



DEPARTMENT OF EDUCATION

[Docket ID ED-2023-IES-0011]

**Request for Information on potential new program, From
Seedlings to Scale (S2S)**

AGENCY: Institute of Education Sciences, Department of
Education.

ACTION: Request for information.

SUMMARY: The National Center for Education Research
(NCER), a center within the Institute of Education Sciences
(IES), is seeking insight to guide its efforts to fund
quick-turnaround high-reward, scalable solutions intended
to improve education outcomes for all students.

DATES: We must receive your comments by [INSERT DATE 30
DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: Comments must be submitted via the Federal
eRulemaking Portal at [regulations.gov](https://www.regulations.gov). However, if you
require an accommodation or cannot otherwise submit your
comments via [regulations.gov](https://www.regulations.gov), please contact the program
contact person listed under FOR FURTHER INFORMATION
CONTACT. The Department will not accept comments submitted
after the comment period. To ensure that the Department
does not receive duplicate copies, please submit your
comments only once. Additionally, please include the
Docket ID at the top of your comments.

Federal eRulemaking Portal: Go to www.regulations.gov to

submit your comments electronically. Information on using regulations.gov, including instructions for accessing agency documents, submitting comments, and viewing the docket, is available on the site under the "FAQ" tab.

Privacy Note: The Department's policy is generally to make comments received from members of the public available for public viewing in their entirety on the Federal eRulemaking Portal at www.regulations.gov. Therefore, commenters should be careful to include in their comments only information that they wish to make publicly available. We encourage, but do not require, that each respondent include their name, title, institution or affiliation, and the name, title, mailing and email addresses, and telephone number of a contact person for the institution or affiliation, if any.

FOR FURTHER INFORMATION CONTACT: Erin Higgins, Education Research Analyst, National Center for Education Research, Institute of Education Sciences, U.S Department of Education, 400 Maryland Avenue, SW, Washington, DC 20202-7240. Telephone: (202)-987-1531. You may also email your questions to erin.higgins@ed.gov, but as described above, comments must be submitted via the Federal eRulemaking Portal at regulations.gov.

If you are deaf, hard of hearing, or have a speech disability and wish to access telecommunications relay services, please dial 7-1-1.

SUPPLEMENTARY INFORMATION:

Background:

Our education system is tasked with helping Americans across their entire lifespan to successfully engage in civic activity and participate in an ever-evolving workforce, building the foundation for the Nation's future.

In the Explanatory Statement accompanying the fiscal year (FY) 2023 Consolidated Appropriations Act (P.L. 117-328), Congress directed IES to invest in quick-turnaround high-reward, scalable solutions intended to improve education outcomes for all students.¹ To fulfill this directive, IES's Accelerate, Transform, and Scale (ATS) initiative will support advanced education research and development (R&D) to create scalable solutions to improve education outcomes for all learners and eliminate persistent achievement and attainment gaps. Through this initiative, IES will invest in bold, innovative ideas that come from interdisciplinary, diverse teams that have the potential to make dramatic advances towards solving seemingly intractable problems and challenges in the education field.

ATS will pilot efforts modeled on the advanced research projects agencies (ARPAs) found throughout the

¹United States Congress. Committee Print of the Committee on Appropriations, U.S. House of Representatives, on H.R. 2617/P.L. 117-328. 117th Congress, Second Session. Washington: US. Govt. Publishing Off. 2023.

Federal government. ARPAs leverage insights from traditional/basic research to develop and scale breakthrough solutions and capabilities in focused areas that research or industry do not traditionally support. Many domains of R&D are primed for breakthrough advances that can make inroads on long standing education goals, such as personalizing student and educator learning, dramatically increasing learners' motivation and engagement, transforming the implementation and usefulness of assessments, and supporting successful transitions from school to career and between careers.

To advance ARPA-style efforts in education, the ATS initiative will build on several existing IES investments, including the Leveraging Evidence to Accelerate Recovery Nationwide (LEARN) Research Network, the Small Business Innovation Research (SBIR) program, the Standards for Excellence in Educational Research (SEER) Research Network for Digital Learning Platforms, prize challenges, and the Transformative Research in the Education Sciences research program. ATS will also support new activities that emphasize creating scalable, high impact solutions, such as going from idea to prototype and preparing existing tools, techniques, and products with evidence of effectiveness for scaling.

