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Request for Information: Development of a 2025 National Artificial Intelligence Research and Development Strategic Plan

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Submitter Information

Organization: Leanlab Education

General Comment

Leanlab Education is pleased to submit this response to the Request for Information regarding the development of the 2025 National Artificial Intelligence (AI) Research and Development (R&D) Strategic Plan. We advocate for the inclusion of education-focused AI R&D as a foundational component of the national strategy, given the critical role of primary and secondary education in economic competitiveness, human flourishing, and innovation.

Leanlab is a nonprofit education R&D lab founded in 2013 by educators who believed the future of education should be designed with students, teachers, and families. Since 2023, we have specialized in studying AI-powered edtech, building AI-specific research infrastructure, adapting methodologies, and sharing guidance that shapes the field. Our position—embedded in both the education and innovation ecosystems—gives us a unique vantage point. Developers want guidance on real classroom needs. Educators seek trustworthy evidence and training to make informed decisions. Yet historically, edtech has lacked rigorous, independent evaluation. In the age of AI, the stakes are too high for inaction. The time to act is now; education must be central to the national AI strategy.

Schools are uniquely challenging environments for R&D. They serve minors, operate within complex systems, and are constrained by tight budgets and bureaucratic processes. Promising technologies often fail to scale without real-world testing. Today's AI tools face similar challenges—most have not been independently evaluated for usability, safety, or effectiveness across U.S. learning environments.

At the same time, education is essential for preparing the future workforce and a flourishing populace. Early exposure to AI and personalized learning pathways will ensure students develop the skills necessary for an AI-driven economy. Investments in education R&D today will build the AI talent pipeline of tomorrow.

We recommend the following education-specific priorities to prepare students for an evolving labor market, ensure access to relevant, personalized, and competency-based learning, and strengthen long-term economic growth and innovation.

1. **Invest in Real-World AI R&D Infrastructure.** Support the creation and scaling of AI-specific testbeds in learning environments, including public schools, charter networks, microschools, and co-ops. These testbeds should reflect the many contexts of learning and support three key stages of product research: usability testing, efficacy evaluation, and evaluation across varied contexts and diverse learners. Leanlab's AGILE Network has already begun this work, partnering with nearly 150 schools and creating early R&D efficiencies.

There is also opportunity to build on existing regional innovation ecosystems like Missouri's Real-World Learning Initiative, Pittsburgh's Remake Learning, Kentucky's United We Learn, and state Portrait of a Graduate frameworks. These efforts are developing the policy and infrastructure conditions for workforce-aligned learning, but face technical barriers to scale, for example, limited assessment and reporting mechanisms. AI advancements like personalized competency-based digital assessment tools may remove administrative burdens from educators and better engage students in newly available nontraditional learning pathways.

2. **Fund Evidence-Based Product Development.** Expand funding for third-party, rapid-cycle evaluations of AI tools through the entire lifecycle of innovation through programs like SBIR. Support the development of high-quality datasets, benchmarks, and evaluation frameworks specific to education use cases (e.g., math instruction, literacy development, foundational skills). Smaller language models tuned to educational contexts can make AI more accurate and accessible, and progress Secretary McMahon's priorities like evidence-based literacy.

3. Coordinate the Education AI R&D Ecosystem. Incentivize coordination across R&D actors by funding a coordinating entity that manages the “hand-off” of findings from academic research to applied testing and commercialization. This model—akin to clinical trial pipelines in healthcare—can help streamline product development and reduce redundancy. This coordination should: Facilitate partnerships between research leaders (e.g., Stanford, CMU, AERDF) and applied labs; incentivize companies to embed prior research in product development; and support product certification and outcomes-based contract models.

Education is the cornerstone of a successful AI strategy. AI tools can transform teaching and learning—if developed responsibly, tested rigorously, and implemented intentionally. With strategic investment in infrastructure, R&D, and coordination, the U.S. can lead the world in designing AI that enhances learning, supports educators, and prepares young people to thrive in a changing economy. Leanlab and partners across the U.S. are ready to help build this future.

