

Response to the Request for Information on Education Sciences Reform Act Reauthorization

April 19, 2023

Submitted to:

The Honorable Bernie Sanders
Chair
Senate Committee on Health, Education, Labor and Pensions
Washington, DC 20510

The Honorable Bill Cassidy, M.D.
Ranking Member
Senate Committee on Health, Education, Labor and Pensions
Washington, DC 20510

Submitted by:

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April 19, 2023

RE: Request for Information on ESRA Reauthorization

Dear Chairman Sanders and Ranking Member Cassidy:

As the Senate Health, Education, Labor, and Pensions Committee prepares for the upcoming reauthorization of the Education Sciences Reform Act, Mathematica welcomes the opportunity to provide feedback and suggestions.

Mathematica is a nonpartisan organization committed to producing research and evidence in support of the public good and translating that research into policy and practice. Our education research focuses on improving the quality of education and the competitiveness of the U.S. workforce. We identify, evaluate, and advance policies and practices to improve our nation's education system, from early childhood to K12 to postsecondary and adult education. We also advance efforts to strengthen the quality of education research and disseminate evidence-based practices to guide educators. Our Education Sciences Reform Act (ESRA) recommendations reflect our experience leading two Regional Educational Laboratories (RELs), providing technical assistance to support evidence building and use for the Institute of Education Sciences (IES), reviewing and disseminating evidence for IES' What Works Clearinghouse, and conducting evaluations on a range of education topics.

Over the past two decades, ESRA has been enormously successful in improving the quality of education research, and IES—which was established by ESRA—has become the world's leading organization in producing and funding rigorous education research that identifies what is working (and what is not) in schools. Even so, there are ways that IES could be even more effective—particularly in bringing research to policymakers and educators—with statutory support through changes to ESRA. To further improve the relevance of IES research in the field, Mathematica offers several high-priority ESRA recommendations:

- 1. Improve timeliness of research from RELs.** Congress should provide exceptions to the Paperwork Reduction Act for studies requested by state and local education agencies of their own staff to enable RELs to conduct these studies on a quicker timeline, making them more relevant and useful. Congress should also provide IES with the flexibility to award longer REL contracts to facilitate more sustained, timely, and useful work focused on student outcomes.
- 2. Provide additional support for coordination between regional Comprehensive Centers (CCs) and RELs.** Congress should require clear delineation between the scope of responsibilities for CCs and RELs; require alignment in the geographic scope of CCs and RELs; and direct ED to award CCs via contracts or fee-bearing grants that would expand the set of organizations that pursue CCs. Providing such support would enhance the collective effectiveness of both sets of organizations by facilitating coordination, avoiding redundancy, and improving quality.
- 3. Set cross-agency standards regarding the quality of research and evidence.** Setting and ensuring these standards or guidelines are consistent across federal agencies would support more consistency across clearinghouses, simplify how users find and use evidence, and support common standards for the rigor of research.

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4. **Encourage greater flexibility from IES to better support field-initiated research.** Congress should recommend that IES use mechanisms—such as contracts or fee-bearing grants—that would enable a wider range of organizations to compete for field-initiated research support to evaluate education programs and policies. Relying on grants that preclude the use of fees excludes many organizations (like Mathematica) that are highly qualified to conduct timely and meaningful field-initiated research.
5. **Encourage IES to expand its statistical toolkit with methods that produce results that are easier to interpret and more useful for policy and practice.** Congress should encourage IES to expand its statistical toolkit to include methods that support a transparent, evidence-based approach to assessing the likely implications of research findings for education decision makers—in particular, evidence-based Bayesian methods. These methods can provide research findings that are easier for practitioners to interpret and better connected to decision makers' needs.

If you have follow-up questions or seek additional information or clarification related to our responses, I am happy to connect you with our subject matter experts who contributed to this response. We are also happy to arrange an in-person meeting at your convenience. For any questions about our response, please contact Mike Burns, senior director for Communications and Public Affairs, at MBurns@mathematica-mpr.com.

