barrier 1: Developing School and District -level Buy-in

Case Study: Huntsville, Alabama

Leaders Need District Support to Scale-up Innovations



In Huntsville, Alabama, a former teacher initiated the Future Forward program in 2 majority white, affluent schools. The program was formed in response to the school's need to provide additional tiers of support for a new cohort of low-income students of color who were being bused to the school from a local public housing complex, a result of the district's continued DOJ desegregation purview. This challenging local context created a demand for a program akin to Future Forward's community-school partnership model which combines one-on-one tutoring and family engagement. Undoubtedly, one ingredient for this site's success was the "match" to the student subgroups being served; Evidence from recent program evaluations indicates differential effects for black students, particularly black boys, which independent evaluators suspect is a result of the differentially large benefits of mentorship for this subgroup (see Appendix 1 for more on "matching").

The team of mostly volunteer, non-certified teachers has achieved a substantial impact through fidelity to the evidence-based program structure. A lead tutor at one site explained that "we've started at the bottom and worked our way up" to develop strong school buy-in and excellent tutor retention. While other sites often face barriers to teacher and principal trust using a "top-down" approach, this site has excellent school-level support but struggled to develop buy-in and deal with administrative turnover at the district level. The program leaders expressed that they hadn't been able to expand their programs' reach to eligible children in high-poverty elementary schools nearby, partially due to their reliance on federal grants in the absence of any long-term district funding sources like linkages to Title funding.

Barrier 2: Adapting to Local Constraints

Grantees must be encouraged to identify the core elements that they must build knowledge of at every level of the system; however, once these core components are identified they should simplify, adapt, and streamline the rest as the context requires (Perlman Robinson et al., 2020). One grantee described the importance of "proper training, proper communication, and making sure people understand what things are non-negotiable...and what things there is maybe a little wiggle room on."

Barrier 2: Adapting to Local Constraints

Case Study: Fontana's Teachers Union

Leveraging Adaptive Flexibility and Technology when Unions Create Barriers



A Director of School Outcomes discovered that in order to ensure sufficient "dosage" of literacy coaching and sustain program fidelity in Southern California, her team had to work around the local Union constraints regarding teacher feedback. The innovation's model worked well as originally designed when she led implementation in charter school districts, in which the "enabling environment" was more conducive to frequent, robust teacher evaluation and feedback.

However, a strong union presence made this a challenge in a new "enabling environment." When she was charged with implementing the innovation within the policy context of the public district (namely, Fontana district's rigid feedback system which intends to protect teachers from scrutiny), she had to adapt. As the pandemic unfolded, she leveraged teachers' new zoom proficiency and had coaches hold virtual meetings with teachers outside of their class time to give sufficient face-to-face (or screen-to-screen) feedback and ensure fidelity to essential program components. See Appendix 1 for more on adaptive flexibility and the use of technology to scale.

Barrier 3: Transferring Ownership

Sustainable transferral of ownership was the area in which grantees and front-line implementers were the most lost regarding what their programs would look like long-term. However, a few bright spots emerged regarding sustaining programs, monitoring for fidelity, and becoming embedded in the culture and policies of the school systems they worked with.

1. *Sustained training and fidelity check-ins*
2. *Using real-time data can help to monitor fidelity as ownership transfers*
3. *Addressing turnover through institutional capacity-building and knowledge transfer*

Barrier 3: Transferring Ownership

Case Study: Literacy Champions



School Implementation Liaisons Embed Capacity-Building at-Scale

One grantee was able to create structures to “nudge” ground-level implementers (teachers) to ensure effective use of their evidence-based innovations by placing in-house implementation supports in each school in the form of “Literacy Champions” (or “Lit Champs”). Often, they dedicated all their time to implementation support; one program manager felt that “they’re on that high level of the framework....so that they are in that capacity building role of that district and school.” Both front-line implementers and program leaders noted that this role was critical for maintaining fidelity at scale. According to front-line implementers, schools that had “Literacy Champions” to address day-to-day barriers to scale were generally much more successful during implementation, because “that person is on-site..... some of the turnover is handled, the training and the scaling up, it's done by that person on site.” These “Lit Champs” were tasked with being a champion for teacher buy-in and fidelity; preferably, they were teachers on assignment, not full-time teachers. This extra bandwidth allowed them more time to work directly with teachers to ensure a smooth rollout of the coaching innovation and accompanying policies.

Barrier 4: Digitizing for Geographic Reach

The previous scaling strategies largely rely on face-to-face relationship-building to instill trust and buy-in amongst local leaders and teachers; however, grantees seek to reach new states, regions, and remote communities while being limited by short timelines and scarce funding. A major bright spot is the potential to digitize convenings and training to scale up to areas where program staff cannot physically reach. Scaling literature suggests virtual coaching can be just as effective; one study found that the lack of any statistically significant differences in effect sizes between in-person and virtual coaching suggests that **virtual coaching models can maintain quality while increasing scalability** (Kraft et al., 2018; Powell et al., 2010). Multiple interviewees were located in one space but had been working with districts on both coasts and multiple spaces in between, all made accessible through virtual coaching and digitizing processes for scale. The following best practices emerged:

1. *Beware of Zoom Fatigue and Dose Trainings Strategically*
2. *Including Teachers in Design Processes so Platforms are Accessible*

Current Policy

Before EIR can assess new policies to address barriers to scale, a comprehensive understanding of current policy (and where it may fall short) must be delineated.

Vetting solutions for rigor of evidence

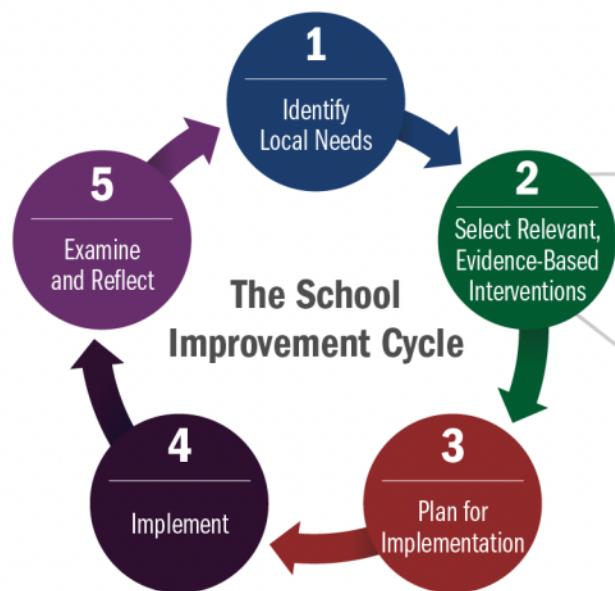
The vetting of innovations by oversight bodies such as IES, EIR, and the Department at large is critical to ensure schools implement well-tested innovations that promise cost-effective results, or to identify potential areas to experiment and innovate by participating in the validation of early phase innovations (OESE, 2016).

ESSA tiers of evidence and the What Works Clearinghouse are intended to provide districts and schools with resources and flexibility to choose amongst evidence-based practices to improve student performance (IES, 2019). Within this overarching structure, EIR programs are intended to be at the forefront of the early education innovation field, but “Step 2” in the “School Improvement Cycle” illustrated to the left is currently a sticking point. Qualitative data from the deep listening tour indicates that many districts may lack the transparent resources and implementation capacity to differentiate across innovations and their strength of evidence (Duke, 2019; Schwartz, 2019). Throughout the “School Improvement Cycle” (especially Steps 2 and 3), schools need clearer information and incentives to choose quality programs.

