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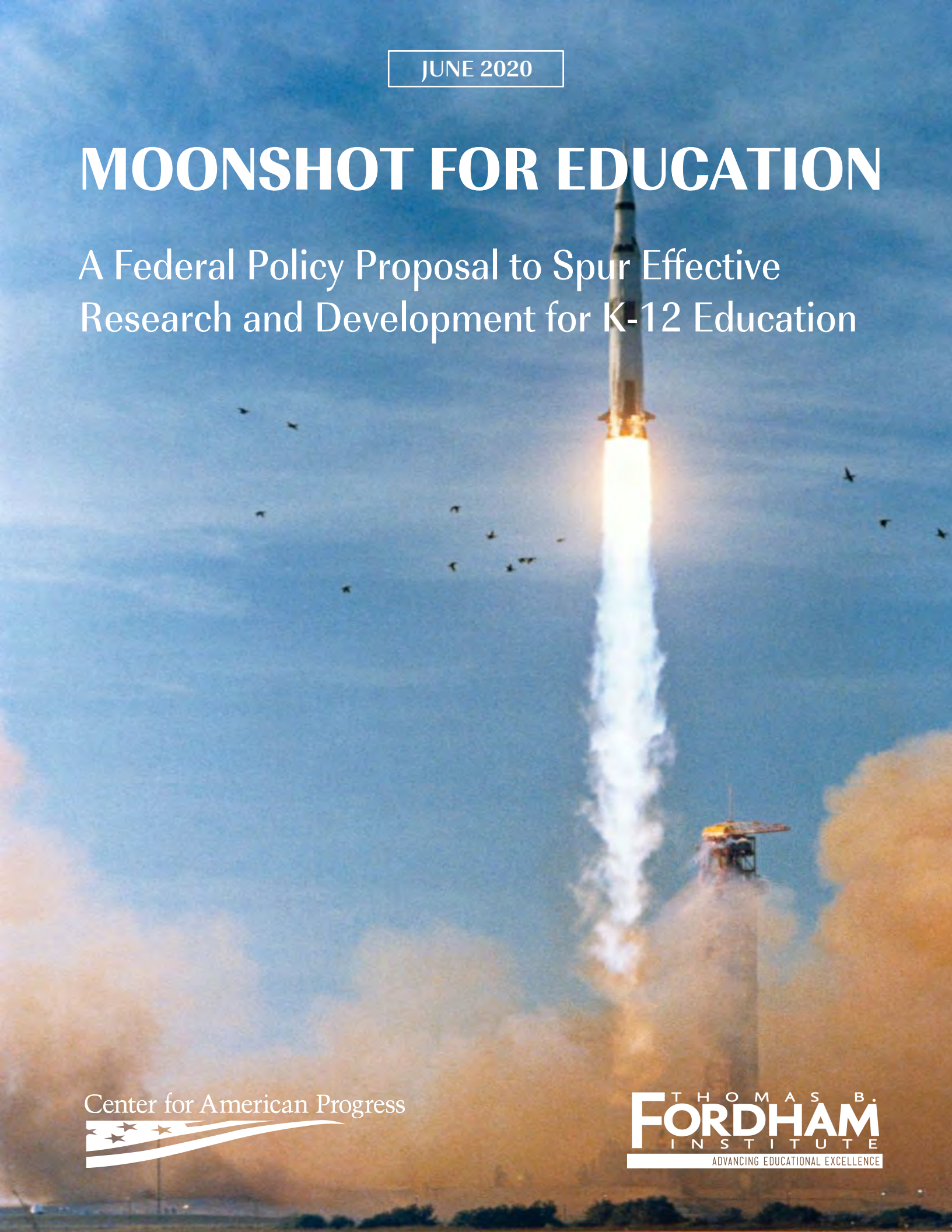
MOONSHOT FOR EDUCATION

A Federal Policy Proposal to Spur Effective Research and Development for K-12 Education



Center for American Progress

THOMAS B. FORDHAM INSTITUTE
ADVANCING EDUCATIONAL EXCELLENCE

The need for a new approach to R & D in education

Over the past few decades, there have been federal and state investments in innovative education programs, policies, and tools. Many private organizations—both corporate and philanthropic—also have fueled the development and piloting of novel education ideas.

Yet major gaps and challenges remain to develop and scale the impact of ground-breaking programs, products, and technologies. The problem stems from an inadequate and often disjointed approach to education R & D.

Effective research and development is a cycle. In education, the research part should focus on discrete questions that address pressing challenges for schools, teachers, students, and parents. That research should produce insights that can help create new tools, technologies, or solutions. Unfortunately, many education research efforts fail to address the most pressing needs of students, teachers, and school leaders—and the findings may not lend themselves to the creation of relevant tools or solutions.

Federal R & D efforts work in many fields, but the current funding and structure of federal support for education research do not adequately address the challenges of developing and scaling innovative and effective solutions in this field. Washington's support for R & D in education pales in comparison to that of other fields. In 2017, the U.S. Department of Education invested less than 1 percent of what the Department of Health and Human Services invested in R & D.