Attachments

National AI Strategy RFI Response - Leanlab Education

RFI Response: Development of a 2025 National Artificial Intelligence Research and Development Strategic Plan

Submitted by: Leanlab Education

Docket ID No. NSF-2025-OGC-0001

Date: Thursday, May 29, 2025

Leanlab Education is pleased to submit this response to the Request for Information regarding the development of the 2025 National Artificial Intelligence (AI) Research and Development (R&D) Strategic Plan. We advocate for the inclusion of education-focused AI R&D as a foundational component of the national strategy, given primary and secondary education's critical role in economic competitiveness, human flourishing, and innovation.

Leanlab is a nonprofit education research and development lab founded in 2013 by educators who believed the future of education should be designed with students, teachers, and families. We lead “Codesign Product Research”—a methodology that elevates educator and school community insights in education technology (edtech) development and evaluation. Since 2023, we have specialized in [studying AI-powered edtech](#), building [AI-specific research infrastructure](#), adapting methodologies, and [sharing guidance that shape the field](#).

Our position—embedded in both the education and innovation ecosystems—gives us a unique vantage point. We work closely with technology developers, investors, and K12 educators. Developers want guidance on real classroom needs. Educators seek trustworthy evidence and training to make informed decisions. Yet historically, [edtech has lacked rigorous, independent evaluation](#). In the age of AI, the stakes are too high for inaction. The time to act is now; education must be central to the national AI strategy.

Schools are uniquely challenging environments for R&D. They serve minors, operate within complex systems, and are constrained by tight budgets and bureaucratic processes. Promising technologies often fail to scale without real-world testing. Today's AI tools face similar challenges—most have not been independently evaluated for usability, safety, or effectiveness across the many contexts of U.S. learning environments.

At the same time, education is essential for preparing the future workforce and a flourishing populace. Early exposure to AI and personalized learning pathways will ensure students develop the skills necessary for an AI-driven economy. Investments in education R&D today will build the AI talent pipeline of tomorrow.

Leanlab recommends that the 2025 National Artificial Intelligence Research and Development Strategic Plan include the following education-specific priorities in order to prepare students for an evolving labor market shaped by AI; ensure access to relevant, personalized, and competency-based learning, and strengthen long-term economic growth and innovation.

1. **Invest in Real-World AI R&D Infrastructure.** Support the creation and scaling of AI-specific testbeds in learning environments, including public schools, charter networks, microschools, and co-ops. These testbeds should reflect the many contexts of learning and support three key stages of product research: usability testing, efficacy evaluation, and evaluation across varied contexts and diverse learners. Leanlab’s [AGILE Network](#) has already begun this work, partnering with nearly 150 schools and creating early R&D efficiencies.

There is also opportunity to build on existing regional innovation ecosystems like Missouri’s [Real-World Learning Initiative](#), Pittsburgh’s [Remake Learning](#), Kentucky’s [United We Learn](#), and other states with Portrait of a Graduate frameworks. These efforts are developing the policy and infrastructure conditions for workforce-aligned learning—but face technical barriers to scale, for example limited assessment and reporting mechanisms. AI-enabled tools can expand capacity and unlock new models. Advancements like personalized competency-based digital assessment tools may remove administrative burdens from educators and better engage students in newly available nontraditional learning pathways.

2. **Fund Evidence-Based Product Development.** Expand funding for third-party, rapid-cycle evaluations of AI tools through the entire lifecycle of innovation through programs like SBIR. Support the development of high-quality datasets, benchmarks, and evaluation frameworks specific to education use cases (e.g., math instruction, literacy development, foundational skills). Smaller language models tuned to educational contexts can make AI more accurate and accessible, and progress Secretary McMahon’s priorities like evidence-based literacy.

3. **Coordinate the Education AI R&D Ecosystem to Improve Efficiency and Eliminate Waste.** The national strategy should incentivize coordination across R&D actors. We propose funding a **coordinating entity** that manages the “hand-off” of findings from academic research to applied testing and commercialization. This model—akin to clinical trial pipelines in healthcare—can help streamline product development and reduce redundancy. This coordination should: Facilitate partnerships between research leaders (e.g., Stanford, CMU, AERDF) and applied labs; incentivize companies to embed prior research in product development; and support product certification and outcomes-based contracting models.

Education is the cornerstone of a successful AI strategy. AI tools can transform teaching and learning—if developed responsibly, tested rigorously, and implemented intentionally. With strategic investment in infrastructure, R&D, and coordination, the U.S. can lead the world in designing AI that enhances learning, supports educators, and prepares young people to thrive in a changing economy. Leanlab and partners across the country are ready to help build this future.

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