Application Requirements, Technical Assistance, and Monitoring

While Program Officers have reported that they have been checking in with grantees on some scaling concerns in their Annual Performance Review (APR) meetings, these are quarterly, and there are no clear guidelines on what must be covered. Section C of the current grant application requires grantees to provide a “Strategy to Scale” that details potential solutions to address barriers to scale at the time of application (Federal Register, 2021). Further, Section D’s “Resources and Management Plan” includes a section on “Capacity to Bring the Project to Scale” and “Potential for Continued Support.” The Scaling and Sustainability COP is a new form of assistance/convening. One aspect of EIR’s Annual Performance Measures that drives technical assistance is “the percentage of grantees that implement an evaluation that provides information on the cost-effectiveness of the key practices to identify potential obstacles and success factors to scaling” (Federal Register, 2021). However, the frequency and degree to which they update EIR personnel on their progress towards sustainability as the project timeline progresses are at the discretion of Project Directors.

Figure 3:
ESSA School Improvement Cycle



Source: IES, 2019

Policy Proposals

The following proposals are potential policymaking priorities that OIEL can utilize to lead grantees, SEAs, and LEAs towards more effective dissemination and scaling efforts. These policy ideas will be evaluated on criteria of interest to EIR; sustainability, effectiveness, fidelity, cost, and implementation feasibility.

1

Prioritize Scaling Early: Evaluate Grantees on Design for Implementation Capacity

Grantees will receive additional points on their EIR mid-phase grant application if they submit a data-driven proof of concept that illustrates their capacity to scale, as well as an implementation plan to shift ownership of their innovation to district partners. This policy alternative could help address a major barrier to scale identified through qualitative data; most national Project team members interviewed did not see the value or feel comfortable in approaching their Program Officer or other EIR staff about scaling barriers, but the majority of grantees and front-line implementers interviewed desired more conversations on scaling. One Project Director explained that “just having these conversations would ... help with the barriers of a program being more willing and open to reach out to the Department and say ‘I’m struggling in this area.’” By embedding these conversations into the grant application process, EIR staff may encourage grantees to collect data on scaling and discern necessary institutional support for implementation as they tweak their design in the early project stages.

2

Convene Stakeholders to Co-Design Scaling and Dissemination Support System

EIR could leverage the momentum of its Scalability and Sustainability COP to create a more comprehensive support system for grantees to plan for scale throughout the grant cycle. This could be accomplished through convening experienced project directors at EIR, grantees who reached critical scale with fidelity to their model’s essential components, principals, ground-level implementers, and policy leaders at the district and state levels. These stakeholders will gather more data from both anecdotal case studies and EIR data; they can identify holes in the existing process which may allow high-potential innovations to fall through the cracks. Sharing and collecting qualitative data and their experiences will allow the group to lay the groundwork for a new collaborative framework for accountability and technical assistance.

3

Link Title Funds with Evidence

Many grantees lack access to sustainable, dependable funding streams after the lifespan of their grants. The majority of grantees and school-level implementers indicated that their districts did not have concrete plans for long-term funding, yet many were also unable to use Title funds to finance the program or meet EIR's match requirements. Education reformers noted, prior to the passage of ESSA, that there was "little evidence that.... funds are used for effective services and activities" (Dynaski & Kainza, 2015). Practitioners called for a bridging of the gap between "what works and what the money is spent on;" while Evidence for ESSA does take major steps to bridge these gaps, qualitative evidence indicated that gaps between research and practice still exist. In response to this incoherence across federal programs, EIR could directly tie Local Education Agencies (LEA's) access to discretionary and formula grant funding to their use of innovations with rigorous evidence. This may include federal funding streams such as School Improvement Grants, Title 1 and 2 formula funds, or specific programs like Innovative Approaches to Literacy (ESEA Title II, Part B, Subpart 2, Section 2226.).

4

Ramp up Vetting as the "FDA" of Education Research

The Department could also ensure that "evidence-based" remains a meaningful stamp of approval by using its "quality control" role to conduct an information campaign on evidence-literacy. EIR and IES can expand the Department's gatekeeping role by providing more clear requirements for states on the cost-effectiveness of program types and their position within the ESSA evidence tiers, without attaching this information and guidance to funding as detailed in Alternative 3. This alternative addresses a common concern amongst grantees; public schools are often enticed by "quick fix" programs and struggle to commit to sustaining rigorously proven programs for the long haul. For example, grantees noted the popularity of "i-Ready," a relatively inexpensive program that technically meets the ESSA standard for "evidence-based," but has no independent evaluations that show a significant effect size, with multiple showing zero or even negative effect sizes (Curriculum Associates, 2021). iReady is among many potential uses of Title funds that are not backed by current evidence (Duke, 2019; Schwartz, 2019). In response to the poor demand for high-quality research, the Department can provide clearer guidelines and accessible resources to state liaisons, bolstering district-level capacity to scale innovations.

Criteria for Evaluation

Effectiveness

Policies were ranked on their effectiveness based on the extent to which they would encourage stakeholders to implement strategies such as adaptive flexibility, promotion of practitioner knowledge-sharing, and inter-grantee informational networks for strategies to gain district buy-in and reach a larger proportion of the high-need students across more districts. Due to the realities of EIR's top-down policy jurisdiction, which must remain a few steps away from ground-level scaling results, the "certainty of success" of different policy approaches was approximated with metrics within the immediate jurisdiction of EIR. A highly effective policy would expand the community of practice for grantees to collaborate, extend policies that link EIR funds to innovations with proof of implementation capacity, and/or link grantee programs to external federal funds.

Cost

Preliminary cost ranges were calculated by estimating the opportunity cost of participating EIR employees and external entities' time and salaries for any new consultants or employees, as well as technology and in-person convening costs. These costs were projected over a 10-year time span and adjusted for inflation and a social discount rate of 4 percent. Please see Appendix 3 for full cost assumptions and projections.

Fidelity

Policies were scored on the extent to which they encourage fidelity, defined as the probability of scaling in a manner consistent with research-validated program design. Policies were ranked highly on the fidelity criteria if they discerned clearer processes or standards for grantees to maintain fidelity to their original models while reaching a larger portion of eligible students, and/or if they created standards for districts and states to monitor and allocate funding to programs closely aligned with current evidence-based practice.

Sustainability

A sustainable policy option would incentivize grantees to develop and implement their innovations to transfer essential knowledge of the innovation to localities and build “the institutional capacity of an education system itself” (Corburn, 2003; Perlman Robinson, 2020). Sustainability was measured by the likelihood that funding goes to innovations with a detailed plan to transfer knowledge to local decision-makers and implementers. Policies received high scores for incentivizing sustainability with funding and/or creating explicit platforms and opportunities for grantees to develop sustainability strategies.

Implementation feasibility

Policy alternatives were scored on their implementation feasibility based on the change-management work that the policy requires the Department’s employees to oversee, both within the Department and externally. Highly feasible alternatives would only require changes within EIR and its grantmaking process, while inter-departmental or state-level rollout and complex rule changes signify less feasibility and more opportunity for bureaucratic slippage. Policies received higher scores if they don’t require changes to existing rules within EIR, interdepartmental collaboration, or state-level rollout. More feasible options also entailed the involvement of a smaller number of actors in policy rollout, and/or simple rule changes.

Policy Recommendation

Policy Option 2, convening stakeholders to co-design a support plan for grantees, was determined as the most well-rounded and cost-effective solution that could be immediately and unilaterally implemented by OEIL and the EIR Office. However, this will not address some of the long-term issues raised by grantees concerning linkage with long-term funding streams (such as Title Funds) or mismatch between the rigorous impact evaluation process and the “evidence literacy” of LEAs.