Sincerely,



Jill Constantine
*Senior Vice President and General Manager,
Human Services*

The Senate Health, Education, Labor, and Pensions (HELP) Committee requests information on reauthorization of the Education Sciences Reform Act, dated April 5, 2023. Mathematica offers staff with the experience and expertise to provide this input. In the following section, we respond to questions from the HELP Committee that are most relevant to our expertise and provide recommendations for Congress to consider for reauthorization.

Question 1 – What specific changes could Congress make to improve the efficiency and effectiveness of Federal education research and statistics programs carried out by the Institute of Education Sciences (IES)—including the four National Education Centers, the National R&D Centers, the Statewide Longitudinal Data Systems program, and the Regional Educational Laboratories—to ensure IES provides research and evidence back to schools and institutions of higher education in a timelier manner to help improve teaching and learning, and postsecondary access and success?

Our response focuses on the Regional Educational Laboratories (RELs) and ways to improve the timeliness of their research. Mathematica currently leads two of the 10 RELs and, with our partners, provides peer review for REL research products to ensure their quality. Through these activities, we have closely observed how IES balances two competing goals of the REL program: (1) ensuring the RELs' research products are of high quality and (2) responding in a timely manner to the needs of state and local education agencies.

IES has taken important steps to improve the timeliness of REL research by speeding the peer review process. For example, peer reviews take a maximum of two weeks for a thorough written appraisal, and IES can accelerate the review if an agency has a pressing need. IES has also enabled RELs to offer a wider range of research products—such as slide decks with technical documentation—that require less time to produce and review. Further, IES uses technology to move products through the development and peer review pipeline at a brisk pace.

We recommend Congress take two steps to further improve the timeliness of research from the RELs while also maintaining its quality:

- A. Provide exceptions to the Paperwork Reduction Act (PRA) for studies requested by state and local education agencies of their own staff.** The most significant impediment to the timeliness of REL research lies outside of IES—namely, in the requirements of the PRA. The PRA limits the types of research RELs can deliver in a timely way because of the long lead time required to prepare packages for Office of Management and Budget (OMB) review, wait for public comment, and prepare a response. As a result, it is almost impossible for RELs to conduct studies that collect data directly from individuals (for example, educators, community groups, or parents), even though state and local agencies often want such studies. PRA requirements aim to prevent the federal government from imposing undue state and local burdens. However, there is no need for OMB to protect state and local agencies from the burdens of studies that the state and local agencies requested. In this context, the PRA requirements are unnecessary and impose additional burdens rather than removing them. Furthermore, the PRA is not necessary for oversight of human protections in REL studies, because an institutional review board must review all REL studies. In addition, the IES Disclosure Review Board reviews any restricted-use data files created from these studies to ensure they do not disclose the identity of any individual respondents. In sum, REL studies are

fully scrutinized for burden, human subjects risks, and disclosure risks without the PRA, which creates unnecessary burden and redundancy.

- B. Provide IES with the flexibility to award REL contracts of up to seven years, rather than the required 60 months as specified by the Education Sciences Reform Act (ESRA).** This change could increase the timeliness—and usefulness—of REL research by enabling RELs and their partner agencies to undertake more sustained work focused on student outcomes, which can take multiple years of intense effort to meaningfully improve. Longer contracts would reduce the time lost due to starting up and winding down contracts—time that is lost even if the same contractor holds consecutive contracts. The strong oversight IES provides to the REL contractors has produced a group of high-performing contracts that can be expected to deliver well over a seven-year period. In addition, this flexibility would enable IES to get all RELs back on the same award schedule. Currently, due to a protest more than 10 years ago, REL Southwest lags the others by about one year. Having RELs off-cycle makes it more difficult for IES to manage the program and means REL Southwest is a year behind in implementing new approaches.