This RFI is focused on a proposed new program within ATS we are calling "From Seedlings to Scale" (S2S). IES is

considering a three-phase investment strategy for S2S to support transformative ideas as they grow from seedlings to scalable solutions. As proposed, S2S would focus on high quality research, robust product development, and sustainability and scaling in the education marketplace. The performance goals below highlight how, at a high-level, each of those elements could be combined into a successful project.

Across the three proposed phases of funding, the Department envisions that successful performers would:

- Develop a full product or a broadly-applicable, new capability.
- Foster collaboration between product developers, researchers, and educators who are highly-skilled in their respective disciplines and across disciplines.
- Challenge what is currently possible by pursuing breakthroughs, not incremental improvements or “point solutions.”
- Maintain an unwavering focus on improving learner outcomes, continuous improvement, and rigorously evaluating performance.
- Define from the beginning a credible path to significant impact and commercial success (including free and open-source pathways).
- Catalyze new areas of interest and investment.

Through the specific questions in the next section, IES is soliciting public comment on the two topics described below, Focus Areas and Program Design, to inform the development of the S2S program.

Topic One: Proposed S2S Focus Areas

IES is currently considering four focus areas:

- Developing approaches that can be used to help learners build skills throughout their life spans to gain broadly applicable competencies and domain-specific skills in growing areas critical for international competitiveness in the jobs of the future.
- Creating tools and systems that can accurately identify and determine the unique needs of individual neurodiverse learners and propose a custom suite of instructional and technological supports to guide their learning.
- Creating next-generation tools for educators for feedback, recommendations, and supports that leverage artificial intelligence to augment teaching and planning. These efforts should support educators and coaches to reflect holistically on the elements of daily practice, including learning environment, instructional strategies, and student performance.

- Creating new techniques and approaches to help educators and learners implement strategies to support behavior and emotion regulation and to support learners' interactions with others in ways that build and maintain caring environments, strong relationships, and robust mental health.

We have also developed a list of potential cross-cutting areas that would be listed alongside the focus areas as "additional topics of interest." We do not anticipate that these additional topics would become requirements for potential performers; rather, they would be strongly recommended as areas to consider. The additional topics of interest include:

- Data modernization (including transferability, interoperability, and common measures).
- Human-centered design for education innovation.
- Open, fair, and transparent research.
- Data privacy and security.

IES is not currently soliciting examples of ideas for breakthrough solutions under these categories, but we plan to announce more efforts in this area soon after the initial priority areas are solidified.

Topic Two: Proposed S2S Program Design

IES proposes to leverage a tiered investment model to spur R&D to accelerate the creation of tools, techniques, and products that can lead to breakthrough solutions for

any stage of the education system: pre-K, K-12, postsecondary (including community colleges and technical training institutes), and adult education. We envision that this investment model will use a three-phase process to support developing transformative solutions. We offer a brief sketch of the proposed model below. Advancement from one stage to the next would not be automatic but would be contingent on performance and available funds. We anticipate that the timeline for completing all three phases would take an average of six years. However, it is possible that phase three awards focused on scaling may not follow-on directly from a phase two award if IES chooses to structure this phase similar to the Department of Energy's ARPA (ARPA-E) SCALEUP program (<https://arpa-e.energy.gov/technologies/scaleup>), which was launched by ARPA-E to provide funding for projects to continue scaling.

For the **first phase** of funding, teams would have approximately one year to demonstrate that their proposed solution could meet four essential milestones: (1) serve a set of education providers, educator, or learner needs; (2) define and refine the key performance indicators (KPIs) for the solution; (3) create a prototype that can demonstrate elements of the core functionality at a "demo day"; and (4) conduct one or more successful studies providing evidence of the promise of the proposed solution for improving

learner outcomes relative to traditional approaches, should the solution be fully developed.