This immediate action should be followed up with the **long-term, system-wide reforms to ensure the linkage of Title Funds to programs with a strong evidence base**, Policy Option 3, as well as state-level outreach and technical assistance described in Alternative 4. The promulgation of any new rules regarding a State's use of Title Funds should be immediately followed by Alternative 4, the Outreach Campaign on Evidence-Literacy, to ensure SEAs and LEAs have the tools for effective state-level implementation of the rule change. The information campaign could be carried out by the Deputy Assistant Secretary for State and Grantee Relations, and the Office of State and Grantee Relations and Evidence-Based Practices, to ensure each state has a leader prepared to encourage broader dissemination of evidence-based practices. Please reference Appendix 3 for a full description and projected outcomes of all policy options for each criterion of interest, as well as full cost assumptions and calculations yielding the listed 10-year cost ranges.

Figure 4: Policy Outcomes Matrix

	Effectiveness	Fidelity	Sustainability	Implementation	Cost
Prioritize Scaling Early	(Low)	(Low)	(Medium)	(High)	\$200- 270k
Convene Stakeholders to Design Support Plans	(High)	(Medium)	(Highest)	(Highest)	\$700- \$815k
Link Title Funds to Evidence	(Highest)	(High)	(High)	(Lowest)	\$1.5- \$2million
Ramp up the Department's Vetting Role	(Medium)	(Highest)	(Low)	(Low)	\$1.6- 1.8 million

Short Term Policy Actions

The Department should continue the momentum of EIR's existing Scalability and Sustainability Community of Practice, as well as Program Officers' reported efforts to focus on scaling issues during 2021-2022 APR reviews. Extending on these recent developments can allow EIR to more systematically engage stakeholders to create a comprehensive support system, ensuring these types of conversations continue to grow so all grantees have the resources they need to plan for scale throughout the grant cycle.

This policy option was developed in response to the clearest emerging concern amongst grantees; they wanted to hear from other grantees on how they were developing buy-in with new school sites and ensuring the district's commitment for the long haul. Currently, grantees reported that much of the scaling process requires making lots of mistakes by trial and error. While this is partially unavoidable and a key aspect of the EIR theory of change is to improve innovations and tweak them for scale, researchers and local project leaders alike desired more networks to learn from other innovators' mistakes and best practices, particularly when it came to institutionalization and forming strong partnerships. Moreover, the unmet need for more grantee convening inspired the idea for the "co-design" of a new technical assistance process, centering the voices of key stakeholders and frontline implementers in strategic plans to expand the COP and ramp up EIR's current role as a partner, supporter, and convener.

All grantees interviewed felt that presenting compelling value propositions for their innovations to schools was difficult. Despite the high costs of going through EIR's validation process, project leaders felt that the prospects for dissemination of results (and their accountability in the process of dissemination) were unclear.

"WWCH and Evidence for ESSA get you 2% of the way towards addressing the issue.... how do you get the rest of the way towards spotlighting programs that work?" - EIR Independent Evaluator

Spotlighting programs through long-term, systemic federal policy changes (such as Policy Options 3 and 4) may partially close this gap; however, due to the localization of decision making, direct outreach to districts will be critical for grantees to reach their scaling goals. Promoting best practices for this type of engagement is within the short-term policy capabilities of the EIR Office; see Appendix 3 for long-term actions to supplement grantee outreach efforts, including Option 4, a state outreach campaign.

Qualitative evidence also suggests that grantees want to create networks for scaling conversations that could last beyond the lifetime of their EIR grants to "connect with other grantee programs who are in similar situations that are struggling to get into the doors of school districts." One grantee struggled with this in-between grant cycles; "after the i3 grant, we had such good results, we were thinking school districts were going to rain down on us....and I don't know whose responsibility it was to say here's this incredible program, here districts, here state leaders. Who dropped the ball?" This policy works to answer what many grantees phrased as a "marketing" dilemma, bridging the disconnect between researchers and their "target markets" in LEAs to uncover compelling ways for grantees to use data stories, testimonials, and appeals to existing school priorities in order to build district buy-in.

The team of national project leads, frontline implementers, school leaders, and implementation science experts will devise a new plan for project management protocols and accountability measures throughout implementation. This will include brainstorming new ways that EIR personnel might support project teams, and perhaps even new personnel that would be useful resources within the Department. For example, partnerships through the Department might provide connections for grantees to have access to an implementation science perspective (practitioners and researchers from institutions like the National Implementation Research Network, NIRN) or experts on digitizing innovations for scale. The working group could be created in FY 2022 and begin working with just mid-phase grantees to adjust the program before rolling it out to all grantees.

Effectiveness: High Certainty

The task force would empower grantees and their partners to collaborate during scale-up. The process will give voice to those with lived experience scaling innovations in the field to design potential policy change, which may be a fruitful approach to overcoming common implementation barriers. Recruiting ground-level implementers to design a more robust community of practice would also allow for improved dissemination of scaling best practices because the process would ensure they can share information in ways that work for them. One drawback of this policy is that it doesn't directly involve linkages to federal funds and thus fails to address the misalignment between Title programs and the existing rigor of validated, evidence-based interventions which Policy Options 3 and 4 more successfully address. However, the group's new technical assistance plan will include working to link the development of a "Scaling and Sustainability Plan" to the continued flow of grant funds; the policy requires stakeholders to find ways to integrate scaling check-ins more comprehensively within their APRs.

Cost Range: (Low Cost) \$700-815k over 10 years

10-year cost estimates range from \$700- \$815k in technology costs, salaries, and the opportunity cost of EIR employees' project management time, discounted for the social discount rate and accounting for inflation. Please see Appendix 3 for all baseline assumptions and comparisons to all other alternatives over a 10-year timeframe. The estimated first-year costs of the Stakeholder Engagement Program included:

- Salary (or opportunity) costs to compensate stakeholders for time participating in the group.
- The cost of allocating 2 EIR Program Officers time to spearheading the process.
- Use of Microsoft 365 Business Standard for a new “EIR Scaling Task Force” account to host webinars, working groups, and shared documents.
- For the following years, sustaining the working group and building on its work would require one Program officer to maintain the program, while the task force would continue to dedicate the same amount of time to the COP

Fidelity: Medium

This policy will encourage grantees to share best practices for fidelity, and although it prioritizes scaling, the COP will help grantees uncover practices to maintain core components of their original research models at scale. However, it does not create additional LEA/SEA standards to ensure they fund best practices.

Sustainability: Highest

This alternative scores highest among all options on the criteria of sustainability. It both incentivizes scaling with EIR/OESE funding through the “Scaling and Sustainability Plan” and advances a more robust community of practice to help grantees to workshop scaling strategies for transferring reform ownership.

Implementation feasibility: Highest

This policy will take place within EIR’s jurisdiction, requiring little interdepartmental collaboration or state-level rollout. It involves relatively few actors. The working group may lead to major overhauls, which may or may not include complex regulatory changes throughout the grant process.

Next Steps

The effective rollout of the working group will involve a backward-mapping approach to foresee ground-level implementation barriers. EIR should also recruit a diverse team of project leads and ground-level implementers who are representative of the populations served by the grant and promote a group environment that feels safe for risk-taking.

Backward-Mapping Overcomes Departmental Limitations

The success of rolling out new scaling-support policies to all grantees will depend on grantee and partner districts' ability to implement the new framework, which relies on “specialized problem-solving capabilities further down the chain of authority” (Elmore, 1979). Thus, EIR can only indirectly influence many factors of the scaling process; however, the frontline implementers in the working group will provide critical perspectives on the knowledge and capacity of local administrators, incentive structures facing teachers and principals, and bargaining relationships among political actors and unions.

