Alliance For Learning Innovation

Leveraging Education R&D to Support High-Quality Career-Connected Learning:

Federal Policy Recommendations

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INTRODUCTION

The Challenge

In schools throughout the United States, there is a relevance gap — a disconnect between what students learn and what they need to learn to thrive in the workforce. According to the most recent Voices of Gen Z study, only 37 percent of Gen Z students report that their teachers connect learning to the real world.[1] Without seeing connections between what they are learning and what they need to know for future success, many students lose interest in school. One sign that students are disengaged is the continued high rates of chronic absenteeism, which have persisted beyond the pandemic. Recent data reveals that 23 percent of American students are chronically absent — about 50 percent higher than the pre-pandemic baseline.[2]

The relevance gap not only impacts a student's engagement but also their prospects for the future. Most Gen Z high school students believe it's important to determine their career plans before graduating, but only 13 percent of them actually feel prepared to decide on their career.[3]

That feeling of unpreparedness is well-founded. According to the 2025 New Hire Readiness Report from the U.S. Chamber of Commerce and College Board, only two out of five surveyed hiring managers say it's easy for them to find candidates with the experience or skills they are seeking[4] — an indication of a worker skills shortage. Additionally, they expressed that career-focused high school courses and early exposure to work experiences have been underused as ways to get students ready for the workforce.[5]

The impacts of the relevance gap are serious, both for young people and society at large. Over half of young adults report that they are "suffering or struggling" after their high school graduation — and only 39 percent of young adults feel positive about their prospects over the next five years.[6] Advancements in artificial intelligence (AI) are transforming the future of work,[7][8] leaving young people uncertain about the skills and credentials they need to thrive in the workforce.

[1] Gallup, Inc. "Walton Family Foundation-Gallup Voices of Gen Z Study, Year 3 Annual Report" (2025). https://nextgeninsights.waltonfamilyfoundation.org/wp-content/uploads/2025/08/Walton_Family_Foundation_Gallup_2025_Year_3_Gen_Z_Annual_Report.pdf

[2] Malkus, N. "Progress on Absenteeism Is Stalling. What Can We Do About It?" (February 2, 2026). https://www.edweek.org/leadership/opinion-progress-on-absenteeism-is-stalling-what-can-we-do-about-it/2026/02

[3] ECMC Group. "Question the Quo: Gen Z Teens Have Changed Their Priorities for Education and Work" (2023). https://www.questionthequo.org/media/x5zdjmxu/question-the-quo-june-2023-report.pdf

[4] U.S. Chamber of Commerce and the College Board. "New Hire Readiness Report 2025: Insights from Hiring Managers on Entry-Level Workforce Preparedness" (September 2025).

[5] "New Hire Readiness Report 2025: Insights from Hiring Managers on Entry-Level Workforce Preparedness"

[6] "Walton Family Foundation-Gallup Voices of Gen Z Study, Year 3 Annual Report"

[7] McKinsey Global Institute. "Generative AI and the Future of Work in America" (July 2023). https://www.mckinsey.com/mgi/our-research/generative-ai-and-the-future-of-work-in-america

[8] Walton Family Foundation-Gallup-GSV "Voices of Gen Z: The AI Paradox" (August 2025). https://www.gallup.com/analytics/694220/voices-gen-study-2025.aspx

It is estimated that the worker skills shortage, if left unaddressed, could lead to $1.75 trillion in annual unrealized revenue for the U.S. economy by the end of this decade.[9] Furthermore, if students are not prepared for the jobs of the future, the United States risks losing its standing as a leader in the global economy.[10]

The Opportunity

Career-connected learning offers an effective way to close the relevance gap and prepare students for the modern workforce. Whether they go directly into a career after high school or pursue postsecondary education first, career-connected learning is relevant and valuable for all young people. Research spanning multiple countries has shown that, when students engage in career-connected learning in high school, they have better outcomes than comparable peers, including higher rates of postsecondary enrollment and higher wages.[11]

According to the Commission on Purposeful Pathways,[12] career-connected learning is "a continuum of experiences that broadens student access to jobs and opportunities within their communities and beyond." The types of programs recognized as career-connected learning include:

- **Career exploration,** which includes interest assessments, career fairs, networking, informational and mock interviews, site visits, job shadowing, and pathway mapping.
- **Career preparation and training**, which refers to career and technical education (CTE) courses, skill development, training programs, simulated work experiences, and work-based learning experiences like internships and youth apprenticeships.
- **Career awareness,** which involves learning about career options by participating in career days, going on field trips, and hearing firsthand from people working in various careers.