Question 2 – What specific changes could Congress make to improve the efficiency and effectiveness of the Federal technical assistance centers, including the Comprehensive Centers, operated by the U.S. Department of Education (ED) to improve their utility to State and local education leaders and policymakers?

Activities and responsibilities of the regional Comprehensive Centers (CCs) often intersect with those of the RELs. The organizations operating the CCs and RELs (and their offices at the U.S. Department of Education [ED]) attempt to coordinate and avoid redundancy, but additional structural support for coordination could enhance the collective effectiveness of both sets of organizations:

- **The scope of responsibilities for RELs and CCs should be more clearly delineated.** Tasks that require research, reviews of research literature, systematic data collection, or analysis should be clearly identified as the responsibility of the RELs. CCs should be charged with supporting development, planning, and implementation of policies and initiatives, drawing on best professional practices with support from national content centers and on research conducted by the RELs and others.
- **The geographic scope of the RELs and CCs should align,** so each defined region has one REL and one CC. RELs and CCs can coordinate their work much more efficiently and effectively if there is a one-to-one relationship between RELs and CCs. Currently, the REL and CC regions are defined differently, requiring most RELs and CCs to coordinate with multiple organizations of the other type.
- **Statutory language should direct ED to fund CCs via contracts, fee-bearing grants, or another vehicle that does not require cost sharing.** ED could still require organizations to compete on price and offer the best value to the government. This would expand the set of organizations that could pursue CCs and offer ED's Office of Elementary and Secondary Education (OESE) a broader choice of organizations. This could increase the diversity and quality of organizations that implement the CCs on behalf of OESE.

Question 5 – How could Congress ensure better coordination among all Federal agencies conducting education research outside of IES?

IES has worked diligently over the past 20 years to establish rigorous standards for education research, thereby promoting the development of evidence that educators and policymakers can trust when making decisions about policies, practices, and interventions. This work is particularly evident in the What Works Clearinghouse (WWC) and its associated practice guides, and it has influenced the development of evidence standards used by other federal agencies. But other agencies continue to conduct research using widely varying standards. Therefore, when education research is conducted outside of IES, education decision makers might not trust the findings, or the findings might be described and assessed differently by the agency than by the What Works Clearinghouse.

To ensure better coordination among federal agencies conducting education research outside IES, Congress could set consistent, cross-agency standards for the quality of education research—perhaps by requiring other agencies conducting education research to meet IES standards. This would have benefits for cross-agency coordination in generating new research and in disseminating and using research. The guidelines could encourage researchers to report more consistently on cost, implementation challenges, or other details important to support evidence-based decisions, no matter which agency funds the research. Congress can simplify how educators find and use evidence by creating guidelines, consistent across clearinghouses, about evidence definitions to help users more easily understand which evidence they can trust.

A common set of standards for the rigor of research would also promote efficiency, because research reviewed by one agency’s clearinghouse would not have to also be reviewed by another clearinghouse. This coordination across agencies would provide necessary opportunities to engage those with relevant lived and professional experiences to ensure the resulting standards respond to their needs.

In creating cross-agency guidelines, Congress should be careful to avoid excessive prescription. Evidence standards must flexibly respond to evolving understanding about how best to support decision makers to use evidence.

Question 6 – How could IES better support field-initiated research that promotes continuous improvement and timelier and more actionable research?

Although ESRA defines field-initiated research as work that practitioners and academic researchers can conduct, in practice it nearly always means work initiated by researchers at academic institutions. This can be very useful for advancing basic science in education, but academic institutions are not set up to produce timely, useful research in support of continuous improvement. Meanwhile, IES’s field-initiated research implicitly excludes some nonacademic institutions (such as Mathematica) that focus exclusively on timely, useful research because it awards funding through grants that preclude the use of fee or require cost sharing. If Congress wishes to support more research that is timely and useful, it should recommend that IES use a mechanism (such as a contract, fee-bearing grant, or other vehicle that does not require cost sharing) that would allow a wider range of organizations—including those that specialize in timely, useful research—to compete. Encouraging IES to be more flexible in the process and mechanisms for awarding research might make it more likely the research will be timely and useful.