Avoiding Group Failure through Facilitating Open Meetings

The environment should also promote “psychological safety.” A longitudinal study by Google identified this as a critical component of high-impact group work; when they feel safe, team members will take risks when proposing potential ideas and plans for scaling support (Delizonna, 2017; Duhigg, 2016). Findings from the listening tour indicated that some grantees felt intimated to openly engage with EIR Program Officers about barriers to scale. To ensure psychological safety for the working group to take risks that result in effective policy changes, EIR facilitators may need to step out of the zoom meeting, which is consistent with PO's current sense of COP best-practice.

Representation and Equity of Voice for Grantees

Research shows that when districts and schools (and more than likely, teams leading innovations in the field) bring more principals of color to the table, more teachers of color are hired, and students of color and low-income students experience large achievement gains (Carver Thomas, 2018; Superville, 2021). Due to the importance of lived-experience in understanding how to best scale innovations in these contexts, these marginalized identities must be also represented at the table within this new working group.

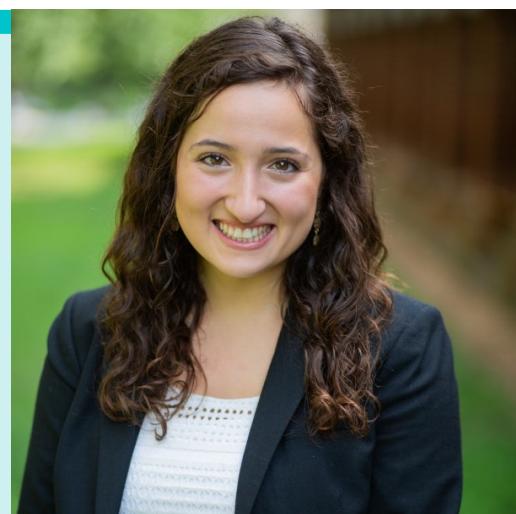
Conclusion

While the EIR-specific policy of convening project stakeholders to co-design a support plan should be OILE's immediate priority, this action should be followed up with the long-term, system-wide reforms. OESE could ensure the linkage of Title Funds to programs with a strong evidence base (Policy Option 3), and accompany new regulatory guidance with state-level outreach and technical assistance described in Alternative 4. Interdepartmental collaboration can amplify the impact of this EIR-specific policy action, ensuring that grantees have access to new funding streams to finance innovations for the long haul. Once these higher-cost alternatives are feasible, and districts are more fully recovered from the disruption of the pandemic, investing in more coherent interdepartmental policies and outreach will bolster the Scaling and Dissemination Support System by ensuring districts are incentivized to commit to sustaining high-quality innovations.

Ensuring that states and localities have the incentives, sustainable funding, and opportunities to share knowledge and best-practices for scaling will translate to more schools having the capacity to implement programs that fit their contexts and priorities for early literacy growth. Policy action at the federal level must be taken to ensure broader scaling and dissemination of innovations that ensure all early readers have the opportunity to succeed.

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Appendix 1: Qualitative Findings

Overview: Qualitative Interview Methodology

The following qualitative data were the result of an open listening tour with over 20 education reform stakeholders from across the nation. This included national program leaders, principals, local project coordinators, and frontline implementers such as tutors and instructional coaches. Following IRB approval to conduct these interviews under the guidance of academic research advisors at the University of Virginia's Batten School of Leadership and Public Policy, the Principal Investigator reached out to the national leaders of multiple EIR grant projects to connect with individual district leaders, project sites, and other partners. These interviews occurred via Zoom or Microsoft Teams from February-March of 2022, using an open-ended survey design consisting of questions regarding local implementation, barriers to scale, transferal of ownership to the LEA, program aspirations and achievements, and student/instructor impact.

1) Building Buy-in Through Strong Partnerships with Districts

Finding: grantees and frontline implementers identified the flow between district-level, school administration, and classroom level buy-in as a critical component for successful scaling, and one where they could use more support from communities of practice.

2) Responding to Local Contexts with Adaptive Flexibility

Finding: frontline implementers should identify the core elements that they must build knowledge of at every level of the school system, should simplify, adapt, and streamline the rest as the context required.

3) Transferring Ownership to Districts

Finding: Emerging bright spots sustained training and fidelity check-ins, use of real-time data to monitor for fidelity as ownership transfers, and addressing turnover by building institutional knowledge.

4) Digitizing To Reach a Broader Geographic Scale

Finding: grantees and frontline implementers benefitted from teachers increased knowledge of digital platforms throughout the pandemic, which can be leveraged to increase scaling capacity through online trainings and implementation platforms.

Barrier 1: Developing School and District-level Buy-in

Building capacity for local commitment to an innovation requires creating a compelling value proposition for each new site. Grantees can most successfully gain the buy-in of district leaders, principals, and teachers by framing their innovation and its implementation process “not as a removed research project that will take participants’ additional time and focus” but rather as a “new way of working to address existing challenges and advance current priorities and goals” (Coburn, 2003). All front-line implementers and program managers in the qualitative data set agreed that it was difficult to convince busy school leaders and overburdened teachers that the long-term benefits for student achievement outcomes will outweigh the necessary overhead investments for successful implementation, namely district employee’s time and money.

One grantee noted a struggle to scale and sustain literacy programs was that schools struggled to commit to one literacy program for the long-haul, and build the buy-in necessary to sustain it with fidelity for long enough to make it a part of their school culture, policies, and practices. A project lead from a grantee site in the Midwest described how often they feel that “it’s not that they don’t like us, it’s just that they may have different priorities as the leader of the school, so we may not be on their radar,” however, passive acceptance without buy-in is insufficient to ensure accountability at all levels, because “it makes it very difficult for all the other pieces to work...for the program to work together.” The following best practices emerged across grantee interviews to gain both initial buy-in and long-term commitment.

1) Working in conjunction with existing policies and priorities

Grantees often entered spaces where literacy was already an aim, but current approaches were falling short; innovations were scaled and sustained more easily when they adapted the program to work with these structures, rather than on top of them or in silos.

Embedded District Staff Can be an Asset to Monitor for Fidelity: One grantee worked with schools that already had on-site literacy coaches in some schools. However, the teachers were resistant to letting the coaches observe them and provide constructive feedback; low trust on part of teachers meant that their human capital and capacity to improve instructional effectiveness was going underutilized. The local project lead was able to overcome this ground-level barrier to instructional growth and shift teacher’s narrative slowly by merging the new innovation with the existing policy instituted at the district and school level, instead of working in a silo, she brought the literacy coach into meetings, training them on the coaching intervention.

Thus, by collaborating and generating buy-in with this existing school staff, they can create a sustained change in the existing system by “building that relationship....because once they actually see that things start to shift in their instruction...(the teachers will) feel more comfortable meeting with them.” The EIR Project’s Professional Learning Manager noted that teacher buy-in required showing them the program was ***an asset to their instructional success, not just a time-suck***; students' success and instructional growth were the focus, and thus the message had to be that ***“we have the same goals.”***

Principals Play a Critical Role: At times, this can also be accomplished by framing an intervention as a capacity-building asset to achieve school-wide goals in spaces where teachers and principals don’t have the bandwidth. One principal valued the Future Forward tutors’ ability to fill gaps to achieve her school-wide strategic goals for family outreach, an area that her teachers could not achieve. “What appealed to me is the different spheres...there was the wraparound school care” which filled gaps with parent outreach and strengthened school-community connections. The tutors also became a part of the elementary school’s culture and aligned their policies and protocols, down to the language they used with children. The principal’s efforts to streamline these policies “made tutors feel a part of the school” according to the lead tutor.