Instructional coherence — teachers connecting classroom learning to real-world applications — should undergird the entire continuum of career-connected learning.[13]

[9] Korn Ferry. "Korn Ferry Study Reveals Global Talent Shortage Could Threaten Business Growth Around the World" (May 2, 2018). https://ir.kornferry.com/news-events/press-releases/detail/214/korn-ferry-study-reveals-global-talent-shortagecould-threaten-business-growth-around-the-world

[10] Bellevita, B., Correa, D., Lawrence, E., Liss, A., Manuel, A., & Schapiro, S. (Eds.). "Fortifying America's future: Pathways for competitiveness (2024). https://www.aspeninstitute.org/wp-content/uploads/2025/05/Fortifying-Americas-Future_Final.pdf

[11] Herdman, Paul, "Global Lessons: Career Pathways in a Rapidly Changing World" (2025). https://rodelde.org/wp-content/uploads/2025/05/oecd-summary-final.pdf

[12] The Commission on Purposeful Pathways. "A Launchpad for Life: A Vision for Purposeful Pathways for All Students" (2026). https://www.strivetogether.org/wp-content/uploads/2026/02/Commission-on-Purposeful-Pathways-Report

[13] TNTP. "What Is Career-Connected Learning—and Why Does It Matter?" (August 20, 2025). https://tntp.org/blog/what-is-career-connected-learning-and-why-does-it-matter/

Exposure to different career opportunities at the K-12 and postsecondary levels helps students gain awareness of their options and makes them more likely to enter the workforce knowing which careers interest them and suit their strengths (and which do not). Early exposure, coupled with evidence-based navigation supports, also gives young people a chance to learn what skills to build and credentials to earn to pursue a particular career — and empowers them to tailor their course enrollment in alignment with their career ambitions.

Importantly, career-connected learning makes schooling more relevant and engaging. That's good for career preparation but also for student well-being. Young people who report having highly engaging school experiences are significantly more likely to feel prepared for and optimistic about their futures.[14]

[14] "Walton Family Foundation-Gallup Voices of Gen Z Study, Year 3 Annual Report"

R&D TO STRENGTHEN CAREER-CONNECTED LEARNING

Investing in research and development (R&D) ensures that career-learning programs are backed by proven results. Students, educators, school systems, and employers should benefit from lessons learned about which interventions work best. Yet the current body of evidence in career-connected learning remains relatively overlooked or disconnected from policy decisions and practical applications.

While philanthropy, industry, state and local governments, and intermediaries all have roles to play in supporting career-connected learning, the federal government is uniquely positioned to make the sustained investments needed to identify and disseminate which career-connected learning strategies work, for whom, and in what conditions. Historically, the federal government has invested in data and R&D infrastructure that drives research, innovation, and evaluation. States, districts, and schools rely on this federal support and the evidence base it sustains. Continued federal investment is needed to expand the existing research base; ensure it stays up to date with changes in education, the workforce, and society at large; and bridge the gaps between research and practice.

The Alliance for Learning Innovation (ALI) is a bipartisan coalition advocating for more effective, innovative, and community-centered R&D in education and workforce development. ALI's 130+ members know that evidence-based career-connected learning is vital for a well-prepared workforce and for the United States' prosperity and competitiveness. This is why the coalition has come together to put forward a set of policy recommendations for Congress and the Trump Administration. **The federal government should have a clear research agenda focused on national priorities, and career-connected learning should be one of them.**

ALI's recommendations are intended to help federal policymakers seize the opportunity to close the relevance gap in education, and make strategic investments in robust, evidence-backed career-connected learning.

RECOMMENDATIONS TO CONGRESS

R&D Infrastructure

Modern and aligned R&D infrastructure across federal agencies that support career-connected learning is essential for identifying, sharing, and scaling evidence-based approaches. Key updates include authorizing Advanced Research Projects Agency (ARPA) flexibilities for education and workforce R&D; building connective tissue across agencies for efficiency and impact; and providing resources to states and school districts to conduct locally-driven R&D.

