

# PUBLIC SUBMISSION

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**Comment On:** NSF-2025-OGC-0001-0001  
Request for Information: Development of a 2025 National Artificial Intelligence Research and Development Strategic Plan

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## Submitter Information

**Organization:** Afterschool Alliance / Afterschool STEM Hub

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## General Comment

Thank you so much for the opportunity to provide comments. Please see the attached file for the Afterschool STEM Hub's comment on the Strategic Plan.

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## Attachments

RFI 2025 AI RandD Strategic Plan\_Afterschool STEM Hub Comments

May 28, 2025

Dear Networking and Information Technology Research and Development National Coordination Office,

We are grateful for the opportunity to provide input on developing the 2025 National Artificial Intelligence (AI) Research & Development Strategic Plan. The [Afterschool STEM Hub](#), a coalition of afterschool program leaders, researchers, and STEM education advocates, stands ready to work with you to catalyze and support the increased use of AI in education settings and build AI proficiency among our youth.

As AI rapidly becomes a powerful tool harnessed in both professional and personal settings, we risk creating a bigger divide between populations that understand how to utilize it well and those who are unaware. Hence, we must nurture and prepare both adults and young people to become both AI-literate and sufficiently proficient so they can participate in an AI-reliant workforce and contribute to its future development responsibly and ethically.

To achieve this goal and support human progress, we must urgently adopt an “all-hands-on-deck” approach that includes engaging young people and supporting their educators and mentors. The 2023 AI strategic plan did not substantively include K-12 education spaces, neither formal nor informal, a glaring omission. Our nation’s K-12 educational systems must be partners to help develop a future workforce that is capable and competent in understanding and working with AI systems. Furthermore, given that 80 percent of young people’s waking hours are spent outside the classroom, the plan must also include afterschool, summer, and other out-of-school time (OST) STEM learning environments (such as libraries and science centers) as crucial partners in shaping how young people understand and engage with AI and other emerging technologies.

Afterschool, summer, and other OST programs create age-appropriate, community-centered, and learner-driven hands-on STEM experiences. STEM learning in afterschool is now widespread, with nearly 95% of federally funded afterschool programs offering STEM learning opportunities, and almost [75% of parents](#) stating that the STEM opportunities offered were important when they chose their child’s afterschool program. There is substantive research showing the benefits of afterschool STEM programs. An [11-state research study](#) showed that among nearly 1,600 youth in 158 afterschool programs, more than 70% of students reported positive gains in their attitude towards STEM, their personal STEM identity, STEM career knowledge, and 21st-century skills, including perseverance and critical thinking. A more recent [research study](#) demonstrated that youth who participate in afterschool science clubs have higher science identities than those who do not participate.

Afterschool programs are already bridging the gap between what is learned during the school day and workforce opportunities. Many programs are engaging young people in AI through a variety of partnerships, as demonstrated by programs such as [STEMarts Lab](#) in New Mexico, the [Boys and Girls Clubs of Western Pennsylvania](#), and [Technovation](#) across the country. Afterschool programs and afterschool educators are

enhancing AI literacy and engaging young people in critical discussions on the responsible and thoughtful role of AI in society and how young people can be creators and innovators rather than simply consumers.

To achieve the shared vision of an AI-literate and proficient citizenry and workforce, we recommend that you include the following key research priorities in the new AI R&D agenda:

1. **Determine how AI can enrich OST educators to better support student learning and needs.** Ensure that both school-day teachers and educators in afterschool, summer, and other OST environments have access to a wide array of support to effectively engage youth in AI education. This includes professional development opportunities, updated curriculum relevant to career connections, networks of peer support, partnerships with industry and technical professionals, and access to digital infrastructure, including the latest required technology.
2. **Examine how K-12 students engage with AI and what learning experiences are most effective in developing AI literacy, understanding responsible use, and ensuring that youth can participate impactfully in an AI-driven workforce.** In addition to investigating how curriculum can help young people learn how to use and develop AI tools, this can include embedding research-practice-design partnerships in OST programs. The Administration could utilize agencies' authority to run K-12 AI in education challenges, similar to the [NAEP Automated Scoring Challenge](#) or [Career and Technical Education Challenges](#). These opportunities should include afterschool, summer, and nonprofit entities as eligible recipients. Showcasing these innovative models, the strategy can serve as a springboard for capacity-building and expand accessibility.
3. **Investigate how AI can streamline efficiencies in OST settings.** Use cases can include increasing operational efficiency, such as using AI to facilitate learning, generate reports, conduct assessments, and write grant proposals. AI could also be a powerful tool to improve communications between programs and families and alleviate the administrative burden for OST staff and educators.
4. **Research the most effective models for industry collaborations with afterschool and other OST programs.** Businesses on the leading edge of AI use and development have much to offer educators and an equal amount to gain from an AI-proficient community. Moreover, as AI platforms and services increasingly shift to paid subscription models, there is growing concern that only some learning environments will be able to access the most powerful and current technologies. Free tools may offer a starting point, but they often lack the capabilities needed to support deep, hands-on learning. We recommend investigating and investing in the development of how public-private partnerships can best enable afterschool programs to access cutting-edge AI tools and technologies. This could include shared-use arrangements, subsidized software licenses, or funding for equipment and infrastructure. These partnerships can consist of opportunities for educators to engage directly with industry through temporary placements or mentorship programs, enabling them to return to their learning environments with up-to-date knowledge, practical insights, and connections that bring AI learning to life for young people. These partnerships can also include paid summer internships and apprenticeship programs for high school youth to experience firsthand how AI is being used in industry while providing insights into potential career pathways.

5. **Invest in a robust infrastructure of evidence-based methods to preserve the safety, data privacy, and trust of our youth.** We must ensure that our educational systems and youth-serving organizations have easy access to reputable best practices on protecting students when they engage in AI learning and when educators use AI to increase efficiency in learning spaces. We should discover efficient ways to build capacity in entities engaging in this work, such as [EDSAFE AI Alliance](#) and [AI Alliance](#), and increase educator awareness of necessary safeguards. Importantly, youth perspectives and insights must be included in the development and implementation of safeguarding procedures.

By addressing these questions and providing ongoing support to keep pace with innovation, we can work towards ensuring all our nation's young people understand what AI is, feel competent and confident to use AI responsibly, are able to know when and how to leverage AI in solving local challenges they care about, and are prepared to contribute to our nation's shifting workforce needs. Working towards these priorities will also ensure that the adults facilitating youth's learning are well-equipped to support the evolving landscape of AI and its impacts on the future of work and work opportunities.

The afterschool field offers able partners in the push to support the country's ambition to lead the AI revolution. The Afterschool STEM Hub and our array of national, state, and local partners stand ready to work with you in the development and implementation of this important plan. For instance, the STEM Next Opportunity Fund's [Institute for a STEM Ready America](#) is already working with intermediaries, including the [50 State Afterschool Network](#), to build capacity in career-connected learning, including in AI. We would love to be a resource for you and answer any follow-up questions you might have.

Respectfully,

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