2) Using Testimonials and Data Stories to Illustrate Impact

Real-world policymakers value a “mixed economy of evidence,” which includes the data stories and testimonials of other principals and other district implementation sites (Clark, 2019). Grantees broadly agreed that impressive data and WWCH approval only go so far, because the valuation of this type of validation varies greatly across principals; one program leader felt that “it gets you in the door....some schools and personnel are going to value it more.”

Grantee-support policies might help grantees to build more robust networks of dissemination and testimonials to embrace the multiple (and often qualitative or personalized) types of data that real-world policymakers value (Clark, 2019). One principal valued hearing about innovations from other leaders in her network, because often “local is better- when you can hear from someone nearby, can go visit, it helps.” While this approach may work when scaling entails expanding at the district level, scaling to different or new contexts requires different strategies; one grantee addressed this by building buy-in by creating data stories that illustrated the potential for impact at new sites.

3) Hire former teachers as ground-level implementers when possible, and listen to their concerns

A common thread across interviewees was the idea that former teachers have a strong understanding of the mindset that classroom implementers (teachers, coaches, and tutors) may take on as a new innovation is introduced. Certified, experienced educators are an invaluable asset to implementation teams, and should comprise the majority of the workforce taking innovations to scale. For example, one intervention not only hired former-teachers as classroom-level literacy coaches, but also as its higher-up coaching program developers and district-level liaisons. These leaders built their implementation design process around barriers to scale they could foresee from their time in the classroom; they knew it would be difficult to change a teacher's way of doing things.

One former teacher-turned literacy outcomes specialist explained the tension between helping teachers be more effective instructors and critiquing them in their “art.” To many underpaid, overworked ground-level implementers, teaching is not just a job but “it’s a talent, and it is a profession....it’s a very personal thing.” Hence, former educators were the best folks to grapple with the tension; “How do you change practice without saying that what you were doing for (however long you’ve been doing it) was wrong?” One route to overcoming this barrier was merely ensuring that the front-line implementers were “someone that has been where they are and (speaks) their language. I think that there is often a disconnect between the research and theory and what actually happens in the classroom.” She found her experience as a teacher to be one of the most useful tools to “**speak both sides.**”

4) Managing expectations and ensuring embedded “nudges” for commitment for the long-haul

Project directors emphasized the importance of managing expectations carefully. Implementing evidence-based interventions with fidelity requires overcoming the barriers of change-management work in rigid school environments, as well as the temptation for schools to give up when results don’t come right away. According to one teacher-turned-PD-developer, new interventions can often feel like “a burden... it gets overwhelming very fast.” Achieving long-term outcomes requires showing school leaders and teachers that the intervention will support them, their students, and their school’s goals, but will take time and full commitment for the long haul.

One literacy coach “had teachers that absolutely refuse to buy in year one” because they viewed innovations as “just a trend.” However, eventually, she observed that “teachers have made the shift. Most of them have adjusted their pedagogy” and now they “really see the value in it. “ However, she felt that “***it takes that guidance and that nudging along the way because if they were just left with a tool, I don't know that they would have been successful with it.***”

Administrative support and buy-in is necessary for sustainability: Every interviewee in the sample emphasized the critical role that principal and district-level buy-in play in determining long-term success; however, sustained implementation requires both front-line implementers (teachers and tutors) to buy in as well as their higher-up supervisors. Neither a top-down “trickle-down” nor a bottom-up strategy will suffice alone; support at every level of the system is critical, but evidence suggests system-wide buy-in can be developed by starting from either of these approaches.

- **Trickle-Down Support From the Principal Can Work, with Limits:** Grantees felt that gaining principal or district buy-in often resulted in a “trickle-down” effect that helped mitigate teachers’ initial opposition. One program director explained that “we’ve always found that the more supportive a principal is of a program in the school, the more supportive teachers are. It all trickles down, so if we have the higher-level support, the rest of that falls into play.” Even where teachers are hesitant, principal and admin buy-in kept the program running long enough for the teachers to reap the benefits and begin to see the value-add of the intervention.
- One important aspect of gaining that top-town buy-in was embedding admin training into the program structure to ensure they had a strong knowledge of how the innovation would work, and their role in holding teachers accountable. One grantee found a huge benefit when they “took the teacher initial training and expanded it to an administrator initial training” to “look at what their role is, use the framework to push for how we need their partnership to keep the fidelity and keep these outcomes growing.”
- According to one project lead, the best practice for district contacts during their meetings with admin and principals is to integrate the innovation and its data; “the districts that constantly use our tools in their meetings, or talk about A2i, or talk about the data...those are the districts where we see more buy-in from principals and they want to meet with the literacy outcomes specialists.” Ideally, the data collected from the intervention was the district’s sole form of literacy data, due to its enhanced depth and correspondence with the program’s structure, which in turn created buy-in because administrative leaders were incentivized to scale even further to see those outcomes improve across the district.

Top-down buy-in approaches can, however, also fall short when reaching multiple sites at scale if communications and knowledge transfer aren't strategic. Grantees noticed scaling barriers emerged if they didn't engage all levels of stakeholders and bring the right people, especially the key bridging role of principals, into the fold. Issues emerged when "a conversation was had with a district person and they were supposed to trickle it down to these principals but half the message got lost." Clear communication needs to exist at all levels so knowledge isn't lost in the pipeline.

5) Clarifying High-Impact Subpopulations and "Match"

Identifying potential district partners who serve the specific subgroups that benefit most from an innovation, or have forms of "implementation infrastructure" to support scaling and sustainability, can increase the chances of success. For example, one scaling study found that schools that are already engaged in comprehensive use of multi-tiered systems of support are well-positioned to scale-up literacy innovations (Fien et al., 2021). Qualitative data from front-line implementers corroborated this academic evidence; one literacy coaching team found that schools already implementing MTSS benefitted from their small group, individualized approach as a Tier 1 and Tier 2 interventions; this made it easier to position themselves as an asset to the school's existing priorities.

In contrast, one grantee that was implementing a "pull-out" program, locating themselves on Tier 3 of MTSS, found that their value-add required deeper engagement with admin and policymakers to show them how they augmented, rather than shifted within, the existing school system. The project leader explained to principals and distinct leaders, that they may not be able to see the direct benefits for their school; "we don't go in and work with every single child, so why is helping this group of kids going to make a difference in your school? She had to create strategic messaging to show that because they worked with a small group of high-need students, "by helping these kids who are struggling we're overall helping the school...increasing test data, helping with attendance....they have to see it as a benefit for the whole school."

Some innovations may be beneficial for schools struggling with achievement across all students, while others may be best scaled to contexts where achievement gaps between high-need, low-income students and their affluent peers are high, or for particular subgroups such as Black students or ELLs. However, grantee's needed more incentives to delineate who their "target market" should be, and focus on scaling in those spaces.

Barrier 2: Responding to Local Policy Constraints through Adaptive Flexibility

Grantees must be encouraged to identify the core elements that they must build knowledge of at every level of the system; however, once these core components are identified they should simplify, adapt, and streamline the rest as the context requires (Perlman Robinson, 2020). One grantee described the importance of “proper training, proper communication, and making sure people understand what things are non-negotiable(what) is a part of our program and it can’t be changed, and what things there is maybe a little wiggle room on.”

One local program coordinator noted that her sites in Pennsylvania already required “continuing educational requirements” for all teachers; thus, she found that she was building on a pre-existing understanding of the basics of SOR. She quickly understood that “if the teacher is proactive and if they show initiative, several of my teachers went through letters training on their own or as a district initiative, so they had some of the basis....so some of them were already doing the right things.” This site manager acknowledged the contextual differences from other sites with fewer PD requirements, and adapted the intervention; for some schools, she was “going in and making small little tweaks and helping them understand how to better implement the science reading.” This meant shaving off some redundancies in the program components for those schools while keeping the essential basics for schools or districts without those pre-existing requirements where implementers “had no knowledge of (SOR) whatsoever.”