Moonshot for Kids

Over the past year, the Thomas B. Fordham Institute and the Center for American Progress have partnered on a project to "explore the rationale, potential, and possible design of a sizable new investment…in basic and applied research and development that leads to innovation on behalf of American's children."

As part of the project, Fordham and CAP researched the history of federal research and development efforts related to children and schooling. They also executed a competition to gather bold, scalable, and equitable ideas for new research and development investments around seven critical education priorities, including "reducing the number of fourth graders reading below the Basic level," "doubling the amount of high-quality feedback middle school students receive," and "doubling the number of effective eighth-grade writers."

Nor is there adequate coordination across agencies that could share and learn from research findings. The Department of Education, National Science Foundation, Department of Health and Human Services, and National Aeronautics and Space Administration all have different priorities for their education-related R & D funding.

A federal policy to spur effective R & D in education

Effective research and development in education requires a focused, robust federal investment that generates an ongoing cycle between coordinated research and intentional development. Toward this end, the federal government should significantly increase funding for education research and development and create a new initiative to fuel bold, scalable, and equitable ideas with the potential to transform education.

Below is an outline for the basics of such a proposal.

Purpose

The initiative would aim to increase support and funding for applied research and directed development toward a set of goals in K–12 education. The goals of the initiative would be similar to the seven set by CAP and Fordham in the Moonshot for Kids competition—focused on boosting academic outcomes like reading or writing proficiency and advancing equity in educational attainment.

The initiative would prioritize challenges that are less likely to receive sufficient funding and attention from private or philanthropic sources, such as interventions with little prior evidence or structures that are difficult to monetize. The resulting technology, ideas, or solutions that the initiative generates would be open source in order to facilitate continued development efforts.

Organization

A director would lead the initiative and set research priorities and goals for the projects annually.

The director would rely on a group of appointed advisors or board members who represent critical constituencies in the field—including teachers, school leaders, researchers, innovators, local and state education agencies, and students—to set the research priorities and goals. The director would adjust these goals annually to respond to changes, innovations, and emerging challenges in the field.

The team that supports the director is informed by the organizational structure of the Defense Advanced Research Projects Agency (DARPA), which is responsible for innovations that led to the internet, GPS, and other critical technologies. As in DARPA, the director of the education initiative would hire recognized experts in each of the initiative's priority areas, with the ability to recruit and compensate them outside of traditional civil service structures. Program managers would be expected to remain for the duration of project investments—approximately four to six years.

A program manager would manage one of the initiative's investment priorities and have autonomy to drive investment decisions for that priority, rather than needing to go through competitive grant-making processes, as is often required by the federal government. Program and project managers would also work closely with grantees and other experts for guidance to maximize success of investments.

The office would also include support staff to handle grant-making, reporting processes, and administrative functions.

Such an initiative could be housed in various entities, within or potentially outside the federal government itself, mindful that the initiative's placement will influence its governance and structure. Each option comes with benefits and challenges:

- **New Initiative within the Institute for Education Sciences (IES).** IES houses the majority of current federal investments in education research and development. As a result, it would be easiest to coordinate across federal efforts if the initiative lives within IES. This initiative's focus on targeted development of tools and solutions is not a focus of existing IES programs.
- **Separate office elsewhere in the U.S. Department of Education.** Creating a separate office to manage the initiative within the U.S. Department of Education, with the director reporting to the Secretary, could receive significant support from an administration because it would have the ability to influence the research and development of goals. Yet it would be difficult to sustain focus across different administrations and garner support for this flexibility in Congress.
- **New initiative within the National Science Foundation (NSF).** NSF has an independent National Science Board, and its research goals and projects are traditionally less politicized than those in other agencies. As a result, the research goals would likely be less political and allow for greater consistency across administrations. Yet the initiative would be disconnected from other federal education research and development programs.
- **Non-profit entity outside government.** Federal appropriations could flow through the U.S. Department of Education (or other agency) to a non-profit entity which would operate on a contract for the federal government to award research and development grants, akin to the Corporation for Public Broadcasting. This is the clearest path to

allowing private funding to supplement federal efforts, but it would lessen policymakers' control of the initiative. As a result, it could be politically challenging to sustain a significant investment to an outside entity.

Regardless of placement, the initiative would prioritize close collaboration with offices and agencies that support research and development across the federal government.

Funding

The primary funding for the initiative will come from Congressional appropriations, but the director of the initiative or specific projects may also coordinate with philanthropic organizations, states, or private firms to increase overall investment in selected research or development ideas as long as the associated technologies and tools remain open source.

Conclusion

Education research and development is traditionally underfunded and underutilized in this country. Our K–12 system needs far better information about what works for kids, more investment to make those tools and programs widely available, and more support to implement these changes effectively. A new initiative to research, fund, and scale innovative ideas will allow what may seem like a moonshot today to become a better education for our students tomorrow.

About the Center for American Progress

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About the Fordham Institute

The Thomas B. Fordham Institute promotes educational excellence for every child in America via quality research, analysis, and commentary, as well as advocacy and exemplary charter school authorizing in Ohio. It is affiliated with the Thomas B. Fordham Foundation, and this publication is a joint project of the Foundation and the Institute. For further information, please visit our website at www.fordhaminstitute.org. The Institute is neither connected with nor sponsored by Fordham University.

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