Congress should:

1. **Authorize an ARPA-inspired Education & Workforce R&D Center to tackle the most complex challenges in education and workforce development.** This new quasi-independent entity would facilitate high-potential, high-impact R&D, leading to breakthrough innovations that transform education and training for the jobs of the future. It would be required to collaborate with the U.S. Department of Education's (ED) Institute of Education Sciences (IES), U.S. Department of Labor (DOL), U.S. National Science Foundation (NSF), U.S. Department of Defense (DOD), and U.S. Department of Commerce (DOC) to promote cross-agency coordination and ensure that strengths across the federal government are leveraged. It should reflect the highly successful ARPA model by offering:
   - Flexible hiring authorities to enable highly qualified program managers to be brought on board for up to 3- to 5-year terms.
   - Autonomy for program managers to select projects to fund based on their scientific and technical merit, rather than the standard peer review process.
   - A variety of funding mechanisms, including "other transaction" (OT) agreements in addition to grants, outcomes-based contracts, cash prizes, cooperative agreements, and milestone-based funding agreements.

2. **Direct IES to establish a Career-Connected Learning Panel and collaborate with DOL to support the evaluation and dissemination of research on work-based and career-connected learning.** Inspired by the National Reading Panel,[15] a collaboration of the National Institutes of Health (NIH) and ED, the Career-Connected Learning Panel

[15] National Institute of Child Health and Human Development. "Report of the National Reading Panel: Teaching Children to Read" (April 2000). https://www.nichd.nih.gov/publications/pubs/nrp/smallbook

would evaluate existing research, especially causal, to identify the most effective ways to support and scale work-based, career-connected learning at the K-12 and postsecondary levels. This should include an evaluation of high school redesign interventions, such as competency-based progression policies, flexible credentialing, and cross-sector incentives that strengthen student pathways and eliminate boundaries between secondary, postsecondary, and workforce.[16] The panel should disseminate the best practices to states and districts, with a focus on making the learnings accessible and actionable.

3 **Authorize a new competitive State R&D Capacity grant program at ED, in partnership with DOL, to provide communities with flexible dollars for locally-driven education and workforce R&D.** This discretionary grant program would complement R&D infrastructure that already exists, and enable states and districts to fill the gaps they identify in their surrounding R&D ecosystem, particularly with respect to career-connected learning. Priority would be given to proposals that aim to build evidence around industry-aligned work-based learning strategies. Eligible entities would include SEAs, LEAs, state workforce development agencies, nonprofit community-based intermediaries, and consortia of these entities.

4 **Codify and fund the AI Workforce Research Hub,** a component of the Trump Administration's AI Action Plan, to preserve it as a vital resource for workforce and education policy insights. Led by DOL, in coordination with DOC and the Bureau of Labor Statistics, the AI Workforce Research Hub aims to evaluate the impacts of AI, automation, and emerging technologies on the American workforce, and provide analyses, scenario planning, and actionable insights.[17] Require the Hub to have a clear set of deliverables, for the public and Congress, that demonstrate its usefulness for education- and workforce-related decision-making. Congressional authorization is needed to sustain the AI Workforce Research Hub beyond the current Administration.

[16] Carnegie Foundation for the Advancement of Teaching. "A Research and Development Agenda" (2025). https://www.carnegiefoundation.org/wp-content/uploads/2025/07/RD-Agenda.pdf

[17] U.S. Department of Labor, U.S. Department of Commerce, and U.S. Department of Education. "America's Talent Strategy: Building the Workforce for the Golden Age" (2025). https://www.dol.gov/sites/dolgov/files/OPA/newsreleases/2025/08/Americas-Talent-Strategy-Building-the-Workforce-for-the-Golden-Age.pdf

5 **Leverage the Perkins Innovation and Modernization Program (PIM) to increase support for CTE programs of study and alignment across K-12 and postsecondary education.** Embed a tiered evidence structure to scale innovative models with some evidence base but that typically do not benefit from Perkins funding. Prioritize interventions that develop pathways in critical technology areas: AI, advanced manufacturing, biotechnology, semiconductors, advanced computing, and other areas on the Critical and Emerging Technologies List. Specifically:

- Encourage innovations that embed work-based learning in course acceleration; leverage technology for employer-led work-based learning; make apprenticeships more accessible; and enhance career advising across sectors.
- Support programs in high-need and high-wage fields, identified in states' Workforce Pell plans, that begin in high school and provide defined steps to a postsecondary credential, apprenticeship, a two-year degree, or four-year degree.
- Incentivize collaborations between CTE efforts and NSF's Advanced Technological Education program.