Projects that demonstrate a compelling use case(s) and promising prototype would be able to move to the second phase. This stage would be approximately two years. The **second phase** would focus on rapid, iterative development to turn the prototype into a functional solution, answering key research questions about its design, establishing product-market fit, and gathering initial evidence of promise. In this second stage, awardees should also be looking for opportunities to forge strong external partnerships that can function together to improve learner outcomes.

The **third phase** of funding would last approximately three years. This stage would focus on leveraging strategic partnerships to support continuous improvement, expanding the user base, and independently and rigorously evaluating the impacts of the solutions that showed evidence of promise and strong product-market fit. In this stage, it would be critical to evaluate whether this new solution improves education outcomes and reduces persistent achievement and attainment gaps relative to existing solutions, and to determine cost, implementation ease, and other important measures that reflect both effectiveness and product-market fit. It is also possible that this phase may not follow directly from the previous two phases,

allowing time to further develop the partnerships necessary for scaling.

This is a request for information only. This RFI is not a request for proposals (RFP), a request for applications (RFA), or a promise to issue an RFP or a notice inviting applications (NIA). This RFI does not commit the Department to contract for any supply or service whatsoever. Further, we are not seeking proposals and will not accept unsolicited proposals that align to this potential program. The Department will not pay for any information or administrative costs that you may incur in responding to this RFI. The documents and information submitted in response to this RFI will not be returned.

Solicitation of Comments: To assist in refining the topic areas and program design for the S2S program, we invite comments in response to the questions below:

(1) Are the focus areas and cross cutting topics described well suited to advanced development R&D?

(a) Are these areas already adequately covered by existing funding mechanisms? If not, why not?

(b) Are there other topics that you think would yield more promise for identifying and developing breakthrough solutions? If so, what do you find more compelling about that topic?

(2) To successfully develop products and ecosystems that make a major impact on learners' education outcomes,

teams will need a variety of supports. IES may require support from private industry in areas such as providing consultation and coaching to teams, convening potential partners for research and scaling.

(a) What would an ideal team look like to maximize the likelihood of success? For example, what role would researchers, education agencies (at the state or local level), and private companies play in the team?

(b) How can we ensure community engagement and input?

(c) What kind of experience does your organization have with supporting ARPA-style R&D efforts, especially those related to the education sciences? What case studies can you share from your experience?

(d) Particularly in the areas of fair, open, and transparent research and data privacy and security, what kind of programing or resources would you recommend providing teams?

(3) With a focus on developing quick-turn around, high-reward and scalable solutions, what would you propose are the core activities and/or benchmarks for success for a project in each of the phases? What examples can you provide around past successes in social science domains or specifically related to education R&D?

(4) Could you provide any estimates of the costs, assets, and contributions required for a team to

successfully complete each phase?

(5) As a part of this effort, IES may seek support in establishing a technical working group (TWG) to inform the activities that will guide research teams for the S2S competition. If we were to establish a TWG related to the S2S competition, what kind of expertise would you propose is essential to a TWG in this area? Are there specific organizations or individuals that you suggest be included in the TWG?

Accessible Format: By request to the program contact person listed under FOR FURTHER INFORMATION CONTACT, individuals with disabilities can obtain this document in an accessible format. The Department will provide the requestor with an accessible format that may include Rich Text Format (RTF) or text format (txt), a thumb drive, an MP3 file, braille, large print, audiotape, or compact disc, or other accessible format.

Electronic Access to This Document: The official version of this document is the document published in the *Federal Register*. You may access the official edition of the *Federal Register* and the Code of Federal Regulations at www.govinfo.gov. At this site you can view this document, as well as all other documents of this Department published in the *Federal Register*, in text or Portable Document Format (PDF). To use PDF you must have Adobe Acrobat Reader, which is available free at the site.

You may also access documents of the Department published in the *Federal Register* by using the article search feature at www.federalregister.gov. Specifically, through the advanced search feature at this site, you can limit your search to documents published by the Department.

Mark Schneider,
Director,
Institute of Education Sciences.

[FR Doc. 2023-22482 Filed: 10/11/2023 8:45 am; Publication Date: 10/12/2023]