Barrier 3) Transferring Ownership

A few bright spots emerged regarding sustaining programs, monitoring for fidelity, and becoming embedded in the culture and policies of partner districts:

Sustained training and fidelity check-ins

Initial training is critical for building capacity for local leaders to sustain the innovation, but grantees also described the need to supplement preliminary training with consistent monitoring, documentation, and fidelity check-ins. Clear communication and dedication to knowledge transfer on the theory of change of the model itself were critical; according to one program director, “in an ideal world, we are able to help the schools learn our model...we’re not an easy program, and so communication is key.” This means providing frequent updates and check-ins to ensure districts see progress; “we’re doing a monthly report for (one district) because that works for them. As districts are paying for us, that’s something they’re going to want to know (that their money is being well spent).”

Despite the success of frequent communications, this grantee was still uncertain about how they would address the tension between fidelity and local ownership in the long term; “it’s easy for a school to pull away from a program.” This dilemma is exacerbated over time, especially as the “graduated release model” the grantee is developing will result in full district ownership; the grantee worries that “we sort of lose that control and now they’re district employees” so they have the discretion to pull away from key program components, such as by using the tutors to substitute for teachers or run recess time instead of delivering MTSS to high-need students.

Using Real-time Data Can help to Monitor for Fidelity as Ownership Transfers

All implementers, school leaders, and project leaders interviewed agreed that using real-time data through technological platforms can help with scaling and sustaining. One grantee explained how “data stories” can be useful to address common issues at scale; one grantee is creating “demo classrooms” that leverage real-time data and outcomes to help schools overcome common barriers to scale. The grantee explained how the creation of these products might be useful when they can no longer drum up a unique solution for every site because they have broadened their reach.

Another grantee has created a platform to track real-time data and assist with implementation. An implementer expressed that “having it and seeing it in real-time when (tutors) are entering it into the platform will help us out a lot- for (the Director of Instruction) to be able to point out when a lesson is kind of off or a child hasn’t moved in so long, you can monitor that.” The platform can also track district-level assessments as well as literacy growth across years at the district level and school level, which will be useful for sustaining fidelity to the program over time. According to the National Project Director, Principals and districts can “address barriers and see the impact in real-time,” and when fidelity falters, “the platform can trigger an additional tier of support” to meet the needs of that particular school or district.

Addressing Turnover: Institutional Capacity-Building and Knowledge Transfer

Changes in enabling context such as organizational turnover are widely cited in scaling literature as a major barrier to sustainability at scale, and one which implementers must build out strategies to address (Needels et al., 2020). Teacher turnover was a major barrier scale for roughly half of the implementers’ interviews, with the variance within the same programs across sites. It was slightly more common that turnover was a major barrier at the administrative and district level, while the majority of grantees agreed teacher turnover was a major barrier to sustainability. All grant implementers, ranging across program directors, and independent academic evaluators, principals, and literacy coaches agreed that knowledge transfer was critical in addressing turnover, requiring both building in both the people-power and sustained training.

However, the ability of implementers to codify these practices for replication, scaling, and adaptation at future sites (through creating a clear implementation infrastructure to address the issue of institutional turnover) varied. One grantee questioned, “how are we going to make sure that schools have some sort of process so that when staff leaves, principals leave, it isn’t a starting over process over.....that’s not something we’ve figured out yet.” One grantee overcame this barrier through 2 strategies; embedding a “literacy champion” to ensure smooth implementation and training rollout as teachers turned over, and creating flexible options for training.

Barrier 4) Digitizing for Geographic Scale

Digital scaling strategies helped grantees reach new states, regions, and remote communities while being limited by short timelines and scarce funding. One major asset as teachers began scaling with this new mode of implementation was the teacher's growing knowledge of zoom. The following best practices emerged:

Beware of Zoom Fatigue and Dose Trainings Strategically

For one Director of Instruction who led local trainings, zoom fatigue often meant that training for new tutors had to be split up into manageable chunks rather than delivered as a full-day event as they were in-person. For this grantee, “virtual training is a tool to use in certain situations, but we have to think about the dosage.” In-person training was also preferable in the case of this one-on-one, pull-out tutoring intervention that requires hands-on learning for both teachers and students. This approach should be applied strategically where local enabling environments such as teachers union rules on feedback or teacher-time blocking make zoom-coaching the most viable route to encouraging dosage fidelity.

Including Teachers in Design Processes to Make Platforms Teacher-Friendly

As the IT capacity of teachers, administrators, and districts has improved, carefully integrating technology for scale has become more viable, but requires including stakeholders and users in the design process. Building the right development and implementation team is critical to designing usable technology; one literacy coach and the former teacher explained that “there has to be someone that also speaks technology....the people that make the technology, the people that create the technology, they aren’t the users (teachers).” Therefore, often “**what the users (teachers) want is something totally different.....I think having someone that has been a teacher or an administrator or has walked in those shoes is vital.**” EIR might encourage grantees to discover ways to bring “middle-men” into their innovative design and implementation process, which will be critical for effective tech transfer when they begin scaling.

Appendix 2: What Can EIR Do?

According to Ashley Brizzo, Group Leader for the Education Innovation and Research Grant team, the following levers of influence are at the Department's disposal:

The Department's Role; Coordinating and Convening Where Districts Lack Capacity

1. **Funding** for grantees, districts, and states. Public funding for educational research is critical to ensure that equity is centered in this work and that public districts have opportunities to innovate.
2. **Bully Pulpit;** Secretary Cardona's influence is relevant in many cases but plays a minimal role in EIR's daily operations and influences on district leader's choices on when, how, and which types of innovations to take up and sustain.
3. **Vetting** innovations for impact and dissemination of resources to districts
4. **Convening** stakeholders and decision-makers. EIR's "power of the convener" is relevant when entrepreneurs, researchers, and district policymakers may not coordinate meaningful lines of communication or discover areas for collaboration in the absence of policy action. The Department can help create spaces to link innovators with their peers to share best practices, connect researchers to practitioners to ensure districts' needs are informing current research priorities and implementation plans, and incentivize the continuation of these capacity-building partnerships beyond the lifecycle of federal grants.

To ensure policy ideas are feasible, but also create a range of possibilities for relevant Office's across the Department to consider, the focus of this report will be interventions regarding requirements for EIR funding, convening of stakeholders who often work in silos, and ramped-up "vetting" benchmarks and resources for states and district decision-makers. Policy alternatives considered focus on the role of funding from a distributional standpoint; how can existing funds be used more cost-effectively in ways that require changes in EIR protocols, in line with Secretary Cardona's FY 2022 Budget Request, without seeking any major additional appropriations from Congress in the short-term.

Appendix 3: Policy Options/Projections

1

Prioritize Scaling Early: Evaluate Grantees on Design for Implementation Capacity

This policy will hold grantees accountable to plan for scale by making it a required application component for the grantee's to position themselves as competitive applicants for mid-phase grants. It will encourage grantees to think about what implementation at scale, sustainability, and dissemination might look like sooner rather than later. The evaluative stage of this alternative, in which EIR will have to score grantees on their scaling potential and proof of concept, requires that the EIR team discern which of its current team members are credentialed for this type of evaluation. The Department might consider providing upskilling and professional development opportunities to EIR's Project Liaisons and Grant Evaluation Teams. These teams could learn from experts and practitioners at organizations like the National Implementation Research Network (NIRN) to ensure they have the capacity to make clear judgments on the new scaling criterion. Another option could be recruiting an implementation science expert, such as someone from NIRN or a regional scaling research network, who might be onboarded to help provide criteria for evaluation and roll the policy out. EIR might host webinars and workshops to prepare grantees for this aspect of the application, as they already do with "EIR 101" and other workshops, to improve access to scaling support for grantees and connect them to resources.