6 **In the next reauthorization of the Carl D. Perkins Career and Technical Education Act (Perkins VI), require states to articulate pathways, track pathway-level completion, and publicly report the return on investment (ROI) for learners.** Specially, make work-based learning, which has a statutory definition, a required metric for state reporting. There is significant variation in how states define and structure K-12 CTE pathways, the data they collect, and how they share results with the public.[18] This makes it challenging to evaluate and compare CTE pathway programs across states. At the same time, states are increasingly expected to stimulate economic growth by delivering high-ROI, industry-aligned CTE pathways programming. Perkins VI offers an opportunity to promote greater accountability and transparency from states — ultimately enabling more robust R&D around effective practices in CTE pathways.

[18] Insightful Education Solutions. "Effective Pathways Assessing the Readiness of State K-12 Career and Technical Education Programs" (March 2026). https://effectivepathways.com/wp-content/uploads/2026/02/InsightfulEd_EffectivePathwaysReport2026.pdf

Data Infrastructure

Data is the backbone of robust R&D. Sustainably-funded, well-connected and governed P20W (preschool through workforce) data systems will enable states, districts, and schools to make informed decisions about the quality and outcomes of their career-connected learning strategies.

7 **Merge the Workforce Data Quality Initiative (WDQI) and an enhanced Statewide Longitudinal Data Systems (SLDS) grant program** to give states better information about which K-12 interventions, including specific career-connected learning strategies, lead to positive postsecondary and employment outcomes. Require states seeking funding to have established P20W systems, as described in the New Essential Education Discoveries Act of 2025 (H.R. 6419),[19] and formal data governance structures. Prioritize funding for modernizing data infrastructure that generates clear, actionable data through tools, dashboards, and reports.

Funding for Strong Implementation

Congress has already authorized and supported programs and initiatives that enable and scale evidence-based career-connected learning. It is imperative that Congress fund these efforts to ensure their intentions translate into real impacts on student learning, engagement, and preparedness.

8 **Carry out the bipartisan commitment made to STEM education and workforce development in the CHIPS and Science Act.** Congress should continue to invest in the following infrastructure and programs at NSF, authorized by the CHIPS and Science Act, to strengthen STEM career pathways:

- The Directorate of Technology, Innovation, and Partnerships (TIP) to create new partnerships that open opportunities for Americans to thrive in STEM careers. For example, TIP's TechAccess: AI-Ready America initiative, is a cross-agency effort that leverages partnerships to prepare Americans for an AI-driven economy.
- The Regional Innovation Engines program to catalyze and grow innovative ecosystems that develop talent and advance key technologies, such as semiconductors, AI, and biotechnology.

[19] Congress.gov. "H.R.6419 - New Essential Education Discoveries Act of 2025" (December 2025). https://www.congress.gov/bill/119th-congress/house-bill/6419/text

- The Discovery Research PreK-12 program's Resource Center (DRK-12 RC) on Transformative Education Research and Translation to share STEM education resources, tools, and approaches and build capacity among STEM education researchers.
- The Experiential Learning for Emerging and Novel Technologies (ExLENT) program to strengthen pathways for all Americans to pursue high-quality, well-paying STEM careers in key technology areas.

10 **Increase funding for Perkins CTE and allocate some of it as competitive, flexible funding for states with innovative approaches to preparing students for continued study and careers in fields that are in-demand and high-wage.** States would be eligible for a base amount of funding but could apply for additional funding based on criteria developed by ED that would advance innovation in CTE. Efforts to align Perkins CTE and Workforce Innovation and Opportunity (WIOA) should continue, including more funding for WIOA Youth programs.

RECOMMENDATIONS TO THE ADMINISTRATION

The Trump Administration has an opportunity to advance evidence-based career-connected learning in schools across the United States by coordinating across agencies and industry partners, shining light on best practices, and being intentional about connecting K-12, postsecondary, and workforce development efforts for efficacy and impact.

The Administration should:

1. **Identify and disseminate evidence-based practices in career-connected learning.** Federal agencies involved in education and workforce development R&D, such as IES and NSF, should conduct reviews of R&D projects related to career-connected learning. They should then share with the public which projects had a high ROI and should be considered for scaling. The Administration should make a particular effort to inform state-level education and workforce development leaders of high-impact, research-backed innovations in career-connected learning.