Question 7 – How could IES support innovative research methods, including more implementation research, to identify how and why interventions are effective or not across varying contexts? How could IES more nimbly allow contracts and programs to change course when strategies and interventions are not working? How could the Federal government better communicate and disseminate the findings of education research to build the capacity of teachers, school leaders, institutions of higher education, and education systems to identify and implement evidence-based practices in ways that support continuous improvement?

IES could support innovative research methods and dissemination strategies in a variety of ways. We first focus on a foundational issue of statistical methodology that has far-reaching implications for the usefulness of research and for its effective communication.

Currently IES relies on a widely taught statistical framework—statistical significance testing—designed to *describe* data for academic purposes, not assess its likely implications for decision making. Because most decision makers want to understand the likely implications of the data, researchers often misuse statistical significance testing for that purpose, sometimes leading to harmful mistakes. For example, many recent news reports misused statistical significance results reported on the National Assessment of Educational Progress (NAEP) to erroneously conclude states and districts were “holding steady” or even “bright spots” when in fact they most likely had educationally meaningful declines ([Forrow, Starling, Gill, and Gellar, 2022](#)). Leading statisticians have warned about the dangers of misusing statistical significance for decades, culminating in a [2016 statement by the American Statistical Association](#) on the subject.

We recommend that Congress encourage IES to expand its statistical toolkit to include methods that support a transparent, evidence-based approach to assessing the likely implications of research findings for decision makers. In particular, evidence-based Bayesian methods ([Gelman and Shalizi, 2013](#)) are well suited to this task. These methods (1) are better suited to distinguishing effects for different populations and in different contexts; (2) are less likely to be misinterpreted by educators, policymakers, researchers, and the general public; and (3) can produce results that are more easily understood and better connected to decision makers’ needs. Such a shift would therefore be both technically sound and would substantially improve communication and dissemination. For example, evidence-based Bayesian methods can tell us how likely it is that a particular program had a positive effect on student achievement, whereas statistical significance testing does not provide that information—although it is often misinterpreted to do so. Evidence-based Bayesian methods can also be extremely helpful in analyzing, interpreting, and communicating state and local results on the NAEP.

Apart from adopting Bayesian statistical methods, we suggest a few other changes that IES could make to innovate, particularly in ways that support improved usefulness of research to practitioners and improved dissemination to practitioners:

- One way IES could support better understanding of how and why interventions are effective across varying contexts would be to invest in methodological work on meta-analysis. Meta-analysis is an approach for synthesizing findings across studies and can be useful for understanding factors relevant to variation in impacts. Meta-analytic methodological work could therefore be very helpful. If IES also funds or incentivizes improved and more consistent reporting on implementation and context in research, these meta-analytic methods can take

advantage of this additional information to better understand why intervention effectiveness varies across contexts.

- Rigorous evaluation of dissemination efforts to learn what works for communicating about evidence would enhance communication and dissemination of research to educators. IES should study how key audiences use and understand major products like WWC practice guides. And IES could commission rigorous evaluations of the implementation of practices recommended in the guides to learn whether they are successful at improving student outcomes. New approaches to engaging educators and other professionals or those with relevant lived experiences could also improve evidence dissemination.
- Flexible and adaptable evaluations are necessary to ensure reports and dissemination efforts have value—especially when an evaluation determines that an intervention is ineffective. IES can ensure that evaluations are designed to learn as much as possible even if the intervention was not effective (e.g., how it might be improved). For example, evaluation teams should engage educators and other professionals or those with relevant lived experiences at every stage of the work. They should consider research designs such as Sequential Multiple Assignment Randomized Trial (SMART) design (as IES Director Mark Schneider has advocated), in which the intervention can be adapted over the course of the evaluation and still provide rigorous evidence of effectiveness.

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