Effectiveness: Lower Certainty

This alternative will align EIR-specific funding incentives with scaling priorities. It will promote broader scaling and dissemination by encouraging grantees to think early in their research process about formulating goals and metrics to measure implementation capacity-building by using EIR funding to hold grantees accountable. However, because this alternative relies on Program Officers and grant funding incentives to nudge grantees towards these conversations, it doesn't empower grantees to share best-practices with each other or solicit consistent feedback from policymakers regarding strategies for scaling. It also falls short of the certainty of effective scaling promised by explicitly linking validated EIR innovations with Title funding can achieve.

1

Prioritize Scaling Early: Evaluate Grantees on Design for Implementation Capacity

Cost Range: Lowest Cost: \$200k- 270k

Preliminary projection of total 10 year discounted cost ranging from \$200k- 270k including salaries, and the opportunity cost of EIR employees project management time, including the social discount rate and accounting for inflation.

Fidelity: Low

This alternative scores low on fidelity; this alternative trades off commitment fidelity to prioritize scale early on. Despite this implicit tradeoff, grantees will be held accountable for ensuring essential components are maintained at scale. The policy does not affect standards for districts and states to monitor for fidelity.

Sustainability: Medium

Incentivizing scaling with EIR/OESE funding will encourage grantees to plan for deeper, more codified plans to transfer program knowledge to districts. While it creates strong funding incentives for local knowledge-transfer, it mainly leverages EIR and Program Officers to hold grantees accountable to design for sustainability but does not create platforms for grantees to collaborate with wider networks to discern best practices for local capacity-building.

Implementation feasibility: High

This is a feasible alternative to implement, because it requires no interdepartmental collaboration, nor does it require state-level buy-in and rollout. It requires action by only mid and expansion phase EIR grantees, a relatively concentrated group of policy implementers. Determining new metrics for scaling capacity is a challenge: while it's easy to quantify program "reach" in students and districts served, codifying capacity-building infrastructure and strength of partnerships will be a major challenge (Coburn, 2003). Hence, EIR employees and grantees may require "upskilling" (additional training) to confront these complex challenges.

3

Link Title Funds with Evidence

The Department can use its discretionary funding powers to shift the market for innovative practice towards more sustainable, data-driven scaling approaches and more rigorous standards of evidence. Qualitative evidence corroborated the theory of a “research-to-practice gap;” grantees reported that many schools are choosing programs that may fall closer to Tier 3 and 4 of Evidence for ESSA (indicating a weaker evidence base), and/or lack the capacity-building infrastructure necessary to ensure fidelity and sustain achievement gains. This alternative would address the need for clear incentives to choose quality innovations, and the potential for a mismatch across federal programs, by working across OESE with those allocating ESSER and Title Funds to determine new criteria for the monitoring of State Educational Agency (SEA) funding to align with existing evidence-based practice.

EIR might work with discretionary grant priorities and requirements for Title and ESSER outlays, such as ESEA Title II, Part B, Subpart 2, Section 2226. Innovative Approaches to Literacy, to directly tie Local Education Agencies (LEA’s) access to discretionary and formula grant funding to their use of innovations with rigorous evidence and clear implementation capacity to scale. Section 2266 currently allocates roughly 27 million a year to LEAs with at least 20% low-income students to increase access to early literacy services for young children (ESEA. Section 2266). These types of federal grants should prioritize a balance between rigor of evidence and sustainable, scalable models that allow for flexible adaptation and eventual district ownership. Another example is the recent ESSER funding in COVID-relief legislation; OESE notes that “SEAs and LEAs must implement evidence-based strategies to address the academic impact of lost instructional time through the required ARP ESSER reservation of funds,” and thus ESSER and GEER funds may be used to support “comprehensive State and local literacy programs that are needed due to the COVID-19 pandemic” (ESSER, 2021).

1

Link Title Funds with Evidence

Effectiveness: Highest Certainty

This alternative promises a high likelihood of effectiveness, although it requires the largest fiscal commitment due to its scope and interdepartmental regulatory burden. Mobilizing interdepartmental collaboration promises a high certainty of impact because it narrows the gap between evidence-based practices and state's practical use of funds, addressing head-on the major criticisms of the Title funds (which have persisted despite new regulatory guidance efforts through the "Evidence for ESSA" tiers and guidelines). New rules would promulgate linkages of validated innovations with Title Funds, which in turn means mid and expansion phase EIR grants will also be linked to a robust, reliable funding stream that can incentivize scale. Moreover, through working across OESE with the Director of State Grantee Relations and the Title Offices to determine new protocols for the monitoring of State Educational Agency (SEA) funding, this process will result in some knowledge-sharing with state-level policymakers. However, one tradeoff is that this policy doesn't necessarily expand grantees' immediate community of practice to build up their buy-in strategies with districts.

Cost Range: Highest Cost: \$1.5-2 million

Preliminary projection of total 10 year discounted cost ranging from roughly \$1.5-\$2million, largely due to high cost of monitoring, meeting with SEAs, and involvement of Deputy Assistant Secretaries.

Fidelity: High

This policy will not directly encourage grantees to share best practices for fidelity. However, while this resource-intensive option trades off direct grantee-engagement strategies for a more robust systems-change approach, the policy will encourage fidelity at-scale through the promulgation of additional standards for districts to ensure they are funding best practices.

3

Link Title Funds with Evidence

Sustainability: High

It's likely that once new Title fund guidelines are promulgated, the policy can be sustained for many years. creating strong and reliable, long-term incentives for districts to sustain high-quality innovations. The linkage to long-term funds may allow EIR grantees in particular to leverage this new tool to build capacity for local ownership.

Implementation feasibility: Low

This policy is the least feasible among the alternatives, because it requires interdepartmental collaboration, state-level rollout, and the involvement of a large number of actors at the federal and state level. One benefit is that the rule change would be relatively straightforward; Title funds could only be used for a certain list of validated interventions or those hitting a certain Tier of Evidence for ESSA. However, discerning the will still involve a certain level of complexity and potential bureaucratic slippage as rules are interpreted by state and district-level implementers.

4

Vetting as the "FDA" for Education Research

The Department can address the inconsistent use of the term “evidence-based” by leveraging the Department’s “vetting” role, coming at the problem through a public outreach campaign approach. Many grantees were concerned that the “evidence literacy” of principals and districts may be too limited for them to “sift through” their options and give necessary weight to the value of rigorously tested programs. Through creating and communicating clearer and more accessible standards within the What Works Clearinghouse and ESSA’s Evidence Tiers, this policy could disincentivize states and districts from authorizing programs based on weak evidence. This was corroborated throughout qualitative interview data; one Program Director felt that “there’s a lot of (principals) that don’t know...for us to say we’re validated by WWCH....I think a lot of them don’t understand what (going through the EIR process) means, and I think there’s a lack of appreciation for all that we’ve accomplished and what that can mean for the school.” States can discern how districts might more effectively use funding for scaling by collaborating with scaling experts from academic and practitioner-based implementation science networks, prompting them to rethink what necessary resources and benchmarks districts may need to be informed decision-makers.