2. **Promote public-private collaboration to accelerate career-connected learning.** As the Administration implements the Preparing Americans for High-Paying Skilled Trade Jobs of the Future Executive Order, it should continue to invest in strategies that build public-private partnerships and encourage industry participation in our nation's public education and workforce development system. Engaging and empowering stakeholders across the education and workforce ecosystem will make investments in workforce development more successful, as it will pair expertise and evidence-based policies with local knowledge of needs.

3. **Direct IES and NSF to establish a learning community of states studying career-connected learning interventions.** Participating states would invest in studies that evaluate innovative approaches to work-based learning and other career-connected learning strategies; and then share their findings and lessons learned with other states. This would facilitate state-driven R&D, continuous learning and improvement, and the scaling of effective interventions.

4. **Direct ED to create a Content Center[20] focused on career-connected learning and workforce readiness.** Content Centers provide specialized expertise to build the capacity of educators, education system leaders, schools, school districts, and state educational agencies in critical content areas. Given the national importance of career-connected learning, there should be a Content Center dedicated to it, with a focus on evidence-backed work-based learning interventions.

[20] U.S. Department of Education Comprehensive Centers Program.
https://www.ed.gov/grants-and-programs/grants-birth-grade-12/school-and-community-improvement-grants/comprehensive-centers-program

5 **Issue non-regulatory guidance to help states incorporate career-connected learning activities in their P20W data systems.** States could benefit from guidance around how to identify and collect activities related to work-based learning and other career-connected learning in their longitudinal data systems — and how to use that data to improve education, workforce, and economic outcomes statewide. Not only will this lead to more robust R&D around career-connected learning interventions, but it will also help states identify career–connected learning opportunities aligned with Workforce Pell Grants.

6 **Helps states leverage the Every Student Succeeds Act (ESSA) to support evidence-based career-connected learning.** In accordance with ESSA, many states are including a "college- and career-ready" indicator in their statewide accountability system. ED should issue guidance that helps states leverage this indicator to incentivize the use of evidence-backed career-connected learning strategies.

7 **Through non-regulatory guidance, help states leverage existing federal funding streams to support innovative, evidence-based career-connected learning.** States can tap into existing funds – within ESSA, Perkins V, the Individuals with Disabilities Education Act (IDEA), and the Disability Innovation Fund – to support and scale career-connected learning activities with a track record of success. The Administration should issue guidance to help states identify and take advantage of existing funding streams for their statewide career-connected learning efforts.

8 **Facilitate cross-agency collaboration to promote efficient, coordinated federal support for research and innovation in career-connected learning.** This starts with clear direction to collaborate from the Office of Science and Technology Policy as well as staff capacity to facilitate interagency coordination. Additionally, there should be consistent communication between leadership at IES, NSF, DOL, DOC, and DOD to share insights, evidence-gathering approaches, and best practices. This will build connective tissue and common definitions across their respective investments in career-connected learning and related R&D. Consistent collaboration and coordination will prevent redundancies in government activities and investments and create efficiencies that benefit taxpayers.

9 **Continue to integrate K-12 education into the STEM Strategic Plan.** When developing the next five-year STEM strategic plan (2029-2033), the Administration should prioritize meaningful career-connected STEM education in K-12 settings to ensure students entering and graduating from high school have the STEM skills necessary to engage in workforce development opportunities or further learning in emerging technology fields in and beyond high school.

CONCLUSION

Closing the relevance gap in American education is key to better preparing students for the jobs of the future and sustaining the United States as a global leader. When students see clear connections between what they learn in school and the job opportunities beyond graduation, they are more optimistic about and prepared for their future.

Realizing the full potential of career-connected learning will require federal policymakers to make strategic investments in R&D and data infrastructure, fund the implementation of evidence-based initiatives, and align across agencies and partners to translate evidence into impact.

The recommendations outlined in this policy agenda provide a roadmap for doing just that. By building modern R&D infrastructure, strengthening data systems, investing in implementation, and fostering cross-sector collaboration, federal leaders can catalyze a more coherent, effective system of career-connected learning nationwide. Following through on this set of recommendations will ensure future generations are well-prepared to thrive in their careers, no matter what changes and challenges lie ahead.

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