Effectiveness: Medium Certainty

This approach will be useful in bridging the disconnects within the national education system, specifically the distance between state offices and the Department’s research hubs within EIR and IES, to build knowledge of the menu of validated program options available. While it may have a limited impact on grantees in the immediate future, this requirement may nudge innovators to invest in dissemination to ensure that their innovation is marketable to states and districts. Through convening practitioners, researchers, and policymakers in states to encourage the formation of relationships and knowledge sharing between grantees and states, states may also be empowered to make more informed choices on programs that they allow districts to fund with Title 1 dollars, and how they monitor distinct use of this funding to maximize its impact. This policy option does not link EIR funds to the scaling capacity of grantees.

4

Vetting as the "FDA" for Education Research

Cost Range: High- \$1.6- \$1.8 million

Preliminary projection of total 10 year discounted cost ranges from roughly \$1.6- \$1.8 million, due to the costly nature of an outreach campaign in every state.

Fidelity: Highest

This alternative addresses fidelity head-on; it entails clearer standards for grantees to maintain fidelity to their original research models while reaching a larger portion of eligible students and would require additional standards for districts and states to ensure they have the knowledge to fund and sustain best practices.

Sustainability: Low

This policy option does not create any long-term funding incentives for sustaining high-quality innovations. However, it may help prepare principals and policymakers to make more informed choices on which policies to implement and to plan for potential implementation barriers, which may help scaffold and sustain other policy interventions such as Policy Options 2 and 3.

Implementation feasibility: Low

This is the least feasible among the alternatives; it requires interdepartmental collaboration, as well as state-level rollout and the involvement of a large number of actors at the federal and state level. One benefit is that the information campaign involves little to no regulatory changes.

Appendix 4: Cost Calculations

Cost Assumptions

Cost of training for existing employees

- Operationalized as the cost of that individual's time (salary)

Salary estimates and assumptions:

- High level EIR salaries (120k, lower end estimate at 80k)
- Part-time NIRN consultant salary (125 if full time, lower end at 80k)
- Low level EIR salaries (100k, lower end at 70k)
- SEA liaison salaries (60k, lower end at 40k)

Time dedicated to projects:

- The analysis assumes that EIR individuals will spend between 1/12 to 1/4 of their logged hours on new projects if assigned to working groups and project management roles
- Stakeholders (local leaders and frontline implementers recruited for Alternative 2), are assumed to spend 1/10 of their working hours (with their time value estimated at a maximum of 120k and 80k as a lower end) convening to discern and plan the Scaling and Sustainability Support Framework

Alternative 1

First year startup costs:

- 125k salary (half time) for consultant from NIRN to help provide training and guide process
 - Lower end cost: 80k (.5) = 40k
- Opportunity cost of PO's time to evaluate on this new criterion: roughly one month of time, $120(0.083)= 9.96k$
 - Lower end = 80k (.083) = 6.64k

Total startup cost = \$72,460 startup costs

- Lower end estimate = 40k + 6.64k = \$46,640

Years 2-10:

- Consultant provides embedded, continuous training yearly at 1/8 time, $125(\frac{1}{8} \text{ time})= 15.625k$ + 9.96k continued PO time = \$25,585k in years 2-9, adjusted for inflation and NPV
 - Lower end followup cost $(80k)(\frac{1}{8})= 10k$ + 6.64k = 16.64k

Total discounted cost: range from \$200 to \$270k

Alternative 2

First year startup costs:

- Opportunity cost 2 EIR Staff/Program Officer's time to spearhead this process.
Roughly $\frac{1}{4}$ of their total logged EIR time, $120(.25) = 30$ (2 POs) = 60k
 - Lower end estimate: $80k(.25) = 20(2POs) = 40k$
- Salary (or opportunity) costs to compensate stakeholders time participating in the task force, taking them off the front lines of implementation in the field (assuming a 6 person task force, with 2 policymakers, 2 current/former grantees, and 2 ground-level implementers), spending a tenth of their logged time on this: $120(.1)(6) = 72k$
 - Lower end: $80k(.1)(6) = 48k$

Technology costs:

- Use of Microsoft 365 Business Standard for a new “EIR Scaling Task Force” account, need to host webinars from this account
- \$12.50 user/month = 150 yearly

Total startup cost = 132.15k year one

- Lower end = 98.15k total startup costs for year one

Years 2-10:

- Only need one PO to manage, only $\frac{1}{8}$ of their time (15k per year) = 132.15k - 45k = 87.15k annually years 2-9, adjusted for inflation and NPV
 - Lower end: 10k per year for only one PO to manage the program, 98.15k - 30 = 68.5 annually

Total discounted cost: Range from \$700- \$815k

Alternative 3

First year startup costs (HR):

- Opportunity cost of the time of Ashley and Jamila, Deputy Assistant Secretaries (Office of Discretionary Grants and Contracts and for the Office of Formula Grants), and 2 of their support team members (one for each Secretary) spearhead this process.
- $120(.25) = 30(6) = 180k$ EIR personnel cost
- Low end cost: $80(.25) = 20(6) = 120k$ EIR personnel cost

Cost of holding meetings with state directors:

- 60k salary estimate (1/10 of their time) = 6k each (50 states) = 300k
- Low end cost: 40k (1/10) = 4k each (50) = 200k

Total first year cost = 480k (low-end estimated at 320k)

Years 2-10:

- Once the rules are promulgated, only need 2 OESE employees (Deputy Assistant Secretaries) to monitor with 1/4 of their logged time, followup for EIR is 60k annually
 - Low end $80(\frac{1}{4})(2) = 40k$ annually
- Monitoring costs continue at the SEA level to ensure smooth implementation:
Cost of holding meetings with state directors: 60k salary estimate (.05 of their time) = 3k each (50)= 150k
 - $40k(.05) = 2k$ (50) = 100k

Total follow-up cost is 60k + 150k = 210k years 2-10, or 40k + 100k = 140k low-end estimate, adjusted for inflation and NPV

Total discounted cost: ranging from roughly \$1.5- \$2million

Alternative 4

First year startup costs (HR):

- Cost of Deputy Assistant Secretary for State and Grantee Relations time, as well as 2 team members to spearhead the effort, one of which would be a lower-level employee who would be dedicated to full-time state outreach:
 - $120 (.25)= 30(2)= 60 + \text{full time } (100k) = 160k$
 - Low end estimate: $80(.25) = 20(2) = 40 + 70k = 110k$ total
- Cost of convening and outreach (including in-person symposiums):
 - Estimated at 1k per state, totaling 50k

Total first year cost = 210k (160 low-end)

Years 2-10:

Continued outreach = Ramp up to 2k per state for convening

- totaling 100k for states
- lower-level employee who would be dedicated to full-time state outreach (100k annual)
 - Low end at 70k

Total followup = 200k in years 2-10, or 170k (low-end estimate)

Total discounted cost: \$1.6- 1.8 million

Table 1: Full Projected Costs (Conservative/High-End Estimates) with Social Discount Rate and Inflation:

Policy Option	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total cost	Total (NPV)
Prioritize Scaling Early												\$270,848.20
	72,460	26,097	26,619	27,151	27,694	28,248	28,813	29,389	29,977	30,576	327,024	
Scaling and Dissemination Support Plans												\$812,328.95
	132,150	88,893	90,671	92,484	94,334	96,221	98,145	100,108	102,110	104,152	999,268	
Link Title Funds with Evidence												\$2,112,771.36
	480,000	214,200	218,484	222,854	227,311	231,857	236,494	241,224	246,048	250,969	2,569,441	
Ramp up Role as the “FDA for Education Research”												\$1,774,525.85
	210,000	204,000	208,080	212,242	216,486	220,816	225,232	229,737	234,332	239,019	2,199,944	

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